



WCI Austin Landfill, LLC.

# 2024 Coal Combustion Residuals Annual Monitoring Report

SKB Lansing Landfill  
52563 243rd Street  
Austin, Minnesota 55912  
Permit SW-514-001

January 30, 2025



## 2024 Coal Combustion Residuals Annual Monitoring Report

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Austin, Minnesota 55912  
Permit SW-514-001

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Date:  
January 30, 2025

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### Professional Engineer

I hereby certify that this plan, specification, or 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 Minnesota.

Signature:

Typed or Printed Name: Kevin Michael Lienau

Date: 01/30/2025 License Number: 25086



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## Acronyms

|             |                                                         |
|-------------|---------------------------------------------------------|
| BTV         | Background Threshold Value                              |
| CCR         | Coal Combustion Residuals (CCR)                         |
| CFR         | Code of Federal Regulations                             |
| COC         | Chemicals of Concern                                    |
| Eurofins TA | Eurofins TestAmerica, Inc.                              |
| GES         | Groundwater & Environmental Services, Inc.              |
| GPS         | Groundwater Protection Standards                        |
| MCL         | Maximum Contaminant Level                               |
| mg/L        | milligrams per liter                                    |
| MPCA        | Minnesota Pollution Control Agency                      |
| NGVD        | National Geodetic Vertical Datum                        |
| pci/L       | picoCuries per liter                                    |
| QA/QC       | Quality Assurance/Quality Control                       |
| Report      | 2024 Coal Combustion Residuals Annual Monitoring Report |
| SSI         | statistically significant increase                      |
| US EPA      | United States Environmental Protection Agency           |
| USL         | Upper Simultaneous Limit                                |

## 1 Introduction

The *2024 Combustion Coal Residuals Annual Monitoring Report* (Report) was prepared to summarize the results of the 2024 groundwater monitoring events and associated analysis for Appendix III (detection monitoring) and Appendix IV (assessment monitoring), per 40 Code of Federal Regulations (CFR) §§ 257.90 – 257.98, at the SKB Lansing Landfill. The SKB Lansing Landfill operates under Minnesota Pollution Control Agency (MPCA) Site Permit Number SW-514-001. The SKB Lansing Landfill is located at 52563 243<sup>rd</sup> Street in Austin, Mower County, Minnesota (**Figure 1**).

Two groundwater sampling events were conducted at the SKB Lansing Landfill in the spring and summer of 2024. Groundwater samples were analyzed for parameters included in Appendix III (detection monitoring) and Appendix IV (assessment monitoring). Analytical results from the groundwater monitoring events were compared and evaluated to Background Threshold Values (BTVs) and Groundwater Protection Standards (GPS) established for the SKB Lansing Landfill.

### 1.1 Scope of Work

The following scope of work was conducted for the 2024 CCR groundwater monitoring events:

- Conduct 2 gauging and sampling events of the site's monitoring wells and piezometers.
- Measure static water elevations for each monitoring well to the nearest 0.01 feet from surveyed reference point.
- Record the volume of water removed from each monitoring well (in gallons) and total well volumes removed before sampling.
- Record field parameter stabilization results from each monitoring well.
- Conduct a statistical evaluation of groundwater sampling analytical data using ProUCL 5.0.00 (Singh, 2013) to determine BTVs for each analyte.
- Select tolerance or prediction interval procedure for future statistical analysis of groundwater monitoring data.
- Prepare a Coal Combustion Residuals (CCR) Annual Monitoring Report summarizing the groundwater sampling and statistical evaluation.

## 2 Site Background

### 2.1 Site Location and Description

The site is located within a 115-acre parcel of land in Section 21, Township 103 North, Range 18 West, Lansing Township, Mower County, Minnesota. With reference to roadways, the facility is located west of State Highway 218 along Lansing Township Road T-378 (243<sup>rd</sup> Street). The facility entrance is off Lansing Township Road T-378 (243<sup>rd</sup> Street). The facility location is depicted in **Figure 1** and the existing site conditions are presented in **Figure 2**.

Located in the Cedar River watershed, the site has rolling topography ranging in elevation from 1,218 feet above the National Geodetic Vertical Datum of 1929 (NGVD 29) in the southwest corner to 1,314 feet above NGVD 29 in the central portion of the site. Storm water flows either to natural depressions scattered about the site or to storm water retention areas in the south and southwest parts of the property. Storm water ultimately goes to a judicial ditch. The nearest open water body is the Cedar River, located approximately three miles east of the site.

### 3 Monitoring Network Systems and Sampling Schedule

The CCR sampling groundwater monitoring network at the SKB Lansing Landfill was designed based on the analysis of local and regional hydrologic conditions. Currently, the groundwater monitoring network system consists of eight monitoring wells (**Figure 2**). Two monitoring wells are used to monitor the shallow till layer. Six monitoring well locations are used to monitor a deeper water-bearing unit beneath the site. Groundwater elevations are also collected from an additional 19 groundwater elevation gauging locations and 7 piezometers. The monitoring wells, groundwater elevation gauging locations, and piezometers used as data collection points have been divided into two groups for the purpose of this report:

#### Gauging and Sampling (8 Monitoring Wells)

- Upgradient Monitoring Points: The upgradient monitoring points consist of monitoring wells located upgradient of the compliance boundary and include MW-1 and MW-1RD.
- Downgradient Monitoring Points: The downgradient monitoring points consist of monitoring wells located downgradient of the compliance boundary and include MW-2R, MW-2RD, MW-3, MW-3R, MW-3RD, and MW-4.

#### Gauging Only (19 Elevation Gauging Locations and 7 Piezometers)

- Downgradient Elevation Gauging Locations: The downgradient gauging locations consist of monitoring wells located downgradient of the compliance boundary and include MW-5S, MW-5D, MW-6S, MW-7S, MW-7D, MW-8S, and MW-8D.
- Piezometer Locations: The piezometer locations consist of shallow monitoring points used exclusively for the collection of groundwater elevations across the site. These locations include PIEZ-1, PIEZ-2, PIEZ-3, PIEZ-4, PIEZ-5, P-10, and P-11.
- Upgradient/Sidegradient Elevation Gauging Locations: Upgradient/sidegradient gauging locations consist of monitoring wells east of the compliance boundary and include wells located at the former Austin or Vonco IV Landfill (MW-1A, MW-2A, MW-3A, MW-4A, MW-101A, MW-102A, MW-103A, MW-104A, MW-105A, MW-106A, MW-107A, and MW-108A).

For the CCR evaluation, two groundwater monitoring events were conducted in 2024 on the following dates:

- April 8-9, 2024
- July 9-10, 2024

## 4 Groundwater Sampling Methodology

During the SKB Lansing Landfill CCR sampling events, static groundwater elevations were measured to the nearest 0.01 feet in each monitoring well with a water interface probe prior to groundwater sample collection. Using a location-dedicated, pneumatic low-flow bladder pump, each well was purged and field stabilization parameters including Temperature, pH, Specific Conductance, Turbidity, Dissolved Oxygen, and Oxidation-Reduction Potential (ORP) were recorded.

Groundwater samples were placed in laboratory-prepared containers and labeled with the following information:

- Unique sample number
- Site name
- Name of sampler
- Time and date

Immediately following collection, samples were placed on ice in a field cooler and shipped with a chain of custody form to a Eurofins Test America, Inc. (Eurofins TA) of Cedar Falls, Iowa.

Groundwater samples obtained during the 2024 sampling events were analyzed for parameters specified in Appendix III (spring and summer) and Appendix IV (spring [full analyte list] and summer [analytes detected in spring event]) per §§ 257.93 – 257.95 and are noted below:

### Appendix III

#### *General Chemistry*

- Chloride (Method 9056A)
- Fluoride (Method 9056A)
- Sulfate as SO<sub>4</sub> (Method 9056A)
- pH (Method 4500 H<sup>+</sup> B)
- Total Dissolved Solids (Method 2540C)

#### *Metals*

- Boron
- Calcium

### Appendix IV

#### *General Chemistry*

- Fluoride (Method 300.0)

#### *Metals*

- Antimony
- Arsenic
- Barium
- Beryllium



- Cadmium
- Chromium
- Cobalt
- Lead
- Lithium
- Mercury
- Molybdenum
- Radium 226
- Radium 228
- Selenium
- Thallium

The above metals were analyzed by Methods 6020B, and 7470A. Radium was analyzed by Methods 9315 and 9320.

Quality assurance/quality control (QA/QC) samples including duplicate, field, and equipment samples were collected during each sampling event.

## 5 Groundwater Monitoring Results

### 5.1 Groundwater Elevation Data

Groundwater elevations recorded during the monitoring events are presented in **Table 1**. Groundwater contours maps were generated for the April 8 and July 8, 2024 gauging events. Based on the shallow well groundwater elevation data, water table contours indicate that the shallow groundwater flows to the southwest (**Figures 3 and 5**). Based on the deeper well groundwater elevation data, potentiometric surface contours indicate a southwest flow direction in the lower aquifer (**Figures 4 and 6**). The groundwater flow directions are consistent with historically recorded flow directions.

### 5.2 Groundwater Analytical Data

Groundwater analytical results for the CCR monitoring events are presented in **Tables 2 and 3**. QA/QC duplicate samples were collected for precision evaluation, but were not included in the tables. A summary of the stabilization parameter tests performed for each well prior to sampling are provided in **Table 4** and copies of field sampling data sheets are in **Appendix A**. Laboratory analytical reports are included in **Appendix B**.

The calculated BTVs for the SKB Lansing Landfill are provided in **Table 5**. Comparing the 2024 sampling results to the BTVs are summarized below.

#### Appendix III Analytes - Result Summary of BTV Exceedances

Comparing the 2024 spring and fall sampling groundwater analytical results for Appendix III analytes to the BTVs, one BTV exceedance was reported at monitoring well MW-1 for Chloride in

Spring 2024 (**Table 2**). Chloride was not reported above the BTV during the fall 2024 sampling event.

#### Appendix IV Analytes - Result Summary of BTV Exceedances

##### *Barium (BTV = 0.0049 mg/L)*

- Downgradient monitoring well
  - MW-4 (0.16 mg/L) (4/8/2024) – BTV exceedance.
  - MW-4 (0.20 mg/L) (7/9/2024) – BTV exceedance confirmed.

##### *Molybdenum (BTV = 0.00030 mg/L)*

- Downgradient monitoring well
  - MW-3RD (0.0033 mg/L) (4/8/2024) – BTV exceedance.
  - MW-3RD (0.0034 mg/L) (7/9/2024) – BTV exceedance confirmed.
  - MW-4 (0.0036 mg/L) (4/8/2024) – BTV exceedance.
  - MW-4 (0.0024 mg/L) (7/9/2024) – BTV exceedance confirmed.

##### *Radium 226 (BTV = 0.0221 picocuries per Liter [pci/L])*

- Downgradient monitoring well
  - MW-3RD (0.546 pci/L) (4/8/2024) – BTV exceedance.
  - MW-3RD (0.516 pci/L) (7/9/2024) – BTV exceedance confirmed.
  - MW-4 (0.195 pci/L) (4/8/2024) – BTV exceedance.
  - MW-4 (0.229 pci/L) (7/9/2024) – BTV exceedance confirmed.

A BTV exceedance was also reported for Fluoride for all monitoring wells during both the spring and summer sampling events due to the laboratory reporting limit. The laboratory reporting limit for Fluoride was 1 mg/L, while the BTV is 0.0076 mg/L. GES will work with the laboratory to lower the reporting limit for Fluoride.

## **6 Statistical Evaluation Data**

This groundwater statistical evaluation for landfill monitoring is conducted in accordance with § 257.93(f)(3). Specifically, current concentrations were compared to the interwell upper simultaneous limits (USLs) in order to determine if a potential statistically significant increase (SSI) exists at downgradient wells.

The background dataset was determined for each well using analytical results ranging from spring 2017 through 2023.

Statistical evaluation of the CCR groundwater monitoring data determined background concentrations and included:

- 1) Establishing final background datasets for each chemical of concern (COC) including outlier testing.

- 2) Deriving statistical, upper bound estimates of the background population for each COC using the final background datasets.

To establish final background datasets for each COC, descriptive statistics, outlier analysis and comparative statistical analysis performed on the background datasets confirmed the data in the background dataset for a given COC as representative of the 'true' background population. Descriptive statistics include the number of samples, the number of detections, the detection frequency, the maximum and minimum detected concentrations, the mean, and the standard deviation of the background data, all of which provide a preliminary examination of data.

Outlier analyses identified potential outliers not representative of the true background population. Including real outliers in a dataset can potentially lead to Type I or Type II errors (USEPA, 2009). A Type I error is defined as false positive relative to the initial hypothesis. A Type II error is defined as a false negative relative to the initial hypothesis. Rosner's Outlier Test was performed on background datasets containing four (4) detected values or more (USEPA, 2009). Based on an alpha of 0.05, statistically significant outliers were removed from the background dataset in order to improve the power of the prediction limit (USEPA, 2009). The resulting background dataset for each well and COC is tabulated in **Attachment C**.

For the final background datasets after outlier analyses, summary statistics calculated the number of samples, number of detections, detection frequency, maximum and minimum detected concentrations, mean concentration, and the standard deviation. The final datasets calculations of the underlying distributions employing Shapiro-Wilks (e.g., normal, lognormal, gamma) using ProUCL 5.0.00 (Singh, 2013) before statistical limits were estimated allowed determination of the appropriate estimates that best describe the background datasets.

The following statistical limits for potential use as a background level (Background Threshold Values (BTVs)) were calculated using ProUCL 5.0.00 (Singh, 2013) for each COC when five or more detections were present:

- 95% upper simultaneous limit (USL)

The 95% USL was selected as the proposed BTVs as:

- 1) Many of the background datasets contain limited sample sizes and, therefore, are unlikely to represent the full range of natural ambient concentrations in the vicinity of the site.
- 2) This statistic should result in lower Type I error rates (i.e., false positives) and can be used to compare many observations.

If there were no detected results, the highest detection limit was proposed as the BTV. The calculated BTVs are included in **Table 5**. The statistical evaluation data is included in **Appendix C**.

## 6.1 Statistically Significant Increase Determination

The detected concentrations for the 2024 sampling events with the respective USL are listed below. Compliance is determined by comparing the current concentration to the calculated USL. The following SSI were identified:

**Comparison of 2024 Confirmed COC Concentrations to BTVs**

| Monitoring Well | Analyte    | 1st Half 2024 Concentration (mg/L) (unless noted) | BTV Concentration (mg/L) (unless noted) | 2nd Half 2024 Concentration (mg/L) (unless noted) | USL Notes            |
|-----------------|------------|---------------------------------------------------|-----------------------------------------|---------------------------------------------------|----------------------|
| MW-1            | Chloride   | <b>130</b>                                        | 120                                     | <b>31</b>                                         | Not an SSI           |
| MW-3RD          | Molybdenum | <b>0.0033</b>                                     | 0.00030                                 | <b>0.0034</b>                                     | Exceedance Confirmed |
| MW-3RD          | Radium 226 | <b>0.546 pci/L</b>                                | 0.0221 pci/L                            | <b>0.516 pci/L</b>                                | Exceedance Confirmed |
| MW-4            | Barium     | <b>0.16</b>                                       | 0.0049                                  | <b>0.20</b>                                       | Exceedance Confirmed |
| MW-4            | Molybdenum | <b>0.0036</b>                                     | 0.00030                                 | <b>0.0024</b>                                     | Exceedance Confirmed |
| MW-4            | Radium 226 | <b>0.195 pci/L</b>                                | 0.0221 pci/L                            | <b>0.229 pci/L</b>                                | Exceedance Confirmed |

mg/L = milligrams per Liter

pci/L = picocuries per Liter

**Bolded** concentration exceeds the respective BTV.

## 7 Groundwater Protection Standards

Per § 257.95(d)(2), Groundwater Protection Standards (GPS) were established for each Appendix IV constituent detected in the groundwater. GPS were established using United States Environmental Protection Agency (EPA) Maximum Contaminant Levels (MCLs) for detected Appendix IV constituents. For constituents for which the background level is higher than the MCL, the background value will be the GPS. GPS values are shown in **Table 6**.

Comparing the 2024 spring and fall sampling groundwater analytical results for Appendix IV analytes to the GPS, no GPS exceedances are indicated (**Table 7**).

## 8 Report Summary and Conclusions

Per 40 CFR §§ 40.257.93 – 257.95, two monitoring events (spring and fall) were conducted in 2024 at the SKB Lansing Landfill. Groundwater samples were collected from the monitoring network's eight monitoring wells (MW-1, MW-1RD, MW-2R, MW-2RD, MW-3, MW-3R, MW-3RD, and MW-4) located at the SKB Lansing Landfill during the 2024 monitoring events. Groundwater samples were analyzed for parameters specified in Appendix III and Appendix IV.



Historical groundwater data were statistically tested following the concepts outlined in this report to form a background data set. Interwell USLs were developed for Appendix III and Appendix IV in eight monitoring wells. Upper and lower threshold values were developed for pH using USL and box plot statistics. The resulting USLs were compared to the current concentrations for each COC and well pair.

The following analytes were calculated above BTVs in 2024:

#### Appendix III Analytes

- A Chloride concentration was detected above the BTV at upgradient monitoring well MW-1 during the spring sampling event. Subsequent confirmation sampling at MW-1 during summer 2024 determined this exceedance was not considered statistically significant.

#### Appendix IV Analytes

- A Barium concentration was detected above the BTV at downgradient monitoring well MW-4 during the spring and summer 2024 sampling events. Barium concentrations at MW-4 are confirmed exceedances.
- Molybdenum concentrations were detected above the BTV at downgradient monitoring wells MW-3RD and MW-4 during the spring and summer sampling events. Molybdenum concentrations at MW-3RD and MW-4 are confirmed exceedances.
- Radium 226 concentrations were detected above the BTV at downgradient monitoring wells MW-3RD and MW-4 during the spring and summer sampling events. Radium 226 concentrations at MW-3RD and MW-4 are confirmed exceedances.

Groundwater concentrations from the 2024 monitoring events were compared to established GPS values. No analytes were reported above the GPS in 2024.

## **9 Recommendations**

CCR groundwater monitoring events will be conducted in 2025 by the following schedule:

#### Spring 2025

Conduct a groundwater monitoring event of the site's monitoring well network and analyze groundwater samples for constituents listed in Appendix III and Appendix IV (full list).

#### Late Summer/Early Fall 2025

Conduct a groundwater monitoring event of the site's monitoring well network and analyzed samples for constituents listed in Appendix III and Appendix IV (only analytes detected in spring 2025 event).



An evaluation of groundwater analytical results after each monitoring event will be completed to determine if a significant increase over BTVs for one or more constituents sampled in Appendix III and Appendix IV has occurred at any monitoring well. The evaluation will be performed using a tolerance or prediction interval procedure (§ 257.93(f)(3)). The level of each constituent in the monitoring well will be compared to an established BTV generated as the USL. Any single constituent that exceeds the BTV is considered to be an exceedance. Confirmation sampling will determine whether the BTV exceedance is statistically significant. Additionally, groundwater concentrations of constituents listed in Appendix IV will be compared to the established GPS values.

A 2025 Annual Monitoring Report will be prepared and include sampling results from the 2025 CCR groundwater monitoring events and an evaluation of the analytical results as they pertained to BTV and GPS values.

## References

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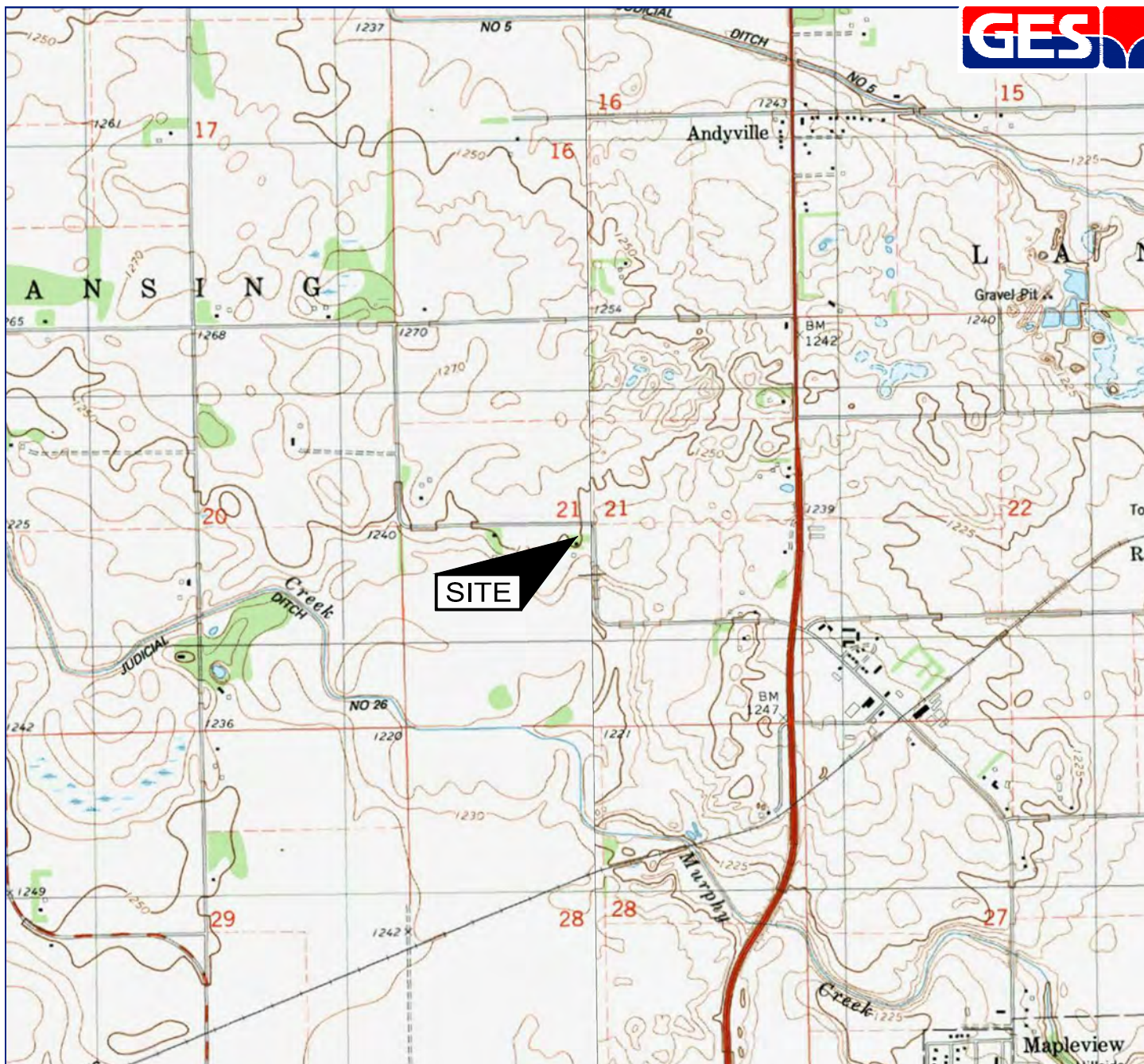
Singh and Singh, 2013. *ProUCL Version 5.0.00 Statistical Software for Environmental Applications for Data Sets with and without Nondetect Observations*, United States Environmental Protection Agency

United States Environmental Protection Agency, 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance*. Office of Resource Conservation and Recovery Program Implementation and Information Division, EPA 530/R-09-007, March 2009.



## Figures

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SOURCE: USGS 7.5 MINUTE SERIES  
TOPOGRAPHIC QUADRANGLE 1982  
AUSTIN EAST, MINNESOTA  
CONTOUR INTERVAL = 5'



QUADRANGLE LOCATION

DRAFTED BY:  
W.G.S.  
(N.J.)

CHECKED BY:  
JFS

REVIEWED BY:  
JFS



### SITE LOCATION MAP

**WCI AUSTIN LANDFILL LLC  
SKB LANSING LANDFILL  
52563 243RD STREET  
AUSTIN, MINNESOTA**

**Groundwater & Environmental Services, Inc.  
1301 CORPORATE CENTER DRIVE, SUITE 120, EAGAN, MN 55121**

SCALE IN FEET



DATE

12-15-21

FIGURE

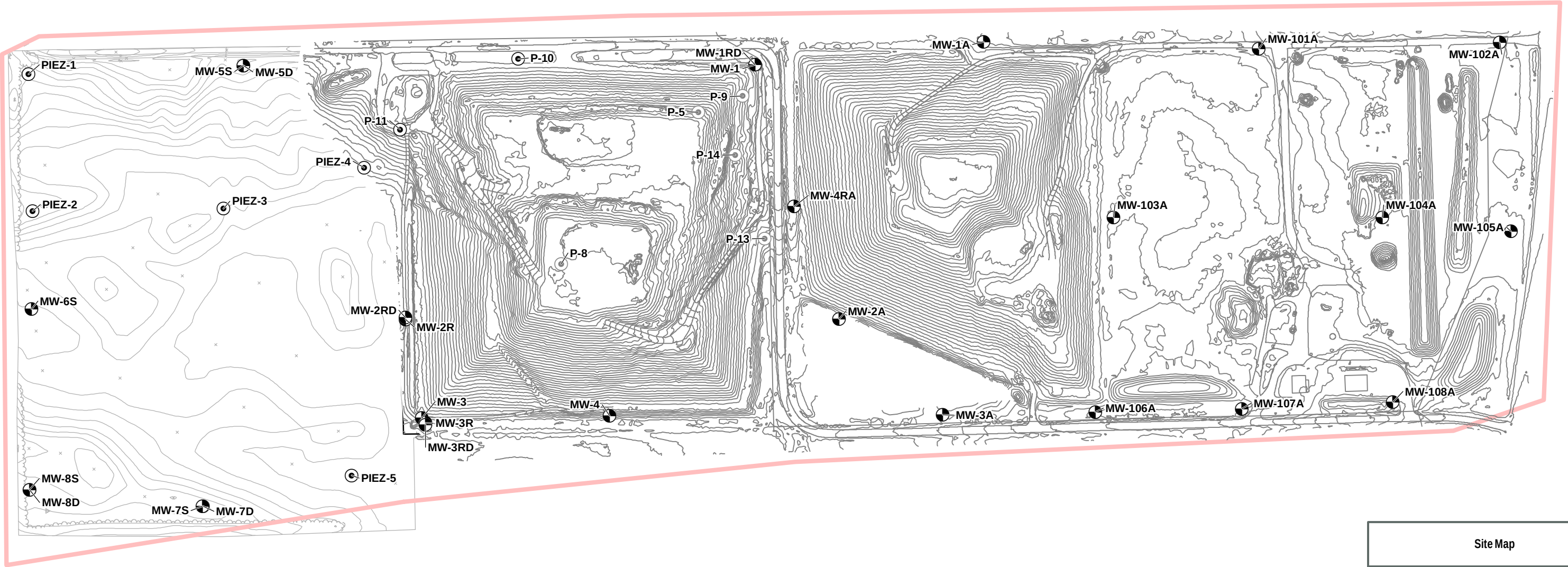
1



N:\Blacksburg\Projects\SKB Environmental\Lansing Facility\GIS\SKB\_Combined\_Austin\_Landfills\_SM.mxd - Scale 1:4,200 - 12/6/2024 11:21:51 AM - rschwiderson - NAD 1983 StatePlane Minnesota South FIPS 2203 Feet

Legend

- Monitoring Well
- Piezometer
- Removed Piezometer
- Property Boundary
- Fence
- Phase Boundary
- Approximate Limit of Waste
- Right of Way
- Compliance Boundary



|                                                                                                                                                                                                                                                                      |                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Site Map                                                                                                                                                                                                                                                             |                                |
| WCI Austin Landfill, LLC<br>SKB Lansing Facility<br>52563 243rd Street<br>Austin, Minnesota                                                                                                                                                                          |                                |
| Drawn<br>R.S.<br>Designed<br>N.S.<br>Approved<br>NJS                                                                                                                                                                                                                 | Date<br>12/6/24<br>Figure<br>2 |
| <br>Scale In Feet (Approximate)<br>0 350<br><br>Groundwater & Environmental Services, Inc. |                                |



- Legend
- Monitoring Well

Piezometer

Removed Piezometer

Property Boundary

Fence

Phase Boundary

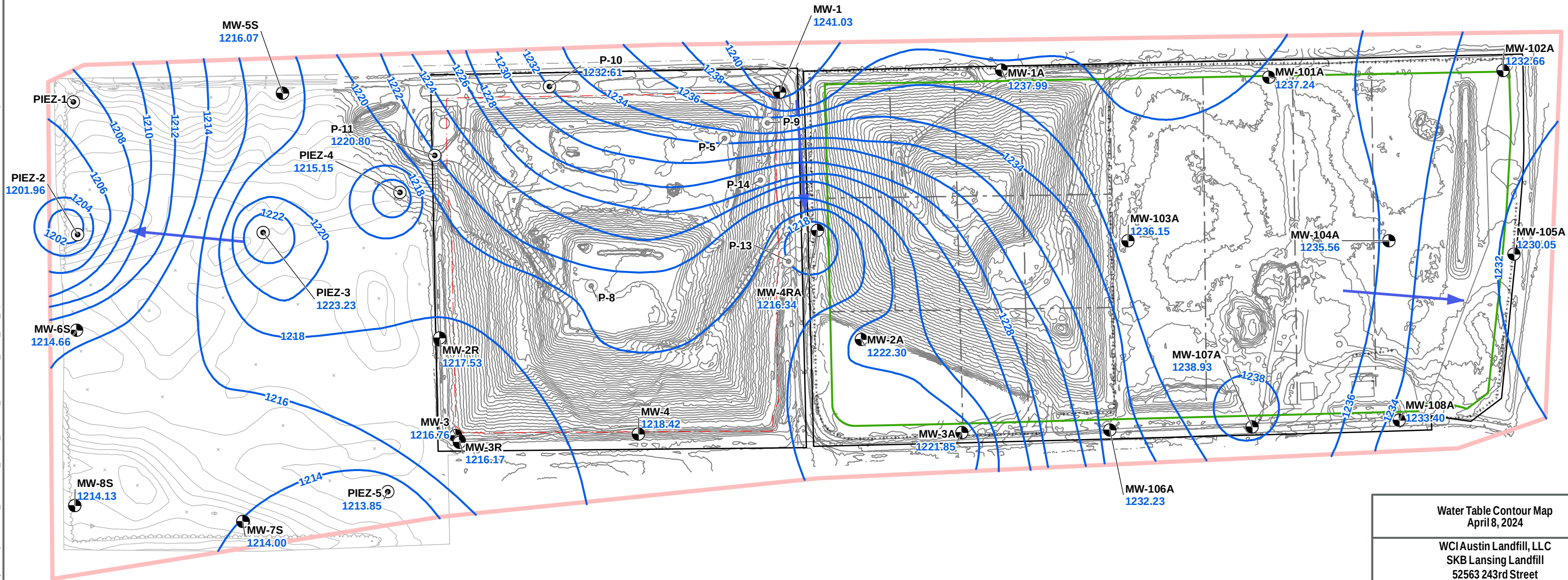
Approximate Limit of Waste

Right of Way

Compliance Boundary

Approximate Flow Direction

Groundwater Elevation Isocontour (ft MSL)



Note:  
Wells gauged in the deep aquifer in the Lansing Landfill area were not included in groundwater contour analysis.

Water Table Contour Map  
April 8, 2024

WCI Austin Landfill, LLC  
SKB Lansing Landfill  
52563 243rd Street  
Austin, Minnesota

Drawn  
GKS  
Designed  
DMC  
Approved  
NJS

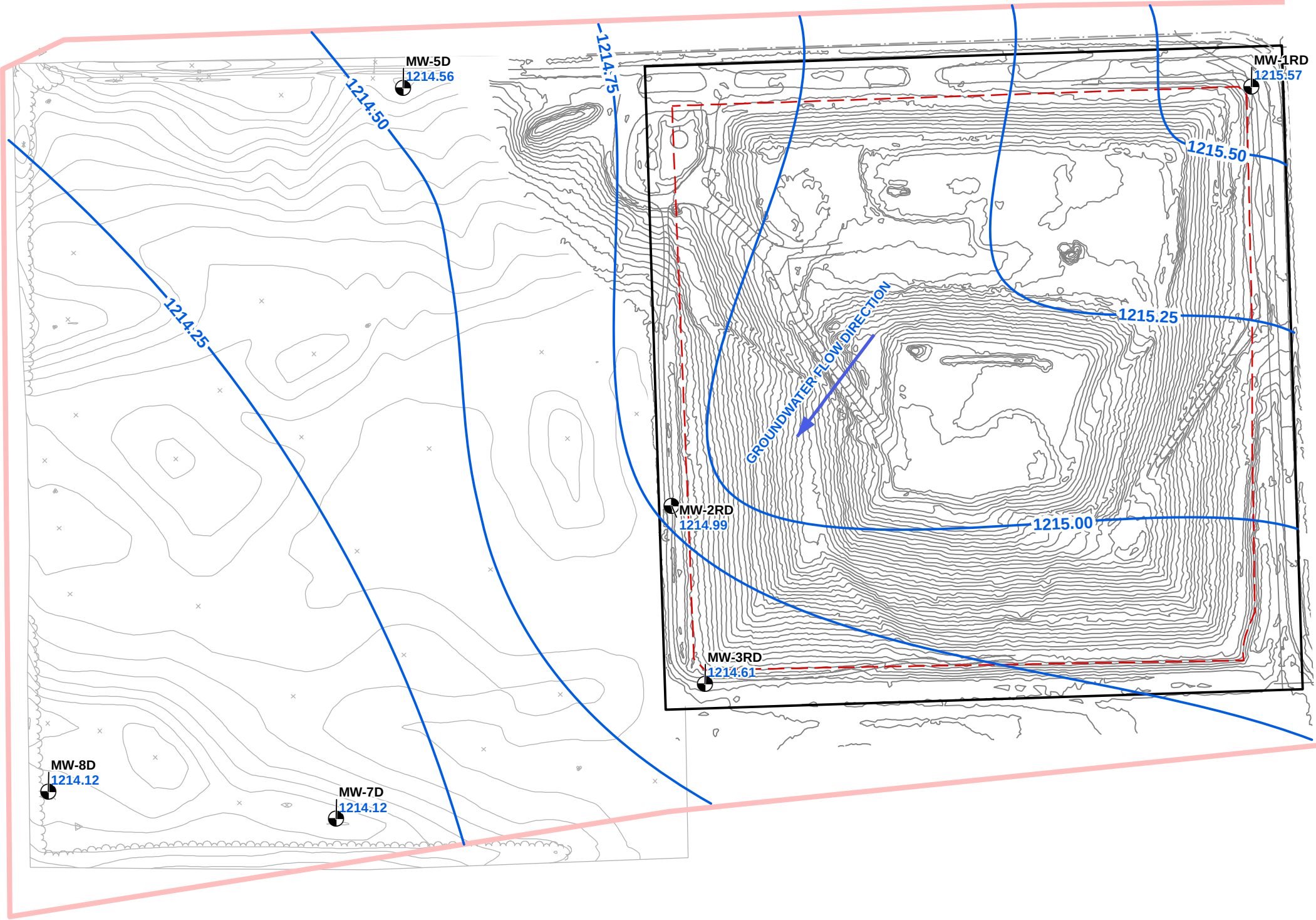
N

Scale In Feet (Approximate)  
0 350

GES

Groundwater & Environmental Services, Inc.

Date  
1/30/25  
Figure  
3



## LEGEND

- GROUNDWATER ELEVATION ISOCONTOUR (ft MSL)
- PROPERTY BOUNDARY
- RIGHT OF WAY
- APPROXIMATE LIMITS OF WASTE
- FENCE
- MEASURED GROUNDWATER ELEVATION (ft MSL)
- MONITORING WELL
- PIEZOMETER
- REMOVED PIEZOMETER

### Potentiometric Surface Contour Map Deep Zone - April 8, 2024

WCI Austin Landfill, LLC  
SKB Lansing Landfill  
52563 243rd Street  
Austin, Minnesota

Drawn  
GKS  
Designed  
DMC  
Approved  
NJS



Scale In Feet (Approximate)  
0 250

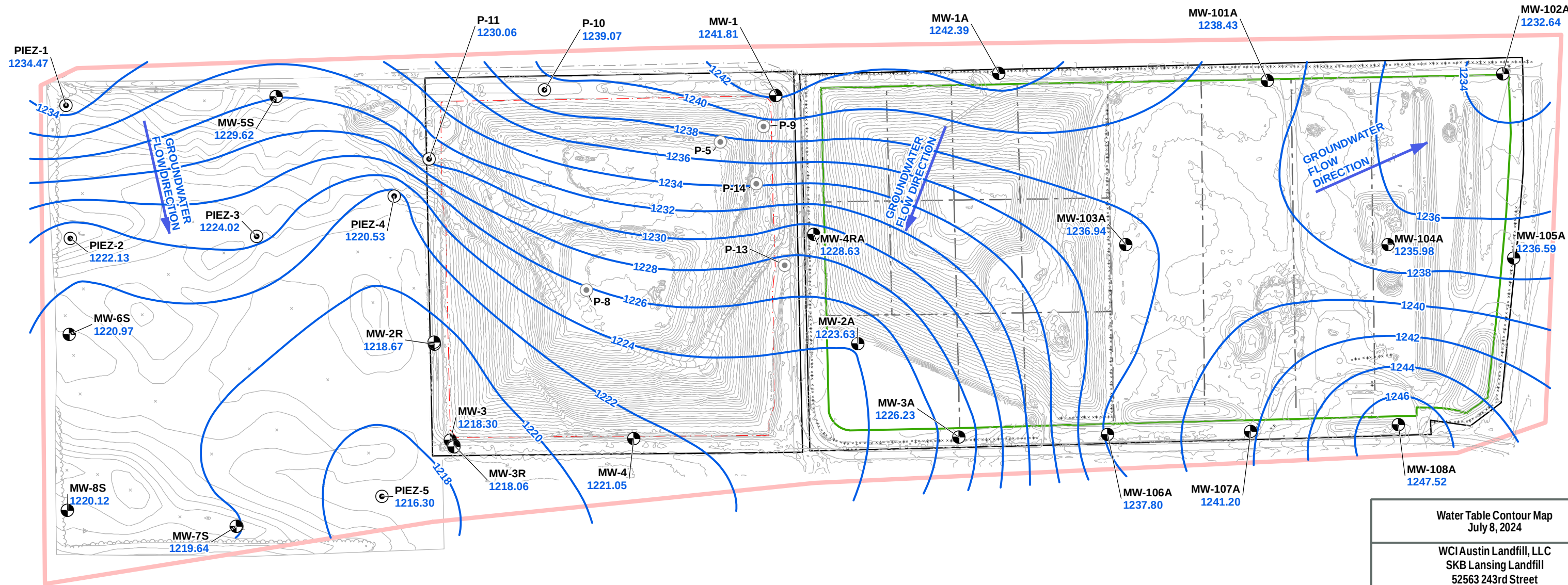


Date  
1/30/25  
Figure  
4



Legend

- Monitoring Well
- Piezometer
- Removed Piezometer
- Property Boundary
- Fence
- Phase Boundary
- Approximate Limit of Waste
- Right of Way
- Compliance Boundary
- Approximate Flow Direction
- Groundwater Elevation Isocontour (ft MSL)



Note:  
Wells gauged in the deep aquifer in the Lansing Landfill area were not included in groundwater contour analysis.

Water Table Contour Map  
July 8, 2024

WCI Austin Landfill, LLC  
SKB Lansing Landfill  
52563 243rd Street  
Austin, Minnesota

Drawn  
R.S.  
Designed  
N.S.  
Approved  
NJS



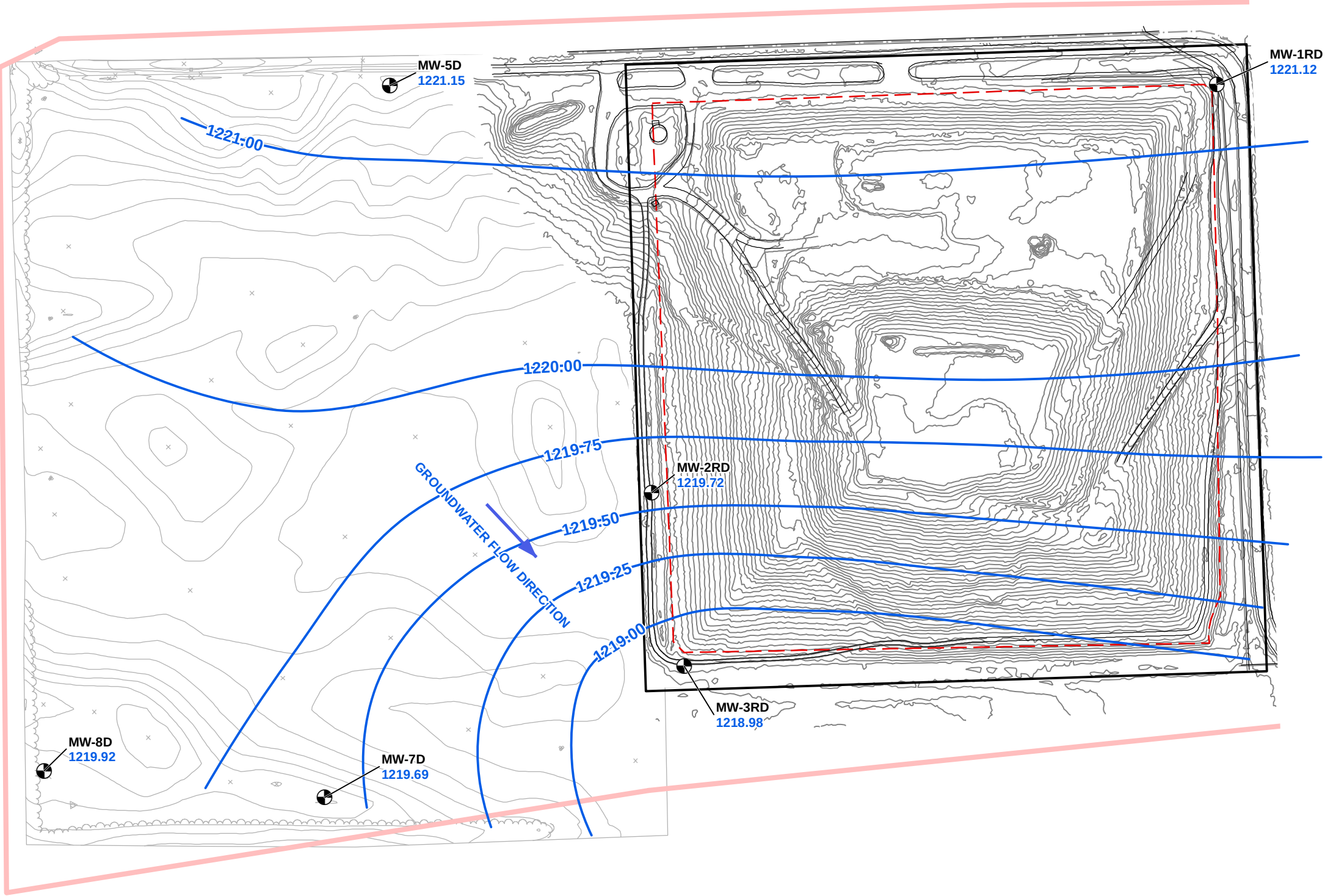
Date  
1/30/25  
Figure  
5

Scale In Feet (Approximate)

0 350



Groundwater & Environmental Services, Inc.



**LEGEND**

GROUNDWATER ELEVATION ISOCONTOUR (ft MSL)

PROPERTY BOUNDARY

RIGHT OF WAY

APPROXIMATE LIMITS OF WASTE

FENCE

1221.12 MEASURED GROUNDWATER ELEVATION (ft MSL)

MONITORING WELL

PIEZOMETER

REMOVED PIEZOMETER

Potentiometric Surface Contour Map  
Deep Zone - July 8, 2024

WCI Austin Landfill, LLC  
SKB Lansing Landfill  
52563 243rd Street  
Austin, Minnesota

Drawn  
**J.B.**  
Designed  
**N.S.**  
Approved  
**NJS**

Scale In Feet (Approximate)  
0 250  
  
Groundwater & Environmental Services, Inc.

Date  
**1/30/25**  
Figure  
**6**



## Tables

---



**Table 1**  
**Groundwater Elevations**



| Date       | MW-1    | MW-1RD  | MW-2R   | MW-2RD  | MW-3    | MW-3R   | MW-3RD  | MW-4    |
|------------|---------|---------|---------|---------|---------|---------|---------|---------|
| 04/08/2024 | 1241.03 | 1215.57 | 1217.53 | 1214.99 | 1216.76 | 1216.17 | 1214.61 | 1218.42 |
| 10/28/2024 | 1236.67 | 1217.63 | 1216.61 | 1216.55 | 1214.65 | 1214.88 | 1215.81 | 1216.91 |

| Date       | MW-5D   | MW-5S   | MW-6S   | MW-7D   | MW-7S   | MW-8D   | MW-8S   | MW-1A   |
|------------|---------|---------|---------|---------|---------|---------|---------|---------|
| 04/08/2024 | 1214.56 | 1216.07 | 1214.66 | 1214.12 | 1214.00 | 1214.12 | 1214.13 | 1237.99 |
| 10/28/2024 | 1216.63 | 1216.95 | 1215.45 | 1215.17 | 1215.09 | 1215.02 | 1215.12 | 1234.15 |

| Date       | MW-2A   | MW-3A   | MW-4RA  | MW-101A | MW-102A | MW-103A | MW-104A | MW-105A |
|------------|---------|---------|---------|---------|---------|---------|---------|---------|
| 04/08/2024 | 1222.30 | 1221.85 | 1216.34 | 1237.24 | 1232.66 | 1236.15 | 1235.56 | 1230.05 |
| 10/28/2024 | 1222.62 | 1222.66 | 1218.91 | 1232.83 | 1228.43 | 1234.01 | 1232.33 | 1230.69 |

| Date       | MW-106A | MW-107A | MW-108A | P-10    | P-11    | PIEZ-1  | PIEZ-2  | PIEZ-3  |
|------------|---------|---------|---------|---------|---------|---------|---------|---------|
| 04/08/2024 | 1232.23 | 1238.93 | 1233.40 | 1232.61 | 1220.80 | DRY     | 1213.96 | 1223.23 |
| 10/28/2024 | 1231.64 | 1235.96 | 1241.45 | 1235.63 | 1223.09 | 1222.24 | 1215.98 | 1218.89 |

| Date       | PIEZ-4  | PIEZ-5  |
|------------|---------|---------|
| 04/08/2024 | 1215.15 | 1213.85 |
| 10/28/2024 | 1216.48 | 1214.59 |

**Table 2**  
**Groundwater Analytical Data**  
**Appendix III**



| Location | Date       | Parameter              | Result | Background Threshold Value (BTV) | Units    | CAS #      |
|----------|------------|------------------------|--------|----------------------------------|----------|------------|
| MW-1     | 04/09/2024 | Boron                  | 0.13   | 4.5                              | mg/l     | 7440-42-8  |
| MW-1     | 07/08/2024 | Boron                  | 0.14   | 4.5                              | mg/l     | 7440-42-8  |
| MW-1     | 04/09/2024 | Calcium                | 135    | 287                              | mg/l     | 7440-70-2  |
| MW-1     | 07/08/2024 | Calcium                | 148    | 287                              | mg/l     | 7440-70-2  |
| MW-1     | 04/09/2024 | Chloride               | 130    | 120                              | mg/l     | 16887-00-6 |
| MW-1     | 07/08/2024 | Chloride               | 31     | 120                              | mg/l     | 16887-00-6 |
| MW-1     | 04/09/2024 | pH                     | 7.1    | 6.4 < 7.7                        | pH UNITS | PH         |
| MW-1     | 07/08/2024 | pH                     | 6.8    | 6.4 < 7.7                        | pH UNITS | PH         |
| MW-1     | 04/09/2024 | Sulfate as SO4         | 120    | 481                              | mg/l     | 14808-79-8 |
| MW-1     | 07/08/2024 | Sulfate as SO4         | 150    | 481                              | mg/l     | 14808-79-8 |
| MW-1     | 04/09/2024 | Total Dissolved Solids | 606    | 1,889                            | mg/l     | TDS        |
| MW-1     | 07/08/2024 | Total Dissolved Solids | 688    | 1,889                            | mg/l     | TDS        |
| MW-1RD   | 04/09/2024 | Boron                  | < 0.10 | 4.5                              | mg/l     | 7440-42-8  |
| MW-1RD   | 07/08/2024 | Boron                  | < 0.10 | 4.5                              | mg/l     | 7440-42-8  |
| MW-1RD   | 04/09/2024 | Calcium                | 77.2   | 287                              | mg/l     | 7440-70-2  |
| MW-1RD   | 07/08/2024 | Calcium                | 76.2   | 287                              | mg/l     | 7440-70-2  |
| MW-1RD   | 04/09/2024 | Chloride               | 26     | 120                              | mg/l     | 16887-00-6 |
| MW-1RD   | 07/08/2024 | Chloride               | 24     | 120                              | mg/l     | 16887-00-6 |
| MW-1RD   | 04/09/2024 | pH                     | 7.4    | 6.4 < 7.7                        | pH UNITS | PH         |
| MW-1RD   | 07/08/2024 | pH                     | 7.4    | 6.4 < 7.7                        | pH UNITS | PH         |
| MW-1RD   | 04/09/2024 | Sulfate as SO4         | 54     | 481                              | mg/l     | 14808-79-8 |
| MW-1RD   | 07/08/2024 | Sulfate as SO4         | 51     | 481                              | mg/l     | 14808-79-8 |
| MW-1RD   | 04/09/2024 | Total Dissolved Solids | 318    | 1,889                            | mg/l     | TDS        |
| MW-1RD   | 07/08/2024 | Total Dissolved Solids | 352    | 1,889                            | mg/l     | TDS        |
| MW-2R    | 04/08/2024 | Boron                  | 4.4    | 4.5                              | mg/l     | 7440-42-8  |
| MW-2R    | 07/08/2024 | Boron                  | 4.1    | 4.5                              | mg/l     | 7440-42-8  |
| MW-2R    | 04/08/2024 | Calcium                | 197    | 287                              | mg/l     | 7440-70-2  |
| MW-2R    | 07/08/2024 | Calcium                | 199    | 287                              | mg/l     | 7440-70-2  |
| MW-2R    | 04/08/2024 | Chloride               | 83     | 120                              | mg/l     | 16887-00-6 |
| MW-2R    | 07/08/2024 | Chloride               | 79     | 120                              | mg/l     | 16887-00-6 |
| MW-2R    | 04/08/2024 | pH                     | 6.8    | 6.4 < 7.7                        | pH UNITS | PH         |
| MW-2R    | 07/08/2024 | pH                     | 6.8    | 6.4 < 7.7                        | pH UNITS | PH         |
| MW-2R    | 04/08/2024 | Sulfate as SO4         | 240    | 481                              | mg/l     | 14808-79-8 |
| MW-2R    | 07/08/2024 | Sulfate as SO4         | 230    | 481                              | mg/l     | 14808-79-8 |
| MW-2R    | 04/08/2024 | Total Dissolved Solids | 1020   | 1,889                            | mg/l     | TDS        |
| MW-2R    | 07/08/2024 | Total Dissolved Solids | 1060   | 1,889                            | mg/l     | TDS        |
| MW-2RD   | 04/08/2024 | Boron                  | 0.2    | 4.5                              | mg/l     | 7440-42-8  |
| MW-2RD   | 07/08/2024 | Boron                  | 0.23   | 4.5                              | mg/l     | 7440-42-8  |
| MW-2RD   | 04/08/2024 | Calcium                | 149    | 287                              | mg/l     | 7440-70-2  |
| MW-2RD   | 07/08/2024 | Calcium                | 156    | 287                              | mg/l     | 7440-70-2  |
| MW-2RD   | 04/08/2024 | Chloride               | 44     | 120                              | mg/l     | 16887-00-6 |
| MW-2RD   | 07/08/2024 | Chloride               | 43     | 120                              | mg/l     | 16887-00-6 |
| MW-2RD   | 04/08/2024 | pH                     | 7.1    | 6.4 < 7.7                        | pH UNITS | PH         |
| MW-2RD   | 07/08/2024 | pH                     | 7      | 6.4 < 7.7                        | pH UNITS | PH         |
| MW-2RD   | 04/08/2024 | Sulfate as SO4         | 83     | 481                              | mg/l     | 14808-79-8 |
| MW-2RD   | 07/08/2024 | Sulfate as SO4         | 80     | 481                              | mg/l     | 14808-79-8 |
| MW-2RD   | 04/08/2024 | Total Dissolved Solids | 628    | 1,889                            | mg/l     | TDS        |
| MW-2RD   | 07/08/2024 | Total Dissolved Solids | 638    | 1,889                            | mg/l     | TDS        |
| MW-3     | 04/08/2024 | Boron                  | 1.2    | 4.5                              | mg/l     | 7440-42-8  |
| MW-3     | 07/09/2024 | Boron                  | 0.94   | 4.5                              | mg/l     | 7440-42-8  |
| MW-3     | 04/08/2024 | Calcium                | 200    | 287                              | mg/l     | 7440-70-2  |
| MW-3     | 07/09/2024 | Calcium                | 150    | 287                              | mg/l     | 7440-70-2  |
| MW-3     | 04/08/2024 | Chloride               | 67     | 120                              | mg/l     | 16887-00-6 |
| MW-3     | 07/09/2024 | Chloride               | 40     | 120                              | mg/l     | 16887-00-6 |
| MW-3     | 04/08/2024 | pH                     | 6.8    | 6.4 < 7.7                        | pH UNITS | PH         |
| MW-3     | 07/09/2024 | pH                     | 6.8    | 6.4 < 7.7                        | pH UNITS | PH         |
| MW-3     | 04/08/2024 | Sulfate as SO4         | 130    | 481                              | mg/l     | 14808-79-8 |
| MW-3     | 07/09/2024 | Sulfate as SO4         | 41     | 481                              | mg/l     | 14808-79-8 |
| MW-3     | 04/08/2024 | Total Dissolved Solids | 812    | 1,889                            | mg/l     | TDS        |
| MW-3     | 07/09/2024 | Total Dissolved Solids | 632    | 1,889                            | mg/l     | TDS        |



**Table 2**  
**Groundwater Analytical Data**  
**Appendix III**



| Location | Date       | Parameter              | Result | Background Threshold Value (BTV) | Units    | CAS #      |
|----------|------------|------------------------|--------|----------------------------------|----------|------------|
| MW-3R    | 04/08/2024 | Boron                  | < 0.10 | 4.5                              | mg/l     | 7440-42-8  |
| MW-3R    | 07/09/2024 | Boron                  | < 0.10 | 4.5                              | mg/l     | 7440-42-8  |
| MW-3R    | 04/08/2024 | Calcium                | 236    | 287                              | mg/l     | 7440-70-2  |
| MW-3R    | 07/09/2024 | Calcium                | 233    | 287                              | mg/l     | 7440-70-2  |
| MW-3R    | 04/08/2024 | Chloride               | 28     | 120                              | mg/l     | 16887-00-6 |
| MW-3R    | 07/09/2024 | Chloride               | 27     | 120                              | mg/l     | 16887-00-6 |
| MW-3R    | 04/08/2024 | pH                     | 6.6    | 6.4 < 7.7                        | pH UNITS | PH         |
| MW-3R    | 07/09/2024 | pH                     | 6.6    | 6.4 < 7.7                        | pH UNITS | PH         |
| MW-3R    | 04/08/2024 | Sulfate as SO4         | 8.9    | 481                              | mg/l     | 14808-79-8 |
| MW-3R    | 07/09/2024 | Sulfate as SO4         | 8.9    | 481                              | mg/l     | 14808-79-8 |
| MW-3R    | 04/08/2024 | Total Dissolved Solids | 886    | 1,889                            | mg/l     | TDS        |
| MW-3R    | 07/09/2024 | Total Dissolved Solids | 922    | 1,889                            | mg/l     | TDS        |
| MW-3RD   | 04/08/2024 | Boron                  | < 0.10 | 4.5                              | mg/l     | 7440-42-8  |
| MW-3RD   | 07/09/2024 | Boron                  | < 0.10 | 4.5                              | mg/l     | 7440-42-8  |
| MW-3RD   | 04/08/2024 | Calcium                | 118    | 287                              | mg/l     | 7440-70-2  |
| MW-3RD   | 07/09/2024 | Calcium                | 121    | 287                              | mg/l     | 7440-70-2  |
| MW-3RD   | 04/08/2024 | Chloride               | 29     | 120                              | mg/l     | 16887-00-6 |
| MW-3RD   | 07/09/2024 | Chloride               | 28     | 120                              | mg/l     | 16887-00-6 |
| MW-3RD   | 04/08/2024 | pH                     | 7.1    | 6.4 < 7.7                        | pH UNITS | PH         |
| MW-3RD   | 07/09/2024 | pH                     | 7      | 6.4 < 7.7                        | pH UNITS | PH         |
| MW-3RD   | 04/08/2024 | Sulfate as SO4         | 80     | 481                              | mg/l     | 14808-79-8 |
| MW-3RD   | 07/09/2024 | Sulfate as SO4         | 76     | 481                              | mg/l     | 14808-79-8 |
| MW-3RD   | 04/08/2024 | Total Dissolved Solids | 528    | 1,889                            | mg/l     | TDS        |
| MW-3RD   | 07/09/2024 | Total Dissolved Solids | 528    | 1,889                            | mg/l     | TDS        |
| MW-4     | 04/08/2024 | Boron                  | 0.26   | 4.5                              | mg/l     | 7440-42-8  |
| MW-4     | 07/09/2024 | Boron                  | 0.5    | 4.5                              | mg/l     | 7440-42-8  |
| MW-4     | 04/08/2024 | Calcium                | 180    | 287                              | mg/l     | 7440-70-2  |
| MW-4     | 07/09/2024 | Calcium                | 200    | 287                              | mg/l     | 7440-70-2  |
| MW-4     | 04/08/2024 | Chloride               | 39     | 120                              | mg/l     | 16887-00-6 |
| MW-4     | 07/09/2024 | Chloride               | 11     | 120                              | mg/l     | 16887-00-6 |
| MW-4     | 04/08/2024 | pH                     | 7.1    | 6.4 < 7.7                        | pH UNITS | PH         |
| MW-4     | 07/09/2024 | pH                     | 7      | 6.4 < 7.7                        | pH UNITS | PH         |
| MW-4     | 04/08/2024 | Sulfate as SO4         | 260    | 481                              | mg/l     | 14808-79-8 |
| MW-4     | 07/09/2024 | Sulfate as SO4         | 180    | 481                              | mg/l     | 14808-79-8 |
| MW-4     | 04/08/2024 | Total Dissolved Solids | 784    | 1,889                            | mg/l     | TDS        |
| MW-4     | 07/09/2024 | Total Dissolved Solids | 862    | 1,889                            | mg/l     | TDS        |

Results in milligrams per liter (mg/l)

**Bold** = Indicates concentration above Background Threshold Value

**Table 3**  
**Groundwater Analytical Data**  
**Appendix IV**



| Location      | Date              | Parameter       | Result          | Background Threshold Value (BTV) | Units       | CAS #             |
|---------------|-------------------|-----------------|-----------------|----------------------------------|-------------|-------------------|
| MW-1          | 04/09/2024        | Antimony        | < 0.0020        | 0.0200                           | mg/l        | 7440-36-0         |
| MW-1          | 07/08/2024        | Antimony        | < 0.0020        | 0.0200                           | mg/l        | 7440-36-0         |
| MW-1          | 04/09/2024        | Arsenic         | < 0.0020        | 0.0049                           | mg/l        | 7440-38-2         |
| MW-1          | 07/08/2024        | Arsenic         | < 0.0020        | 0.0049                           | mg/l        | 7440-38-2         |
| MW-1          | 04/09/2024        | Barium          | 0.10            | 0.71                             | mg/l        | 7440-39-3         |
| MW-1          | 07/08/2024        | Barium          | 0.15            | 0.71                             | mg/l        | 7440-39-3         |
| MW-1          | 04/09/2024        | Beryllium       | < 0.0010        | 0.0010                           | mg/l        | 7440-41-7         |
| MW-1          | 07/08/2024        | Beryllium       | < 0.0010        | 0.0010                           | mg/l        | 7440-41-7         |
| MW-1          | 04/09/2024        | Cadmium         | < 0.00020       | 0.0436                           | mg/l        | 7440-43-9         |
| MW-1          | 07/08/2024        | Cadmium         | < 0.00020       | 0.0436                           | mg/l        | 7440-43-9         |
| MW-1          | 04/09/2024        | Chromium        | < 0.0050        | 0.0059                           | mg/l        | 7440-47-3         |
| MW-1          | 07/08/2024        | Chromium        | < 0.0050        | 0.0059                           | mg/l        | 7440-47-3         |
| MW-1          | 04/09/2024        | Cobalt          | < 0.00050       | 0.0076                           | mg/l        | 7440-48-4         |
| MW-1          | 07/08/2024        | Cobalt          | < 0.00050       | 0.0076                           | mg/l        | 7440-48-4         |
| <b>MW-1</b>   | <b>04/09/2024</b> | <b>Fluoride</b> | <b>&lt; 1.0</b> | <b>0.352</b>                     | <b>mg/l</b> | <b>16984-48-8</b> |
| <b>MW-1</b>   | <b>07/08/2024</b> | <b>Fluoride</b> | <b>&lt; 1.0</b> | <b>0.352</b>                     | <b>mg/l</b> | <b>16984-48-8</b> |
| MW-1          | 04/09/2024        | Lead            | < 0.00050       | 0.0151                           | mg/l        | 7439-92-1         |
| MW-1          | 07/08/2024        | Lead            | < 0.00050       | 0.0151                           | mg/l        | 7439-92-1         |
| MW-1          | 04/09/2024        | Lithium         | 0.033           | 0.041                            | mg/l        | 7439-93-2         |
| MW-1          | 07/08/2024        | Lithium         | < 0.010         | 0.041                            | mg/l        | 7439-93-2         |
| MW-1          | 04/09/2024        | Mercury         | < 0.00020       | 0.00030                          | mg/l        | 7439-97-6         |
| MW-1          | 07/08/2024        | Mercury         | < 0.00020       | 0.00030                          | mg/l        | 7439-97-6         |
| MW-1          | 04/09/2024        | MOLYBDENUM      | < 0.0020        | 0.0221                           | mg/l        | 7439-98-7         |
| MW-1          | 07/08/2024        | MOLYBDENUM      | < 0.0020        | 0.0221                           | mg/l        | 7439-98-7         |
| MW-1          | 04/09/2024        | Radium (226)    | < 0.122         | 1.874                            | pci/l       | 13982-63-3        |
| MW-1          | 07/08/2024        | Radium (226)    | < 0.122         | 1.874                            | pci/l       | 13982-63-3        |
| MW-1          | 04/09/2024        | Radium 228      | < 0.511         | 2.234                            | pci/l       | 15262-20-1        |
| MW-1          | 07/08/2024        | Radium 228      | < 0.574         | 2.234                            | pci/l       | 15262-20-1        |
| MW-1          | 04/09/2024        | Radium-226/228  | < 0.511         | 4.108                            | pci/l       | 425               |
| MW-1          | 07/08/2024        | Radium-226/228  | < 0.574         | 4.108                            | pci/l       | 425               |
| MW-1          | 04/09/2024        | Selenium        | < 0.0050        | 0.034                            | mg/l        | 7782-49-2         |
| MW-1          | 07/08/2024        | Selenium        | < 0.0050        | 0.034                            | mg/l        | 7782-49-2         |
| MW-1          | 04/09/2024        | Thallium        | < 0.0010        | 0.028                            | mg/l        | 7440-28-0         |
| MW-1          | 07/08/2024        | Thallium        | < 0.0010        | 0.028                            | mg/l        | 7440-28-0         |
| MW-1RD        | 04/09/2024        | Antimony        | < 0.0020        | 0.0200                           | mg/l        | 7440-36-0         |
| MW-1RD        | 07/08/2024        | Antimony        | < 0.0020        | 0.0200                           | mg/l        | 7440-36-0         |
| MW-1RD        | 04/09/2024        | Arsenic         | < 0.0020        | 0.0049                           | mg/l        | 7440-38-2         |
| MW-1RD        | 07/08/2024        | Arsenic         | < 0.0020        | 0.0049                           | mg/l        | 7440-38-2         |
| MW-1RD        | 04/09/2024        | Barium          | 0.13            | 0.71                             | mg/l        | 7440-39-3         |
| MW-1RD        | 07/08/2024        | Barium          | 0.14            | 0.71                             | mg/l        | 7440-39-3         |
| MW-1RD        | 04/09/2024        | Beryllium       | < 0.0010        | 0.0010                           | mg/l        | 7440-41-7         |
| MW-1RD        | 07/08/2024        | Beryllium       | < 0.0010        | 0.0010                           | mg/l        | 7440-41-7         |
| MW-1RD        | 04/09/2024        | Cadmium         | < 0.00020       | 0.0436                           | mg/l        | 7440-43-9         |
| MW-1RD        | 07/08/2024        | Cadmium         | < 0.00020       | 0.0436                           | mg/l        | 7440-43-9         |
| MW-1RD        | 04/09/2024        | Chromium        | < 0.0050        | 0.0059                           | mg/l        | 7440-47-3         |
| MW-1RD        | 07/08/2024        | Chromium        | < 0.0050        | 0.0059                           | mg/l        | 7440-47-3         |
| MW-1RD        | 04/09/2024        | Cobalt          | 0.00061         | 0.0076                           | mg/l        | 7440-48-4         |
| MW-1RD        | 07/08/2024        | Cobalt          | 0.00061         | 0.0076                           | mg/l        | 7440-48-4         |
| <b>MW-1RD</b> | <b>04/09/2024</b> | <b>Fluoride</b> | <b>&lt; 1.0</b> | <b>0.352</b>                     | <b>mg/l</b> | <b>16984-48-8</b> |
| <b>MW-1RD</b> | <b>07/08/2024</b> | <b>Fluoride</b> | <b>&lt; 1.0</b> | <b>0.352</b>                     | <b>mg/l</b> | <b>16984-48-8</b> |
| MW-1RD        | 04/09/2024        | Lead            | < 0.00050       | 0.0151                           | mg/l        | 7439-92-1         |
| MW-1RD        | 07/08/2024        | Lead            | < 0.00050       | 0.0151                           | mg/l        | 7439-92-1         |

**Table 3**  
**Groundwater Analytical Data**  
**Appendix IV**



| Location | Date       | Parameter      | Result    | Background Threshold Value (BTV) | Units | CAS #      |
|----------|------------|----------------|-----------|----------------------------------|-------|------------|
| MW-1RD   | 04/09/2024 | Lithium        | < 0.010   | 0.041                            | mg/l  | 7439-93-2  |
| MW-1RD   | 07/08/2024 | Lithium        | < 0.010   | 0.041                            | mg/l  | 7439-93-2  |
| MW-1RD   | 04/09/2024 | Mercury        | < 0.00020 | 0.00030                          | mg/l  | 7439-97-6  |
| MW-1RD   | 07/08/2024 | Mercury        | < 0.00020 | 0.00030                          | mg/l  | 7439-97-6  |
| MW-1RD   | 04/09/2024 | MOLYBDENUM     | 0.0027    | 0.0221                           | mg/l  | 7439-98-7  |
| MW-1RD   | 07/08/2024 | MOLYBDENUM     | 0.0029    | 0.0221                           | mg/l  | 7439-98-7  |
| MW-1RD   | 04/09/2024 | Radium (226)   | 0.404     | 1.874                            | pci/l | 13982-63-3 |
| MW-1RD   | 07/08/2024 | Radium (226)   | 0.338     | 1.874                            | pci/l | 13982-63-3 |
| MW-1RD   | 04/09/2024 | Radium 228     | < 0.496   | 2.234                            | pci/l | 15262-20-1 |
| MW-1RD   | 07/08/2024 | Radium 228     | 0.601     | 2.234                            | pci/l | 15262-20-1 |
| MW-1RD   | 04/09/2024 | Radium-226/228 | 0.812     | 4.108                            | pci/l | 425        |
| MW-1RD   | 07/08/2024 | Radium-226/228 | 0.939     | 4.108                            | pci/l | 425        |
| MW-1RD   | 04/09/2024 | Selenium       | < 0.0050  | 0.034                            | mg/l  | 7782-49-2  |
| MW-1RD   | 07/08/2024 | Selenium       | < 0.0050  | 0.034                            | mg/l  | 7782-49-2  |
| MW-1RD   | 04/09/2024 | Thallium       | < 0.0010  | 0.028                            | mg/l  | 7440-28-0  |
| MW-1RD   | 07/08/2024 | Thallium       | < 0.0010  | 0.028                            | mg/l  | 7440-28-0  |
| MW-2R    | 04/08/2024 | Antimony       | < 0.0020  | 0.0200                           | mg/l  | 7440-36-0  |
| MW-2R    | 07/08/2024 | Antimony       | < 0.0020  | 0.0200                           | mg/l  | 7440-36-0  |
| MW-2R    | 04/08/2024 | Arsenic        | < 0.0020  | 0.0049                           | mg/l  | 7440-38-2  |
| MW-2R    | 07/08/2024 | Arsenic        | < 0.0020  | 0.0049                           | mg/l  | 7440-38-2  |
| MW-2R    | 04/08/2024 | Barium         | 0.19      | 0.71                             | mg/l  | 7440-39-3  |
| MW-2R    | 07/08/2024 | Barium         | 0.22      | 0.71                             | mg/l  | 7440-39-3  |
| MW-2R    | 04/08/2024 | Beryllium      | < 0.0010  | 0.0010                           | mg/l  | 7440-41-7  |
| MW-2R    | 07/08/2024 | Beryllium      | < 0.0010  | 0.0010                           | mg/l  | 7440-41-7  |
| MW-2R    | 04/08/2024 | Cadmium        | < 0.00020 | 0.0436                           | mg/l  | 7440-43-9  |
| MW-2R    | 07/08/2024 | Cadmium        | < 0.00020 | 0.0436                           | mg/l  | 7440-43-9  |
| MW-2R    | 04/08/2024 | Chromium       | < 0.0050  | 0.0059                           | mg/l  | 7440-47-3  |
| MW-2R    | 07/08/2024 | Chromium       | < 0.0050  | 0.0059                           | mg/l  | 7440-47-3  |
| MW-2R    | 04/08/2024 | Cobalt         | 0.0014    | 0.0076                           | mg/l  | 7440-48-4  |
| MW-2R    | 07/08/2024 | Cobalt         | 0.0010    | 0.0076                           | mg/l  | 7440-48-4  |
| MW-2R    | 04/08/2024 | Fluoride       | < 1.0     | 0.352                            | mg/l  | 16984-48-8 |
| MW-2R    | 07/08/2024 | Fluoride       | < 1.0     | 0.352                            | mg/l  | 16984-48-8 |
| MW-2R    | 04/08/2024 | Lead           | < 0.00050 | 0.0151                           | mg/l  | 7439-92-1  |
| MW-2R    | 07/08/2024 | Lead           | < 0.00050 | 0.0151                           | mg/l  | 7439-92-1  |
| MW-2R    | 04/08/2024 | Lithium        | < 0.010   | 0.041                            | mg/l  | 7439-93-2  |
| MW-2R    | 07/08/2024 | Lithium        | < 0.010   | 0.041                            | mg/l  | 7439-93-2  |
| MW-2R    | 04/08/2024 | Mercury        | < 0.00020 | 0.00030                          | mg/l  | 7439-97-6  |
| MW-2R    | 07/08/2024 | Mercury        | < 0.00020 | 0.00030                          | mg/l  | 7439-97-6  |
| MW-2R    | 04/08/2024 | MOLYBDENUM     | 0.0020    | 0.0221                           | mg/l  | 7439-98-7  |
| MW-2R    | 07/08/2024 | MOLYBDENUM     | < 0.0020  | 0.0221                           | mg/l  | 7439-98-7  |
| MW-2R    | 04/08/2024 | Radium (226)   | 0.392     | 1.874                            | pci/l | 13982-63-3 |
| MW-2R    | 07/08/2024 | Radium (226)   | 0.382     | 1.874                            | pci/l | 13982-63-3 |
| MW-2R    | 04/08/2024 | Radium 228     | < 0.708   | 2.234                            | pci/l | 15262-20-1 |
| MW-2R    | 07/08/2024 | Radium 228     | < 0.761   | 2.234                            | pci/l | 15262-20-1 |
| MW-2R    | 04/08/2024 | Radium-226/228 | < 0.708   | 4.108                            | pci/l | 425        |
| MW-2R    | 07/08/2024 | Radium-226/228 | < 0.761   | 4.108                            | pci/l | 425        |
| MW-2R    | 04/08/2024 | Selenium       | < 0.0050  | 0.034                            | mg/l  | 7782-49-2  |
| MW-2R    | 07/08/2024 | Selenium       | < 0.0050  | 0.034                            | mg/l  | 7782-49-2  |
| MW-2R    | 04/08/2024 | Thallium       | < 0.0010  | 0.028                            | mg/l  | 7440-28-0  |
| MW-2R    | 07/08/2024 | Thallium       | < 0.0010  | 0.028                            | mg/l  | 7440-28-0  |
| MW-2RD   | 04/08/2024 | Antimony       | < 0.0020  | 0.0200                           | mg/l  | 7440-36-0  |
| MW-2RD   | 07/08/2024 | Antimony       | < 0.0020  | 0.0200                           | mg/l  | 7440-36-0  |
| MW-2RD   | 04/08/2024 | Arsenic        | 0.0023    | 0.0049                           | mg/l  | 7440-38-2  |
| MW-2RD   | 07/08/2024 | Arsenic        | < 0.0020  | 0.0049                           | mg/l  | 7440-38-2  |

**Table 3**  
**Groundwater Analytical Data**  
**Appendix IV**



| Location      | Date              | Parameter       | Result          | Background Threshold Value (BTV) | Units       | CAS #             |
|---------------|-------------------|-----------------|-----------------|----------------------------------|-------------|-------------------|
| MW-2RD        | 04/08/2024        | Barium          | 0.18            | 0.71                             | mg/l        | 7440-39-3         |
| MW-2RD        | 07/08/2024        | Barium          | 0.19            | 0.71                             | mg/l        | 7440-39-3         |
| MW-2RD        | 04/08/2024        | Beryllium       | < 0.0010        | 0.0010                           | mg/l        | 7440-41-7         |
| MW-2RD        | 07/08/2024        | Beryllium       | < 0.0010        | 0.0010                           | mg/l        | 7440-41-7         |
| MW-2RD        | 04/08/2024        | Cadmium         | < 0.00020       | 0.0436                           | mg/l        | 7440-43-9         |
| MW-2RD        | 07/08/2024        | Cadmium         | < 0.00020       | 0.0436                           | mg/l        | 7440-43-9         |
| MW-2RD        | 04/08/2024        | Chromium        | < 0.0050        | 0.0059                           | mg/l        | 7440-47-3         |
| MW-2RD        | 07/08/2024        | Chromium        | < 0.0050        | 0.0059                           | mg/l        | 7440-47-3         |
| MW-2RD        | 04/08/2024        | Cobalt          | 0.0024          | 0.0076                           | mg/l        | 7440-48-4         |
| MW-2RD        | 07/08/2024        | Cobalt          | 0.0027          | 0.0076                           | mg/l        | 7440-48-4         |
| <b>MW-2RD</b> | <b>04/08/2024</b> | <b>Fluoride</b> | <b>&lt; 1.0</b> | <b>0.352</b>                     | <b>mg/l</b> | <b>16984-48-8</b> |
| <b>MW-2RD</b> | <b>07/08/2024</b> | <b>Fluoride</b> | <b>&lt; 1.0</b> | <b>0.352</b>                     | <b>mg/l</b> | <b>16984-48-8</b> |
| MW-2RD        | 04/08/2024        | Lead            | < 0.00050       | 0.0151                           | mg/l        | 7439-92-1         |
| MW-2RD        | 07/08/2024        | Lead            | < 0.00050       | 0.0151                           | mg/l        | 7439-92-1         |
| MW-2RD        | 04/08/2024        | Lithium         | 0.011           | 0.041                            | mg/l        | 7439-93-2         |
| MW-2RD        | 07/08/2024        | Lithium         | < 0.010         | 0.041                            | mg/l        | 7439-93-2         |
| MW-2RD        | 04/08/2024        | Mercury         | < 0.00020       | 0.00030                          | mg/l        | 7439-97-6         |
| MW-2RD        | 07/08/2024        | Mercury         | < 0.00020       | 0.00030                          | mg/l        | 7439-97-6         |
| MW-2RD        | 04/08/2024        | MOLYBDENUM      | 0.0021          | 0.0221                           | mg/l        | 7439-98-7         |
| MW-2RD        | 07/08/2024        | MOLYBDENUM      | 0.0022          | 0.0221                           | mg/l        | 7439-98-7         |
| MW-2RD        | 04/08/2024        | Radium (226)    | 0.659           | 1.874                            | pci/l       | 13982-63-3        |
| MW-2RD        | 07/08/2024        | Radium (226)    | 0.578           | 1.874                            | pci/l       | 13982-63-3        |
| MW-2RD        | 04/08/2024        | Radium 228      | < 0.594         | 2.234                            | pci/l       | 15262-20-1        |
| MW-2RD        | 07/08/2024        | Radium 228      | 1.14            | 2.234                            | pci/l       | 15262-20-1        |
| MW-2RD        | 04/08/2024        | Radium-226/228  | 1.21            | 4.108                            | pci/l       | 425               |
| MW-2RD        | 07/08/2024        | Radium-226/228  | 1.72            | 4.108                            | pci/l       | 425               |
| MW-2RD        | 04/08/2024        | Selenium        | 0.026           | 0.034                            | mg/l        | 7782-49-2         |
| MW-2RD        | 07/08/2024        | Selenium        | 0.031           | 0.034                            | mg/l        | 7782-49-2         |
| MW-2RD        | 04/08/2024        | Thallium        | < 0.0010        | 0.028                            | mg/l        | 7440-28-0         |
| MW-2RD        | 07/08/2024        | Thallium        | < 0.0010        | 0.028                            | mg/l        | 7440-28-0         |
| MW-3          | 04/08/2024        | Antimony        | < 0.0020        | 0.0200                           | mg/l        | 7440-36-0         |
| MW-3          | 07/09/2024        | Antimony        | < 0.0020        | 0.0200                           | mg/l        | 7440-36-0         |
| MW-3          | 04/08/2024        | Arsenic         | 0.0023          | 0.0049                           | mg/l        | 7440-38-2         |
| MW-3          | 07/09/2024        | Arsenic         | < 0.0020        | 0.0049                           | mg/l        | 7440-38-2         |
| MW-3          | 04/08/2024        | Barium          | 0.24            | 0.71                             | mg/l        | 7440-39-3         |
| MW-3          | 07/09/2024        | Barium          | 0.15            | 0.71                             | mg/l        | 7440-39-3         |
| MW-3          | 04/08/2024        | Beryllium       | < 0.0010        | 0.0010                           | mg/l        | 7440-41-7         |
| MW-3          | 07/09/2024        | Beryllium       | < 0.0010        | 0.0010                           | mg/l        | 7440-41-7         |
| MW-3          | 04/08/2024        | Cadmium         | < 0.00020       | 0.0436                           | mg/l        | 7440-43-9         |
| MW-3          | 07/09/2024        | Cadmium         | < 0.00020       | 0.0436                           | mg/l        | 7440-43-9         |
| MW-3          | 04/08/2024        | Chromium        | < 0.0050        | 0.0059                           | mg/l        | 7440-47-3         |
| MW-3          | 07/09/2024        | Chromium        | < 0.0050        | 0.0059                           | mg/l        | 7440-47-3         |
| MW-3          | 04/08/2024        | Cobalt          | 0.00099         | 0.0076                           | mg/l        | 7440-48-4         |
| MW-3          | 07/09/2024        | Cobalt          | 0.00097         | 0.0076                           | mg/l        | 7440-48-4         |
| <b>MW-3</b>   | <b>04/08/2024</b> | <b>Fluoride</b> | <b>&lt; 1.0</b> | <b>0.352</b>                     | <b>mg/l</b> | <b>16984-48-8</b> |
| <b>MW-3</b>   | <b>07/09/2024</b> | <b>Fluoride</b> | <b>&lt; 1.0</b> | <b>0.352</b>                     | <b>mg/l</b> | <b>16984-48-8</b> |
| MW-3          | 04/08/2024        | Lead            | < 0.00050       | 0.0151                           | mg/l        | 7439-92-1         |
| MW-3          | 07/09/2024        | Lead            | < 0.00050       | 0.0151                           | mg/l        | 7439-92-1         |
| MW-3          | 04/08/2024        | Lithium         | < 0.010         | 0.041                            | mg/l        | 7439-93-2         |
| MW-3          | 07/09/2024        | Lithium         | < 0.010         | 0.041                            | mg/l        | 7439-93-2         |
| MW-3          | 04/08/2024        | Mercury         | < 0.00020       | 0.00030                          | mg/l        | 7439-97-6         |
| MW-3          | 07/09/2024        | Mercury         | < 0.00020       | 0.00030                          | mg/l        | 7439-97-6         |
| MW-3          | 04/08/2024        | MOLYBDENUM      | 0.0047          | 0.0221                           | mg/l        | 7439-98-7         |
| MW-3          | 07/09/2024        | MOLYBDENUM      | 0.0042          | 0.0221                           | mg/l        | 7439-98-7         |

**Table 3**  
**Groundwater Analytical Data**  
**Appendix IV**



| Location     | Date              | Parameter       | Result          | Background Threshold Value (BTV) | Units       | CAS #             |
|--------------|-------------------|-----------------|-----------------|----------------------------------|-------------|-------------------|
| MW-3         | 04/08/2024        | Radium (226)    | 0.280           | 1.874                            | pci/l       | 13982-63-3        |
| MW-3         | 07/09/2024        | Radium (226)    | 0.152           | 1.874                            | pci/l       | 13982-63-3        |
| MW-3         | 04/08/2024        | Radium 228      | < 0.720         | 2.234                            | pci/l       | 15262-20-1        |
| MW-3         | 07/09/2024        | Radium 228      | < 0.683         | 2.234                            | pci/l       | 15262-20-1        |
| MW-3         | 04/08/2024        | Radium-226/228  | 0.793           | 4.108                            | pci/l       | 425               |
| MW-3         | 07/09/2024        | Radium-226/228  | 0.711           | 4.108                            | pci/l       | 425               |
| MW-3         | 04/08/2024        | Selenium        | < 0.0050        | 0.034                            | mg/l        | 7782-49-2         |
| MW-3         | 07/09/2024        | Selenium        | < 0.0050        | 0.034                            | mg/l        | 7782-49-2         |
| MW-3         | 04/08/2024        | Thallium        | < 0.0010        | 0.028                            | mg/l        | 7440-28-0         |
| MW-3         | 07/09/2024        | Thallium        | < 0.0010        | 0.028                            | mg/l        | 7440-28-0         |
| MW-3R        | 04/08/2024        | Antimony        | < 0.0020        | 0.0200                           | mg/l        | 7440-36-0         |
| MW-3R        | 07/09/2024        | Antimony        | < 0.0020        | 0.0200                           | mg/l        | 7440-36-0         |
| MW-3R        | 04/08/2024        | Arsenic         | 0.0025          | 0.0049                           | mg/l        | 7440-38-2         |
| MW-3R        | 07/09/2024        | Arsenic         | 0.0023          | 0.0049                           | mg/l        | 7440-38-2         |
| MW-3R        | 04/08/2024        | Barium          | 0.60            | 0.71                             | mg/l        | 7440-39-3         |
| MW-3R        | 07/09/2024        | Barium          | 0.57            | 0.71                             | mg/l        | 7440-39-3         |
| MW-3R        | 04/08/2024        | Beryllium       | < 0.0010        | 0.0010                           | mg/l        | 7440-41-7         |
| MW-3R        | 07/09/2024        | Beryllium       | < 0.0010        | 0.0010                           | mg/l        | 7440-41-7         |
| MW-3R        | 04/08/2024        | Cadmium         | < 0.00020       | 0.0436                           | mg/l        | 7440-43-9         |
| MW-3R        | 07/09/2024        | Cadmium         | < 0.00020       | 0.0436                           | mg/l        | 7440-43-9         |
| MW-3R        | 04/08/2024        | Chromium        | < 0.0050        | 0.0059                           | mg/l        | 7440-47-3         |
| MW-3R        | 07/09/2024        | Chromium        | < 0.0050        | 0.0059                           | mg/l        | 7440-47-3         |
| MW-3R        | 04/08/2024        | Cobalt          | < 0.00050       | 0.0076                           | mg/l        | 7440-48-4         |
| MW-3R        | 07/09/2024        | Cobalt          | < 0.00050       | 0.0076                           | mg/l        | 7440-48-4         |
| <b>MW-3R</b> | <b>04/08/2024</b> | <b>Fluoride</b> | <b>&lt; 1.0</b> | <b>0.352</b>                     | <b>mg/l</b> | <b>16984-48-8</b> |
| <b>MW-3R</b> | <b>07/09/2024</b> | <b>Fluoride</b> | <b>&lt; 1.0</b> | <b>0.352</b>                     | <b>mg/l</b> | <b>16984-48-8</b> |
| MW-3R        | 04/08/2024        | Lead            | < 0.00050       | 0.0151                           | mg/l        | 7439-92-1         |
| MW-3R        | 07/09/2024        | Lead            | < 0.00050       | 0.0151                           | mg/l        | 7439-92-1         |
| MW-3R        | 04/08/2024        | Lithium         | 0.020           | 0.041                            | mg/l        | 7439-93-2         |
| MW-3R        | 07/09/2024        | Lithium         | 0.017           | 0.041                            | mg/l        | 7439-93-2         |
| MW-3R        | 04/08/2024        | Mercury         | < 0.00020       | 0.00030                          | mg/l        | 7439-97-6         |
| MW-3R        | 07/09/2024        | Mercury         | < 0.00020       | 0.00030                          | mg/l        | 7439-97-6         |
| MW-3R        | 04/08/2024        | MOLYBDENUM      | < 0.0020        | 0.0221                           | mg/l        | 7439-98-7         |
| MW-3R        | 07/09/2024        | MOLYBDENUM      | < 0.0020        | 0.0221                           | mg/l        | 7439-98-7         |
| MW-3R        | 04/08/2024        | Radium (226)    | 0.504           | 1.874                            | pci/l       | 13982-63-3        |
| MW-3R        | 07/09/2024        | Radium (226)    | 0.580           | 1.874                            | pci/l       | 13982-63-3        |
| MW-3R        | 04/08/2024        | Radium 228      | 0.961           | 2.234                            | pci/l       | 15262-20-1        |
| MW-3R        | 07/09/2024        | Radium 228      | 0.782           | 2.234                            | pci/l       | 15262-20-1        |
| MW-3R        | 04/08/2024        | Radium-226/228  | 1.46            | 4.108                            | pci/l       | 425               |
| MW-3R        | 07/09/2024        | Radium-226/228  | 1.36            | 4.108                            | pci/l       | 425               |
| MW-3R        | 04/08/2024        | Selenium        | < 0.0050        | 0.034                            | mg/l        | 7782-49-2         |
| MW-3R        | 07/09/2024        | Selenium        | < 0.0050        | 0.034                            | mg/l        | 7782-49-2         |
| MW-3R        | 04/08/2024        | Thallium        | < 0.0010        | 0.028                            | mg/l        | 7440-28-0         |
| MW-3R        | 07/09/2024        | Thallium        | < 0.0010        | 0.028                            | mg/l        | 7440-28-0         |
| MW-3RD       | 04/08/2024        | Antimony        | < 0.0020        | 0.0200                           | mg/l        | 7440-36-0         |
| MW-3RD       | 07/09/2024        | Antimony        | < 0.0020        | 0.0200                           | mg/l        | 7440-36-0         |
| MW-3RD       | 04/08/2024        | Arsenic         | 0.0039          | 0.0049                           | mg/l        | 7440-38-2         |
| MW-3RD       | 07/09/2024        | Arsenic         | 0.0037          | 0.0049                           | mg/l        | 7440-38-2         |
| MW-3RD       | 04/08/2024        | Barium          | 0.18            | 0.71                             | mg/l        | 7440-39-3         |
| MW-3RD       | 07/09/2024        | Barium          | 0.19            | 0.71                             | mg/l        | 7440-39-3         |
| MW-3RD       | 04/08/2024        | Beryllium       | < 0.0010        | 0.0010                           | mg/l        | 7440-41-7         |
| MW-3RD       | 07/09/2024        | Beryllium       | < 0.0010        | 0.0010                           | mg/l        | 7440-41-7         |



**Table 3**  
**Groundwater Analytical Data**  
**Appendix IV**



| Location      | Date              | Parameter           | Result          | Background Threshold Value (BTV) | Units        | CAS #             |
|---------------|-------------------|---------------------|-----------------|----------------------------------|--------------|-------------------|
| MW-3RD        | 04/08/2024        | Cadmium             | < 0.00020       | 0.0436                           | mg/l         | 7440-43-9         |
| MW-3RD        | 07/09/2024        | Cadmium             | < 0.00020       | 0.0436                           | mg/l         | 7440-43-9         |
| MW-3RD        | 04/08/2024        | Chromium            | < 0.0050        | 0.0059                           | mg/l         | 7440-47-3         |
| MW-3RD        | 07/09/2024        | Chromium            | < 0.0050        | 0.0059                           | mg/l         | 7440-47-3         |
| MW-3RD        | 04/08/2024        | Cobalt              | < 0.00050       | 0.0076                           | mg/l         | 7440-48-4         |
| MW-3RD        | 07/09/2024        | Cobalt              | < 0.00050       | 0.0076                           | mg/l         | 7440-48-4         |
| <b>MW-3RD</b> | <b>04/08/2024</b> | <b>Fluoride</b>     | <b>&lt; 1.0</b> | <b>0.352</b>                     | <b>mg/l</b>  | <b>16984-48-8</b> |
| <b>MW-3RD</b> | <b>07/09/2024</b> | <b>Fluoride</b>     | <b>&lt; 1.0</b> | <b>0.352</b>                     | <b>mg/l</b>  | <b>16984-48-8</b> |
| MW-3RD        | 04/08/2024        | Lead                | < 0.00050       | 0.0151                           | mg/l         | 7439-92-1         |
| MW-3RD        | 07/09/2024        | Lead                | < 0.00050       | 0.0151                           | mg/l         | 7439-92-1         |
| MW-3RD        | 04/08/2024        | Lithium             | 0.013           | 0.041                            | mg/l         | 7439-93-2         |
| MW-3RD        | 07/09/2024        | Lithium             | 0.011           | 0.041                            | mg/l         | 7439-93-2         |
| MW-3RD        | 04/08/2024        | Mercury             | < 0.00020       | 0.041                            | mg/l         | 7439-97-6         |
| MW-3RD        | 07/09/2024        | Mercury             | < 0.00020       | 0.041                            | mg/l         | 7439-97-6         |
| <b>MW-3RD</b> | <b>04/08/2024</b> | <b>MOLYBDENUM</b>   | <b>0.0033</b>   | <b>0.00030</b>                   | <b>mg/l</b>  | <b>7439-98-7</b>  |
| <b>MW-3RD</b> | <b>07/09/2024</b> | <b>MOLYBDENUM</b>   | <b>0.0034</b>   | <b>0.00030</b>                   | <b>mg/l</b>  | <b>7439-98-7</b>  |
| <b>MW-3RD</b> | <b>04/08/2024</b> | <b>Radium (226)</b> | <b>0.546</b>    | <b>0.0221</b>                    | <b>pci/l</b> | <b>13982-63-3</b> |
| <b>MW-3RD</b> | <b>07/09/2024</b> | <b>Radium (226)</b> | <b>0.516</b>    | <b>0.0221</b>                    | <b>pci/l</b> | <b>13982-63-3</b> |
| MW-3RD        | 04/08/2024        | Radium 228          | < 0.589         | 1.874                            | pci/l        | 15262-20-1        |
| MW-3RD        | 07/09/2024        | Radium 228          | < 0.544         | 1.874                            | pci/l        | 15262-20-1        |
| MW-3RD        | 04/08/2024        | Radium-226/228      | 0.722           | 2.234                            | pci/l        | 425               |
| MW-3RD        | 07/09/2024        | Radium-226/228      | 0.806           | 2.234                            | pci/l        | 425               |
| MW-3RD        | 04/08/2024        | Selenium            | < 0.0050        | 4.108                            | mg/l         | 7782-49-2         |
| MW-3RD        | 07/09/2024        | Selenium            | < 0.0050        | 4.108                            | mg/l         | 7782-49-2         |
| MW-3RD        | 04/08/2024        | Thallium            | < 0.0010        | 0.034                            | mg/l         | 7440-28-0         |
| MW-3RD        | 07/09/2024        | Thallium            | < 0.0010        | 0.034                            | mg/l         | 7440-28-0         |
| MW-4          | 04/08/2024        | Antimony            | < 0.0020        | 0.028                            | mg/l         | 7440-36-0         |
| MW-4          | 07/09/2024        | Antimony            | < 0.0020        | 0.028                            | mg/l         | 7440-36-0         |
| MW-4          | 04/08/2024        | Arsenic             | < 0.0020        | 0.0200                           | mg/l         | 7440-38-2         |
| MW-4          | 07/09/2024        | Arsenic             | < 0.0020        | 0.0200                           | mg/l         | 7440-38-2         |
| <b>MW-4</b>   | <b>04/08/2024</b> | <b>Barium</b>       | <b>0.16</b>     | <b>0.0049</b>                    | <b>mg/l</b>  | <b>7440-39-3</b>  |
| <b>MW-4</b>   | <b>07/09/2024</b> | <b>Barium</b>       | <b>0.20</b>     | <b>0.0049</b>                    | <b>mg/l</b>  | <b>7440-39-3</b>  |
| MW-4          | 04/08/2024        | Beryllium           | < 0.0010        | 0.71                             | mg/l         | 7440-41-7         |
| MW-4          | 07/09/2024        | Beryllium           | < 0.0010        | 0.71                             | mg/l         | 7440-41-7         |
| MW-4          | 04/08/2024        | Cadmium             | 0.00022         | 0.0010                           | mg/l         | 7440-43-9         |
| MW-4          | 07/09/2024        | Cadmium             | 0.00020         | 0.0010                           | mg/l         | 7440-43-9         |
| MW-4          | 04/08/2024        | Chromium            | < 0.0050        | 0.0436                           | mg/l         | 7440-47-3         |
| MW-4          | 07/09/2024        | Chromium            | < 0.0050        | 0.0436                           | mg/l         | 7440-47-3         |
| MW-4          | 04/08/2024        | Cobalt              | < 0.00050       | 0.0059                           | mg/l         | 7440-48-4         |
| MW-4          | 07/09/2024        | Cobalt              | < 0.00050       | 0.0059                           | mg/l         | 7440-48-4         |
| <b>MW-4</b>   | <b>04/08/2024</b> | <b>Fluoride</b>     | <b>&lt; 1.0</b> | <b>0.0076</b>                    | <b>mg/l</b>  | <b>16984-48-8</b> |
| <b>MW-4</b>   | <b>07/09/2024</b> | <b>Fluoride</b>     | <b>&lt; 1.0</b> | <b>0.0076</b>                    | <b>mg/l</b>  | <b>16984-48-8</b> |
| MW-4          | 04/08/2024        | Lead                | < 0.00050       | 0.352                            | mg/l         | 7439-92-1         |
| MW-4          | 07/09/2024        | Lead                | < 0.00050       | 0.352                            | mg/l         | 7439-92-1         |
| MW-4          | 04/08/2024        | Lithium             | < 0.010         | 0.0151                           | mg/l         | 7439-93-2         |
| MW-4          | 07/09/2024        | Lithium             | < 0.010         | 0.0151                           | mg/l         | 7439-93-2         |
| MW-4          | 04/08/2024        | Mercury             | < 0.00020       | 0.041                            | mg/l         | 7439-97-6         |
| MW-4          | 07/09/2024        | Mercury             | < 0.00020       | 0.041                            | mg/l         | 7439-97-6         |
| <b>MW-4</b>   | <b>04/08/2024</b> | <b>MOLYBDENUM</b>   | <b>0.0036</b>   | <b>0.00030</b>                   | <b>mg/l</b>  | <b>7439-98-7</b>  |
| <b>MW-4</b>   | <b>07/09/2024</b> | <b>MOLYBDENUM</b>   | <b>0.0024</b>   | <b>0.00030</b>                   | <b>mg/l</b>  | <b>7439-98-7</b>  |
| <b>MW-4</b>   | <b>04/08/2024</b> | <b>Radium (226)</b> | <b>0.195</b>    | <b>0.0221</b>                    | <b>pci/l</b> | <b>13982-63-3</b> |
| <b>MW-4</b>   | <b>07/09/2024</b> | <b>Radium (226)</b> | <b>0.229</b>    | <b>0.0221</b>                    | <b>pci/l</b> | <b>13982-63-3</b> |

**Table 3**  
**Groundwater Analytical Data**  
**Appendix IV**



| Location | Date       | Parameter      | Result   | Background Threshold Value (BTV) | Units | CAS #      |
|----------|------------|----------------|----------|----------------------------------|-------|------------|
| MW-4     | 04/08/2024 | Radium 228     | < 0.748  | 1.874                            | pci/l | 15262-20-1 |
| MW-4     | 07/09/2024 | Radium 228     | 0.838    | 1.874                            | pci/l | 15262-20-1 |
| MW-4     | 04/08/2024 | Radium-226/228 | 0.844    | 2.234                            | pci/l | 425        |
| MW-4     | 07/09/2024 | Radium-226/228 | 1.07     | 2.234                            | pci/l | 425        |
| MW-4     | 04/08/2024 | Selenium       | 0.011    | 4.108                            | mg/l  | 7782-49-2  |
| MW-4     | 07/09/2024 | Selenium       | < 0.0050 | 4.108                            | mg/l  | 7782-49-2  |
| MW-4     | 04/08/2024 | Thallium       | < 0.0010 | 0.034                            | mg/l  | 7440-28-0  |
| MW-4     | 07/09/2024 | Thallium       | < 0.0010 | 0.034                            | mg/l  | 7440-28-0  |

Results in milligrams per liter (mg/l) or picocuries per liter (pci/l)

**Bold** = Indicates concentration above Background Threshold Value

Table 4  
Well Stabilization Data



| Well ID | Sample Date | Purge Rate<br>(ml/min) | Purge<br>Volume<br>(gallons) | Field pH<br>(pH) | Field Specific<br>Conductivity<br>(umhos/cm) | Field Temp<br>(°C) | Dissolved<br>Oxygen<br>(mg/l) | Turbidity<br>(NTU) | ORP<br>(mV) |
|---------|-------------|------------------------|------------------------------|------------------|----------------------------------------------|--------------------|-------------------------------|--------------------|-------------|
| MW-1    | 4/9/2024    | 1000                   | 0.1                          | 7.22             | 1160                                         | 7.39               | 11.03                         | 53.7               | 235         |
| MW-1    | 4/9/2024    | 1000                   | 4                            | 6.59             | 1030                                         | 6.7                | 10.88                         | 4.4                | 255         |
| MW-1    | 4/9/2024    | 1000                   | 8                            | 6.77             | 1080                                         | 6.81               | 10.57                         | 6.2                | 249         |
| MW-1    | 4/9/2024    | 1000                   | 11                           | 6.73             | 1090                                         | 6.86               | 10.47                         | 6.3                | 252         |
| MW-1    | 4/9/2024    |                        |                              | 6.72             | 1090                                         | 6.85               | 10.48                         | 6.0                | 253         |
| MW-1    | 7/8/2024    | 1000                   | 0.1                          | 8.48             | 1000                                         | 12.89              | 1.81                          | 10.2               | 134         |
| MW-1    | 7/8/2024    | 1000                   | 4                            | 7.73             | 1040                                         | 12.79              | 0.04                          | 5.1                | 122         |
| MW-1    | 7/8/2024    | 1000                   | 8                            | 7.65             | 1040                                         | 12.57              | 0.00                          | 4.9                | 116         |
| MW-1    | 7/8/2024    | 1000                   | 11                           | 7.72             | 1040                                         | 12.71              | 0.00                          | 5.1                | 109         |
| MW-1    | 7/8/2024    |                        |                              | 7.71             | 1040                                         | 12.68              | 0.00                          | 5.3                | 108         |
| MW-1RD  | 4/9/2024    | 1000                   | 0.1                          | 6.92             | 649                                          | 8.7                | 5.88                          | 31.3               | 228         |
| MW-1RD  | 4/9/2024    | 1000                   | 10                           | 7.08             | 620                                          | 9.14               | 3.60                          | 49.9               | -63         |
| MW-1RD  | 4/9/2024    | 1000                   | 20                           | 7.08             | 620                                          | 9.14               | 3.53                          | 49.0               | -64         |
| MW-1RD  | 4/9/2024    | 1000                   | 22.5                         | 7.08             | 620                                          | 9.13               | 3.47                          | 48.0               | -65         |
| MW-1RD  | 4/9/2024    |                        |                              | 7.09             | 619                                          | 9.13               | 3.27                          | 47.4               | -68         |
| MW-1RD  | 7/8/2024    | 1000                   | 0.1                          | 8.1              | 588                                          | 9.69               | 2.13                          | 4.2                | -60         |
| MW-1RD  | 7/8/2024    | 1000                   | 10                           | 8.05             | 593                                          | 9.74               | 2.22                          | 4.2                | -68         |
| MW-1RD  | 7/8/2024    | 1000                   | 20                           | 8.09             | 592                                          | 9.75               | 2.02                          | 4.1                | -64         |
| MW-1RD  | 7/8/2024    | 1000                   | 25                           | 8.04             | 593                                          | 9.76               | 1.83                          | 4.2                | -65         |
| MW-1RD  | 7/8/2024    |                        |                              | 8.11             | 580                                          | 9.66               | 1.86                          | 4.3                | -73         |
| MW-2R   | 4/8/2024    | 1000                   | 0.1                          | 6.86             | 1530                                         | 8.57               | 5.49                          | 66.5               | 59          |
| MW-2R   | 4/8/2024    | 1000                   | 1                            | 6.73             | 1550                                         | 8.01               | 5.31                          | 26.5               | 26          |
| MW-2R   | 4/8/2024    | 1000                   | 1.5                          | 6.59             | 1570                                         | 7.97               | 2.34                          | 20.0               | 27          |
| MW-2R   | 4/8/2024    | 1000                   | 2                            | 6.57             | 1570                                         | 8                  | 2.01                          | 18.0               | 27          |
| MW-2R   | 4/8/2024    |                        |                              | 6.56             | 1570                                         | 8.01               | 1.75                          | 16.2               | 26          |
| MW-2R   | 7/8/2024    | 1000                   | 0.1                          | 7.84             | 1450                                         | 13.09              | 2.88                          | 52.8               | -70         |
| MW-2R   | 7/8/2024    | 1000                   | 1                            | 7.77             | 1480                                         | 13.84              | 4.28                          | 10.9               | -27         |
| MW-2R   | 7/8/2024    | 1000                   | 1.5                          | 7.76             | 1460                                         | 14.23              | 4.47                          | 8.9                | -21         |
| MW-2R   | 7/8/2024    | 1000                   | 2                            | 7.76             | 1460                                         | 14.34              | 4.54                          | 8.5                | -19         |
| MW-2R   | 7/8/2024    |                        |                              | 7.76             | 1450                                         | 14.49              | 4.62                          | 7.8                | -17         |
| MW-2RD  | 4/8/2024    | 1000                   | 0.1                          | 6.63             | 813                                          | 9.88               | 0.57                          | 10.1               | 13          |
| MW-2RD  | 4/8/2024    | 1000                   | 4                            | 6.58             | 1070                                         | 10.12              | 0.00                          | 10.0               | -5          |
| MW-2RD  | 4/8/2024    | 1000                   | 8                            | 6.55             | 1080                                         | 10.11              | 0.00                          | 3.0                | -10         |
| MW-2RD  | 4/8/2024    | 1000                   | 12                           | 6.55             | 1070                                         | 10.12              | 0.00                          | 3.1                | -11         |
| MW-2RD  | 4/8/2024    |                        |                              | 6.58             | 1080                                         | 10.12              | 0.00                          | 3.0                | -12         |
| MW-2RD  | 7/8/2024    | 1000                   | 0.1                          | 7.89             | 960                                          | 10.23              | 0.00                          | 12.0               | -10         |
| MW-2RD  | 7/8/2024    | 1000                   | 5                            | 7.76             | 1030                                         | 10.04              | 0.00                          | 5.2                | -34         |
| MW-2RD  | 7/8/2024    | 1000                   | 10                           | 7.59             | 1050                                         | 9.95               | 0.00                          | 5.3                | -53         |
| MW-2RD  | 7/8/2024    | 1000                   | 14                           | 7.59             | 1060                                         | 9.95               | 0.00                          | 5.5                | -54         |
| MW-2RD  | 7/8/2024    |                        |                              | 7.59             | 1060                                         | 9.95               | 0.00                          | 5.3                | -54         |
| MW-3    | 4/8/2024    | 1000                   | 0.1                          | 6.42             | 1320                                         | 8.58               | 0.77                          | 15.1               | -53         |
| MW-3    | 4/8/2024    | 1000                   | 2                            | 6.42             | 1320                                         | 8.57               | 0.76                          | 14.8               | -52         |
| MW-3    | 4/8/2024    | 1000                   | 4                            | 6.43             | 1320                                         | 8.56               | 0.74                          | 14.1               | -50         |
| MW-3    | 4/8/2024    | 1000                   | 6                            | 6.43             | 1320                                         | 8.55               | 0.73                          | 14.9               | -49         |
| MW-3    | 4/8/2024    |                        |                              | 6.43             | 1330                                         | 8.51               | 0.66                          | 20.2               | -42         |
| MW-3    | 7/9/2024    | 1000                   | 0.1                          | 7.6              | 981                                          | 12.69              | 0.00                          | 25.0               | -57         |
| MW-3    | 7/9/2024    | 1000                   | 2                            | 7.6              | 981                                          | 12.69              | 0.00                          | 25.0               | -56         |
| MW-3    | 7/9/2024    | 1000                   | 4                            | 7.6              | 981                                          | 12.69              | 0.00                          | 24.8               | -55         |

**Table 4**  
**Well Stabilization Data**



| Well ID | Sample Date | Purge Rate<br>(ml/min) | Purge<br>Volume<br>(gallons) | Field pH<br>(pH) | Field Specific<br>Conductivity<br>(umhos/cm) | Field Temp<br>(°C) | Dissolved<br>Oxygen<br>(mg/l) | Turbidity<br>(NTU) | ORP<br>(mV) |
|---------|-------------|------------------------|------------------------------|------------------|----------------------------------------------|--------------------|-------------------------------|--------------------|-------------|
| MW-3    | 7/9/2024    | 1000                   | 6.5                          | 7.6              | 981                                          | 12.89              | 0.00                          | 24.5               | -54         |
| MW-3    | 7/9/2024    |                        |                              | 7.59             | 982                                          | 12.67              | 0.00                          | 24.2               | -53         |
| MW-3R   | 4/8/2024    | 1000                   | 0.1                          | 6.48             | 1330                                         | 9                  | 9.78                          | 202.0              | -85         |
| MW-3R   | 4/8/2024    | 1000                   | 3                            | 6.38             | 1380                                         | 8.89               | 9.72                          | 67.9               | -101        |
| MW-3R   | 4/8/2024    | 1000                   | 6                            | 6.27             | 1460                                         | 9.21               | 9.90                          | 8.4                | -145        |
| MW-3R   | 4/8/2024    | 1000                   | 9                            | 6.27             | 1460                                         | 9.21               | 9.89                          | 7.7                | -146        |
| MW-3R   | 4/8/2024    |                        |                              | 6.27             | 1450                                         | 9.21               | 9.77                          | 7.2                | -146        |
| MW-3R   | 7/9/2024    | 1000                   | 0.1                          | 8.1              | 1240                                         | 12.95              | 7.32                          | 42.5               | -88         |
| MW-3R   | 7/9/2024    | 1000                   | 3                            | 7.88             | 1250                                         | 9.46               | 1.38                          | 34.5               | -151        |
| MW-3R   | 7/9/2024    | 1000                   | 6                            | 7.71             | 1370                                         | 9.41               | 0.19                          | 20.3               | -169        |
| MW-3R   | 7/9/2024    | 1000                   | 10                           | 7.47             | 1430                                         | 9.24               | 0.53                          | 8.3                | -174        |
| MW-3R   | 7/9/2024    |                        |                              | 7.46             | 1430                                         | 9.25               | 3.35                          | 7.8                | -174        |
| MW-3RD  | 4/8/2024    | 1000                   | 0.1                          | 7.06             | 874                                          | 8.97               | 10.94                         | 63.5               | 126         |
| MW-3RD  | 4/8/2024    | 1000                   | 6                            | 6.67             | 866                                          | 9.44               | 8.76                          | 18.1               | -113        |
| MW-3RD  | 4/8/2024    | 1000                   | 12                           | 6.75             | 871                                          | 9.44               | 7.97                          | 12.7               | -122        |
| MW-3RD  | 4/8/2024    | 1000                   | 18                           | 6.77             | 872                                          | 9.45               | 7.94                          | 87.0               | -124        |
| MW-3RD  | 4/8/2024    |                        |                              | 6.77             | 877                                          | 9.46               | 5.86                          | 4.6                | -124        |
| MW-3RD  | 7/9/2024    | 1000                   | 0.1                          | 7.87             | 843                                          | 10.69              | 7.57                          | 159.0              | -103        |
| MW-3RD  | 7/9/2024    | 1000                   | 6.5                          | 7.85             | 846                                          | 9.93               | 9.98                          | 31.8               | -142        |
| MW-3RD  | 7/9/2024    | 1000                   | 13                           | 7.78             | 869                                          | 9.77               | 9.49                          | 47.3               | -140        |
| MW-3RD  | 7/9/2024    | 1000                   | 20                           | 7.77             | 872                                          | 9.74               | 8.29                          | 38.9               | -140        |
| MW-3RD  | 7/9/2024    |                        |                              | 7.78             | 872                                          | 9.74               | 7.67                          | 16.2               | -140        |
| MW-4    | 4/8/2024    | 1000                   | 0.1                          | 7.67             | 1290                                         | 8.23               | 9.11                          | 5.5                | 178         |
| MW-4    | 4/8/2024    | 1000                   | 2                            | 6.67             | 1210                                         | 7.68               | 7.68                          | 3.1                | 202         |
| MW-4    | 4/8/2024    | 1000                   | 4                            | 6.57             | 1220                                         | 7.69               | 7.35                          | 3.6                | 216         |
| MW-4    | 4/8/2024    | 1000                   | 5.5                          | 6.58             | 1220                                         | 7.7                | 7.34                          | 3.7                | 216         |
| MW-4    | 4/8/2024    |                        |                              | 6.58             | 1220                                         | 7.7                | 7.27                          | 3.5                | 217         |
| MW-4    | 7/9/2024    | 1000                   | 0.1                          | 8.14             | 1190                                         | 14.16              | 4.37                          | 15.0               | 58          |
| MW-4    | 7/9/2024    | 1000                   | 2                            | 7.81             | 1260                                         | 12.76              | 0.00                          | 4.4                | 47          |
| MW-4    | 7/9/2024    | 1000                   | 4                            | 7.64             | 1260                                         | 12.88              | 0.00                          | 3.5                | 49          |
| MW-4    | 7/9/2024    | 1000                   | 6.5                          | 7.63             | 1260                                         | 12.88              | 0.00                          | 3.0                | 50          |
| MW-4    | 7/9/2024    |                        |                              | 7.63             | 1260                                         | 12.88              | 0.00                          | 3.0                | 49          |

**Notes:**

ml/min milliliters per minute  
umhos/cm micromhos per centimeter  
°C degrees Celsius  
mg/L milligrams per Liter

NTU Nephelometric Turbidity Units  
ORP oxidation-reduction potential  
mV millivolts

Table 5



Background Threshold Values

Appendix III to Part 257

| Parameter                  | Background Threshold Value (BTV) | Units    | CAS #      |
|----------------------------|----------------------------------|----------|------------|
| Boron                      | 4.5                              | mg/l     | 7440-42-8  |
| Calcium                    | 287                              | mg/l     | 7440-70-2  |
| Chloride                   | 120                              | mg/l     | 16887-00-6 |
| Fluoride                   | 0.351                            | mg/l     | 15984-48-8 |
| pH                         | lower 6.4 higher 7.7             | pH UNITS | PH         |
| Sulfate as SO <sub>4</sub> | 481                              | mg/l     | 14808-79-8 |
| Total Dissolved Solids     | 1889                             | mg/l     | TDS        |

Appendix IV to Part 257

| Parameter      | Background Threshold Value (BTV) | Units | CAS #      |
|----------------|----------------------------------|-------|------------|
| Antimony       | 0.0200                           | mg/l  | 7440-36-0  |
| Arsenic        | 0.0049                           | mg/l  | 7440-38-2  |
| Barium         | 0.71                             | mg/l  | 7440-39-3  |
| Beryllium      | 0.0010                           | mg/l  | 7440-41-7  |
| Cadmium        | 0.0436                           | mg/l  | 7440-43-9  |
| Chromium       | 0.0059                           | mg/l  | 7440-47-3  |
| Cobalt         | 0.0076                           | mg/l  | 7440-48-4  |
| Fluoride       | 0.352                            | mg/l  | 15984-48-8 |
| Lead           | 0.0151                           | mg/l  | 7439-92-1  |
| Lithium        | 0.041                            | mg/l  | 7439-93-2  |
| Mercury        | 0.00030                          | mg/l  | 7439-97-6  |
| Molybdenum     | 0.0221                           | mg/l  | 7439-98-7  |
| Radium 226     | 1.874                            | pci/l | 13982-63-3 |
| Radium 228     | 2.234                            | pci/l | 15262-20-1 |
| Radium 226/228 | 4.108                            | pci/l | 425        |
| Selenium       | 0.034                            | mg/l  | 7782-49-2  |
| Thallium       | 0.028                            | mg/l  | 7440-28-0  |

Results in milligrams per liter (mg/l) or picocuries per liter (pci/l)



Table 6

2024 Groundwater Protection Standards



Appendix IV to Part 257

| Parameter      | Background Threshold Value (BTV) | EPA Maximum Contaminate Level (MCL) | Groundwater Protection Standard (GPS) | Units | CAS #      |
|----------------|----------------------------------|-------------------------------------|---------------------------------------|-------|------------|
| Antimony       | 0.0200                           | 0.006                               | 0.006                                 | mg/l  | 7440-36-0  |
| Arsenic        | 0.0049                           | 0.010                               | 0.0259                                | mg/l  | 7440-38-2  |
| Barium         | 0.71                             | 2                                   | 2                                     | mg/l  | 7440-39-3  |
| Beryllium      | 0.0010                           | 0.004                               | 0.004                                 | mg/l  | 7440-41-7  |
| Cadmium        | 0.0436                           | 0.005                               | 0.0502                                | mg/l  | 7440-43-9  |
| Chromium       | 0.0059                           | 0.1                                 | 0.1                                   | mg/l  | 7440-47-3  |
| Cobalt         | 0.0076                           | 0.006                               | 0.0081                                | mg/l  | 7440-48-4  |
| Fluoride       | 0.352                            | 4                                   | 4                                     | mg/l  | 15984-48-8 |
| Lead           | 0.0151                           | 0.015                               | 0.0179                                | mg/l  | 7439-92-1  |
| Lithium        | 0.041                            | 0.04                                | 0.0455                                | mg/l  | 7439-93-2  |
| Mercury        | 0.00030                          | 0.002                               | 0.002                                 | mg/l  | 7439-97-6  |
| Molybdenum     | 0.0221                           | 0.1                                 | 0.1                                   | mg/l  | 7439-98-7  |
| Radium 226     | 1.874                            | --                                  | --                                    | pci/l | 13982-63-3 |
| Radium 228     | 2.234                            | --                                  | --                                    | pci/l | 15262-20-1 |
| Radium 226/228 | 4.108                            | 5                                   | 5                                     | pci/l | EDF-206    |
| Selenium       | 0.034                            | 0.05                                | 0.05                                  | mg/l  | 7782-49-2  |
| Thallium       | 0.028                            | 0.002                               | 0.0102                                | mg/l  | 7440-28-0  |

Results in milligrams per liter (mg/l) or picocuries per liter (pci/l)

Table 7



Groundwater Analytical Data vs.  
Groundwater Protection Standards - Appendix IV

| Location | Date       | Parameter      | Result    | Groundwater Protection Standard (GPS) | Units | CAS #      |
|----------|------------|----------------|-----------|---------------------------------------|-------|------------|
| MW-1     | 04/09/2024 | Antimony       | < 0.0020  | 0.006                                 | mg/l  | 7440-36-0  |
| MW-1     | 07/08/2024 | Antimony       | < 0.0020  | 0.006                                 | mg/l  | 7440-36-0  |
| MW-1     | 04/09/2024 | Arsenic        | < 0.0020  | 0.0259                                | mg/l  | 7440-38-2  |
| MW-1     | 07/08/2024 | Arsenic        | < 0.0020  | 0.0259                                | mg/l  | 7440-38-2  |
| MW-1     | 04/09/2024 | Barium         | 0.10      | 2                                     | mg/l  | 7440-39-3  |
| MW-1     | 07/08/2024 | Barium         | 0.15      | 2                                     | mg/l  | 7440-39-3  |
| MW-1     | 04/09/2024 | Beryllium      | < 0.0010  | 0.004                                 | mg/l  | 7440-41-7  |
| MW-1     | 07/08/2024 | Beryllium      | < 0.0010  | 0.004                                 | mg/l  | 7440-41-7  |
| MW-1     | 04/09/2024 | Cadmium        | < 0.00020 | 0.0502                                | mg/l  | 7440-43-9  |
| MW-1     | 07/08/2024 | Cadmium        | < 0.00020 | 0.0502                                | mg/l  | 7440-43-9  |
| MW-1     | 04/09/2024 | Chromium       | < 0.0050  | 0.1                                   | mg/l  | 7440-47-3  |
| MW-1     | 07/08/2024 | Chromium       | < 0.0050  | 0.1                                   | mg/l  | 7440-47-3  |
| MW-1     | 04/09/2024 | Cobalt         | < 0.00050 | 0.0081                                | mg/l  | 7440-48-4  |
| MW-1     | 07/08/2024 | Cobalt         | < 0.00050 | 0.0081                                | mg/l  | 7440-48-4  |
| MW-1     | 04/09/2024 | Fluoride       | < 1.0     | 4                                     | mg/l  | 16984-48-8 |
| MW-1     | 07/08/2024 | Fluoride       | < 1.0     | 4                                     | mg/l  | 16984-48-8 |
| MW-1     | 04/09/2024 | Lead           | < 0.00050 | 0.0179                                | mg/l  | 7439-92-1  |
| MW-1     | 07/08/2024 | Lead           | < 0.00050 | 0.0179                                | mg/l  | 7439-92-1  |
| MW-1     | 04/09/2024 | Lithium        | 0.033     | 0.0455                                | mg/l  | 7439-93-2  |
| MW-1     | 07/08/2024 | Lithium        | < 0.010   | 0.0455                                | mg/l  | 7439-93-2  |
| MW-1     | 04/09/2024 | Mercury        | < 0.00020 | 0.002                                 | mg/l  | 7439-97-6  |
| MW-1     | 07/08/2024 | Mercury        | < 0.00020 | 0.002                                 | mg/l  | 7439-97-6  |
| MW-1     | 04/09/2024 | MOLYBDENUM     | < 0.0020  | 0.1                                   | mg/l  | 7439-98-7  |
| MW-1     | 07/08/2024 | MOLYBDENUM     | < 0.0020  | 0.1                                   | mg/l  | 7439-98-7  |
| MW-1     | 04/09/2024 | Radium (226)   | < 0.122   | --                                    | pci/l | 13982-63-3 |
| MW-1     | 07/08/2024 | Radium (226)   | < 0.122   | --                                    | pci/l | 13982-63-3 |
| MW-1     | 04/09/2024 | Radium 228     | < 0.511   | --                                    | pci/l | 15262-20-1 |
| MW-1     | 07/08/2024 | Radium 228     | < 0.574   | --                                    | pci/l | 15262-20-1 |
| MW-1     | 04/09/2024 | Radium-226/228 | < 0.511   | 5                                     | pci/l | 425        |
| MW-1     | 07/08/2024 | Radium-226/228 | < 0.574   | 5                                     | pci/l | 425        |
| MW-1     | 04/09/2024 | Selenium       | < 0.0050  | 0.05                                  | mg/l  | 7782-49-2  |
| MW-1     | 07/08/2024 | Selenium       | < 0.0050  | 0.05                                  | mg/l  | 7782-49-2  |
| MW-1     | 04/09/2024 | Thallium       | < 0.0010  |                                       | mg/l  | 7440-28-0  |
| MW-1     | 07/08/2024 | Thallium       | < 0.0010  |                                       | mg/l  | 7440-28-0  |
| MW-1RD   | 04/09/2024 | Antimony       | < 0.0020  | 0.006                                 | mg/l  | 7440-36-0  |
| MW-1RD   | 07/08/2024 | Antimony       | < 0.0020  | 0.006                                 | mg/l  | 7440-36-0  |
| MW-1RD   | 04/09/2024 | Arsenic        | < 0.0020  | 0.0259                                | mg/l  | 7440-38-2  |
| MW-1RD   | 07/08/2024 | Arsenic        | < 0.0020  | 0.0259                                | mg/l  | 7440-38-2  |
| MW-1RD   | 04/09/2024 | Barium         | 0.13      | 2                                     | mg/l  | 7440-39-3  |
| MW-1RD   | 07/08/2024 | Barium         | 0.14      | 2                                     | mg/l  | 7440-39-3  |
| MW-1RD   | 04/09/2024 | Beryllium      | < 0.0010  | 0.004                                 | mg/l  | 7440-41-7  |
| MW-1RD   | 07/08/2024 | Beryllium      | < 0.0010  | 0.004                                 | mg/l  | 7440-41-7  |
| MW-1RD   | 04/09/2024 | Cadmium        | < 0.00020 | 0.0502                                | mg/l  | 7440-43-9  |
| MW-1RD   | 07/08/2024 | Cadmium        | < 0.00020 | 0.0502                                | mg/l  | 7440-43-9  |
| MW-1RD   | 04/09/2024 | Chromium       | < 0.0050  | 0.1                                   | mg/l  | 7440-47-3  |
| MW-1RD   | 07/08/2024 | Chromium       | < 0.0050  | 0.1                                   | mg/l  | 7440-47-3  |
| MW-1RD   | 04/09/2024 | Cobalt         | 0.00061   | 0.0081                                | mg/l  | 7440-48-4  |
| MW-1RD   | 07/08/2024 | Cobalt         | 0.00061   | 0.0081                                | mg/l  | 7440-48-4  |
| MW-1RD   | 04/09/2024 | Fluoride       | < 1.0     | 4                                     | mg/l  | 16984-48-8 |
| MW-1RD   | 07/08/2024 | Fluoride       | < 1.0     | 4                                     | mg/l  | 16984-48-8 |
| MW-1RD   | 04/09/2024 | Lead           | < 0.00050 | 0.0179                                | mg/l  | 7439-92-1  |
| MW-1RD   | 07/08/2024 | Lead           | < 0.00050 | 0.0179                                | mg/l  | 7439-92-1  |

Table 7



Groundwater Analytical Data vs.  
Groundwater Protection Standards - Appendix IV

| Location | Date       | Parameter      | Result    | Groundwater Protection Standard (GPS) | Units | CAS #      |
|----------|------------|----------------|-----------|---------------------------------------|-------|------------|
| MW-1RD   | 04/09/2024 | Lithium        | < 0.010   | 0.0455                                | mg/l  | 7439-93-2  |
| MW-1RD   | 07/08/2024 | Lithium        | < 0.010   | 0.0455                                | mg/l  | 7439-93-2  |
| MW-1RD   | 04/09/2024 | Mercury        | < 0.00020 | 0.002                                 | mg/l  | 7439-97-6  |
| MW-1RD   | 07/08/2024 | Mercury        | < 0.00020 | 0.002                                 | mg/l  | 7439-97-6  |
| MW-1RD   | 04/09/2024 | MOLYBDENUM     | 0.0027    | 0.1                                   | mg/l  | 7439-98-7  |
| MW-1RD   | 07/08/2024 | MOLYBDENUM     | 0.0029    | 0.1                                   | mg/l  | 7439-98-7  |
| MW-1RD   | 04/09/2024 | Radium (226)   | 0.404     | --                                    | pci/l | 13982-63-3 |
| MW-1RD   | 07/08/2024 | Radium (226)   | 0.338     | --                                    | pci/l | 13982-63-3 |
| MW-1RD   | 04/09/2024 | Radium 228     | < 0.496   | --                                    | pci/l | 15262-20-1 |
| MW-1RD   | 07/08/2024 | Radium 228     | 0.601     | --                                    | pci/l | 15262-20-1 |
| MW-1RD   | 04/09/2024 | Radium-226/228 | 0.812     | 5                                     | pci/l | 425        |
| MW-1RD   | 07/08/2024 | Radium-226/228 | 0.939     | 5                                     | pci/l | 425        |
| MW-1RD   | 04/09/2024 | Selenium       | < 0.0050  | 0.05                                  | mg/l  | 7782-49-2  |
| MW-1RD   | 07/08/2024 | Selenium       | < 0.0050  | 0.05                                  | mg/l  | 7782-49-2  |
| MW-1RD   | 04/09/2024 | Thallium       | < 0.0010  | 0.0102                                | mg/l  | 7440-28-0  |
| MW-1RD   | 07/08/2024 | Thallium       | < 0.0010  | 0.0102                                | mg/l  | 7440-28-0  |
| MW-2R    | 04/08/2024 | Antimony       | < 0.0020  | 0.006                                 | mg/l  | 7440-36-0  |
| MW-2R    | 07/08/2024 | Antimony       | < 0.0020  | 0.006                                 | mg/l  | 7440-36-0  |
| MW-2R    | 04/08/2024 | Arsenic        | < 0.0020  | 0.0259                                | mg/l  | 7440-38-2  |
| MW-2R    | 07/08/2024 | Arsenic        | < 0.0020  | 0.0259                                | mg/l  | 7440-38-2  |
| MW-2R    | 04/08/2024 | Barium         | 0.19      | 2                                     | mg/l  | 7440-39-3  |
| MW-2R    | 07/08/2024 | Barium         | 0.22      | 2                                     | mg/l  | 7440-39-3  |
| MW-2R    | 04/08/2024 | Beryllium      | < 0.0010  | 0.004                                 | mg/l  | 7440-41-7  |
| MW-2R    | 07/08/2024 | Beryllium      | < 0.0010  | 0.004                                 | mg/l  | 7440-41-7  |
| MW-2R    | 04/08/2024 | Cadmium        | < 0.00020 | 0.0502                                | mg/l  | 7440-43-9  |
| MW-2R    | 07/08/2024 | Cadmium        | < 0.00020 | 0.0502                                | mg/l  | 7440-43-9  |
| MW-2R    | 04/08/2024 | Chromium       | < 0.0050  | 0.1                                   | mg/l  | 7440-47-3  |
| MW-2R    | 07/08/2024 | Chromium       | < 0.0050  | 0.1                                   | mg/l  | 7440-47-3  |
| MW-2R    | 04/08/2024 | Cobalt         | 0.0014    | 0.0081                                | mg/l  | 7440-48-4  |
| MW-2R    | 07/08/2024 | Cobalt         | 0.0010    | 0.0081                                | mg/l  | 7440-48-4  |
| MW-2R    | 04/08/2024 | Fluoride       | < 1.0     | 4                                     | mg/l  | 16984-48-8 |
| MW-2R    | 07/08/2024 | Fluoride       | < 1.0     | 4                                     | mg/l  | 16984-48-8 |
| MW-2R    | 04/08/2024 | Lead           | < 0.00050 | 0.0179                                | mg/l  | 7439-92-1  |
| MW-2R    | 07/08/2024 | Lead           | < 0.00050 | 0.0179                                | mg/l  | 7439-92-1  |
| MW-2R    | 04/08/2024 | Lithium        | < 0.010   | 0.0455                                | mg/l  | 7439-93-2  |
| MW-2R    | 07/08/2024 | Lithium        | < 0.010   | 0.0455                                | mg/l  | 7439-93-2  |
| MW-2R    | 04/08/2024 | Mercury        | < 0.00020 | 0.002                                 | mg/l  | 7439-97-6  |
| MW-2R    | 07/08/2024 | Mercury        | < 0.00020 | 0.002                                 | mg/l  | 7439-97-6  |
| MW-2R    | 04/08/2024 | MOLYBDENUM     | 0.0020    | 0.1                                   | mg/l  | 7439-98-7  |
| MW-2R    | 07/08/2024 | MOLYBDENUM     | < 0.0020  | 0.1                                   | mg/l  | 7439-98-7  |
| MW-2R    | 04/08/2024 | Radium (226)   | 0.392     | --                                    | pci/l | 13982-63-3 |
| MW-2R    | 07/08/2024 | Radium (226)   | 0.382     | --                                    | pci/l | 13982-63-3 |
| MW-2R    | 04/08/2024 | Radium 228     | < 0.708   | --                                    | pci/l | 15262-20-1 |
| MW-2R    | 07/08/2024 | Radium 228     | < 0.761   | --                                    | pci/l | 15262-20-1 |
| MW-2R    | 04/08/2024 | Radium-226/228 | < 0.708   | 5                                     | pci/l | 425        |
| MW-2R    | 07/08/2024 | Radium-226/228 | < 0.761   | 5                                     | pci/l | 425        |
| MW-2R    | 04/08/2024 | Selenium       | < 0.0050  | 0.05                                  | mg/l  | 7782-49-2  |
| MW-2R    | 07/08/2024 | Selenium       | < 0.0050  | 0.05                                  | mg/l  | 7782-49-2  |
| MW-2R    | 04/08/2024 | Thallium       | < 0.0010  | 0.0102                                | mg/l  | 7440-28-0  |
| MW-2R    | 07/08/2024 | Thallium       | < 0.0010  | 0.0102                                | mg/l  | 7440-28-0  |
| MW-2RD   | 04/08/2024 | Antimony       | < 0.0020  | 0.006                                 | mg/l  | 7440-36-0  |
| MW-2RD   | 07/08/2024 | Antimony       | < 0.0020  | 0.006                                 | mg/l  | 7440-36-0  |
| MW-2RD   | 04/08/2024 | Arsenic        | 0.0023    | 0.0259                                | mg/l  | 7440-38-2  |
| MW-2RD   | 07/08/2024 | Arsenic        | < 0.0020  | 0.0259                                | mg/l  | 7440-38-2  |

Table 7



Groundwater Analytical Data vs.  
Groundwater Protection Standards - Appendix IV

| Location | Date       | Parameter      | Result    | Groundwater Protection Standard (GPS) | Units | CAS #      |
|----------|------------|----------------|-----------|---------------------------------------|-------|------------|
| MW-2RD   | 04/08/2024 | Barium         | 0.18      | 2                                     | mg/l  | 7440-39-3  |
| MW-2RD   | 07/08/2024 | Barium         | 0.19      | 2                                     | mg/l  | 7440-39-3  |
| MW-2RD   | 04/08/2024 | Beryllium      | < 0.0010  | 0.004                                 | mg/l  | 7440-41-7  |
| MW-2RD   | 07/08/2024 | Beryllium      | < 0.0010  | 0.004                                 | mg/l  | 7440-41-7  |
| MW-2RD   | 04/08/2024 | Cadmium        | < 0.00020 | 0.0502                                | mg/l  | 7440-43-9  |
| MW-2RD   | 07/08/2024 | Cadmium        | < 0.00020 | 0.0502                                | mg/l  | 7440-43-9  |
| MW-2RD   | 04/08/2024 | Chromium       | < 0.0050  | 0.1                                   | mg/l  | 7440-47-3  |
| MW-2RD   | 07/08/2024 | Chromium       | < 0.0050  | 0.1                                   | mg/l  | 7440-47-3  |
| MW-2RD   | 04/08/2024 | Cobalt         | 0.0024    | 0.0081                                | mg/l  | 7440-48-4  |
| MW-2RD   | 07/08/2024 | Cobalt         | 0.0027    | 0.0081                                | mg/l  | 7440-48-4  |
| MW-2RD   | 04/08/2024 | Fluoride       | < 1.0     | 4                                     | mg/l  | 16984-48-8 |
| MW-2RD   | 07/08/2024 | Fluoride       | < 1.0     | 4                                     | mg/l  | 16984-48-8 |
| MW-2RD   | 04/08/2024 | Lead           | < 0.00050 | 0.0179                                | mg/l  | 7439-92-1  |
| MW-2RD   | 07/08/2024 | Lead           | < 0.00050 | 0.0179                                | mg/l  | 7439-92-1  |
| MW-2RD   | 04/08/2024 | Lithium        | 0.011     | 0.0455                                | mg/l  | 7439-93-2  |
| MW-2RD   | 07/08/2024 | Lithium        | < 0.010   | 0.0455                                | mg/l  | 7439-93-2  |
| MW-2RD   | 04/08/2024 | Mercury        | < 0.00020 | 0.002                                 | mg/l  | 7439-97-6  |
| MW-2RD   | 07/08/2024 | Mercury        | < 0.00020 | 0.002                                 | mg/l  | 7439-97-6  |
| MW-2RD   | 04/08/2024 | MOLYBDENUM     | 0.0021    | 0.1                                   | mg/l  | 7439-98-7  |
| MW-2RD   | 07/08/2024 | MOLYBDENUM     | 0.0022    | 0.1                                   | mg/l  | 7439-98-7  |
| MW-2RD   | 04/08/2024 | Radium (226)   | 0.659     | --                                    | pci/l | 13982-63-3 |
| MW-2RD   | 07/08/2024 | Radium (226)   | 0.578     | --                                    | pci/l | 13982-63-3 |
| MW-2RD   | 04/08/2024 | Radium 228     | < 0.594   | --                                    | pci/l | 15262-20-1 |
| MW-2RD   | 07/08/2024 | Radium 228     | 1.14      | --                                    | pci/l | 15262-20-1 |
| MW-2RD   | 04/08/2024 | Radium-226/228 | 1.21      | 5                                     | pci/l | 425        |
| MW-2RD   | 07/08/2024 | Radium-226/228 | 1.72      | 5                                     | pci/l | 425        |
| MW-2RD   | 04/08/2024 | Selenium       | 0.026     | 0.05                                  | mg/l  | 7782-49-2  |
| MW-2RD   | 07/08/2024 | Selenium       | 0.031     | 0.05                                  | mg/l  | 7782-49-2  |
| MW-2RD   | 04/08/2024 | Thallium       | < 0.0010  | 0.0102                                | mg/l  | 7440-28-0  |
| MW-2RD   | 07/08/2024 | Thallium       | < 0.0010  | 0.0102                                | mg/l  | 7440-28-0  |
| MW-3     | 04/08/2024 | Antimony       | < 0.0020  | 0.006                                 | mg/l  | 7440-36-0  |
| MW-3     | 07/09/2024 | Antimony       | < 0.0020  | 0.006                                 | mg/l  | 7440-36-0  |
| MW-3     | 04/08/2024 | Arsenic        | 0.0023    | 0.0259                                | mg/l  | 7440-38-2  |
| MW-3     | 07/09/2024 | Arsenic        | < 0.0020  | 0.0259                                | mg/l  | 7440-38-2  |
| MW-3     | 04/08/2024 | Barium         | 0.24      | 2                                     | mg/l  | 7440-39-3  |
| MW-3     | 07/09/2024 | Barium         | 0.15      | 2                                     | mg/l  | 7440-39-3  |
| MW-3     | 04/08/2024 | Beryllium      | < 0.0010  | 0.004                                 | mg/l  | 7440-41-7  |
| MW-3     | 07/09/2024 | Beryllium      | < 0.0010  | 0.004                                 | mg/l  | 7440-41-7  |
| MW-3     | 04/08/2024 | Cadmium        | < 0.00020 | 0.0502                                | mg/l  | 7440-43-9  |
| MW-3     | 07/09/2024 | Cadmium        | < 0.00020 | 0.0502                                | mg/l  | 7440-43-9  |
| MW-3     | 04/08/2024 | Chromium       | < 0.0050  | 0.1                                   | mg/l  | 7440-47-3  |
| MW-3     | 07/09/2024 | Chromium       | < 0.0050  | 0.1                                   | mg/l  | 7440-47-3  |
| MW-3     | 04/08/2024 | Cobalt         | 0.00099   | 0.0081                                | mg/l  | 7440-48-4  |
| MW-3     | 07/09/2024 | Cobalt         | 0.00097   | 0.0081                                | mg/l  | 7440-48-4  |
| MW-3     | 04/08/2024 | Fluoride       | < 1.0     | 4                                     | mg/l  | 16984-48-8 |
| MW-3     | 07/09/2024 | Fluoride       | < 1.0     | 4                                     | mg/l  | 16984-48-8 |
| MW-3     | 04/08/2024 | Lead           | < 0.00050 | 0.0179                                | mg/l  | 7439-92-1  |
| MW-3     | 07/09/2024 | Lead           | < 0.00050 | 0.0179                                | mg/l  | 7439-92-1  |
| MW-3     | 04/08/2024 | Lithium        | < 0.010   | 0.0455                                | mg/l  | 7439-93-2  |
| MW-3     | 07/09/2024 | Lithium        | < 0.010   | 0.0455                                | mg/l  | 7439-93-2  |
| MW-3     | 04/08/2024 | Mercury        | < 0.00020 | 0.002                                 | mg/l  | 7439-97-6  |
| MW-3     | 07/09/2024 | Mercury        | < 0.00020 | 0.002                                 | mg/l  | 7439-97-6  |
| MW-3     | 04/08/2024 | MOLYBDENUM     | 0.0047    | 0.1                                   | mg/l  | 7439-98-7  |
| MW-3     | 07/09/2024 | MOLYBDENUM     | 0.0042    | 0.1                                   | mg/l  | 7439-98-7  |

Table 7



Groundwater Analytical Data vs.  
Groundwater Protection Standards - Appendix IV

| Location | Date       | Parameter      | Result    | Groundwater Protection Standard (GPS) | Units | CAS #      |
|----------|------------|----------------|-----------|---------------------------------------|-------|------------|
| MW-3     | 04/08/2024 | Radium (226)   | 0.280     | --                                    | pci/l | 13982-63-3 |
| MW-3     | 07/09/2024 | Radium (226)   | 0.152     | --                                    | pci/l | 13982-63-3 |
| MW-3     | 04/08/2024 | Radium 228     | < 0.720   | --                                    | pci/l | 15262-20-1 |
| MW-3     | 07/09/2024 | Radium 228     | < 0.683   | --                                    | pci/l | 15262-20-1 |
| MW-3     | 04/08/2024 | Radium-226/228 | 0.793     | 5                                     | pci/l | 425        |
| MW-3     | 07/09/2024 | Radium-226/228 | 0.711     | 5                                     | pci/l | 425        |
| MW-3     | 04/08/2024 | Selenium       | < 0.0050  | 0.5                                   | mg/l  | 7782-49-2  |
| MW-3     | 07/09/2024 | Selenium       | < 0.0050  | 0.5                                   | mg/l  | 7782-49-2  |
| MW-3     | 04/08/2024 | Thallium       | < 0.0010  | 0.0102                                | mg/l  | 7440-28-0  |
| MW-3     | 07/09/2024 | Thallium       | < 0.0010  | 0.0102                                | mg/l  | 7440-28-0  |
| MW-3R    | 04/08/2024 | Antimony       | < 0.0020  | 0.006                                 | mg/l  | 7440-36-0  |
| MW-3R    | 07/09/2024 | Antimony       | < 0.0020  | 0.006                                 | mg/l  | 7440-36-0  |
| MW-3R    | 04/08/2024 | Arsenic        | 0.0025    | 0.0259                                | mg/l  | 7440-38-2  |
| MW-3R    | 07/09/2024 | Arsenic        | 0.0023    | 0.0259                                | mg/l  | 7440-38-2  |
| MW-3R    | 04/08/2024 | Barium         | 0.60      | 2                                     | mg/l  | 7440-39-3  |
| MW-3R    | 07/09/2024 | Barium         | 0.57      | 2                                     | mg/l  | 7440-39-3  |
| MW-3R    | 04/08/2024 | Beryllium      | < 0.0010  | 0.004                                 | mg/l  | 7440-41-7  |
| MW-3R    | 07/09/2024 | Beryllium      | < 0.0010  | 0.004                                 | mg/l  | 7440-41-7  |
| MW-3R    | 04/08/2024 | Cadmium        | < 0.00020 | 0.0502                                | mg/l  | 7440-43-9  |
| MW-3R    | 07/09/2024 | Cadmium        | < 0.00020 | 0.0502                                | mg/l  | 7440-43-9  |
| MW-3R    | 04/08/2024 | Chromium       | < 0.0050  | 0.1                                   | mg/l  | 7440-47-3  |
| MW-3R    | 07/09/2024 | Chromium       | < 0.0050  | 0.1                                   | mg/l  | 7440-47-3  |
| MW-3R    | 04/08/2024 | Cobalt         | < 0.00050 | 0.0081                                | mg/l  | 7440-48-4  |
| MW-3R    | 07/09/2024 | Cobalt         | < 0.00050 | 0.0081                                | mg/l  | 7440-48-4  |
| MW-3R    | 04/08/2024 | Fluoride       | < 1.0     | 4                                     | mg/l  | 16984-48-8 |
| MW-3R    | 07/09/2024 | Fluoride       | < 1.0     | 4                                     | mg/l  | 16984-48-8 |
| MW-3R    | 04/08/2024 | Lead           | < 0.00050 | 0.0179                                | mg/l  | 7439-92-1  |
| MW-3R    | 07/09/2024 | Lead           | < 0.00050 | 0.0179                                | mg/l  | 7439-92-1  |
| MW-3R    | 04/08/2024 | Lithium        | 0.020     | 0.0455                                | mg/l  | 7439-93-2  |
| MW-3R    | 07/09/2024 | Lithium        | 0.017     | 0.0455                                | mg/l  | 7439-93-2  |
| MW-3R    | 04/08/2024 | Mercury        | < 0.00020 | 0.002                                 | mg/l  | 7439-97-6  |
| MW-3R    | 07/09/2024 | Mercury        | < 0.00020 | 0.002                                 | mg/l  | 7439-97-6  |
| MW-3R    | 04/08/2024 | MOLYBDENUM     | < 0.0020  | 0.1                                   | mg/l  | 7439-98-7  |
| MW-3R    | 07/09/2024 | MOLYBDENUM     | < 0.0020  | 0.1                                   | mg/l  | 7439-98-7  |
| MW-3R    | 04/08/2024 | Radium (226)   | 0.504     | --                                    | pci/l | 13982-63-3 |
| MW-3R    | 07/09/2024 | Radium (226)   | 0.580     | --                                    | pci/l | 13982-63-3 |
| MW-3R    | 04/08/2024 | Radium 228     | 0.961     | --                                    | pci/l | 15262-20-1 |
| MW-3R    | 07/09/2024 | Radium 228     | 0.782     | --                                    | pci/l | 15262-20-1 |
| MW-3R    | 04/08/2024 | Radium-226/228 | 1.46      | 5                                     | pci/l | 425        |
| MW-3R    | 07/09/2024 | Radium-226/228 | 1.36      | 5                                     | pci/l | 425        |
| MW-3R    | 04/08/2024 | Selenium       | < 0.0050  | 0.05                                  | mg/l  | 7782-49-2  |
| MW-3R    | 07/09/2024 | Selenium       | < 0.0050  | 0.05                                  | mg/l  | 7782-49-2  |
| MW-3R    | 04/08/2024 | Thallium       | < 0.0010  | 0.0102                                | mg/l  | 7440-28-0  |
| MW-3R    | 07/09/2024 | Thallium       | < 0.0010  | 0.0102                                | mg/l  | 7440-28-0  |
| MW-3RD   | 04/08/2024 | Antimony       | < 0.0020  | 0.006                                 | mg/l  | 7440-36-0  |
| MW-3RD   | 07/09/2024 | Antimony       | < 0.0020  | 0.006                                 | mg/l  | 7440-36-0  |
| MW-3RD   | 04/08/2024 | Arsenic        | 0.0039    | 0.0259                                | mg/l  | 7440-38-2  |
| MW-3RD   | 07/09/2024 | Arsenic        | 0.0037    | 0.0259                                | mg/l  | 7440-38-2  |
| MW-3RD   | 04/08/2024 | Barium         | 0.18      | 2                                     | mg/l  | 7440-39-3  |
| MW-3RD   | 07/09/2024 | Barium         | 0.19      | 2                                     | mg/l  | 7440-39-3  |
| MW-3RD   | 04/08/2024 | Beryllium      | < 0.0010  | 0.004                                 | mg/l  | 7440-41-7  |
| MW-3RD   | 07/09/2024 | Beryllium      | < 0.0010  | 0.004                                 | mg/l  | 7440-41-7  |



Table 7



Groundwater Analytical Data vs.  
Groundwater Protection Standards - Appendix IV

| Location | Date       | Parameter      | Result    | Groundwater Protection Standard (GPS) | Units | CAS #      |
|----------|------------|----------------|-----------|---------------------------------------|-------|------------|
| MW-3RD   | 04/08/2024 | Cadmium        | < 0.00020 | 0.0502                                | mg/l  | 7440-43-9  |
| MW-3RD   | 07/09/2024 | Cadmium        | < 0.00020 | 0.0502                                | mg/l  | 7440-43-9  |
| MW-3RD   | 04/08/2024 | Chromium       | < 0.0050  | 0.1                                   | mg/l  | 7440-47-3  |
| MW-3RD   | 07/09/2024 | Chromium       | < 0.0050  | 0.1                                   | mg/l  | 7440-47-3  |
| MW-3RD   | 04/08/2024 | Cobalt         | < 0.00050 | 0.0081                                | mg/l  | 7440-48-4  |
| MW-3RD   | 07/09/2024 | Cobalt         | < 0.00050 | 0.0081                                | mg/l  | 7440-48-4  |
| MW-3RD   | 04/08/2024 | Fluoride       | < 1.0     | 4                                     | mg/l  | 16984-48-8 |
| MW-3RD   | 07/09/2024 | Fluoride       | < 1.0     | 4                                     | mg/l  | 16984-48-8 |
| MW-3RD   | 04/08/2024 | Lead           | < 0.00050 | 0.0179                                | mg/l  | 7439-92-1  |
| MW-3RD   | 07/09/2024 | Lead           | < 0.00050 | 0.0179                                | mg/l  | 7439-92-1  |
| MW-3RD   | 04/08/2024 | Lithium        | 0.013     | 0.0455                                | mg/l  | 7439-93-2  |
| MW-3RD   | 07/09/2024 | Lithium        | 0.011     | 0.0455                                | mg/l  | 7439-93-2  |
| MW-3RD   | 04/08/2024 | Mercury        | < 0.00020 | 0.002                                 | mg/l  | 7439-97-6  |
| MW-3RD   | 07/09/2024 | Mercury        | < 0.00020 | 0.002                                 | mg/l  | 7439-97-6  |
| MW-3RD   | 04/08/2024 | MOLYBDENUM     | 0.0033    | 0.1                                   | mg/l  | 7439-98-7  |
| MW-3RD   | 07/09/2024 | MOLYBDENUM     | 0.0034    | 0.1                                   | mg/l  | 7439-98-7  |
| MW-3RD   | 04/08/2024 | Radium (226)   | 0.546     | --                                    | pci/l | 13982-63-3 |
| MW-3RD   | 07/09/2024 | Radium (226)   | 0.516     | --                                    | pci/l | 13982-63-3 |
| MW-3RD   | 04/08/2024 | Radium 228     | < 0.589   | --                                    | pci/l | 15262-20-1 |
| MW-3RD   | 07/09/2024 | Radium 228     | < 0.544   | --                                    | pci/l | 15262-20-1 |
| MW-3RD   | 04/08/2024 | Radium-226/228 | 0.722     | 5                                     | pci/l | 425        |
| MW-3RD   | 07/09/2024 | Radium-226/228 | 0.806     | 5                                     | pci/l | 425        |
| MW-3RD   | 04/08/2024 | Selenium       | < 0.0050  | 0.05                                  | mg/l  | 7782-49-2  |
| MW-3RD   | 07/09/2024 | Selenium       | < 0.0050  | 0.05                                  | mg/l  | 7782-49-2  |
| MW-3RD   | 04/08/2024 | Thallium       | < 0.0010  | 0.0102                                | mg/l  | 7440-28-0  |
| MW-3RD   | 07/09/2024 | Thallium       | < 0.0010  | 0.0102                                | mg/l  | 7440-28-0  |
| MW-4     | 04/08/2024 | Antimony       | < 0.0020  | 0.006                                 | mg/l  | 7440-36-0  |
| MW-4     | 07/09/2024 | Antimony       | < 0.0020  | 0.006                                 | mg/l  | 7440-36-0  |
| MW-4     | 04/08/2024 | Arsenic        | < 0.0020  | 0.0259                                | mg/l  | 7440-38-2  |
| MW-4     | 07/09/2024 | Arsenic        | < 0.0020  | 0.0259                                | mg/l  | 7440-38-2  |
| MW-4     | 04/08/2024 | Barium         | 0.16      | 2                                     | mg/l  | 7440-39-3  |
| MW-4     | 07/09/2024 | Barium         | 0.20      | 2                                     | mg/l  | 7440-39-3  |
| MW-4     | 04/08/2024 | Beryllium      | < 0.0010  | 0.004                                 | mg/l  | 7440-41-7  |
| MW-4     | 07/09/2024 | Beryllium      | < 0.0010  | 0.004                                 | mg/l  | 7440-41-7  |
| MW-4     | 04/08/2024 | Cadmium        | 0.00022   | 0.0502                                | mg/l  | 7440-43-9  |
| MW-4     | 07/09/2024 | Cadmium        | 0.00020   | 0.0502                                | mg/l  | 7440-43-9  |
| MW-4     | 04/08/2024 | Chromium       | < 0.0050  | 0.1                                   | mg/l  | 7440-47-3  |
| MW-4     | 07/09/2024 | Chromium       | < 0.0050  | 0.1                                   | mg/l  | 7440-47-3  |
| MW-4     | 04/08/2024 | Cobalt         | < 0.00050 | 0.0081                                | mg/l  | 7440-48-4  |
| MW-4     | 07/09/2024 | Cobalt         | < 0.00050 | 0.0081                                | mg/l  | 7440-48-4  |
| MW-4     | 04/08/2024 | Fluoride       | < 1.0     | 4                                     | mg/l  | 16984-48-8 |
| MW-4     | 07/09/2024 | Fluoride       | < 1.0     | 4                                     | mg/l  | 16984-48-8 |
| MW-4     | 04/08/2024 | Lead           | < 0.00050 | 0.0179                                | mg/l  | 7439-92-1  |
| MW-4     | 07/09/2024 | Lead           | < 0.00050 | 0.0179                                | mg/l  | 7439-92-1  |
| MW-4     | 04/08/2024 | Lithium        | < 0.010   | 0.0455                                | mg/l  | 7439-93-2  |
| MW-4     | 07/09/2024 | Lithium        | < 0.010   | 0.0455                                | mg/l  | 7439-93-2  |
| MW-4     | 04/08/2024 | Mercury        | < 0.00020 | 0.002                                 | mg/l  | 7439-97-6  |
| MW-4     | 07/09/2024 | Mercury        | < 0.00020 | 0.002                                 | mg/l  | 7439-97-6  |
| MW-4     | 04/08/2024 | MOLYBDENUM     | 0.0036    | 0.1                                   | mg/l  | 7439-98-7  |
| MW-4     | 07/09/2024 | MOLYBDENUM     | 0.0024    | 0.1                                   | mg/l  | 7439-98-7  |
| MW-4     | 04/08/2024 | Radium (226)   | 0.195     | --                                    | pci/l | 13982-63-3 |
| MW-4     | 07/09/2024 | Radium (226)   | 0.229     | --                                    | pci/l | 13982-63-3 |

Table 7



Groundwater Analytical Data vs.  
Groundwater Protection Standards - Appendix IV

| Location | Date       | Parameter      | Result   | Groundwater Protection Standard (GPS) | Units | CAS #      |
|----------|------------|----------------|----------|---------------------------------------|-------|------------|
| MW-4     | 04/08/2024 | Radium 228     | < 0.748  | --                                    | pci/l | 15262-20-1 |
| MW-4     | 07/09/2024 | Radium 228     | 0.838    | --                                    | pci/l | 15262-20-1 |
| MW-4     | 04/08/2024 | Radium-226/228 | 0.844    | 5                                     | pci/l | 425        |
| MW-4     | 07/09/2024 | Radium-226/228 | 1.07     | 5                                     | pci/l | 425        |
| MW-4     | 04/08/2024 | Selenium       | 0.011    | 0.05                                  | mg/l  | 7782-49-2  |
| MW-4     | 07/09/2024 | Selenium       | < 0.0050 | 0.05                                  | mg/l  | 7782-49-2  |
| MW-4     | 04/08/2024 | Thallium       | < 0.0010 | 0.0102                                | mg/l  | 7440-28-0  |
| MW-4     | 07/09/2024 | Thallium       | < 0.0010 | 0.0102                                | mg/l  | 7440-28-0  |

Results in milligrams per liter (mg/l) or picocuries per liter (pci/l)

-- - No Groundwater Protection Standard established.

**Bold** = Indicates concentration above Groundwater Protection Standard



## Appendix A – Field Data Sheets

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## FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Lansing)

Sample Location: MW-1

Location: Austin, MN

Duplicate Collected: No

Field Blank Collected: NO

Sample Matrix: Groundwater

Equipment Blank Collected: No

## PURGE INFORMATION

Method of Well Purge: Dedicated Bladder Pump

MS/MSD Collected: No

Sampler(s): 11-30462

|                    |      |
|--------------------|------|
| Casing Length (ft) | 25.6 |
|--------------------|------|

Date/Time Initiated: 4/9/23 9:26

Dedicated Equipment: Yes

Initial Water Level (feet): 3.01' ~~7.3~~

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 1237.54

One Casing Volume (gal): 3.3 ~~3.1~~

|                         |         |
|-------------------------|---------|
| Top of Casing (ft, msl) | 1244.84 |
|-------------------------|---------|

Total Volume Purged (gal): 11.0

PID (Background) 0.0 (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) 0.0 (PPM)

Water Level After Purge (ft): 3.92'

## PURGE DATA

Date/Time Completed: 4/9/23 8:55

[illegible]

## FIELD INFORMATION LOG Part 2

**SAMPLING INFORMATION:**

Sample Point ID: MW-1

Water Level @ Sampling (ft): 3.92'

Well Collection Sequence 11 of 12

Parameters: Annual \_\_\_\_\_ Semiannual: \_\_\_\_\_ Quarterly: X Monthly: \_\_\_\_\_ Other: \_\_\_\_\_

**SAMPLE DATA:**

| Time & Date                  | Sample Rate                            | Temp (°C)   | pH (std units) | Specific Conductance (uS - umhos/cm) | Turbidity (NTU) | Dissolved O <sub>2</sub> (mg/L) | O <sub>2</sub> Reduction Potential (mV) |
|------------------------------|----------------------------------------|-------------|----------------|--------------------------------------|-----------------|---------------------------------|-----------------------------------------|
| <u>8:55</u><br><u>4/9/24</u> | VOCs: <u>100</u><br>Other: <u>1000</u> | <u>6.85</u> | <u>6.72</u>    | <u>1,090</u>                         | <u>6.0</u>      | <u>10.48</u>                    | <u>253</u>                              |

YSI Serial Number: \_\_\_\_\_

YSI Sonde Serial Number: \_\_\_\_\_

**GENERAL INFORMATION:**

Weather Conditions @ sampling: 43°F partly cloudy 0-5 mph W

\_\_\_\_\_

Sampling Characteristics: clear

\_\_\_\_\_

**COMMENTS AND OBSERVATIONS:**

Full Bottle Set Collected: Yes No (circle) \_\_\_\_\_ # of Bottles Collected: 9/5

Well Closed and Locked: Yes No (circle) \_\_\_\_\_

**Notes:**

Minnesota Unique Well ID: 664911

Date: 4/9/24 By: M. Schlegel Title: Staff env. scientist

Company: Groundwater and Environmental Services, Inc.



## FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Lansing)

Sample Location: MW-1RD

Location: Austin, MN

Duplicate Collected: No

Field Blank Collected: Yes - Field Blank 2

Sample Matrix: Groundwater

Equipment Blank Collected: Yes

### PURGE INFORMATION

Method of Well Purge: Dedicated Bladder Pump

MS/MSD Collected: No

Sampler(s): N.S

|                    |      |
|--------------------|------|
| Casing Length (ft) | 75.5 |
|--------------------|------|

Date/Time Initiated: 4/9/24 8:20

Dedicated Equipment: ☒ Yes

Initial Water Level (feet): 29.95' - ~~28.61~~

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 1216.91

One Casing Volume (gal): 7.42 ~~7.9~~

|                         |         |
|-------------------------|---------|
| Top of Casing (ft, msl) | 1245.52 |
|-------------------------|---------|

Total Volume Purged (gal): 22.5

PID (Background) P-0 (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) 0.0 (PPM)

Water Level After Purge (ft): 29.99'

Date/Time Completed: 4/8/24 9:10

## PURGE DATA

[illegible]

## FIELD INFORMATION LOG Part 2

### SAMPLING INFORMATION:

Water Level @ Sampling (ft): 9.10'

Parameters: Annual \_\_\_\_\_ Semiannual: \_\_\_\_\_

Sample Point ID: MW-1RD

Well Collection Sequence 12 of 12

Quarterly: X Monthly: \_\_\_\_\_ Other: \_\_\_\_\_

### SAMPLE DATA:

| Time & Date                  | Sample Rate                            | Temp (°C)   | pH (std units) | Specific Conductance (uS - umhos/cm) | Turbidity (NTU) | Dissolved O <sub>2</sub> (mg/L) | O <sub>2</sub> Reduction Potential (mV) |
|------------------------------|----------------------------------------|-------------|----------------|--------------------------------------|-----------------|---------------------------------|-----------------------------------------|
| <u>9:10</u><br><u>4/9/24</u> | VOCs: <u>100</u><br>Other: <u>1000</u> | <u>9.13</u> | <u>7.09</u>    | <u>619</u>                           | <u>47.4</u>     | <u>3.27</u>                     | <u>-68</u>                              |

YSI Serial Number: \_\_\_\_\_

YSI Sonde Serial Number: \_\_\_\_\_

### GENERAL INFORMATION:

Weather Conditions @ sampling: 45°F, mostly cloudy, 5-10 mph W

Sampling Characteristics: clear

### COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) \_\_\_\_\_ # of Bottles Collected: 9/5

Well Closed and Locked: Yes No (circle) \_\_\_\_\_

Notes: \_\_\_\_\_

Minnesota Unique Well ID: 785087

Date: 4/9/24 By: N56419901 Title: staff env. scientist

Company: Groundwater and Environmental Services, Inc.

## FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Lansing)

Sample Location: MW-2R

Location: Austin, MN

Duplicate Collected: No

Field Blank Collected: No

Sample Matrix: Groundwater

Equipment Blank Collected: No

### PURGE INFORMATION

MS/MSD Collected: NO

Method of Well Purge: Dedicated Bladder Pump

Sampler(s): V-Sch (ad)

Date/Time Initiated: 4/8/24 16:15

Casing Length (ft) 18.35

Initial Water Level (feet): 9.70 ~~10.2~~

Dedicated Equipment: Yes

Ground Water Elevation (ft, msl): 1216.03

Casing Diameter (inches): 2

One Casing Volume (gal): 1.5 201.2

|                         |         |
|-------------------------|---------|
| Top of Casing (ft, msl) | 1226.23 |
|-------------------------|---------|

Total Volume Purged (gal): *slow up change 2.6*

PID (Background) 0-0 (PPM)

Purged Dry?: ☒ Yes ☐ No (circle)

PID (Headspace) 0-0 (PPM)

Water Level After Purge (ft): 16.25'

## PURGE DATA

Date/Time Completed: 4/8/23 16:35

[illegible]

## FIELD INFORMATION LOG Part 2

### SAMPLING INFORMATION:

Sample Point ID: MW-2R

Water Level @ Sampling (ft): \_\_\_\_\_

Well Collection Sequence 9 of 12

Parameters: Annual \_\_\_\_\_ Semiannual: \_\_\_\_\_

Quarterly: X Monthly: \_\_\_\_\_ Other: \_\_\_\_\_

### SAMPLE DATA:

| Time & Date                   | Sample Rate                            | Temp (°C)   | pH (std units) | Specific Conductance (uS - umhos/cm) | Turbidity (NTU) | Dissolved O <sub>2</sub> (mg/L) | O <sub>2</sub> Reduction Potential (mV) |
|-------------------------------|----------------------------------------|-------------|----------------|--------------------------------------|-----------------|---------------------------------|-----------------------------------------|
| <u>16:30</u><br><u>4/8/24</u> | VOCs: <u>100</u><br>Other: <u>1000</u> | <u>8.01</u> | <u>6.56</u>    | <u>1,570</u>                         | <u>16.2</u>     | <u>1.78</u>                     | <u>26</u>                               |

YSI Serial Number: \_\_\_\_\_

YSI Sonde Serial Number: \_\_\_\_\_

### GENERAL INFORMATION:

Weather Conditions @ sampling: \_\_\_\_\_

47°F, cloudy, 10-15 mph sw

Sampling Characteristics: \_\_\_\_\_

clean

### COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

# of Bottles Collected: 9/5

Well Closed and Locked: Yes No (circle)

Notes: \_\_\_\_\_

Minnesota Unique Well ID: \_\_\_\_\_

Date: 4/8/24

By: N. K. K. K.

Title: Staff Env. Scientist

Company: Groundwater and Environmental Services, Inc.

## FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Lansing)

Sample Location: MW-2RD

Location: Austin, MN

Duplicate Collected: No

Field Blank Collected: No

Sample Matrix: Groundwater

Equipment Blank Collected: No

MS/MSD Collected: No

### PURGE INFORMATION

Method of Well Purge: Dedicated Bladder Pump

Sampler(s): N-Sunbelt

Casing Length (ft) 35

Date/Time Initiated: 4/8/23 16:13

Dedicated Equipment: ☒ Yes

Initial Water Level (feet): 11.37 ~~10.32~~

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 1216.05

One Casing Volume (gal): 3.85 ~~-198.4~~

|                         |         |
|-------------------------|---------|
| Top of Casing (ft, msl) | 1226.37 |
|-------------------------|---------|

Total Volume Purged (gal): 12.0

PID (Background) 0.0 (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) 0.0 (PPM)

Water Level After Purge (ft): 11.42'

Date/Time Completed: 4/8/23 16:50

## PURGE DATA

[illegible]

## FIELD INFORMATION LOG Part 2

**SAMPLING INFORMATION:**

Water Level @ Sampling (ft):

11.42'

Sample Point ID:

MW-2RD

Well Collection Sequence

10 of 12

Parameters:

Annual

Semiannual:

Quarterly: X

Monthly:

Other:

**SAMPLE DATA:**

| Time & Date                   | Sample Rate                            | Temp (°C)    | pH (std units) | Specific Conductance (uS - umhos/cm) | Turbidity (NTU) | Dissolved O <sub>2</sub> (mg/L) | O <sub>2</sub> Reduction Potential (mV) |
|-------------------------------|----------------------------------------|--------------|----------------|--------------------------------------|-----------------|---------------------------------|-----------------------------------------|
| <u>16:52</u><br><u>4/8/24</u> | VOCs: <u>100</u><br>Other: <u>1000</u> | <u>10.12</u> | <u>6.58</u>    | <u>1,000</u>                         | <u>3.0</u>      | <u>0.00</u>                     | <u>-12</u>                              |

YSI Serial Number:

YSI Sonde Serial Number:

**GENERAL INFORMATION:**

Weather Conditions @ sampling:

48°F, Cloudy, 10-15 mph SW

Sampling Characteristics:

clean

**COMMENTS AND OBSERVATIONS:**

Full Bottle Set Collected: Yes No (circle)

# of Bottles Collected:

9/5

Well Closed and Locked: Yes No (circle)

Notes:

Minnesota Unique Well ID:

705083

Date:

4/8/24

By:

N. Schlegel

Title:

staff env. scientist

Company: Groundwater and Environmental Services, Inc.



## FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Lansing)

Sample Location: \_\_\_\_\_ MW-3

Location: Austin, MN

Duplicate Collected: No

Field Blank Collected: Vo

Sample Matrix: Groundwater

Equipment Blank Collected: No

MS/MSD Collected: No

## PURGE INFORMATION

Method of Well Purge: Dedicated Bladder Pump

Sampler(s): M. Schlegel

Casing Length (ft) 19.7

Date/Time Initiated: 4/8/24 15:05

Dedicated Equipment: ☒ Yes

Initial Water Level (feet): 8.24 ~~9.3~~

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): ~~1213.85~~

One Casing Volume (gal): 1.87 ~~1.7~~

|                         |         |
|-------------------------|---------|
| Top of Casing (ft, msl) | 1223.15 |
|-------------------------|---------|

Total Volume Purged (gal): 56 6.0

PID (Background) 0.0 (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) 0.0 (PPM)

Water Level After Purge (ft): 8.28

Date/Time Completed: 4/8/24 15:48

## PURGE DATA

[illegible]

## FIELD INFORMATION LOG Part 2

### SAMPLING INFORMATION:

Water Level @ Sampling (ft):

8.28'

Sample Point ID:

MW-3

Well Collection Sequence

8 of 12

Parameters:

Annual

Semiannual:

Quarterly: ☒

Monthly:

Other:

### SAMPLE DATA:

| Time & Date      | Sample Rate              | Temp (°C) | pH (std units) | Specific Conductance (uS - umhos/cm) | Turbidity (NTU) | Dissolved O <sub>2</sub> (mg/L) | O <sub>2</sub> Reduction Potential (mV) |
|------------------|--------------------------|-----------|----------------|--------------------------------------|-----------------|---------------------------------|-----------------------------------------|
| 15:45<br>4/18/24 | VOCs: 100<br>Other: 1000 | 8.51      | 6.43           | 1,330                                | 20.2            | 0.66                            | -42                                     |

YSI Serial Number:

YSI Sonde Serial Number:

### GENERAL INFORMATION:

Weather Conditions @ sampling:

47°F, cloudy, 10-15 m/s W

Sampling Characteristics:

Clear

### COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: ☒ Yes ☐ No (circle)

# of Bottles Collected:

9/5

Well Closed and Locked: ☒ Yes ☐ No (circle)

Notes:

Minnesota Unique Well ID:

604913

Date:

4/18/24

By:

N-Sch 14961

Title:

Staff env. Scientist

Company: Groundwater and Environmental Services, Inc.

## FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Lansing)

Sample Location: MW-3R

Location: Austin, MN

Duplicate Collected: No

Field Blank Collected: 10

Sample Matrix: Groundwater

Equipment Blank Collected: *No*

MS/MSD Collected:        *N*

### PURGE INFORMATION

Method of Well Purge: Dedicated Bladder Pump

Sampler(s): N. Schmitt

|                    |      |
|--------------------|------|
| Casing Length (ft) | 27.5 |
|--------------------|------|

Date/Time Initiated: 4/9/24 15:05

Dedicated Equipment: ☒ Yes

Initial Water Level (feet): 9.02' ~~9.35~~

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 1215.84

One Casing Volume (gal): 3.1 ~~199.6~~

|                         |         |
|-------------------------|---------|
| Top of Casing (ft, msl) | 1225.19 |
|-------------------------|---------|

Total Volume Purged (gal): 7.5

PID (Background) 0.0 (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) 0.0 (PPM)

Water Level After Purge (ft): 7.08'

Date/Time Completed: 4/8/24 15:40

## PURGE DATA

[illegible]

## FIELD INFORMATION LOG Part 2

### SAMPLING INFORMATION:

Sample Point ID: MW-3R

Water Level @ Sampling (ft): 9.08'

Well Collection Sequence 7 of 12

Parameters: Annual \_\_\_\_\_ Semiannual: \_\_\_\_\_ Quarterly: X Monthly: \_\_\_\_\_ Other: \_\_\_\_\_

### SAMPLE DATA:

| Time & Date                    | Sample Rate                           | Temp (°C)   | pH (std units) | Specific Conductance (uS - umhos/cm) | Turbidity (NTU) | Dissolved O <sub>2</sub> (mg/L) | O <sub>2</sub> Reduction Potential (mV) |
|--------------------------------|---------------------------------------|-------------|----------------|--------------------------------------|-----------------|---------------------------------|-----------------------------------------|
| <u>15:40</u><br><u>4/18/24</u> | VOCs: <u>100</u><br>Other: <u>100</u> | <u>9.21</u> | <u>6.27</u>    | <u>1,450</u>                         | <u>7.2</u>      | <u>9.77</u>                     | <u>-146</u>                             |

YSI Serial Number: \_\_\_\_\_

YSI Sonde Serial Number: \_\_\_\_\_

### GENERAL INFORMATION:

Weather Conditions @ sampling: 48°F, cloudy, SW 10-15 mph

Sampling Characteristics: clean

### COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) \_\_\_\_\_ # of Bottles Collected: 9/5

Well Closed and Locked: Yes No (circle) \_\_\_\_\_

Notes: \_\_\_\_\_

Minnesota Unique Well ID: 785082

Date: 4/18/24 By: N. S. [signature] Title: Staff environmental

Company: Groundwater and Environmental Services, Inc.

## FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Lansing)

Sample Location: MW-3RD

Location: Austin, MN

Duplicate Collected: POS-WF-2

Field Blank Collected: no

Sample Matrix: Groundwater

Equipment Blank Collected: NO

MS/MSD Collected: 45-145/MSD C

### PURGE INFORMATION

Method of Well Purge: Dedicated Bladder Pump

Sampler(s):

|                    |       |
|--------------------|-------|
| Casing Length (ft) | 46.25 |
|--------------------|-------|

Date/Time Initiated: 4/8/24 15:50

Dedicated Equipment: Yes

Initial Water Level (feet): 10.40 9.47

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 1215.54

One Casing Volume (gal): 5.84 ~~6.2~~

|                         |         |
|-------------------------|---------|
| Top of Casing (ft, msl) | 1225.01 |
|-------------------------|---------|

Total Volume Purged (gal): 18.0

PID (Background) 0-0 (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) 0.0 (PPM)

Water Level After Purge (ft): 10.42'

## PURGE DATA

Date/Time Completed: 9/8/47 14:25

[illegible]

## FIELD INFORMATION LOG Part 2

**SAMPLING INFORMATION:**

Sample Point ID: MW-3RD

Water Level @ Sampling (ft): 10.42'

Well Collection Sequence 6 of 12

Parameters: Annual \_\_\_\_\_ Semiannual: \_\_\_\_\_ Quarterly: X Monthly: \_\_\_\_\_ Other: \_\_\_\_\_

**SAMPLE DATA:**

| Time & Date                    | Sample Rate                            | Temp (°C)   | pH (std units) | Specific Conductance (uS - umhos/cm) | Turbidity (NTU) | Dissolved O <sub>2</sub> (mg/L) | O <sub>2</sub> Reduction Potential (mV) |
|--------------------------------|----------------------------------------|-------------|----------------|--------------------------------------|-----------------|---------------------------------|-----------------------------------------|
| <u>14:25</u><br><u>4/19/24</u> | VOCs: <u>100</u><br>Other: <u>1000</u> | <u>9.46</u> | <u>6.77</u>    | <u>877</u>                           | <u>4.6</u>      | <u>5.86</u>                     | <u>-124</u>                             |

YSI Serial Number: \_\_\_\_\_

YSI Sonde Serial Number: \_\_\_\_\_

**GENERAL INFORMATION:**

Weather Conditions @ sampling: 47°F, 5-10 mph W

Sampling Characteristics: deq

**COMMENTS AND OBSERVATIONS:**

Full Bottle Set Collected: Yes No (circle) \_\_\_\_\_ # of Bottles Collected: 9/5

Well Closed and Locked: Yes No (circle) \_\_\_\_\_

Notes: \_\_\_\_\_

Minnesota Unique Well ID: 705084

Date: 4/19/24 By: N. Schlegel Title: Staff env. scientist

Company: Groundwater and Environmental Services, Inc.



## FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Lansing)

Sample Location: MW-4

Location: Austin, MN

Duplicate Collected: No

Field Blank Collected:       No      

Sample Matrix: Groundwater

Equipment Blank Collected: NO

MS/MSD Collected: No

## PURGE INFORMATION

Method of Well Purge: Dedicated Bladder Pump

Sampler(s): *M. Schlegel*

|                    |      |
|--------------------|------|
| Casing Length (ft) | 18.3 |
|--------------------|------|

Date/Time Initiated: 4/8/24 13:00

Dedicated Equipment: ☒ Yes

Initial Water Level (feet): 7.55 ~~8.63~~

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 1217.34

One Casing Volume (gal): 1.6

|                         |         |
|-------------------------|---------|
| Top of Casing (ft, msl) | 1225.97 |
|-------------------------|---------|

Total Volume Purged (gal): 5.5

PID (Background) 0-0 (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) 0-0 (PPM)

Water Level After Purge (ft): 8.27

## PURGE DATA

Date/Time Completed: 4/8/24 13:40

[illegible]

## FIELD INFORMATION LOG Part 2

### SAMPLING INFORMATION:

Sample Point ID: MW-4

Water Level @ Sampling (ft): 8.27

Well Collection Sequence 5 of 12

Parameters: Annual \_\_\_\_\_ Semiannual: \_\_\_\_\_ Quarterly: X Monthly: \_\_\_\_\_ Other: \_\_\_\_\_

### SAMPLE DATA:

| Time & Date                    | Sample Rate                            | Temp (°C)   | pH (std units) | Specific Conductance (uS - umhos/cm) | Turbidity (NTU) | Dissolved O <sub>2</sub> (mg/L) | O <sub>2</sub> Reduction Potential (mV) |
|--------------------------------|----------------------------------------|-------------|----------------|--------------------------------------|-----------------|---------------------------------|-----------------------------------------|
| <u>4/3/24</u><br><u>4/8/24</u> | VOCs: <u>180</u><br>Other: <u>1000</u> | <u>7.70</u> | <u>6.59</u>    | <u>1220</u>                          | <u>3.5</u>      | <u>7.27</u>                     | <u>217</u>                              |

YSI Serial Number: \_\_\_\_\_

YSI Sonde Serial Number: \_\_\_\_\_

### GENERAL INFORMATION:

Weather Conditions @ sampling: 47°F, cloudy, 15-20 mph W

Sampling Characteristics: low

### COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) \_\_\_\_\_ # of Bottles Collected: 9/5

Well Closed and Locked: Yes No (circle) \_\_\_\_\_

Notes: \_\_\_\_\_

Minnesota Unique Well ID: 664914

Date: 4/8/24 By: N. Schlager Title: staff env scientist

Company: Groundwater and Environmental Services, Inc.

|                              |              |
|------------------------------|--------------|
| Start of day:<br>(Date/Time) | 4/8/24 8:00  |
| End of day:<br>(Date/Time)   | 4/9/24 12:00 |
| YSI Model Number             | V-5000       |
| YSI Serial Number            | U9477X       |
| Sonde Model Number           | V-EZ         |
| Sonde Serial Number          | WH0V1X4V     |

Calibration Notes:

**Groundwater Elevation Measurements  
SKB Landfill (Lansing)**

Site: SKB Lansing  
Personnel: N. Subgel

| Well ID | Date   | Time  | Depth To Water: | Notes:    |
|---------|--------|-------|-----------------|-----------|
| MW-101A | 4/8/24 | 8:07  | 5.96'           |           |
| MW-102A |        | 8:10  | 5.18'           |           |
| MW-103A |        | 8:04  | 6.26'           |           |
| MW-104A |        | 7:59  | 4.60'           |           |
| MW-105A |        | 8:13  | 11.89'          |           |
| MW-106A |        | 8:29  | 10.19'          |           |
| MW-107A |        | 8:27  | 5.37'           |           |
| MW-108A |        | 8:24  | 20.90'          |           |
| MW-1A   |        | 9:35  | 8.10'           |           |
| MW-2A   |        | 10:47 | 7.42'           |           |
| MW-3A   |        | 8:39  | 14.56'          |           |
| MW-42A  |        | 10:16 | 27.53'          |           |
| MW-1    |        | 18:20 | 3.81'           |           |
| MW-1RD  |        | 18:25 | 29.95'          |           |
| MW-2R   |        | 16:13 | 8.70'           |           |
| MW-2RD  |        | 16:11 | 11.38'          |           |
| MW-3    |        | 12:42 | 8.24'           |           |
| MW-3R   |        | 12:43 | 9.02'           |           |
| MW-3RD  |        | 12:46 | 10.40'          |           |
| MW-4    |        | 12:52 | 7.55'           |           |
| PIEZ-4  |        | 18:07 | 10.88'          |           |
| MW-55   |        | 18:02 | 29.44'          |           |
| MW-5D   |        | 18:03 | 30.76'          |           |
| PIEZ-3  |        | 17:57 | 5.22'           |           |
| PIEZ-1  |        | 17:50 | 12.4'           | TP=17.27' |
| PIEZ-2  |        | 17:45 | 21.5'           |           |
| MW-65   |        | 17:42 | 6.51'           |           |
| MW-85   |        | 17:38 | 18.53'          |           |
| MW-8D   |        | 17:37 | 18.15'          |           |
| MW-75   |        | 17:33 | 19.27'          |           |
| MW-7D   |        | 17:32 | 19.05'          |           |
| PIEZ-5  |        | 17:28 | 6.93'           |           |
| P-11    |        | 18:15 | 25.41'          |           |
| P-10    |        | 18:20 | 22.90'          |           |

## FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Lansing)

Sample Location: MW-1

Location: Austin, MN

Duplicate Collected: No

Field Blank Collected:       No      

Sample Matrix: Groundwater

Equipment Blank Collected: NO

MS/MSD Collected: Nd

## PURGE INFORMATION

Method of Well Purge: Dedicated Bladder Pump

Sampler(s): N. Schulze

Casing Length (ft) 25.6

Date/Time Initiated: 13:55

Dedicated Equipment: ☒ Yes

Initial Water Level (feet): 3.03'

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 1241.81'

One Casing Volume (gal): 5.68

|                         |         |
|-------------------------|---------|
| Top of Casing (ft, msl) | 1244.84 |
|-------------------------|---------|

Total Volume Purged (gal): 11.0

PID (Background) 0.0 (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) 0.0 (PPM) .

Water Level After Purge (ft): 3.05

## PURGE DATA

Date/Time Completed: 7/8/24 14:40

[illegible]

## FIELD INFORMATION LOG Part 2

### SAMPLING INFORMATION:

Sample Point ID: MW-1

Water Level @ Sampling (ft): 3.05'

Well Collection Sequence 5 of 16

Parameters: Annual X Semiannual: \_\_\_\_\_

Quarterly: \_\_\_\_\_ Monthly: \_\_\_\_\_ Other: \_\_\_\_\_

### SAMPLE DATA:

| Time & Date                   | Sample Rate                           | Temp (°C)    | pH (std units) | Specific Conductance (uS - umhos/cm) | Turbidity (NTU) | Dissolved O <sub>2</sub> (mg/L) | O <sub>2</sub> Reduction Potential (mV) |
|-------------------------------|---------------------------------------|--------------|----------------|--------------------------------------|-----------------|---------------------------------|-----------------------------------------|
| <u>14:40</u><br><u>7/2/08</u> | VOCs: <u>100</u><br>Other: <u>100</u> | <u>12.60</u> | <u>7.71</u>    | <u>1,040</u>                         | <u>5.3</u>      | <u>0.00</u>                     | <u>108</u>                              |

YSI Serial Number: \_\_\_\_\_

YSI Sonde Serial Number: \_\_\_\_\_

### GENERAL INFORMATION:

Weather Conditions @ sampling: 76°F, partly cloudy, 5-10 mph SW

Sampling Characteristics: electron

### COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) \_\_\_\_\_

# of Bottles Collected: 9

Well Closed and Locked: Yes No (circle) \_\_\_\_\_

Notes: \_\_\_\_\_

Minnesota Unique Well ID: 684911

Date: 7/2/08

By: M. Schlegel

Title: Staff environmental scientist

Company: Groundwater and Environmental Services, Inc.



## FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Lansing)

Sample Location: MW-1RD

Location: Austin, MN

Duplicate Collected: No

Field Blank Collected: No

Sample Matrix: Groundwater

Equipment Blank Collected: No

## PURGE INFORMATION

MS/MSD Collected: No

Sampler(s): *μ-enlarged*

Casing Length (ft) 75.5

Method of Well Purge: Dedicated Bladder Pump

Date/Time Initiated: 7/8/24 13:55

Dedicated Equipment: Yes

Initial Water Level (feet): 24.40'

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 1,221.12

One Casing Volume (gal): 8.55

|                         |         |
|-------------------------|---------|
| Top of Casing (ft, msl) | 1245.52 |
|-------------------------|---------|

Total Volume Purged (gal): 25.0

PID (Background) P.O. (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) 0.0 (PPM)

Water Level After Purge (ft): 24.42

## PURGE DATA

Date/Time Completed: 7/8/24 14:25

[illegible]

## FIELD INFORMATION LOG Part 2

### SAMPLING INFORMATION:

Water Level @ Sampling (ft):

24.42'

Sample Point ID:

MW-1RD

Well Collection Sequence

8 of 12

Parameters:

Annual

X

Semiannual:

Quarterly:

Monthly:

Other:

### SAMPLE DATA:

| Time & Date                  | Sample Rate                            | Temp (°C)   | pH (std units) | Specific Conductance (uS - umhos/cm) | Turbidity (NTU) | Dissolved O <sub>2</sub> (mg/L) | O <sub>2</sub> Reduction Potential (mV) |
|------------------------------|----------------------------------------|-------------|----------------|--------------------------------------|-----------------|---------------------------------|-----------------------------------------|
| <u>1425</u><br><u>7/8/24</u> | VOCs: <u>100</u><br>Other: <u>1000</u> | <u>9.66</u> | <u>8.11</u>    | <u>580</u>                           | <u>4.3</u>      | <u>1.86</u>                     | <u>-73</u>                              |

YSI Serial Number:

YSI Sonde Serial Number:

### GENERAL INFORMATION:

Weather Conditions @ sampling:

76°F partly cloudy, 5-10 mph SW

Sampling Characteristics:

Ucon

### COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

# of Bottles Collected:

9

Well Closed and Locked: Yes No (circle)

Notes:

Minnesota Unique Well ID:

785087

Date:

7/8/24

By:

N. Schlegel

Title:

staff env scientist

Company: Groundwater and Environmental Services, Inc.

## FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Lansing)

Sample Location: MW-2R

Location: Austin, MN

Duplicate Collected: 100

Field Blank Collected: Mo

Sample Matrix: Groundwater

Equipment Blank Collected: NO

MS/MSD Collected: no

## PURGE INFORMATION

Method of Well Purge: Dedicated Bladder Pump

Sampler(s): N-501001

|                    |       |
|--------------------|-------|
| Casing Length (ft) | 18.35 |
|--------------------|-------|

Date/Time Initiated: 7/8/24 15:21

Dedicated Equipment: ☒ Yes

Initial Water Level (feet): 1.58'

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 1,218.67

One Casing Volume (gal): 1.78

|                         |         |
|-------------------------|---------|
| Top of Casing (ft, msl) | 1226.23 |
|-------------------------|---------|

Total Volume Purged (gal): 20 5000 recharge

PID (Background) 0.6 (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) 0.0 (PPM)

Water Level After Purge (ft): 16.35'

## PURGE DATA

Date/Time Completed: 7/8/24 15:45

[illegible]

## FIELD INFORMATION LOG Part 2

### SAMPLING INFORMATION:

Sample Point ID: MW-2RWater Level @ Sampling (ft): 16.35'Well Collection Sequence 7 of 12Parameters: Annual ☒ Semiannual: ☐Quarterly: ☐ Monthly: ☐ Other: ☐

### SAMPLE DATA:

| Time & Date                  | Sample Rate                            | Temp (°C)    | pH (std units) | Specific Conductance (uS - umhos/cm) | Turbidity (NTU) | Dissolved O <sub>2</sub> (mg/L) | O <sub>2</sub> Reduction Potential (mV) |
|------------------------------|----------------------------------------|--------------|----------------|--------------------------------------|-----------------|---------------------------------|-----------------------------------------|
| <u>1545</u><br><u>7/8/24</u> | VOCs: <u>100</u><br>Other: <u>1000</u> | <u>14.49</u> | <u>7.76</u>    | <u>1,450</u>                         | <u>2.0</u>      | <u>4.62</u>                     | <u>-17</u>                              |

YSI Serial Number: \_\_\_\_\_

YSI Sonde Serial Number: \_\_\_\_\_

### GENERAL INFORMATION:

Weather Conditions @ sampling: 78°F, partly cloudySampling Characteristics: clear

### COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: ☒ Yes ☐ No (circle)# of Bottles Collected: 9Well Closed and Locked: ☒ Yes ☐ No (circle)

Notes: \_\_\_\_\_

Minnesota Unique Well ID: 785091Date: 7/8/24By: N-SchlagelTitle: Staff Env. ScientistCompany: Groundwater and Environmental Services, Inc.

## FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Lansing)

Sample Location: MW-2RD

Location: Austin, MN

Duplicate Collected: Vo

Field Blank Collected: 1/10

Sample Matrix: Groundwater

Equipment Blank Collected: NC

MS/MSD Collected: No

Sampler(s): 10-50m bag

|                    |    |
|--------------------|----|
| Casing Length (ft) | 35 |
|--------------------|----|

Dedicated Equipment: Yes

Casing Diameter (inches): 2

One Casing Volume (gal): 4.62

Total Volume Purged (gal): 14.6

Purged Dry?: Yes No (circle)

Water Level After Purge (ft): 6.67'

Date/Time Completed: 7/8/24 6:00

[illegible]

## FIELD INFORMATION LOG Part 2

### SAMPLING INFORMATION:

Sample Point ID: MW-2RD

Water Level @ Sampling (ft): 6.67'

Well Collection Sequence

8 of 12

Parameters: Annual \_\_\_\_\_ Semiannual: \_\_\_\_\_

Quarterly: \_\_\_\_\_ Monthly: \_\_\_\_\_ Other: \_\_\_\_\_

### SAMPLE DATA:

| Time & Date                   | Sample Rate                            | Temp (°C)   | pH (std units) | Specific Conductance (uS - umhos/cm) | Turbidity (NTU) | Dissolved O <sub>2</sub> (mg/L) | O <sub>2</sub> Reduction Potential (mV) |
|-------------------------------|----------------------------------------|-------------|----------------|--------------------------------------|-----------------|---------------------------------|-----------------------------------------|
| <u>16:00</u><br><u>7/8/24</u> | VOCs: <u>100</u><br>Other: <u>1000</u> | <u>9.95</u> | <u>7.59</u>    | <u>1,060</u>                         | <u>5.3</u>      | <u>0.00</u>                     | <u>-54</u>                              |

YSI Serial Number: \_\_\_\_\_

YSI Sonde Serial Number: \_\_\_\_\_

### GENERAL INFORMATION:

Weather Conditions @ sampling: \_\_\_\_\_

80°F, partly cloudy, 5-10 mph SW

Sampling Characteristics: \_\_\_\_\_

HEW

### COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes ~~No~~ (circle)

# of Bottles Collected: 9

Well Closed and Locked: Yes ~~No~~ (circle)

Notes: \_\_\_\_\_

Minnesota Unique Well ID: 785085

Date: 7/8/24

By: N. Schlegel

Title: Staff Env. Specialist

Company: Groundwater and Environmental Services, Inc.



# FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Lansing)

Sample Location: MW-3

Location: Austin, MN

Duplicate Collected: No

Sample Matrix: Groundwater

Field Blank Collected: No

Equipment Blank Collected: No

## PURGE INFORMATION

MS/MSD Collected: No

Method of Well Purge: Dedicated Bladder Pump

Sampler(s): N-Schlagel

Date/Time Initiated: 7/19/24 7:10

Casing Length (ft) 19.7

Initial Water Level (feet): 6.70'

Dedicated Equipment: Yes

Ground Water Elevation (ft, msl): 1,246.45

Casing Diameter (inches): 2

Top of Casing (ft, msl) 1223.15

One Casing Volume (gal): 2.12

PID (Background) 0.0 (PPM)

Total Volume Purged (gal): 6.5

PID (Headspace) 0.0 (PPM)

Purged Dry?: Yes No (circle)

Water Level After Purge (ft): 6.72'

## PURGE DATA

Date/Time Completed: 7/19/24 7:45

| Time            | Purge Rate (mL/min) | Cumulative Volume (gal) | Temp (°C)        | pH (std units)  | Specific Conductance (uS - umhos/cm) | Turbidity (NTU) | Disolved Oxygen (mg/L) | ORP (mV)       |
|-----------------|---------------------|-------------------------|------------------|-----------------|--------------------------------------|-----------------|------------------------|----------------|
| <del>7:10</del> | <del>1000</del>     | <del>0.1</del>          | <del>12.95</del> | <del>8.10</del> | <del>1,240</del>                     | <del>425</del>  | <del>7.32</del>        | <del>-88</del> |
| <del>7:15</del> | <del>1000</del>     | <del>2.0</del>          |                  |                 |                                      |                 |                        |                |
| <del>7:20</del> | <del>1000</del>     | <del>4.0</del>          |                  |                 |                                      |                 |                        |                |
| <del>7:25</del> | <del>1000</del>     | <del>6.5</del>          |                  |                 |                                      |                 |                        |                |
| 7:10            | 1000                | 0.1                     | 12.69            | 7.60            | 981                                  | 25.0            | 0.00                   | -57            |
| 7:20            | 1000                | 2.0                     | 12.69            | 7.60            | 981                                  | 25.0            | 0.00                   | -56            |
| 7:30            | 1000                | 4.0                     | 12.69            | 7.60            | 981                                  | 24.8            | 0.00                   | -55            |
| 7:40            | 1000                | 6.5                     | 12.69            | 7.60            | 901                                  | 24.5            | 0.00                   | -54            |
|                 |                     |                         |                  |                 |                                      |                 |                        |                |
|                 |                     |                         |                  |                 |                                      |                 |                        |                |
|                 |                     |                         |                  |                 |                                      |                 |                        |                |
|                 |                     |                         |                  |                 |                                      |                 |                        |                |
|                 |                     |                         |                  |                 |                                      |                 |                        |                |
|                 |                     |                         |                  |                 |                                      |                 |                        |                |

## FIELD INFORMATION LOG Part 2

### SAMPLING INFORMATION:

Water Level @ Sampling (ft): 6.70

Parameters: Annual X Semiannual: \_\_\_\_\_

Sample Point ID: MW-3

Well Collection Sequence 9 of 12

Quarterly: \_\_\_\_\_ Monthly: \_\_\_\_\_ Other: \_\_\_\_\_

### SAMPLE DATA:

| Time & Date    | Sample Rate        | Temp (°C)    | pH (std units) | Specific Conductance (uS - umhos/cm) | Turbidity (NTU) | Dissolved O <sub>2</sub> (mg/L) | O <sub>2</sub> Reduction Potential (mV) |
|----------------|--------------------|--------------|----------------|--------------------------------------|-----------------|---------------------------------|-----------------------------------------|
| <u>7/19/24</u> | VOCs: <u>100</u>   | <u>12.67</u> | <u>7.59</u>    | <u>982</u>                           | <u>24.2</u>     | <u>0.00</u>                     | <u>-53</u>                              |
|                | Other: <u>1000</u> |              |                |                                      |                 |                                 |                                         |

YSI Serial Number: \_\_\_\_\_

YSI Sonde Serial Number: \_\_\_\_\_

### GENERAL INFORMATION:

Weather Conditions @ sampling: 70 °F, sunny, 0-5 mph

Sampling Characteristics: Clear

### COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) \_\_\_\_\_

# of Bottles Collected: 9

Well Closed and Locked: Yes No (circle) \_\_\_\_\_

Notes: \_\_\_\_\_

Minnesota Unique Well ID: 664913

Date: 7/19/24 By: N-Schlagel Title: Staff env scientist

Company: Groundwater and Environmental Services, Inc.

## FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Lansing)

Sample Location: MW-3R

Location: Austin, MN

Duplicate Collected: No

Field Blank Collected: No

Sample Matrix: Groundwater

Equipment Blank Collected: No

## PURGE INFORMATION

MS/MSD Collected: No

Method of Well Purge: Dedicated Bladder Pump

Sampler(s): N-Schlagel

Casing Length (ft) 27.5

Date/Time Initiated: 7/9/24 7:10

Dedicated Equipment: ☒ Yes

Initial Water Level (feet): 7.13'

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 1,218.06'

One Casing Volume (gal): 332

|                         |         |
|-------------------------|---------|
| Top of Casing (ft, msl) | 1225.19 |
|-------------------------|---------|

Total Volume Purged (gal): 120

PID (Background) 20 (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) 0.0 (PPM)

Water Level After Purge (ft): 7.15'

## PURGE DATA

Date/Time Completed: 7/9/24 7:30

[illegible]

## FIELD INFORMATION LOG Part 2

### SAMPLING INFORMATION:

Water Level @ Sampling (ft):

7.15'

Sample Point ID:

MW-3R

Well Collection Sequence

10 of 12

Parameters:

Annual

☒

Semiannual:

Quarterly:

Monthly:

Other:

### SAMPLE DATA:

| Time & Date | Sample Rate              | Temp (°C) | pH (std units) | Specific Conductance (uS - umhos/cm) | Turbidity (NTU) | Dissolved O <sub>2</sub> (mg/L) | O <sub>2</sub> Reduction Potential (mV) |
|-------------|--------------------------|-----------|----------------|--------------------------------------|-----------------|---------------------------------|-----------------------------------------|
| 7/9/24      | VOCs: 100<br>Other: 1000 | 9.25      | 7.46           | 11430                                | 7.8             | 3.35                            | -174                                    |

YSI Serial Number:

YSI Sonde Serial Number:

### GENERAL INFORMATION:

Weather Conditions @ sampling:

70°F, sunny, 0-5 mph

Sampling Characteristics:

clear

### COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: ☒ Yes ☐ No (circle)

# of Bottles Collected:

9

Well Closed and Locked: ☒ Yes ☐ No (circle)

Notes:

Minnesota Unique Well ID:

705082

Date:

7/9/24

By:

N. Schmitt

Title:

Staff Environmental

Company: Groundwater and Environmental Services, Inc.

## FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Lansing)

Sample Location: MW-3RD

Location: Austin, MN

Duplicate Collected: Yes - Duplicate L (dupl)  
(CR)

Field Blank Collected: No

Sample Matrix: Groundwater

Equipment Blank Collected: No

## PURGE INFORMATION

Method of Well Purge: Dedicated Bladder Pump

MS/MSD Collected: Yes

Sampler(s): M. Schlegel

|                    |       |
|--------------------|-------|
| Casing Length (ft) | 46.25 |
|--------------------|-------|

Date/Time Initiated: 7/9/24 7:55

Dedicated Equipment: ☒ Yes

Initial Water Level (feet): 6.03

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 1,218.98'

One Casing Volume (gal): 6.56

|                         |         |
|-------------------------|---------|
| Top of Casing (ft, msl) | 1225.01 |
|-------------------------|---------|

Total Volume Purged (gal): 20

PID (Background) 0-0 (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) 0-0 (PPM)

Water Level After Purge (ft): 6.05

## PURGE DATA

Date/Time Completed: 1/9/24 9:30

[illegible]

## FIELD INFORMATION LOG Part 2

### SAMPLING INFORMATION:

Sample Point ID: MW-3RDWater Level @ Sampling (ft): 6.05Well Collection Sequence 11 of 12Parameters: Annual X Semiannual: \_\_\_\_\_

Quarterly: \_\_\_\_\_ Monthly: \_\_\_\_\_ Other: \_\_\_\_\_

### SAMPLE DATA:

| Time & Date   | Sample Rate        | Temp (°C)   | pH (std units) | Specific Conductance (uS - umhos/cm) | Turbidity (NTU) | Dissolved O <sub>2</sub> (mg/L) | O <sub>2</sub> Reduction Potential (mV) |
|---------------|--------------------|-------------|----------------|--------------------------------------|-----------------|---------------------------------|-----------------------------------------|
| <u>7/9/24</u> | VOCs: <u>100</u>   | <u>9.74</u> | <u>7.79</u>    | <u>872</u>                           | <u>16.2</u>     | <u>7.67</u>                     | <u>-140</u>                             |
|               | Other: <u>1000</u> |             |                |                                      |                 |                                 |                                         |

YSI Serial Number: \_\_\_\_\_

YSI Sonde Serial Number: \_\_\_\_\_

### GENERAL INFORMATION:

Weather Conditions @ sampling: 72 °F, sunny, 0-5 mph wSampling Characteristics: clear

### COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)# of Bottles Collected: 9Well Closed and Locked: Yes No (circle)

Notes: \_\_\_\_\_

Minnesota Unique Well ID: 2850 94Date: 7/9/24By: N-SchlagelTitle: Staff env. scientist

Company: Groundwater and Environmental Services, Inc.



## FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Lansing)

Sample Location: MW-4

Location: Austin, MN

Duplicate Collected: No

Field Blank Collected: Yes - Field Blank 1 (UR)

Sample Matrix: Groundwater

Equipment Blank Collected: Yes

## PURGE INFORMATION

Method of Well Purge: Dedicated Bladder Pump

MS/MSD Collected: NO

Sampler(s): M. Schlegel

|                    |      |
|--------------------|------|
| Casing Length (ft) | 18.3 |
|--------------------|------|

Date/Time Initiated: 7/9/24 9:25

**Dedicated Equipment:** Yes

Initial Water Level (feet): 4.92

Casing Diameter (inches): 2.

Ground Water Elevation (ft, msl): 1221.05'

One Casing Volume (gal): 2.18

|                         |         |
|-------------------------|---------|
| Top of Casing (ft, msl) | 1225.97 |
|-------------------------|---------|

Total Volume Purged (gal): 6.5

PID (Background) 0.0 (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) 0-0 (PPM)

Water Level After Purge (ft): 4.94

## PURGE DATA

Date/Time Completed: 7/19/24 10:00

[illegible]

## FIELD INFORMATION LOG Part 2

### SAMPLING INFORMATION:

Water Level @ Sampling (ft):

4-94'

Sample Point ID:

MW-4

Well Collection Sequence

12 of 12

Parameters:

Annual

X

Semiannual:

Quarterly:

Monthly:

Other:

### SAMPLE DATA:

| Time & Date | Sample Rate              | Temp (°C) | pH (std units) | Specific Conductance (uS - umhos/cm) | Turbidity (NTU) | Dissolved O <sub>2</sub> (mg/L) | O <sub>2</sub> Reduction Potential (mV) |
|-------------|--------------------------|-----------|----------------|--------------------------------------|-----------------|---------------------------------|-----------------------------------------|
| 7/9/24      | VOCs: 100<br>Other: 1000 | 12.88     | 7.63           | 1,260                                | 3.0             | 0.00                            | 49                                      |

YSI Serial Number:

YSI Sonde Serial Number:

### GENERAL INFORMATION:

Weather Conditions @ sampling:

76 °F, sunny, 0-5 mph w

Sampling Characteristics:

clean

### COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

# of Bottles Collected:

9

Well Closed and Locked: Yes No (circle)

Notes:

Minnesota Unique Well ID:

664914

Date:

7/9/24

By:

M. Schlegel

Title:

Staff env. scientist

Company: Groundwater and Environmental Services, Inc.

Start of day:  
(Date/Time) 7/8/24 7:00

End of day:  
(Date/Time) 7/19/24 12:00

YSI Model Number U-5000

YSI Serial Number UC9385X

Sonde Model Number U-52

Sonde Serial Number U110566X

| Time: | Value: |                    |
|-------|--------|--------------------|
| —     | —      | NTU std = DI Water |
| 100   | 100    | NTU std = 100      |
| 1409  | 1409   | uS std = 1409      |
| 4.00  | 4.00   | pH std = 4         |
| 7.00  | 7.00   | pH std = 7         |
| 10.00 | 10.00  | pH std = 10        |

**Calibration Notes:**

[illegible]

**Groundwater Elevation Measurements**  
**SKB Landfill (Lansing)**

Site: SKB Lansing  
Personnel: N. Schlapet

| Well ID | Date   | Time  | Depth To Water: | Notes:                                                |
|---------|--------|-------|-----------------|-------------------------------------------------------|
| MW-101A | 7/8/24 | 7:52  | 4.77'           | MW-101A: Well was struck by farm tractor, is now bent |
| MW-102A |        | 8:11  | 5.20'           | approximately 10° to the East, was still able to      |
| MW-103A |        | 8:08  | 5.47'           | gauge the well, tab on the collar on top of           |
| MW-104A |        | 7:46  | 4.18'           | the pro top is broken and will be temporarily         |
| MW-105A |        | 8:16  | 5.35'           | repaired with some JB weld until a well               |
| MW-106A |        | 8:30  | 4.62'           | contractor can come out here and install              |
| MW-107A |        | 8:28  | 3.10'           | bellards and repair the well                          |
| MW-108A |        | 8:25  | 6.78'           |                                                       |
| MW-1A   |        | 9:50  | 3.70'           |                                                       |
| MW-2A   |        | 11:20 | 6.09'           |                                                       |
| MW-3A   |        | 9:00  | 10.18           |                                                       |
| MW-4KA  |        | 10:35 | 15.24'          |                                                       |
| MW-1    |        | 13:50 | 3.03'           |                                                       |
| MW-1RD  |        | 13:51 | 24.40'          |                                                       |
| MW-2R   |        | 15:20 | 7.56'           |                                                       |
| MW-2RD  |        | 15:23 | 6.65'           |                                                       |
| MW-3    |        | 16:53 | 6.78'           |                                                       |
| MW-3R   |        | 16:58 | 7.13'           |                                                       |
| MW-3RD  |        | 16:58 | 6.03            |                                                       |
| MW-4    |        | 17:02 | 4.92'           |                                                       |
| PIEZ-4  |        | 17:07 | 5.48            |                                                       |
| MW-5S   |        | 17:10 | 15.89'          |                                                       |
| MW-5D   |        | 17:13 | 24.17'          |                                                       |
| PIEZ-3  |        | 17:17 | 4.43'           |                                                       |
| PIEZ-1  |        | 17:22 | 8.42'           |                                                       |
| PIEZ-2  |        | 17:28 | 13.58'          |                                                       |
| MW-6S   |        | 17:31 | 0.20'           |                                                       |
| MW-8S   |        | 17:33 | 12.54           |                                                       |
| MW-8D   |        | 17:35 | 12.35'          |                                                       |
| MW-7S   |        | 17:39 | 13.63'          |                                                       |
| MW-7D   |        | 17:40 | 13.48'          |                                                       |
| PIEZ-5  |        | 17:44 | 4.48            |                                                       |
| P-11    |        | 15:10 | 16.15'          |                                                       |
| P-10    |        | 15:05 | 16.44'          |                                                       |



## Appendix B – Laboratory Analytical Reports

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Megan Lindstrom  
Waste Connections, Inc.  
13425 Courthouse Blvd  
Rosemount, Minnesota 55068

Generated 5/15/2024 10:12:54 AM

## JOB DESCRIPTION

SKB Lansing CCR Monitoring  
CCR Monitoring

## JOB NUMBER

310-278560-1



# Eurofins Cedar Falls

## Job Notes

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

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

## Authorization



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# Case Narrative

Client: Waste Connections, Inc.  
Project: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

**Job ID: 310-278560-1**

**Eurofins Cedar Falls**

## Job Narrative 310-278560-1

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

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

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

### Receipt

The samples were received on 4/10/2024 1:45 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 0.2°C, 0.8°C, 1.4°C and 1.7°C.

### HPLC/IC

Method 9056A\_ORGFM\_28D: The following samples were diluted due to the nature of the sample matrix: MW-2R - CCR (310-278560-3), MW-3 - CCR (310-278560-4), MW-3R - CCR (310-278560-5), MW-3RD - CCR (310-278560-6), MW-4 - CCR (310-278560-7), MW-2RD - CCR (310-278560-8) and Duplicate-1 - CCR (310-278560-10). Elevated reporting limits (RLs) are provided.

Method 9056A\_ORGFM\_28D: The following samples were diluted due to the nature of the sample matrix: MW-1 - CCR (310-278560-1) and MW-1RD - CCR (310-278560-2). Elevated reporting limits (RLs) are provided.

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

### Metals

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

### General Chemistry

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

Eurofins Cedar Falls

## Case Narrative

Client: Waste Connections, Inc.  
Project: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

**Job ID: 310-278560-2**

**Eurofins Cedar Falls**

### **Job Narrative 310-278560-2**

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

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

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

#### **Receipt**

The samples were received on 4/10/2024 1:45 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 0.2°C, 0.8°C, 1.4°C and 1.7°C.

#### **Gas Flow Proportional Counter**

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

#### **Rad**

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

Eurofins Cedar Falls

# Sample Summary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

| Lab Sample ID | Client Sample ID      | Matrix | Collected      | Received       |
|---------------|-----------------------|--------|----------------|----------------|
| 310-278560-1  | MW-1 - CCR            | Water  | 04/09/24 08:55 | 04/10/24 13:45 |
| 310-278560-2  | MW-1RD - CCR          | Water  | 04/09/24 09:10 | 04/10/24 13:45 |
| 310-278560-3  | MW-2R - CCR           | Water  | 04/08/24 10:25 | 04/10/24 13:45 |
| 310-278560-4  | MW-3 - CCR            | Water  | 04/08/24 15:45 | 04/10/24 13:45 |
| 310-278560-5  | MW-3R - CCR           | Water  | 04/08/24 15:40 | 04/10/24 13:45 |
| 310-278560-6  | MW-3RD - CCR          | Water  | 04/08/24 14:25 | 04/10/24 13:45 |
| 310-278560-7  | MW-4 - CCR            | Water  | 04/08/24 13:40 | 04/10/24 13:45 |
| 310-278560-8  | MW-2RD - CCR          | Water  | 04/08/24 16:50 | 04/10/24 13:45 |
| 310-278560-9  | Field Blank 1 - CCR   | Water  | 04/09/24 09:45 | 04/10/24 13:45 |
| 310-278560-10 | Duplicate-1 - CCR     | Water  | 04/08/24 00:00 | 04/10/24 13:45 |
| 310-278560-11 | Equipment Blank - CCR | Water  | 04/09/24 09:10 | 04/10/24 13:45 |

# Detection Summary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

## Client Sample ID: MW-1 - CCR

## Lab Sample ID: 310-278560-1

| Analyte                | Result | Qualifier | RL     | MDL | Unit | Dil Fac | D | Method       | Prep Type |
|------------------------|--------|-----------|--------|-----|------|---------|---|--------------|-----------|
| Chloride               | 130    |           | 5.0    |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Sulfate                | 120    |           | 5.0    |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Barium                 | 0.10   |           | 0.0020 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Boron                  | 0.13   |           | 0.10   |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Calcium                | 135    |           | 0.50   |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Lithium                | 0.033  |           | 0.010  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Total Dissolved Solids | 606    |           | 50.0   |     | mg/L | 1       |   | SM 2540C     | Total/NA  |
| pH                     | 7.1    | HF        | 1.0    |     | SU   | 1       |   | SM 4500 H+ B | Total/NA  |

## Client Sample ID: MW-1RD - CCR

## Lab Sample ID: 310-278560-2

| Analyte                | Result  | Qualifier | RL      | MDL | Unit | Dil Fac | D | Method       | Prep Type |
|------------------------|---------|-----------|---------|-----|------|---------|---|--------------|-----------|
| Chloride               | 26      |           | 5.0     |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Sulfate                | 54      |           | 5.0     |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Barium                 | 0.13    |           | 0.0020  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Calcium                | 77.2    |           | 0.50    |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Cobalt                 | 0.00061 |           | 0.00050 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Molybdenum             | 0.0027  |           | 0.0020  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Total Dissolved Solids | 318     |           | 50.0    |     | mg/L | 1       |   | SM 2540C     | Total/NA  |
| pH                     | 7.4     | HF        | 1.0     |     | SU   | 1       |   | SM 4500 H+ B | Total/NA  |

## Client Sample ID: MW-2R - CCR

## Lab Sample ID: 310-278560-3

| Analyte                | Result | Qualifier | RL      | MDL | Unit | Dil Fac | D | Method       | Prep Type |
|------------------------|--------|-----------|---------|-----|------|---------|---|--------------|-----------|
| Chloride               | 83     |           | 5.0     |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Sulfate                | 240    |           | 5.0     |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Barium                 | 0.19   |           | 0.0020  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Boron                  | 4.4    |           | 0.10    |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Calcium                | 197    |           | 0.50    |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Cobalt                 | 0.0014 |           | 0.00050 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Molybdenum             | 0.0020 |           | 0.0020  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Total Dissolved Solids | 1020   |           | 50.0    |     | mg/L | 1       |   | SM 2540C     | Total/NA  |
| pH                     | 6.8    | HF        | 1.0     |     | SU   | 1       |   | SM 4500 H+ B | Total/NA  |

## Client Sample ID: MW-3 - CCR

## Lab Sample ID: 310-278560-4

| Analyte                | Result  | Qualifier | RL      | MDL | Unit | Dil Fac | D | Method       | Prep Type |
|------------------------|---------|-----------|---------|-----|------|---------|---|--------------|-----------|
| Chloride               | 67      |           | 5.0     |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Sulfate                | 130     |           | 5.0     |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Arsenic                | 0.0023  |           | 0.0020  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Barium                 | 0.24    |           | 0.0020  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Boron                  | 1.2     |           | 0.10    |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Calcium                | 200     |           | 0.50    |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Cobalt                 | 0.00099 |           | 0.00050 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Molybdenum             | 0.0047  |           | 0.0020  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Total Dissolved Solids | 812     |           | 50.0    |     | mg/L | 1       |   | SM 2540C     | Total/NA  |
| pH                     | 6.8     | HF        | 1.0     |     | SU   | 1       |   | SM 4500 H+ B | Total/NA  |

## Client Sample ID: MW-3R - CCR

## Lab Sample ID: 310-278560-5

| Analyte  | Result | Qualifier | RL  | MDL | Unit | Dil Fac | D | Method | Prep Type |
|----------|--------|-----------|-----|-----|------|---------|---|--------|-----------|
| Chloride | 28     |           | 5.0 |     | mg/L | 5       |   | 9056A  | Total/NA  |
| Sulfate  | 8.9    |           | 5.0 |     | mg/L | 5       |   | 9056A  | Total/NA  |

This Detection Summary does not include radiochemical test results.

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# Detection Summary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

## Client Sample ID: MW-3R - CCR (Continued)

## Lab Sample ID: 310-278560-5

| Analyte                | Result | Qualifier | RL     | MDL | Unit | Dil Fac | D | Method       | Prep Type |
|------------------------|--------|-----------|--------|-----|------|---------|---|--------------|-----------|
| Arsenic                | 0.0025 |           | 0.0020 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Barium                 | 0.60   |           | 0.0020 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Calcium                | 236    |           | 0.50   |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Lithium                | 0.020  |           | 0.010  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Total Dissolved Solids | 886    |           | 50.0   |     | mg/L | 1       |   | SM 2540C     | Total/NA  |
| pH                     | 6.6    | HF        | 1.0    |     | SU   | 1       |   | SM 4500 H+ B | Total/NA  |

## Client Sample ID: MW-3RD - CCR

## Lab Sample ID: 310-278560-6

| Analyte                | Result | Qualifier | RL     | MDL | Unit | Dil Fac | D | Method       | Prep Type |
|------------------------|--------|-----------|--------|-----|------|---------|---|--------------|-----------|
| Chloride               | 29     |           | 5.0    |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Sulfate                | 80     |           | 5.0    |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Arsenic                | 0.0039 |           | 0.0020 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Barium                 | 0.18   |           | 0.0020 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Calcium                | 118    |           | 0.50   |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Lithium                | 0.013  |           | 0.010  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Molybdenum             | 0.0033 |           | 0.0020 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Total Dissolved Solids | 528    |           | 50.0   |     | mg/L | 1       |   | SM 2540C     | Total/NA  |
| pH                     | 7.1    | HF        | 1.0    |     | SU   | 1       |   | SM 4500 H+ B | Total/NA  |

## Client Sample ID: MW-4 - CCR

## Lab Sample ID: 310-278560-7

| Analyte                | Result  | Qualifier | RL      | MDL | Unit | Dil Fac | D | Method       | Prep Type |
|------------------------|---------|-----------|---------|-----|------|---------|---|--------------|-----------|
| Chloride               | 39      |           | 5.0     |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Sulfate                | 260     |           | 5.0     |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Barium                 | 0.16    |           | 0.0020  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Boron                  | 0.26    |           | 0.10    |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Cadmium                | 0.00022 |           | 0.00020 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Calcium                | 180     |           | 0.50    |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Molybdenum             | 0.0036  |           | 0.0020  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Selenium               | 0.011   |           | 0.0050  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Total Dissolved Solids | 784     |           | 50.0    |     | mg/L | 1       |   | SM 2540C     | Total/NA  |
| pH                     | 7.1     | HF        | 1.0     |     | SU   | 1       |   | SM 4500 H+ B | Total/NA  |

## Client Sample ID: MW-2RD - CCR

## Lab Sample ID: 310-278560-8

| Analyte                | Result | Qualifier | RL      | MDL | Unit | Dil Fac | D | Method       | Prep Type |
|------------------------|--------|-----------|---------|-----|------|---------|---|--------------|-----------|
| Chloride               | 44     |           | 5.0     |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Sulfate                | 83     |           | 5.0     |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Arsenic                | 0.0023 |           | 0.0020  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Barium                 | 0.18   |           | 0.0020  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Boron                  | 0.20   |           | 0.10    |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Calcium                | 149    |           | 0.50    |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Cobalt                 | 0.0024 |           | 0.00050 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Lithium                | 0.011  |           | 0.010   |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Molybdenum             | 0.0021 |           | 0.0020  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Selenium               | 0.026  |           | 0.0050  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Total Dissolved Solids | 628    |           | 50.0    |     | mg/L | 1       |   | SM 2540C     | Total/NA  |
| pH                     | 7.1    | HF        | 1.0     |     | SU   | 1       |   | SM 4500 H+ B | Total/NA  |

This Detection Summary does not include radiochemical test results.

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## Detection Summary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

### Client Sample ID: Field Blank 1 - CCR

Lab Sample ID: 310-278560-9

| Analyte | Result | Qualifier | RL  | RL | Unit | Dil Fac | D | Method       | Prep Type |
|---------|--------|-----------|-----|----|------|---------|---|--------------|-----------|
| pH      | 6.9    | HF        | 1.0 |    | SU   | 1       |   | SM 4500 H+ B | Total/NA  |

### Client Sample ID: Duplicate-1 - CCR

Lab Sample ID: 310-278560-10

| Analyte                | Result | Qualifier | RL     | MDL | Unit | Dil Fac | D | Method       | Prep Type |
|------------------------|--------|-----------|--------|-----|------|---------|---|--------------|-----------|
| Chloride               | 29     |           | 5.0    |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Sulfate                | 81     |           | 5.0    |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Arsenic                | 0.0040 |           | 0.0020 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Barium                 | 0.18   |           | 0.0020 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Calcium                | 119    |           | 0.50   |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Lithium                | 0.014  |           | 0.010  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Molybdenum             | 0.0034 |           | 0.0020 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Total Dissolved Solids | 478    |           | 50.0   |     | mg/L | 1       |   | SM 2540C     | Total/NA  |
| pH                     | 7.1    | HF        | 1.0    |     | SU   | 1       |   | SM 4500 H+ B | Total/NA  |

### Client Sample ID: Equipment Blank - CCR

Lab Sample ID: 310-278560-11

| Analyte | Result | Qualifier | RL  | RL | Unit | Dil Fac | D | Method       | Prep Type |
|---------|--------|-----------|-----|----|------|---------|---|--------------|-----------|
| pH      | 6.8    | HF        | 1.0 |    | SU   | 1       |   | SM 4500 H+ B | Total/NA  |

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

Client Sample ID: MW-1 - CCR

Lab Sample ID: 310-278560-1

Date Collected: 04/09/24 08:55

Matrix: Water

Date Received: 04/10/24 13:45

## Method: SW846 9056A - Anions, Ion Chromatography

| Analyte  | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Chloride | 130    |           | 5.0 |     | mg/L |   |          | 04/15/24 18:26 | 5       |
| Fluoride | <1.0   |           | 1.0 |     | mg/L |   |          | 04/15/24 18:26 | 5       |
| Sulfate  | 120    |           | 5.0 |     | mg/L |   |          | 04/15/24 18:26 | 5       |

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

| Analyte    | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020  |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:30 | 1       |
| Arsenic    | <0.0020  |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:30 | 1       |
| Barium     | 0.10     |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:30 | 1       |
| Beryllium  | <0.0010  |           | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:30 | 1       |
| Boron      | 0.13     |           | 0.10    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:30 | 1       |
| Cadmium    | <0.00020 |           | 0.00020 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:30 | 1       |
| Calcium    | 135      |           | 0.50    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:30 | 1       |
| Chromium   | <0.0050  |           | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:30 | 1       |
| Cobalt     | <0.00050 |           | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:30 | 1       |
| Lead       | <0.00050 |           | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:30 | 1       |
| Lithium    | 0.033    |           | 0.010   |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:30 | 1       |
| Molybdenum | <0.0020  |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:30 | 1       |
| Selenium   | <0.0050  |           | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:30 | 1       |
| Thallium   | <0.0010  |           | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/23/24 15:42 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020 |           | 0.00020 |     | mg/L |   | 04/22/24 08:54 | 04/22/24 14:40 | 1       |

## General Chemistry

| Analyte                           | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids (SM 2540C) | 606    |           | 50.0 |     | mg/L |   |          | 04/11/24 15:13 | 1       |
| Analyte                           | Result | Qualifier | RL   | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
| pH (SM 4500 H+ B)                 | 7.1    | HF        | 1.0  |     | SU   |   |          | 04/10/24 17:16 | 1       |

## Method: SW846 9315 - Radium-226 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-226 | <0.122 | U         | 0.0841                      | 0.0846                      | 1.00 | 0.122 | pCi/L | 04/15/24 08:58 | 05/08/24 10:00 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 89.3   |           | 30 - 110                    |                             |      |       |       | 04/15/24 08:58 | 05/08/24 10:00 | 1       |

## Method: SW846 9320 - Radium-228 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-228 | <0.511 | U         | 0.244                       | 0.245                       | 1.00 | 0.511 | pCi/L | 04/15/24 09:07 | 05/03/24 12:11 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 89.3   |           | 30 - 110                    |                             |      |       |       | 04/15/24 09:07 | 05/03/24 12:11 | 1       |
| Y Carrier  | 86.4   |           | 30 - 110                    |                             |      |       |       | 04/15/24 09:07 | 05/03/24 12:11 | 1       |

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Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

Client Sample ID: MW-1 - CCR

Lab Sample ID: 310-278560-1

Date Collected: 04/09/24 08:55

Matrix: Water

Date Received: 04/10/24 13:45

Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228

| Analyte                      | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared | Analyzed       | Dil Fac |
|------------------------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------|----------------|---------|
| Combined Radium 226<br>+ 228 | <0.511 | U         | 0.258                       | 0.259                       | 5.00 | 0.511 | pCi/L |          | 05/13/24 14:13 | 1       |

# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

Client Sample ID: MW-1RD - CCR

Lab Sample ID: 310-278560-2

Date Collected: 04/09/24 09:10

Matrix: Water

Date Received: 04/10/24 13:45

## Method: SW846 9056A - Anions, Ion Chromatography

| Analyte  | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Chloride | 26     |           | 5.0 |     | mg/L |   |          | 04/15/24 18:39 | 5       |
| Fluoride | <1.0   |           | 1.0 |     | mg/L |   |          | 04/15/24 18:39 | 5       |
| Sulfate  | 54     |           | 5.0 |     | mg/L |   |          | 04/15/24 18:39 | 5       |

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

| Analyte    | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020  |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:47 | 1       |
| Arsenic    | <0.0020  |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:47 | 1       |
| Barium     | 0.13     |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:47 | 1       |
| Beryllium  | <0.0010  |           | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:47 | 1       |
| Boron      | <0.10    |           | 0.10    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:47 | 1       |
| Cadmium    | <0.00020 |           | 0.00020 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:47 | 1       |
| Calcium    | 77.2     |           | 0.50    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:47 | 1       |
| Chromium   | <0.0050  |           | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:47 | 1       |
| Cobalt     | 0.00061  |           | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:47 | 1       |
| Lead       | <0.00050 |           | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:47 | 1       |
| Lithium    | <0.010   |           | 0.010   |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:47 | 1       |
| Molybdenum | 0.0027   |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:47 | 1       |
| Selenium   | <0.0050  |           | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:47 | 1       |
| Thallium   | <0.0010  |           | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:47 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020 |           | 0.00020 |     | mg/L |   | 04/22/24 08:54 | 04/22/24 14:43 | 1       |

## General Chemistry

| Analyte                           | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids (SM 2540C) | 318    |           | 50.0 |     | mg/L |   |          | 04/11/24 14:49 | 1       |
| Analyte                           | Result | Qualifier | RL   | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
| pH (SM 4500 H+ B)                 | 7.4    | HF        | 1.0  |     | SU   |   |          | 04/10/24 17:18 | 1       |

## Method: SW846 9315 - Radium-226 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-226 | 0.404  |           | 0.128                       | 0.134                       | 1.00 | 0.106 | pCi/L | 04/15/24 08:58 | 05/08/24 10:00 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 94.9   |           | 30 - 110                    |                             |      |       |       | 04/15/24 08:58 | 05/08/24 10:00 | 1       |

## Method: SW846 9320 - Radium-228 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-228 | <0.496 | U         | 0.323                       | 0.325                       | 1.00 | 0.496 | pCi/L | 04/15/24 09:07 | 05/03/24 12:11 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 94.9   |           | 30 - 110                    |                             |      |       |       | 04/15/24 09:07 | 05/03/24 12:11 | 1       |
| Y Carrier  | 86.7   |           | 30 - 110                    |                             |      |       |       | 04/15/24 09:07 | 05/03/24 12:11 | 1       |

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Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

Client Sample ID: MW-1RD - CCR

Lab Sample ID: 310-278560-2

Date Collected: 04/09/24 09:10

Matrix: Water

Date Received: 04/10/24 13:45

| Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228 |        |           |                             |                             |      |       |       |          |                |         |
|------------------------------------------------------------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------|----------------|---------|
| Analyte                                                          | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared | Analyzed       | Dil Fac |
| Combined Radium<br>226 + 228                                     | 0.812  |           | 0.347                       | 0.352                       | 5.00 | 0.496 | pCi/L |          | 05/13/24 14:13 | 1       |



# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

Client Sample ID: MW-2R - CCR

Lab Sample ID: 310-278560-3

Date Collected: 04/08/24 10:25

Matrix: Water

Date Received: 04/10/24 13:45

## Method: SW846 9056A - Anions, Ion Chromatography

| Analyte  | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Chloride | 83     |           | 5.0 |     | mg/L |   |          | 04/12/24 18:29 | 5       |
| Fluoride | <1.0   |           | 1.0 |     | mg/L |   |          | 04/12/24 18:29 | 5       |
| Sulfate  | 240    |           | 5.0 |     | mg/L |   |          | 04/12/24 18:29 | 5       |

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

| Analyte    | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020  |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:51 | 1       |
| Arsenic    | <0.0020  |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:51 | 1       |
| Barium     | 0.19     |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:51 | 1       |
| Beryllium  | <0.0010  |           | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:51 | 1       |
| Boron      | 4.4      |           | 0.10    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:51 | 1       |
| Cadmium    | <0.00020 |           | 0.00020 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:51 | 1       |
| Calcium    | 197      |           | 0.50    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:51 | 1       |
| Chromium   | <0.0050  |           | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:51 | 1       |
| Cobalt     | 0.0014   |           | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:51 | 1       |
| Lead       | <0.00050 |           | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:51 | 1       |
| Lithium    | <0.010   |           | 0.010   |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:51 | 1       |
| Molybdenum | 0.0020   |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:51 | 1       |
| Selenium   | <0.0050  |           | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:51 | 1       |
| Thallium   | <0.0010  |           | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:51 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020 |           | 0.00020 |     | mg/L |   | 04/22/24 08:54 | 04/22/24 14:45 | 1       |

## General Chemistry

| Analyte                           | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids (SM 2540C) | 1020   |           | 50.0 |     | mg/L |   |          | 04/11/24 14:49 | 1       |
| Analyte                           | Result | Qualifier | RL   | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
| pH (SM 4500 H+ B)                 | 6.8    | HF        | 1.0  |     | SU   |   |          | 04/10/24 17:19 | 1       |

## Method: SW846 9315 - Radium-226 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-226 | 0.392  |           | 0.150                       | 0.154                       | 1.00 | 0.143 | pCi/L | 04/15/24 08:58 | 05/08/24 10:00 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 96.7   |           | 30 - 110                    |                             |      |       |       | 04/15/24 08:58 | 05/08/24 10:00 | 1       |

## Method: SW846 9320 - Radium-228 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-228 | <0.708 | U         | 0.387                       | 0.387                       | 1.00 | 0.708 | pCi/L | 04/15/24 09:07 | 05/03/24 12:17 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 96.7   |           | 30 - 110                    |                             |      |       |       | 04/15/24 09:07 | 05/03/24 12:17 | 1       |
| Y Carrier  | 86.7   |           | 30 - 110                    |                             |      |       |       | 04/15/24 09:07 | 05/03/24 12:17 | 1       |

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# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

**Client Sample ID: MW-2R - CCR**  
**Date Collected: 04/08/24 10:25**  
**Date Received: 04/10/24 13:45**

**Lab Sample ID: 310-278560-3**  
**Matrix: Water**

Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228

| Analyte                      | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared | Analyzed       | Dil Fac |
|------------------------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------|----------------|---------|
| Combined Radium 226<br>+ 228 | <0.708 | U         | 0.415                       | 0.417                       | 5.00 | 0.708 | pCi/L |          | 05/13/24 14:13 | 1       |

# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

Client Sample ID: MW-3 - CCR

Lab Sample ID: 310-278560-4

Date Collected: 04/08/24 15:45

Matrix: Water

Date Received: 04/10/24 13:45

## Method: SW846 9056A - Anions, Ion Chromatography

| Analyte  | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Chloride | 67     |           | 5.0 |     | mg/L |   |          | 04/12/24 18:41 | 5       |
| Fluoride | <1.0   |           | 1.0 |     | mg/L |   |          | 04/12/24 18:41 | 5       |
| Sulfate  | 130    |           | 5.0 |     | mg/L |   |          | 04/12/24 18:41 | 5       |

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

| Analyte    | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020  |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:54 | 1       |
| Arsenic    | 0.0023   |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:54 | 1       |
| Barium     | 0.24     |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:54 | 1       |
| Beryllium  | <0.0010  |           | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:54 | 1       |
| Boron      | 1.2      |           | 0.10    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:54 | 1       |
| Cadmium    | <0.00020 |           | 0.00020 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:54 | 1       |
| Calcium    | 200      |           | 0.50    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:54 | 1       |
| Chromium   | <0.0050  |           | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:54 | 1       |
| Cobalt     | 0.00099  |           | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:54 | 1       |
| Lead       | <0.00050 |           | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:54 | 1       |
| Lithium    | <0.010   |           | 0.010   |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:54 | 1       |
| Molybdenum | 0.0047   |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:54 | 1       |
| Selenium   | <0.0050  |           | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:54 | 1       |
| Thallium   | <0.0010  |           | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:54 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020 |           | 0.00020 |     | mg/L |   | 04/22/24 08:54 | 04/22/24 14:47 | 1       |

## General Chemistry

| Analyte                           | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids (SM 2540C) | 812    |           | 50.0 |     | mg/L |   |          | 04/11/24 14:49 | 1       |
| Analyte                           | Result | Qualifier | RL   | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
| pH (SM 4500 H+ B)                 | 6.8    | HF        | 1.0  |     | SU   |   |          | 04/10/24 17:42 | 1       |

## Method: SW846 9315 - Radium-226 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-226 | 0.280  |           | 0.145                       | 0.147                       | 1.00 | 0.177 | pCi/L | 04/15/24 08:58 | 05/08/24 10:02 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 90.1   |           | 30 - 110                    |                             |      |       |       | 04/15/24 08:58 | 05/08/24 10:02 | 1       |

## Method: SW846 9320 - Radium-228 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-228 | <0.720 | U         | 0.457                       | 0.459                       | 1.00 | 0.720 | pCi/L | 04/15/24 09:07 | 05/03/24 12:17 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 90.1   |           | 30 - 110                    |                             |      |       |       | 04/15/24 09:07 | 05/03/24 12:17 | 1       |
| Y Carrier  | 85.6   |           | 30 - 110                    |                             |      |       |       | 04/15/24 09:07 | 05/03/24 12:17 | 1       |

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Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

Client Sample ID: MW-3 - CCR

Lab Sample ID: 310-278560-4

Date Collected: 04/08/24 15:45

Matrix: Water

Date Received: 04/10/24 13:45

| Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228 |        |           |                             |                             |      |       |       |          |                |         |
|------------------------------------------------------------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------|----------------|---------|
| Analyte                                                          | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared | Analyzed       | Dil Fac |
| Combined Radium<br>226 + 228                                     | 0.793  |           | 0.479                       | 0.482                       | 5.00 | 0.720 | pCi/L |          | 05/13/24 14:13 | 1       |

# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

Client Sample ID: MW-3R - CCR

Lab Sample ID: 310-278560-5

Date Collected: 04/08/24 15:40

Matrix: Water

Date Received: 04/10/24 13:45

## Method: SW846 9056A - Anions, Ion Chromatography

| Analyte  | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Chloride | 28     |           | 5.0 |     | mg/L |   |          | 04/12/24 18:53 | 5       |
| Fluoride | <1.0   |           | 1.0 |     | mg/L |   |          | 04/12/24 18:53 | 5       |
| Sulfate  | 8.9    |           | 5.0 |     | mg/L |   |          | 04/12/24 18:53 | 5       |

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

| Analyte    | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020  |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:58 | 1       |
| Arsenic    | 0.0025   |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:58 | 1       |
| Barium     | 0.60     |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:58 | 1       |
| Beryllium  | <0.0010  |           | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:58 | 1       |
| Boron      | <0.10    |           | 0.10    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:58 | 1       |
| Cadmium    | <0.00020 |           | 0.00020 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:58 | 1       |
| Calcium    | 236      |           | 0.50    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:58 | 1       |
| Chromium   | <0.0050  |           | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:58 | 1       |
| Cobalt     | <0.00050 |           | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:58 | 1       |
| Lead       | <0.00050 |           | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:58 | 1       |
| Lithium    | 0.020    |           | 0.010   |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:58 | 1       |
| Molybdenum | <0.0020  |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:58 | 1       |
| Selenium   | <0.0050  |           | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:58 | 1       |
| Thallium   | <0.0010  |           | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:58 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020 |           | 0.00020 |     | mg/L |   | 04/22/24 08:54 | 04/22/24 14:49 | 1       |

## General Chemistry

| Analyte                           | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids (SM 2540C) | 886    |           | 50.0 |     | mg/L |   |          | 04/11/24 14:49 | 1       |
| Analyte                           | Result | Qualifier | RL   | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
| pH (SM 4500 H+ B)                 | 6.6    | HF        | 1.0  |     | SU   |   |          | 04/10/24 17:42 | 1       |

## Method: SW846 9315 - Radium-226 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-226 | 0.504  |           | 0.172                       | 0.178                       | 1.00 | 0.156 | pCi/L | 04/15/24 08:58 | 05/08/24 10:02 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 90.6   |           | 30 - 110                    |                             |      |       |       | 04/15/24 08:58 | 05/08/24 10:02 | 1       |

## Method: SW846 9320 - Radium-228 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-228 | 0.961  |           | 0.542                       | 0.549                       | 1.00 | 0.784 | pCi/L | 04/15/24 09:07 | 05/03/24 12:17 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 90.6   |           | 30 - 110                    |                             |      |       |       | 04/15/24 09:07 | 05/03/24 12:17 | 1       |
| Y Carrier  | 86.0   |           | 30 - 110                    |                             |      |       |       | 04/15/24 09:07 | 05/03/24 12:17 | 1       |

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Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

Client Sample ID: MW-3R - CCR

Lab Sample ID: 310-278560-5

Date Collected: 04/08/24 15:40

Matrix: Water

Date Received: 04/10/24 13:45

Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228

| Analyte                      | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared | Analyzed       | Dil Fac |
|------------------------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------|----------------|---------|
| Combined Radium<br>226 + 228 | 1.46   |           | 0.569                       | 0.577                       | 5.00 | 0.784 | pCi/L |          | 05/13/24 14:13 | 1       |



# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

Client Sample ID: MW-3RD - CCR

Lab Sample ID: 310-278560-6

Date Collected: 04/08/24 14:25

Matrix: Water

Date Received: 04/10/24 13:45

## Method: SW846 9056A - Anions, Ion Chromatography

| Analyte  | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Chloride | 29     |           | 5.0 |     | mg/L |   |          | 04/12/24 19:05 | 5       |
| Fluoride | <1.0   |           | 1.0 |     | mg/L |   |          | 04/12/24 19:05 | 5       |
| Sulfate  | 80     |           | 5.0 |     | mg/L |   |          | 04/12/24 19:05 | 5       |

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

| Analyte    | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020  |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:01 | 1       |
| Arsenic    | 0.0039   |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:01 | 1       |
| Barium     | 0.18     |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:01 | 1       |
| Beryllium  | <0.0010  |           | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:01 | 1       |
| Boron      | <0.10    |           | 0.10    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:01 | 1       |
| Cadmium    | <0.00020 |           | 0.00020 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:01 | 1       |
| Calcium    | 118      |           | 0.50    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:01 | 1       |
| Chromium   | <0.0050  |           | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:01 | 1       |
| Cobalt     | <0.00050 |           | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:01 | 1       |
| Lead       | <0.00050 |           | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:01 | 1       |
| Lithium    | 0.013    |           | 0.010   |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:01 | 1       |
| Molybdenum | 0.0033   |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:01 | 1       |
| Selenium   | <0.0050  |           | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:01 | 1       |
| Thallium   | <0.0010  | F1        | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:01 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020 |           | 0.00020 |     | mg/L |   | 04/12/24 13:16 | 04/15/24 12:02 | 1       |

## General Chemistry

| Analyte                           | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids (SM 2540C) | 528    |           | 50.0 |     | mg/L |   |          | 04/11/24 15:13 | 1       |
| Analyte                           | Result | Qualifier | RL   | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
| pH (SM 4500 H+ B)                 | 7.1    | HF        | 1.0  |     | SU   |   |          | 04/10/24 17:26 | 1       |

## Method: SW846 9315 - Radium-226 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-226 | 0.546  |           | 0.154                       | 0.162                       | 1.00 | 0.109 | pCi/L | 04/15/24 08:58 | 05/08/24 10:02 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 84.5   |           | 30 - 110                    |                             |      |       |       | 04/15/24 08:58 | 05/08/24 10:02 | 1       |

## Method: SW846 9320 - Radium-228 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-228 | <0.589 | U         | 0.340                       | 0.340                       | 1.00 | 0.589 | pCi/L | 04/15/24 09:07 | 05/03/24 12:17 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 84.5   |           | 30 - 110                    |                             |      |       |       | 04/15/24 09:07 | 05/03/24 12:17 | 1       |
| Y Carrier  | 85.6   |           | 30 - 110                    |                             |      |       |       | 04/15/24 09:07 | 05/03/24 12:17 | 1       |

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Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

Client Sample ID: MW-3RD - CCR

Lab Sample ID: 310-278560-6

Date Collected: 04/08/24 14:25

Matrix: Water

Date Received: 04/10/24 13:45

Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228

| Analyte                      | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared | Analyzed       | Dil Fac |
|------------------------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------|----------------|---------|
| Combined Radium<br>226 + 228 | 0.722  |           | 0.373                       | 0.377                       | 5.00 | 0.589 | pCi/L |          | 05/13/24 17:59 | 1       |

# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

Client Sample ID: MW-4 - CCR

Lab Sample ID: 310-278560-7

Date Collected: 04/08/24 13:40

Matrix: Water

Date Received: 04/10/24 13:45

## Method: SW846 9056A - Anions, Ion Chromatography

| Analyte  | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Chloride | 39     |           | 5.0 |     | mg/L |   |          | 04/12/24 19:42 | 5       |
| Fluoride | <1.0   |           | 1.0 |     | mg/L |   |          | 04/12/24 19:42 | 5       |
| Sulfate  | 260    |           | 5.0 |     | mg/L |   |          | 04/12/24 19:42 | 5       |

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

| Analyte    | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020  |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:17 | 1       |
| Arsenic    | <0.0020  |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:17 | 1       |
| Barium     | 0.16     |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:17 | 1       |
| Beryllium  | <0.0010  |           | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:17 | 1       |
| Boron      | 0.26     |           | 0.10    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:17 | 1       |
| Cadmium    | 0.00022  |           | 0.00020 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:17 | 1       |
| Calcium    | 180      |           | 0.50    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:17 | 1       |
| Chromium   | <0.0050  |           | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:17 | 1       |
| Cobalt     | <0.00050 |           | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:17 | 1       |
| Lead       | <0.00050 |           | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:17 | 1       |
| Lithium    | <0.010   |           | 0.010   |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:17 | 1       |
| Molybdenum | 0.0036   |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:17 | 1       |
| Selenium   | 0.011    |           | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:17 | 1       |
| Thallium   | <0.0010  |           | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/23/24 15:53 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020 |           | 0.00020 |     | mg/L |   | 04/12/24 13:16 | 04/15/24 12:13 | 1       |

## General Chemistry

| Analyte                           | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids (SM 2540C) | 784    |           | 50.0 |     | mg/L |   |          | 04/11/24 14:49 | 1       |
| Analyte                           | Result | Qualifier | RL   | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
| pH (SM 4500 H+ B)                 | 7.1    | HF        | 1.0  |     | SU   |   |          | 04/10/24 17:25 | 1       |

## Method: SW846 9315 - Radium-226 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-226 | 0.195  |           | 0.120                       | 0.121                       | 1.00 | 0.160 | pCi/L | 04/15/24 08:58 | 05/08/24 10:02 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 76.9   |           | 30 - 110                    |                             |      |       |       | 04/15/24 08:58 | 05/08/24 10:02 | 1       |

## Method: SW846 9320 - Radium-228 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-228 | <0.748 | U         | 0.487                       | 0.490                       | 1.00 | 0.748 | pCi/L | 04/15/24 09:07 | 05/03/24 12:17 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 76.9   |           | 30 - 110                    |                             |      |       |       | 04/15/24 09:07 | 05/03/24 12:17 | 1       |
| Y Carrier  | 78.5   |           | 30 - 110                    |                             |      |       |       | 04/15/24 09:07 | 05/03/24 12:17 | 1       |

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Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

Client Sample ID: MW-4 - CCR

Lab Sample ID: 310-278560-7

Date Collected: 04/08/24 13:40

Matrix: Water

Date Received: 04/10/24 13:45

| Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228 |        |           |                             |                             |      |       |       |          |                |         |
|------------------------------------------------------------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------|----------------|---------|
| Analyte                                                          | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared | Analyzed       | Dil Fac |
| Combined Radium<br>226 + 228                                     | 0.844  |           | 0.502                       | 0.505                       | 5.00 | 0.748 | pCi/L |          | 05/13/24 17:59 | 1       |

# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

Client Sample ID: MW-2RD - CCR

Lab Sample ID: 310-278560-8

Date Collected: 04/08/24 16:50

Matrix: Water

Date Received: 04/10/24 13:45

## Method: SW846 9056A - Anions, Ion Chromatography

| Analyte  | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Chloride | 44     |           | 5.0 |     | mg/L |   |          | 04/12/24 19:54 | 5       |
| Fluoride | <1.0   |           | 1.0 |     | mg/L |   |          | 04/12/24 19:54 | 5       |
| Sulfate  | 83     |           | 5.0 |     | mg/L |   |          | 04/12/24 19:54 | 5       |

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

| Analyte    | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020  |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:35 | 1       |
| Arsenic    | 0.0023   |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:35 | 1       |
| Barium     | 0.18     |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:35 | 1       |
| Beryllium  | <0.0010  |           | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:35 | 1       |
| Boron      | 0.20     |           | 0.10    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:35 | 1       |
| Cadmium    | <0.00020 |           | 0.00020 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:35 | 1       |
| Calcium    | 149      |           | 0.50    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:35 | 1       |
| Chromium   | <0.0050  |           | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:35 | 1       |
| Cobalt     | 0.0024   |           | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:35 | 1       |
| Lead       | <0.00050 |           | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:35 | 1       |
| Lithium    | 0.011    |           | 0.010   |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:35 | 1       |
| Molybdenum | 0.0021   |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:35 | 1       |
| Selenium   | 0.026    |           | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:35 | 1       |
| Thallium   | <0.0010  |           | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:35 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020 |           | 0.00020 |     | mg/L |   | 04/12/24 13:16 | 04/15/24 12:15 | 1       |

## General Chemistry

| Analyte                           | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids (SM 2540C) | 628    |           | 50.0 |     | mg/L |   |          | 04/11/24 14:49 | 1       |
| Analyte                           | Result | Qualifier | RL   | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
| pH (SM 4500 H+ B)                 | 7.1    | HF        | 1.0  |     | SU   |   |          | 04/10/24 17:22 | 1       |

## Method: SW846 9315 - Radium-226 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-226 | 0.659  |           | 0.174                       | 0.184                       | 1.00 | 0.121 | pCi/L | 04/15/24 08:58 | 05/08/24 10:02 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 78.2   |           | 30 - 110                    |                             |      |       |       | 04/15/24 08:58 | 05/08/24 10:02 | 1       |

## Method: SW846 9320 - Radium-228 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-228 | <0.594 | U         | 0.397                       | 0.400                       | 1.00 | 0.594 | pCi/L | 04/15/24 09:07 | 05/03/24 12:17 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 78.2   |           | 30 - 110                    |                             |      |       |       | 04/15/24 09:07 | 05/03/24 12:17 | 1       |
| Y Carrier  | 86.4   |           | 30 - 110                    |                             |      |       |       | 04/15/24 09:07 | 05/03/24 12:17 | 1       |

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Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

Client Sample ID: MW-2RD - CCR

Lab Sample ID: 310-278560-8

Date Collected: 04/08/24 16:50

Matrix: Water

Date Received: 04/10/24 13:45

| Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228 |        |           |                             |                             |      |       |       |          |                |         |
|------------------------------------------------------------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------|----------------|---------|
| Analyte                                                          | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared | Analyzed       | Dil Fac |
| Combined Radium<br>226 + 228                                     | 1.21   |           | 0.433                       | 0.440                       | 5.00 | 0.594 | pCi/L |          | 05/13/24 17:59 | 1       |

# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

Client Sample ID: Field Blank 1 - CCR

Lab Sample ID: 310-278560-9

Date Collected: 04/09/24 09:45

Matrix: Water

Date Received: 04/10/24 13:45

## Method: SW846 9056A - Anions, Ion Chromatography

| Analyte  | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Chloride | <1.0   |           | 1.0  |     | mg/L |   |          | 04/15/24 18:51 | 1       |
| Fluoride | <0.20  |           | 0.20 |     | mg/L |   |          | 04/15/24 18:51 | 1       |
| Sulfate  | <1.0   |           | 1.0  |     | mg/L |   |          | 04/15/24 18:51 | 1       |

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

| Analyte    | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020  |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:38 | 1       |
| Arsenic    | <0.0020  |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:38 | 1       |
| Barium     | <0.0020  |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:38 | 1       |
| Beryllium  | <0.0010  |           | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:38 | 1       |
| Boron      | <0.10    |           | 0.10    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:38 | 1       |
| Cadmium    | <0.00020 |           | 0.00020 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:38 | 1       |
| Calcium    | <0.50    |           | 0.50    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:38 | 1       |
| Chromium   | <0.0050  |           | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:38 | 1       |
| Cobalt     | <0.00050 |           | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:38 | 1       |
| Lead       | <0.00050 |           | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:38 | 1       |
| Lithium    | <0.010   |           | 0.010   |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:38 | 1       |
| Molybdenum | <0.0020  |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:38 | 1       |
| Selenium   | <0.0050  |           | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:38 | 1       |
| Thallium   | <0.0010  |           | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:38 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020 |           | 0.00020 |     | mg/L |   | 04/12/24 13:16 | 04/15/24 12:17 | 1       |

## General Chemistry

| Analyte                           | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids (SM 2540C) | <50.0  |           | 50.0 |     | mg/L |   |          | 04/11/24 15:13 | 1       |
| Analyte                           | Result | Qualifier | RL   | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
| pH (SM 4500 H+ B)                 | 6.9    | HF        | 1.0  |     | SU   |   |          | 04/10/24 17:28 | 1       |

## Method: SW846 9315 - Radium-226 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-226 | <0.128 | U         | 0.0688                      | 0.0688                      | 1.00 | 0.128 | pCi/L | 04/15/24 08:58 | 05/08/24 10:18 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 91.1   |           | 30 - 110                    |                             |      |       |       | 04/15/24 08:58 | 05/08/24 10:18 | 1       |

## Method: SW846 9320 - Radium-228 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-228 | <0.551 | U         | 0.307                       | 0.307                       | 1.00 | 0.551 | pCi/L | 04/15/24 09:07 | 05/03/24 12:18 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 91.1   |           | 30 - 110                    |                             |      |       |       | 04/15/24 09:07 | 05/03/24 12:18 | 1       |
| Y Carrier  | 86.4   |           | 30 - 110                    |                             |      |       |       | 04/15/24 09:07 | 05/03/24 12:18 | 1       |

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# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

**Client Sample ID: Field Blank 1 - CCR**  
**Date Collected: 04/09/24 09:45**  
**Date Received: 04/10/24 13:45**

**Lab Sample ID: 310-278560-9**  
**Matrix: Water**

Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228

| Analyte                      | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared | Analyzed       | Dil Fac |
|------------------------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------|----------------|---------|
| Combined Radium 226<br>+ 228 | <0.551 | U         | 0.315                       | 0.315                       | 5.00 | 0.551 | pCi/L |          | 05/13/24 17:59 | 1       |

# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

Client Sample ID: Duplicate-1 - CCR

Lab Sample ID: 310-278560-10

Date Collected: 04/08/24 00:00

Matrix: Water

Date Received: 04/10/24 13:45

## Method: SW846 9056A - Anions, Ion Chromatography

| Analyte  | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Chloride | 29     |           | 5.0 |     | mg/L |   |          | 04/12/24 20:06 | 5       |
| Fluoride | <1.0   |           | 1.0 |     | mg/L |   |          | 04/12/24 20:06 | 5       |
| Sulfate  | 81     |           | 5.0 |     | mg/L |   |          | 04/12/24 20:06 | 5       |

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

| Analyte    | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020  |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:41 | 1       |
| Arsenic    | 0.0040   |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:41 | 1       |
| Barium     | 0.18     |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:41 | 1       |
| Beryllium  | <0.0010  |           | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:41 | 1       |
| Boron      | <0.10    |           | 0.10    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:41 | 1       |
| Cadmium    | <0.00020 |           | 0.00020 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:41 | 1       |
| Calcium    | 119      |           | 0.50    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:41 | 1       |
| Chromium   | <0.0050  |           | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:41 | 1       |
| Cobalt     | <0.00050 |           | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:41 | 1       |
| Lead       | <0.00050 |           | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:41 | 1       |
| Lithium    | 0.014    |           | 0.010   |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:41 | 1       |
| Molybdenum | 0.0034   |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:41 | 1       |
| Selenium   | <0.0050  |           | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:41 | 1       |
| Thallium   | <0.0010  |           | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:41 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020 |           | 0.00020 |     | mg/L |   | 04/12/24 13:16 | 04/15/24 11:26 | 1       |

## General Chemistry

| Analyte                           | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids (SM 2540C) | 478    |           | 50.0 |     | mg/L |   |          | 04/11/24 14:49 | 1       |
| Analyte                           | Result | Qualifier | RL   | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
| pH (SM 4500 H+ B)                 | 7.1    | HF        | 1.0  |     | SU   |   |          | 04/10/24 17:29 | 1       |

## Method: SW846 9315 - Radium-226 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-226 | 0.763  |           | 0.184                       | 0.196                       | 1.00 | 0.141 | pCi/L | 04/15/24 08:58 | 05/08/24 10:18 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 86.8   |           | 30 - 110                    |                             |      |       |       | 04/15/24 08:58 | 05/08/24 10:18 | 1       |

## Method: SW846 9320 - Radium-228 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-228 | 0.951  |           | 0.451                       | 0.460                       | 1.00 | 0.625 | pCi/L | 04/15/24 09:07 | 05/03/24 12:18 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 86.8   |           | 30 - 110                    |                             |      |       |       | 04/15/24 09:07 | 05/03/24 12:18 | 1       |
| Y Carrier  | 86.0   |           | 30 - 110                    |                             |      |       |       | 04/15/24 09:07 | 05/03/24 12:18 | 1       |

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Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

Client Sample ID: Duplicate-1 - CCR  
Date Collected: 04/08/24 00:00  
Date Received: 04/10/24 13:45

Lab Sample ID: 310-278560-10  
Matrix: Water

| Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228 |        |           |                             |                             |      |       |       |          |                |         |
|------------------------------------------------------------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------|----------------|---------|
| Analyte                                                          | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared | Analyzed       | Dil Fac |
| Combined Radium<br>226 + 228                                     | 1.71   |           | 0.487                       | 0.500                       | 5.00 | 0.625 | pCi/L |          | 05/13/24 17:59 | 1       |

# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

Client Sample ID: Equipment Blank - CCR

Lab Sample ID: 310-278560-11

Date Collected: 04/09/24 09:10

Matrix: Water

Date Received: 04/10/24 13:45

## Method: SW846 9056A - Anions, Ion Chromatography

| Analyte  | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Chloride | <1.0   |           | 1.0  |     | mg/L |   |          | 04/15/24 19:29 | 1       |
| Fluoride | <0.20  |           | 0.20 |     | mg/L |   |          | 04/15/24 19:29 | 1       |
| Sulfate  | <1.0   |           | 1.0  |     | mg/L |   |          | 04/15/24 19:29 | 1       |

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

| Analyte    | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020  |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:45 | 1       |
| Arsenic    | <0.0020  |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:45 | 1       |
| Barium     | <0.0020  |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:45 | 1       |
| Beryllium  | <0.0010  |           | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:45 | 1       |
| Boron      | <0.10    |           | 0.10    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:45 | 1       |
| Cadmium    | <0.00020 |           | 0.00020 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:45 | 1       |
| Calcium    | <0.50    |           | 0.50    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:45 | 1       |
| Chromium   | <0.0050  |           | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:45 | 1       |
| Cobalt     | <0.00050 |           | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:45 | 1       |
| Lead       | <0.00050 |           | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:45 | 1       |
| Lithium    | <0.010   |           | 0.010   |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:45 | 1       |
| Molybdenum | <0.0020  |           | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:45 | 1       |
| Selenium   | <0.0050  |           | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:45 | 1       |
| Thallium   | <0.0010  |           | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 17:45 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020 |           | 0.00020 |     | mg/L |   | 04/22/24 08:54 | 04/22/24 14:51 | 1       |

## General Chemistry

| Analyte                           | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids (SM 2540C) | <50.0  |           | 50.0 |     | mg/L |   |          | 04/11/24 15:13 | 1       |
| Analyte                           | Result | Qualifier | RL   | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
| pH (SM 4500 H+ B)                 | 6.8    | HF        | 1.0  |     | SU   |   |          | 04/10/24 17:30 | 1       |

## Method: SW846 9315 - Radium-226 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-226 | <0.155 | U         | 0.0516                      | 0.0522                      | 1.00 | 0.155 | pCi/L | 04/15/24 08:58 | 05/08/24 10:18 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 91.4   |           | 30 - 110                    |                             |      |       |       | 04/15/24 08:58 | 05/08/24 10:18 | 1       |

## Method: SW846 9320 - Radium-228 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-228 | <0.531 | U         | 0.314                       | 0.315                       | 1.00 | 0.531 | pCi/L | 04/15/24 09:07 | 05/03/24 12:18 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 91.4   |           | 30 - 110                    |                             |      |       |       | 04/15/24 09:07 | 05/03/24 12:18 | 1       |
| Y Carrier  | 86.7   |           | 30 - 110                    |                             |      |       |       | 04/15/24 09:07 | 05/03/24 12:18 | 1       |

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# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

**Client Sample ID: Equipment Blank - CCR**  
**Date Collected: 04/09/24 09:10**  
**Date Received: 04/10/24 13:45**

**Lab Sample ID: 310-278560-11**  
**Matrix: Water**

Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228

| Analyte                      | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared | Analyzed       | Dil Fac |
|------------------------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------|----------------|---------|
| Combined Radium 226<br>+ 228 | <0.531 | U         | 0.318                       | 0.319                       | 5.00 | 0.531 | pCi/L |          | 05/13/24 17:59 | 1       |

## Definitions/Glossary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

### Qualifiers

#### Metals

| Qualifier | Qualifier Description                                                                                                                                     |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4         | MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable. |
| F1        | MS and/or MSD recovery exceeds control limits.                                                                                                            |

#### General Chemistry

| Qualifier | Qualifier Description                                                                                                                    |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------|
| HF        | Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time. |

#### Rad

| Qualifier | Qualifier Description                           |
|-----------|-------------------------------------------------|
| U         | Result is less than the sample detection limit. |

### Glossary

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

# QC Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

## Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-418728/3

Matrix: Water

Analysis Batch: 418728

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|------|-----|------|---|----------|----------------|---------|
| Chloride | <1.0      |              | 1.0  |     | mg/L |   |          | 04/12/24 16:28 | 1       |
| Fluoride | <0.20     |              | 0.20 |     | mg/L |   |          | 04/12/24 16:28 | 1       |
| Sulfate  | <1.0      |              | 1.0  |     | mg/L |   |          | 04/12/24 16:28 | 1       |

Lab Sample ID: LCS 310-418728/4

Matrix: Water

Analysis Batch: 418728

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|----------|-------------|------------|---------------|------|---|------|-------------|
| Chloride | 10.0        | 10.1       |               | mg/L |   | 101  | 90 - 110    |
| Fluoride | 2.00        | 2.19       |               | mg/L |   | 110  | 90 - 110    |
| Sulfate  | 10.0        | 10.5       |               | mg/L |   | 105  | 90 - 110    |

Lab Sample ID: 310-278560-6 MS

Matrix: Water

Analysis Batch: 418728

Client Sample ID: MW-3RD - CCR

Prep Type: Total/NA

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|----------|---------------|------------------|-------------|-----------|--------------|------|---|------|-------------|
| Chloride | 29            |                  | 25.0        | 53.9      |              | mg/L |   | 100  | 80 - 120    |
| Fluoride | <1.0          |                  | 5.00        | 5.52      |              | mg/L |   | 110  | 80 - 120    |
| Sulfate  | 80            |                  | 25.0        | 106       |              | mg/L |   | 103  | 80 - 120    |

Lab Sample ID: 310-278560-6 MSD

Matrix: Water

Analysis Batch: 418728

Client Sample ID: MW-3RD - CCR

Prep Type: Total/NA

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|----------|---------------|------------------|-------------|------------|---------------|------|---|------|-------------|-----|-----------|
| Chloride | 29            |                  | 25.0        | 53.7       |               | mg/L |   | 100  | 80 - 120    | 0   | 15        |
| Fluoride | <1.0          |                  | 5.00        | 5.53       |               | mg/L |   | 111  | 80 - 120    | 0   | 15        |
| Sulfate  | 80            |                  | 25.0        | 105        |               | mg/L |   | 100  | 80 - 120    | 1   | 15        |

Lab Sample ID: MB 310-418833/3

Matrix: Water

Analysis Batch: 418833

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|------|-----|------|---|----------|----------------|---------|
| Chloride | <1.0      |              | 1.0  |     | mg/L |   |          | 04/15/24 14:27 | 1       |
| Fluoride | <0.20     |              | 0.20 |     | mg/L |   |          | 04/15/24 14:27 | 1       |
| Sulfate  | <1.0      |              | 1.0  |     | mg/L |   |          | 04/15/24 14:27 | 1       |

Lab Sample ID: LCS 310-418833/4

Matrix: Water

Analysis Batch: 418833

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|----------|-------------|------------|---------------|------|---|------|-------------|
| Chloride | 10.0        | 10.2       |               | mg/L |   | 102  | 90 - 110    |
| Fluoride | 2.00        | 2.14       |               | mg/L |   | 107  | 90 - 110    |
| Sulfate  | 10.0        | 11.0       |               | mg/L |   | 110  | 90 - 110    |

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# QC Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

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

Lab Sample ID: MB 310-418409/1-A

Matrix: Water

Analysis Batch: 419537

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 418409

| Analyte    | MB Result | MB Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|-----------|--------------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020   |              | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:24 | 1       |
| Arsenic    | <0.0020   |              | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:24 | 1       |
| Barium     | <0.0020   |              | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:24 | 1       |
| Beryllium  | <0.0010   |              | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:24 | 1       |
| Boron      | <0.10     |              | 0.10    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:24 | 1       |
| Cadmium    | <0.00020  |              | 0.00020 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:24 | 1       |
| Calcium    | <0.50     |              | 0.50    |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:24 | 1       |
| Chromium   | <0.0050   |              | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:24 | 1       |
| Cobalt     | <0.00050  |              | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:24 | 1       |
| Lead       | <0.00050  |              | 0.00050 |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:24 | 1       |
| Lithium    | <0.010    |              | 0.010   |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:24 | 1       |
| Molybdenum | <0.0020   |              | 0.0020  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:24 | 1       |
| Selenium   | <0.0050   |              | 0.0050  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:24 | 1       |
| Thallium   | <0.0010   |              | 0.0010  |     | mg/L |   | 04/11/24 09:00 | 04/22/24 16:24 | 1       |

Lab Sample ID: LCS 310-418409/2-A

Matrix: Water

Analysis Batch: 419537

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 418409

| Analyte    | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|------------|-------------|------------|---------------|------|---|------|-------------|
| Antimony   | 0.200       | 0.208      |               | mg/L |   | 104  | 80 - 120    |
| Arsenic    | 0.200       | 0.213      |               | mg/L |   | 106  | 80 - 120    |
| Barium     | 0.100       | 0.105      |               | mg/L |   | 105  | 80 - 120    |
| Beryllium  | 0.100       | 0.105      |               | mg/L |   | 105  | 80 - 120    |
| Boron      | 0.200       | 0.190      |               | mg/L |   | 95   | 80 - 120    |
| Cadmium    | 0.100       | 0.0912     |               | mg/L |   | 91   | 80 - 120    |
| Calcium    | 2.00        | 2.04       |               | mg/L |   | 102  | 80 - 120    |
| Chromium   | 0.100       | 0.104      |               | mg/L |   | 104  | 80 - 120    |
| Cobalt     | 0.100       | 0.104      |               | mg/L |   | 104  | 80 - 120    |
| Lead       | 0.200       | 0.207      |               | mg/L |   | 103  | 80 - 120    |
| Lithium    | 0.200       | 0.218      |               | mg/L |   | 109  | 80 - 120    |
| Molybdenum | 0.200       | 0.199      |               | mg/L |   | 99   | 80 - 120    |
| Selenium   | 0.400       | 0.382      |               | mg/L |   | 96   | 80 - 120    |

Lab Sample ID: LCS 310-418409/2-A

Matrix: Water

Analysis Batch: 419624

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 418409

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|----------|-------------|------------|---------------|------|---|------|-------------|
| Thallium | 0.100       | 0.109      |               | mg/L |   | 109  | 80 - 120    |

Lab Sample ID: 310-278560-6 MS

Matrix: Water

Analysis Batch: 419537

Client Sample ID: MW-3RD - CCR

Prep Type: Total/NA

Prep Batch: 418409

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|----------|---------------|------------------|-------------|-----------|--------------|------|---|------|-------------|
| Antimony | <0.0020       |                  | 0.200       | 0.208     |              | mg/L |   | 104  | 75 - 125    |
| Arsenic  | 0.0039        |                  | 0.200       | 0.224     |              | mg/L |   | 110  | 75 - 125    |
| Barium   | 0.18          |                  | 0.100       | 0.283     |              | mg/L |   | 107  | 75 - 125    |

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# QC Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

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

Lab Sample ID: 310-278560-6 MS

Matrix: Water

Analysis Batch: 419537

Client Sample ID: MW-3RD - CCR

Prep Type: Total/NA

Prep Batch: 418409

| Analyte    | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|------------|---------------|------------------|-------------|-----------|--------------|------|---|------|-------------|
| Beryllium  | <0.0010       |                  | 0.100       | 0.107     |              | mg/L |   | 107  | 75 - 125    |
| Boron      | <0.10         |                  | 0.200       | 0.242     |              | mg/L |   | 121  | 75 - 125    |
| Cadmium    | <0.00020      |                  | 0.100       | 0.0949    |              | mg/L |   | 95   | 75 - 125    |
| Calcium    | 118           |                  | 2.00        | 118.4     | 4            | mg/L |   | 16   | 75 - 125    |
| Chromium   | <0.0050       |                  | 0.100       | 0.103     |              | mg/L |   | 103  | 75 - 125    |
| Cobalt     | <0.00050      |                  | 0.100       | 0.100     |              | mg/L |   | 100  | 75 - 125    |
| Lead       | <0.00050      |                  | 0.200       | 0.200     |              | mg/L |   | 100  | 75 - 125    |
| Lithium    | 0.013         |                  | 0.200       | 0.228     |              | mg/L |   | 108  | 75 - 125    |
| Molybdenum | 0.0033        |                  | 0.200       | 0.209     |              | mg/L |   | 103  | 75 - 125    |
| Selenium   | <0.0050       |                  | 0.400       | 0.408     |              | mg/L |   | 102  | 75 - 125    |
| Thallium   | <0.0010       | F1               | 0.100       | 0.0557    | F1           | mg/L |   | 56   | 75 - 125    |

Lab Sample ID: 310-278560-6 MSD

Matrix: Water

Analysis Batch: 419537

Client Sample ID: MW-3RD - CCR

Prep Type: Total/NA

Prep Batch: 418409

| Analyte    | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|------------|---------------|------------------|-------------|------------|---------------|------|---|------|-------------|-----|-----------|
| Antimony   | <0.0020       |                  | 0.200       | 0.210      |               | mg/L |   | 105  | 75 - 125    | 1   | 20        |
| Arsenic    | 0.0039        |                  | 0.200       | 0.227      |               | mg/L |   | 112  | 75 - 125    | 2   | 20        |
| Barium     | 0.18          |                  | 0.100       | 0.287      |               | mg/L |   | 111  | 75 - 125    | 1   | 20        |
| Beryllium  | <0.0010       |                  | 0.100       | 0.111      |               | mg/L |   | 111  | 75 - 125    | 4   | 20        |
| Boron      | <0.10         |                  | 0.200       | 0.243      |               | mg/L |   | 121  | 75 - 125    | 1   | 20        |
| Cadmium    | <0.00020      |                  | 0.100       | 0.0969     |               | mg/L |   | 97   | 75 - 125    | 2   | 20        |
| Calcium    | 118           |                  | 2.00        | 123.2      | 4             | mg/L |   | 258  | 75 - 125    | 4   | 20        |
| Chromium   | <0.0050       |                  | 0.100       | 0.103      |               | mg/L |   | 103  | 75 - 125    | 0   | 20        |
| Cobalt     | <0.00050      |                  | 0.100       | 0.104      |               | mg/L |   | 104  | 75 - 125    | 4   | 20        |
| Lead       | <0.00050      |                  | 0.200       | 0.203      |               | mg/L |   | 101  | 75 - 125    | 1   | 20        |
| Lithium    | 0.013         |                  | 0.200       | 0.229      |               | mg/L |   | 108  | 75 - 125    | 1   | 20        |
| Molybdenum | 0.0033        |                  | 0.200       | 0.214      |               | mg/L |   | 106  | 75 - 125    | 3   | 20        |
| Selenium   | <0.0050       |                  | 0.400       | 0.412      |               | mg/L |   | 103  | 75 - 125    | 1   | 20        |
| Thallium   | <0.0010       | F1               | 0.100       | 0.0572     | F1            | mg/L |   | 57   | 75 - 125    | 3   | 20        |

Lab Sample ID: 310-278560-11 DU

Matrix: Water

Analysis Batch: 419537

Client Sample ID: Equipment Blank - CCR

Prep Type: Total/NA

Prep Batch: 418409

| Analyte    | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|------------|---------------|------------------|-----------|--------------|------|---|-----|-----------|
| Antimony   | <0.0020       |                  | <0.0020   |              | mg/L |   | NC  | 20        |
| Arsenic    | <0.0020       |                  | <0.0020   |              | mg/L |   | NC  | 20        |
| Barium     | <0.0020       |                  | <0.0020   |              | mg/L |   | NC  | 20        |
| Beryllium  | <0.0010       |                  | <0.0010   |              | mg/L |   | NC  | 20        |
| Boron      | <0.10         |                  | <0.10     |              | mg/L |   | NC  | 20        |
| Cadmium    | <0.00020      |                  | <0.00020  |              | mg/L |   | NC  | 20        |
| Calcium    | <0.50         |                  | <0.50     |              | mg/L |   | NC  | 20        |
| Chromium   | <0.0050       |                  | <0.0050   |              | mg/L |   | NC  | 20        |
| Cobalt     | <0.00050      |                  | <0.00050  |              | mg/L |   | NC  | 20        |
| Lead       | <0.00050      |                  | <0.00050  |              | mg/L |   | NC  | 20        |
| Lithium    | <0.010        |                  | <0.010    |              | mg/L |   | NC  | 20        |
| Molybdenum | <0.0020       |                  | <0.0020   |              | mg/L |   | NC  | 20        |

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# QC Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

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

Lab Sample ID: 310-278560-11 DU

Matrix: Water

Analysis Batch: 419537

Client Sample ID: Equipment Blank - CCR

Prep Type: Total/NA

Prep Batch: 418409

| Analyte  | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | Limit |
|----------|---------------|------------------|-----------|--------------|------|---|-----|-------|
| Selenium | <0.0050       |                  | <0.0050   |              | mg/L |   | NC  | 20    |
| Thallium | <0.0010       |                  | <0.0010   |              | mg/L |   | NC  | 20    |

## Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-418621/1-A

Matrix: Water

Analysis Batch: 418782

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 418621

| Analyte | MB Result | MB Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|-----------|--------------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020  |              | 0.00020 |     | mg/L |   | 04/12/24 13:16 | 04/15/24 11:22 | 1       |

Lab Sample ID: LCS 310-418621/2-A

Matrix: Water

Analysis Batch: 418782

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 418621

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---------|-------------|------------|---------------|------|---|------|-------------|
| Mercury | 0.00167     | 0.00156    |               | mg/L |   | 94   | 80 - 120    |

Lab Sample ID: 310-278560-6 MS

Matrix: Water

Analysis Batch: 418782

Client Sample ID: MW-3RD - CCR

Prep Type: Total/NA

Prep Batch: 418621

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---------|---------------|------------------|-------------|-----------|--------------|------|---|------|-------------|
| Mercury | <0.00020      |                  | 0.00167     | 0.00175   |              | mg/L |   | 105  | 80 - 120    |

Lab Sample ID: 310-278560-6 MSD

Matrix: Water

Analysis Batch: 418782

Client Sample ID: MW-3RD - CCR

Prep Type: Total/NA

Prep Batch: 418621

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | Limit |
|---------|---------------|------------------|-------------|------------|---------------|------|---|------|-------------|-----|-------|
| Mercury | <0.00020      |                  | 0.00167     | 0.00178    |               | mg/L |   | 107  | 80 - 120    | 2   | 20    |

Lab Sample ID: 310-278560-9 DU

Matrix: Water

Analysis Batch: 418782

Client Sample ID: Field Blank 1 - CCR

Prep Type: Total/NA

Prep Batch: 418621

| Analyte | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | Limit |
|---------|---------------|------------------|-----------|--------------|------|---|-----|-------|
| Mercury | <0.00020      |                  | <0.00020  |              | mg/L |   | NC  | 20    |

Lab Sample ID: MB 310-419395/1-A

Matrix: Water

Analysis Batch: 419490

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 419395

| Analyte | MB Result | MB Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|-----------|--------------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020  |              | 0.00020 |     | mg/L |   | 04/22/24 08:54 | 04/22/24 14:23 | 1       |

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# QC Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

## Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 310-419395/2-A  
Matrix: Water  
Analysis Batch: 419490

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 419395

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---------|-------------|------------|---------------|------|---|------|-------------|
| Mercury | 0.00167     | 0.00164    |               | mg/L |   | 98   | 80 - 120    |

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 310-418518/1  
Matrix: Water  
Analysis Batch: 418518

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

| Analyte                | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------|-----------|--------------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids | <50.0     |              | 50.0 |     | mg/L |   |          | 04/11/24 14:49 | 1       |

Lab Sample ID: LCS 310-418518/2  
Matrix: Water  
Analysis Batch: 418518

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

| Analyte                | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|------------------------|-------------|------------|---------------|------|---|------|-------------|
| Total Dissolved Solids | 1000        | 948.0      |               | mg/L |   | 95   | 90 - 110    |

Lab Sample ID: MB 310-418523/1  
Matrix: Water  
Analysis Batch: 418523

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

| Analyte                | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------|-----------|--------------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids | <50.0     |              | 50.0 |     | mg/L |   |          | 04/11/24 15:13 | 1       |

Lab Sample ID: LCS 310-418523/2  
Matrix: Water  
Analysis Batch: 418523

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

| Analyte                | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|------------------------|-------------|------------|---------------|------|---|------|-------------|
| Total Dissolved Solids | 1000        | 980.0      |               | mg/L |   | 98   | 90 - 110    |

Lab Sample ID: 310-278560-6 DU  
Matrix: Water  
Analysis Batch: 418523

Client Sample ID: MW-3RD - CCR  
Prep Type: Total/NA

| Analyte                | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|------------------------|---------------|------------------|-----------|--------------|------|---|-----|-----------|
| Total Dissolved Solids | 528           |                  | 518.0     |              | mg/L |   | 2   | 20        |

## Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-418415/1  
Matrix: Water  
Analysis Batch: 418415

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---------|-------------|------------|---------------|------|---|------|-------------|
| pH      | 7.00        | 7.0        |               | SU   |   | 100  | 98 - 102    |

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# QC Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

## Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: LCS 310-418415/28

Matrix: Water

Analysis Batch: 418415

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---------|-------------|------------|---------------|------|---|------|-------------|
| pH      | 7.00        | 7.1        |               | SU   |   | 101  | 98 - 102    |

Lab Sample ID: 310-278560-6 DU

Matrix: Water

Analysis Batch: 418415

Client Sample ID: MW-3RD - CCR

Prep Type: Total/NA

| Analyte | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|---------|---------------|------------------|-----------|--------------|------|---|-----|-----------|
| pH      | 7.1           | HF               | 7.1       |              | SU   |   |     |           |

## Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-656973/1-A

Matrix: Water

Analysis Batch: 660741

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 656973

| Analyte    | MB Result | MB Qualifier | Count Uncert. (2σ+/-) | Total Uncert. (2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|-----------|--------------|-----------------------|-----------------------|------|-------|-------|----------------|----------------|---------|
| Radium-226 | <0.109    | U            | 0.0690                | 0.0693                | 1.00 | 0.109 | pCi/L | 04/15/24 08:58 | 05/08/24 09:59 | 1       |
| Carrier    | MB %Yield | MB Qualifier | Limits                |                       |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 92.1      |              | 30 - 110              |                       |      |       |       | 04/15/24 08:58 | 05/08/24 09:59 | 1       |

Lab Sample ID: LCS 160-656973/2-A

Matrix: Water

Analysis Batch: 660741

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 656973

| Analyte    | Spike Added | LCS Result    | LCS Qual | Total Uncert. (2σ+/-) | RL   | MDC   | Unit  | %Rec | %Rec Limits |
|------------|-------------|---------------|----------|-----------------------|------|-------|-------|------|-------------|
| Radium-226 | 11.3        | 9.795         |          | 1.05                  | 1.00 | 0.106 | pCi/L | 86   | 75 - 125    |
| Carrier    | LCS %Yield  | LCS Qualifier | Limits   |                       |      |       |       |      |             |
| Barium     | 99.0        |               | 30 - 110 |                       |      |       |       |      |             |

Lab Sample ID: 310-278560-6 MS

Matrix: Water

Analysis Batch: 660741

Client Sample ID: MW-3RD - CCR

Prep Type: Total/NA

Prep Batch: 656973

| Analyte    | Sample Result | Sample Qual  | Spike Added | MS Result | MS Qual | Total Uncert. (2σ+/-) | RL   | MDC    | Unit  | %Rec | %Rec Limits |
|------------|---------------|--------------|-------------|-----------|---------|-----------------------|------|--------|-------|------|-------------|
| Radium-226 | 0.546         |              | 11.2        | 11.48     |         | 1.22                  | 1.00 | 0.0947 | pCi/L | 97   | 60 - 140    |
| Carrier    | MS %Yield     | MS Qualifier | Limits      |           |         |                       |      |        |       |      |             |
| Barium     | 88.8          |              | 30 - 110    |           |         |                       |      |        |       |      |             |

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# QC Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

## Method: 9315 - Radium-226 (GFPC) (Continued)

Lab Sample ID: 310-278560-6 MSD

Matrix: Water

Analysis Batch: 660741

Client Sample ID: MW-3RD - CCR

Prep Type: Total/NA

Prep Batch: 656973

| Analyte        | Sample Result | Sample Qual          | Spike Added   | MSD Result | MSD Qual | Total Uncert. (2σ+/-) | RL   | MDC   | Unit  | %Rec | %Rec Limits | RER  | RER Limit |
|----------------|---------------|----------------------|---------------|------------|----------|-----------------------|------|-------|-------|------|-------------|------|-----------|
| Radium-226     | 0.546         |                      | 11.2          | 10.72      |          | 1.17                  | 1.00 | 0.132 | pCi/L | 91   | 60 - 140    | 0.31 | 1         |
|                |               |                      |               |            |          |                       |      |       |       |      |             |      |           |
| <b>Carrier</b> | <b>%Yield</b> | <b>MSD Qualifier</b> | <b>Limits</b> |            |          |                       |      |       |       |      |             |      |           |
| Barium         | 80.2          |                      | 30 - 110      |            |          |                       |      |       |       |      |             |      |           |

## Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-656974/1-A

Matrix: Water

Analysis Batch: 659960

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 656974

| Analyte        | MB Result     | MB Qualifier        | Count Uncert. (2σ+/-) | Total Uncert. (2σ+/-) | RL   | MDC   | Unit  | Prepared        | Analyzed        | Dil Fac        |
|----------------|---------------|---------------------|-----------------------|-----------------------|------|-------|-------|-----------------|-----------------|----------------|
| Radium-228     | <0.584        | U                   | 0.344                 | 0.345                 | 1.00 | 0.584 | pCi/L | 04/15/24 09:07  | 05/03/24 12:10  | 1              |
|                |               |                     |                       |                       |      |       |       |                 |                 |                |
| <b>Carrier</b> | <b>%Yield</b> | <b>MB Qualifier</b> | <b>Limits</b>         |                       |      |       |       |                 |                 |                |
| Barium         | 92.1          |                     | 30 - 110              |                       |      |       |       |                 |                 |                |
| Y Carrier      | 86.0          |                     | 30 - 110              |                       |      |       |       |                 |                 |                |
|                |               |                     |                       |                       |      |       |       | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
|                |               |                     |                       |                       |      |       |       | 04/15/24 09:07  | 05/03/24 12:10  | 1              |
|                |               |                     |                       |                       |      |       |       | 04/15/24 09:07  | 05/03/24 12:10  | 1              |

Lab Sample ID: LCS 160-656974/2-A

Matrix: Water

Analysis Batch: 659960

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 656974

| Analyte        | Spike Added   | LCS Result           | LCS Qual      | Total Uncert. (2σ+/-) | RL   | MDC   | Unit  | %Rec | %Rec Limits |
|----------------|---------------|----------------------|---------------|-----------------------|------|-------|-------|------|-------------|
| Radium-228     | 8.98          | 9.376                |               | 1.28                  | 1.00 | 0.471 | pCi/L | 104  | 75 - 125    |
|                |               |                      |               |                       |      |       |       |      |             |
| <b>Carrier</b> | <b>%Yield</b> | <b>LCS Qualifier</b> | <b>Limits</b> |                       |      |       |       |      |             |
| Barium         | 99.0          |                      | 30 - 110      |                       |      |       |       |      |             |
| Y Carrier      | 81.1          |                      | 30 - 110      |                       |      |       |       |      |             |

Lab Sample ID: 310-278560-6 MS

Matrix: Water

Analysis Batch: 659976

Client Sample ID: MW-3RD - CCR

Prep Type: Total/NA

Prep Batch: 656974

| Analyte        | Sample Result | Sample Qual         | Spike Added   | MS Result | MS Qual | Total Uncert. (2σ+/-) | RL   | MDC   | Unit  | %Rec | %Rec Limits |
|----------------|---------------|---------------------|---------------|-----------|---------|-----------------------|------|-------|-------|------|-------------|
| Radium-228     | <0.589        | U                   | 8.90          | 9.224     |         | 1.29                  | 1.00 | 0.546 | pCi/L | 102  | 60 - 140    |
|                |               |                     |               |           |         |                       |      |       |       |      |             |
| <b>Carrier</b> | <b>%Yield</b> | <b>MS Qualifier</b> | <b>Limits</b> |           |         |                       |      |       |       |      |             |
| Barium         | 88.8          |                     | 30 - 110      |           |         |                       |      |       |       |      |             |
| Y Carrier      | 84.9          |                     | 30 - 110      |           |         |                       |      |       |       |      |             |

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# QC Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

## Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: 310-278560-6 MSD

Matrix: Water

Analysis Batch: 659976

Client Sample ID: MW-3RD - CCR

Prep Type: Total/NA

Prep Batch: 656974

| Analyte    | Sample Result | Sample Qual | Spike Added | MSD Result | MSD Qual | Total Uncert. (2σ+/-) | RL   | MDC   | Unit  | %Rec | %Rec Limits | RER  | RER Limit |
|------------|---------------|-------------|-------------|------------|----------|-----------------------|------|-------|-------|------|-------------|------|-----------|
| Radium-228 | <0.589        | U           | 8.90        | 9.328      |          | 1.35                  | 1.00 | 0.623 | pCi/L | 103  | 60 - 140    | 0.04 | 1         |

| Carrier   | MSD %Yield | MSD Qualifier | MSD Limits |
|-----------|------------|---------------|------------|
| Barium    | 80.2       |               | 30 - 110   |
| Y Carrier | 85.6       |               | 30 - 110   |



# QC Association Summary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

## HPLC/IC

### Analysis Batch: 418728

| Lab Sample ID    | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 310-278560-3     | MW-2R - CCR        | Total/NA  | Water  | 9056A  |            |
| 310-278560-4     | MW-3 - CCR         | Total/NA  | Water  | 9056A  |            |
| 310-278560-5     | MW-3R - CCR        | Total/NA  | Water  | 9056A  |            |
| 310-278560-6     | MW-3RD - CCR       | Total/NA  | Water  | 9056A  |            |
| 310-278560-7     | MW-4 - CCR         | Total/NA  | Water  | 9056A  |            |
| 310-278560-8     | MW-2RD - CCR       | Total/NA  | Water  | 9056A  |            |
| 310-278560-10    | Duplicate-1 - CCR  | Total/NA  | Water  | 9056A  |            |
| MB 310-418728/3  | Method Blank       | Total/NA  | Water  | 9056A  |            |
| LCS 310-418728/4 | Lab Control Sample | Total/NA  | Water  | 9056A  |            |
| 310-278560-6 MS  | MW-3RD - CCR       | Total/NA  | Water  | 9056A  |            |
| 310-278560-6 MSD | MW-3RD - CCR       | Total/NA  | Water  | 9056A  |            |

### Analysis Batch: 418833

| Lab Sample ID    | Client Sample ID      | Prep Type | Matrix | Method | Prep Batch |
|------------------|-----------------------|-----------|--------|--------|------------|
| 310-278560-1     | MW-1 - CCR            | Total/NA  | Water  | 9056A  |            |
| 310-278560-2     | MW-1RD - CCR          | Total/NA  | Water  | 9056A  |            |
| 310-278560-9     | Field Blank 1 - CCR   | Total/NA  | Water  | 9056A  |            |
| 310-278560-11    | Equipment Blank - CCR | Total/NA  | Water  | 9056A  |            |
| MB 310-418833/3  | Method Blank          | Total/NA  | Water  | 9056A  |            |
| LCS 310-418833/4 | Lab Control Sample    | Total/NA  | Water  | 9056A  |            |

## Metals

### Prep Batch: 418409

| Lab Sample ID      | Client Sample ID      | Prep Type | Matrix | Method | Prep Batch |
|--------------------|-----------------------|-----------|--------|--------|------------|
| 310-278560-1       | MW-1 - CCR            | Total/NA  | Water  | 3005A  |            |
| 310-278560-2       | MW-1RD - CCR          | Total/NA  | Water  | 3005A  |            |
| 310-278560-3       | MW-2R - CCR           | Total/NA  | Water  | 3005A  |            |
| 310-278560-4       | MW-3 - CCR            | Total/NA  | Water  | 3005A  |            |
| 310-278560-5       | MW-3R - CCR           | Total/NA  | Water  | 3005A  |            |
| 310-278560-6       | MW-3RD - CCR          | Total/NA  | Water  | 3005A  |            |
| 310-278560-7       | MW-4 - CCR            | Total/NA  | Water  | 3005A  |            |
| 310-278560-8       | MW-2RD - CCR          | Total/NA  | Water  | 3005A  |            |
| 310-278560-9       | Field Blank 1 - CCR   | Total/NA  | Water  | 3005A  |            |
| 310-278560-10      | Duplicate-1 - CCR     | Total/NA  | Water  | 3005A  |            |
| 310-278560-11      | Equipment Blank - CCR | Total/NA  | Water  | 3005A  |            |
| MB 310-418409/1-A  | Method Blank          | Total/NA  | Water  | 3005A  |            |
| LCS 310-418409/2-A | Lab Control Sample    | Total/NA  | Water  | 3005A  |            |
| 310-278560-6 MS    | MW-3RD - CCR          | Total/NA  | Water  | 3005A  |            |
| 310-278560-6 MSD   | MW-3RD - CCR          | Total/NA  | Water  | 3005A  |            |
| 310-278560-11 DU   | Equipment Blank - CCR | Total/NA  | Water  | 3005A  |            |

### Prep Batch: 418621

| Lab Sample ID      | Client Sample ID    | Prep Type | Matrix | Method | Prep Batch |
|--------------------|---------------------|-----------|--------|--------|------------|
| 310-278560-6       | MW-3RD - CCR        | Total/NA  | Water  | 7470A  |            |
| 310-278560-7       | MW-4 - CCR          | Total/NA  | Water  | 7470A  |            |
| 310-278560-8       | MW-2RD - CCR        | Total/NA  | Water  | 7470A  |            |
| 310-278560-9       | Field Blank 1 - CCR | Total/NA  | Water  | 7470A  |            |
| 310-278560-10      | Duplicate-1 - CCR   | Total/NA  | Water  | 7470A  |            |
| MB 310-418621/1-A  | Method Blank        | Total/NA  | Water  | 7470A  |            |
| LCS 310-418621/2-A | Lab Control Sample  | Total/NA  | Water  | 7470A  |            |

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# QC Association Summary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

## Metals (Continued)

### Prep Batch: 418621 (Continued)

| Lab Sample ID    | Client Sample ID    | Prep Type | Matrix | Method | Prep Batch |
|------------------|---------------------|-----------|--------|--------|------------|
| 310-278560-6 MS  | MW-3RD - CCR        | Total/NA  | Water  | 7470A  |            |
| 310-278560-6 MSD | MW-3RD - CCR        | Total/NA  | Water  | 7470A  |            |
| 310-278560-9 DU  | Field Blank 1 - CCR | Total/NA  | Water  | 7470A  |            |

### Analysis Batch: 418782

| Lab Sample ID      | Client Sample ID    | Prep Type | Matrix | Method | Prep Batch |
|--------------------|---------------------|-----------|--------|--------|------------|
| 310-278560-6       | MW-3RD - CCR        | Total/NA  | Water  | 7470A  | 418621     |
| 310-278560-7       | MW-4 - CCR          | Total/NA  | Water  | 7470A  | 418621     |
| 310-278560-8       | MW-2RD - CCR        | Total/NA  | Water  | 7470A  | 418621     |
| 310-278560-9       | Field Blank 1 - CCR | Total/NA  | Water  | 7470A  | 418621     |
| 310-278560-10      | Duplicate-1 - CCR   | Total/NA  | Water  | 7470A  | 418621     |
| MB 310-418621/1-A  | Method Blank        | Total/NA  | Water  | 7470A  | 418621     |
| LCS 310-418621/2-A | Lab Control Sample  | Total/NA  | Water  | 7470A  | 418621     |
| 310-278560-6 MS    | MW-3RD - CCR        | Total/NA  | Water  | 7470A  | 418621     |
| 310-278560-6 MSD   | MW-3RD - CCR        | Total/NA  | Water  | 7470A  | 418621     |
| 310-278560-9 DU    | Field Blank 1 - CCR | Total/NA  | Water  | 7470A  | 418621     |

### Prep Batch: 419395

| Lab Sample ID      | Client Sample ID      | Prep Type | Matrix | Method | Prep Batch |
|--------------------|-----------------------|-----------|--------|--------|------------|
| 310-278560-1       | MW-1 - CCR            | Total/NA  | Water  | 7470A  |            |
| 310-278560-2       | MW-1RD - CCR          | Total/NA  | Water  | 7470A  |            |
| 310-278560-3       | MW-2R - CCR           | Total/NA  | Water  | 7470A  |            |
| 310-278560-4       | MW-3 - CCR            | Total/NA  | Water  | 7470A  |            |
| 310-278560-5       | MW-3R - CCR           | Total/NA  | Water  | 7470A  |            |
| 310-278560-11      | Equipment Blank - CCR | Total/NA  | Water  | 7470A  |            |
| MB 310-419395/1-A  | Method Blank          | Total/NA  | Water  | 7470A  |            |
| LCS 310-419395/2-A | Lab Control Sample    | Total/NA  | Water  | 7470A  |            |

### Analysis Batch: 419490

| Lab Sample ID      | Client Sample ID      | Prep Type | Matrix | Method | Prep Batch |
|--------------------|-----------------------|-----------|--------|--------|------------|
| 310-278560-1       | MW-1 - CCR            | Total/NA  | Water  | 7470A  | 419395     |
| 310-278560-2       | MW-1RD - CCR          | Total/NA  | Water  | 7470A  | 419395     |
| 310-278560-3       | MW-2R - CCR           | Total/NA  | Water  | 7470A  | 419395     |
| 310-278560-4       | MW-3 - CCR            | Total/NA  | Water  | 7470A  | 419395     |
| 310-278560-5       | MW-3R - CCR           | Total/NA  | Water  | 7470A  | 419395     |
| 310-278560-11      | Equipment Blank - CCR | Total/NA  | Water  | 7470A  | 419395     |
| MB 310-419395/1-A  | Method Blank          | Total/NA  | Water  | 7470A  | 419395     |
| LCS 310-419395/2-A | Lab Control Sample    | Total/NA  | Water  | 7470A  | 419395     |

### Analysis Batch: 419537

| Lab Sample ID | Client Sample ID    | Prep Type | Matrix | Method | Prep Batch |
|---------------|---------------------|-----------|--------|--------|------------|
| 310-278560-1  | MW-1 - CCR          | Total/NA  | Water  | 6020B  | 418409     |
| 310-278560-2  | MW-1RD - CCR        | Total/NA  | Water  | 6020B  | 418409     |
| 310-278560-3  | MW-2R - CCR         | Total/NA  | Water  | 6020B  | 418409     |
| 310-278560-4  | MW-3 - CCR          | Total/NA  | Water  | 6020B  | 418409     |
| 310-278560-5  | MW-3R - CCR         | Total/NA  | Water  | 6020B  | 418409     |
| 310-278560-6  | MW-3RD - CCR        | Total/NA  | Water  | 6020B  | 418409     |
| 310-278560-7  | MW-4 - CCR          | Total/NA  | Water  | 6020B  | 418409     |
| 310-278560-8  | MW-2RD - CCR        | Total/NA  | Water  | 6020B  | 418409     |
| 310-278560-9  | Field Blank 1 - CCR | Total/NA  | Water  | 6020B  | 418409     |
| 310-278560-10 | Duplicate-1 - CCR   | Total/NA  | Water  | 6020B  | 418409     |

Eurofins Cedar Falls

# QC Association Summary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

## Metals (Continued)

### Analysis Batch: 419537 (Continued)

| Lab Sample ID      | Client Sample ID      | Prep Type | Matrix | Method | Prep Batch |
|--------------------|-----------------------|-----------|--------|--------|------------|
| 310-278560-11      | Equipment Blank - CCR | Total/NA  | Water  | 6020B  | 418409     |
| MB 310-418409/1-A  | Method Blank          | Total/NA  | Water  | 6020B  | 418409     |
| LCS 310-418409/2-A | Lab Control Sample    | Total/NA  | Water  | 6020B  | 418409     |
| 310-278560-6 MS    | MW-3RD - CCR          | Total/NA  | Water  | 6020B  | 418409     |
| 310-278560-6 MSD   | MW-3RD - CCR          | Total/NA  | Water  | 6020B  | 418409     |
| 310-278560-11 DU   | Equipment Blank - CCR | Total/NA  | Water  | 6020B  | 418409     |

### Analysis Batch: 419624

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 310-278560-1       | MW-1 - CCR         | Total/NA  | Water  | 6020B  | 418409     |
| LCS 310-418409/2-A | Lab Control Sample | Total/NA  | Water  | 6020B  | 418409     |

### Analysis Batch: 419651

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|--------|------------|
| 310-278560-7  | MW-4 - CCR       | Total/NA  | Water  | 6020B  | 418409     |

## General Chemistry

### Analysis Batch: 418415

| Lab Sample ID     | Client Sample ID      | Prep Type | Matrix | Method       | Prep Batch |
|-------------------|-----------------------|-----------|--------|--------------|------------|
| 310-278560-1      | MW-1 - CCR            | Total/NA  | Water  | SM 4500 H+ B |            |
| 310-278560-2      | MW-1RD - CCR          | Total/NA  | Water  | SM 4500 H+ B |            |
| 310-278560-3      | MW-2R - CCR           | Total/NA  | Water  | SM 4500 H+ B |            |
| 310-278560-4      | MW-3 - CCR            | Total/NA  | Water  | SM 4500 H+ B |            |
| 310-278560-5      | MW-3R - CCR           | Total/NA  | Water  | SM 4500 H+ B |            |
| 310-278560-6      | MW-3RD - CCR          | Total/NA  | Water  | SM 4500 H+ B |            |
| 310-278560-7      | MW-4 - CCR            | Total/NA  | Water  | SM 4500 H+ B |            |
| 310-278560-8      | MW-2RD - CCR          | Total/NA  | Water  | SM 4500 H+ B |            |
| 310-278560-9      | Field Blank 1 - CCR   | Total/NA  | Water  | SM 4500 H+ B |            |
| 310-278560-10     | Duplicate-1 - CCR     | Total/NA  | Water  | SM 4500 H+ B |            |
| 310-278560-11     | Equipment Blank - CCR | Total/NA  | Water  | SM 4500 H+ B |            |
| LCS 310-418415/1  | Lab Control Sample    | Total/NA  | Water  | SM 4500 H+ B |            |
| LCS 310-418415/28 | Lab Control Sample    | Total/NA  | Water  | SM 4500 H+ B |            |
| 310-278560-6 DU   | MW-3RD - CCR          | Total/NA  | Water  | SM 4500 H+ B |            |

### Analysis Batch: 418518

| Lab Sample ID    | Client Sample ID   | Prep Type | Matrix | Method   | Prep Batch |
|------------------|--------------------|-----------|--------|----------|------------|
| 310-278560-2     | MW-1RD - CCR       | Total/NA  | Water  | SM 2540C |            |
| 310-278560-3     | MW-2R - CCR        | Total/NA  | Water  | SM 2540C |            |
| 310-278560-4     | MW-3 - CCR         | Total/NA  | Water  | SM 2540C |            |
| 310-278560-5     | MW-3R - CCR        | Total/NA  | Water  | SM 2540C |            |
| 310-278560-7     | MW-4 - CCR         | Total/NA  | Water  | SM 2540C |            |
| 310-278560-8     | MW-2RD - CCR       | Total/NA  | Water  | SM 2540C |            |
| 310-278560-10    | Duplicate-1 - CCR  | Total/NA  | Water  | SM 2540C |            |
| MB 310-418518/1  | Method Blank       | Total/NA  | Water  | SM 2540C |            |
| LCS 310-418518/2 | Lab Control Sample | Total/NA  | Water  | SM 2540C |            |

### Analysis Batch: 418523

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method   | Prep Batch |
|---------------|------------------|-----------|--------|----------|------------|
| 310-278560-1  | MW-1 - CCR       | Total/NA  | Water  | SM 2540C |            |
| 310-278560-6  | MW-3RD - CCR     | Total/NA  | Water  | SM 2540C |            |

Eurofins Cedar Falls

# QC Association Summary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

## General Chemistry (Continued)

### Analysis Batch: 418523 (Continued)

| Lab Sample ID    | Client Sample ID      | Prep Type | Matrix | Method   | Prep Batch |
|------------------|-----------------------|-----------|--------|----------|------------|
| 310-278560-9     | Field Blank 1 - CCR   | Total/NA  | Water  | SM 2540C |            |
| 310-278560-11    | Equipment Blank - CCR | Total/NA  | Water  | SM 2540C |            |
| MB 310-418523/1  | Method Blank          | Total/NA  | Water  | SM 2540C |            |
| LCS 310-418523/2 | Lab Control Sample    | Total/NA  | Water  | SM 2540C |            |
| 310-278560-6 DU  | MW-3RD - CCR          | Total/NA  | Water  | SM 2540C |            |

## Rad

### Prep Batch: 656973

| Lab Sample ID      | Client Sample ID      | Prep Type | Matrix | Method     | Prep Batch |
|--------------------|-----------------------|-----------|--------|------------|------------|
| 310-278560-1       | MW-1 - CCR            | Total/NA  | Water  | PrecSep-21 |            |
| 310-278560-2       | MW-1RD - CCR          | Total/NA  | Water  | PrecSep-21 |            |
| 310-278560-3       | MW-2R - CCR           | Total/NA  | Water  | PrecSep-21 |            |
| 310-278560-4       | MW-3 - CCR            | Total/NA  | Water  | PrecSep-21 |            |
| 310-278560-5       | MW-3R - CCR           | Total/NA  | Water  | PrecSep-21 |            |
| 310-278560-6       | MW-3RD - CCR          | Total/NA  | Water  | PrecSep-21 |            |
| 310-278560-7       | MW-4 - CCR            | Total/NA  | Water  | PrecSep-21 |            |
| 310-278560-8       | MW-2RD - CCR          | Total/NA  | Water  | PrecSep-21 |            |
| 310-278560-9       | Field Blank 1 - CCR   | Total/NA  | Water  | PrecSep-21 |            |
| 310-278560-10      | Duplicate-1 - CCR     | Total/NA  | Water  | PrecSep-21 |            |
| 310-278560-11      | Equipment Blank - CCR | Total/NA  | Water  | PrecSep-21 |            |
| MB 160-656973/1-A  | Method Blank          | Total/NA  | Water  | PrecSep-21 |            |
| LCS 160-656973/2-A | Lab Control Sample    | Total/NA  | Water  | PrecSep-21 |            |
| 310-278560-6 MS    | MW-3RD - CCR          | Total/NA  | Water  | PrecSep-21 |            |
| 310-278560-6 MSD   | MW-3RD - CCR          | Total/NA  | Water  | PrecSep-21 |            |

### Prep Batch: 656974

| Lab Sample ID      | Client Sample ID      | Prep Type | Matrix | Method    | Prep Batch |
|--------------------|-----------------------|-----------|--------|-----------|------------|
| 310-278560-1       | MW-1 - CCR            | Total/NA  | Water  | PrecSep_0 |            |
| 310-278560-2       | MW-1RD - CCR          | Total/NA  | Water  | PrecSep_0 |            |
| 310-278560-3       | MW-2R - CCR           | Total/NA  | Water  | PrecSep_0 |            |
| 310-278560-4       | MW-3 - CCR            | Total/NA  | Water  | PrecSep_0 |            |
| 310-278560-5       | MW-3R - CCR           | Total/NA  | Water  | PrecSep_0 |            |
| 310-278560-6       | MW-3RD - CCR          | Total/NA  | Water  | PrecSep_0 |            |
| 310-278560-7       | MW-4 - CCR            | Total/NA  | Water  | PrecSep_0 |            |
| 310-278560-8       | MW-2RD - CCR          | Total/NA  | Water  | PrecSep_0 |            |
| 310-278560-9       | Field Blank 1 - CCR   | Total/NA  | Water  | PrecSep_0 |            |
| 310-278560-10      | Duplicate-1 - CCR     | Total/NA  | Water  | PrecSep_0 |            |
| 310-278560-11      | Equipment Blank - CCR | Total/NA  | Water  | PrecSep_0 |            |
| MB 160-656974/1-A  | Method Blank          | Total/NA  | Water  | PrecSep_0 |            |
| LCS 160-656974/2-A | Lab Control Sample    | Total/NA  | Water  | PrecSep_0 |            |
| 310-278560-6 MS    | MW-3RD - CCR          | Total/NA  | Water  | PrecSep_0 |            |
| 310-278560-6 MSD   | MW-3RD - CCR          | Total/NA  | Water  | PrecSep_0 |            |

# Lab Chronicle

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

**Client Sample ID: MW-1 - CCR**

**Lab Sample ID: 310-278560-1**

**Date Collected: 04/09/24 08:55**

**Matrix: Water**

**Date Received: 04/10/24 13:45**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | 9056A        |     | 5               | 418833       | QTZ5    | EET CF | 04/15/24 18:26       |
| Total/NA  | Prep       | 3005A        |     |                 | 418409       | QTZ5    | EET CF | 04/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 419537       | A6US    | EET CF | 04/22/24 16:30       |
| Total/NA  | Prep       | 3005A        |     |                 | 418409       | QTZ5    | EET CF | 04/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 419624       | NFT2    | EET CF | 04/23/24 15:42       |
| Total/NA  | Prep       | 7470A        |     |                 | 419395       | A6US    | EET CF | 04/22/24 08:54       |
| Total/NA  | Analysis   | 7470A        |     | 1               | 419490       | A6US    | EET CF | 04/22/24 14:40       |
| Total/NA  | Analysis   | SM 2540C     |     | 1               | 418523       | D7CP    | EET CF | 04/11/24 15:13       |
| Total/NA  | Analysis   | SM 4500 H+ B |     | 1               | 418415       | A3GU    | EET CF | 04/10/24 17:16       |
| Total/NA  | Prep       | PrecSep-21   |     |                 | 656973       | MLT     | EET SL | 04/15/24 08:58       |
| Total/NA  | Analysis   | 9315         |     | 1               | 660741       | FLC     | EET SL | 05/08/24 10:00       |
| Total/NA  | Prep       | PrecSep_0    |     |                 | 656974       | MLT     | EET SL | 04/15/24 09:07       |
| Total/NA  | Analysis   | 9320         |     | 1               | 659960       | SCB     | EET SL | 05/03/24 12:11       |
| Total/NA  | Analysis   | Ra226_Ra228  |     | 1               | 661432       | FLC     | EET SL | 05/13/24 14:13       |

**Client Sample ID: MW-1RD - CCR**

**Lab Sample ID: 310-278560-2**

**Date Collected: 04/09/24 09:10**

**Matrix: Water**

**Date Received: 04/10/24 13:45**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | 9056A        |     | 5               | 418833       | QTZ5    | EET CF | 04/15/24 18:39       |
| Total/NA  | Prep       | 3005A        |     |                 | 418409       | QTZ5    | EET CF | 04/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 419537       | A6US    | EET CF | 04/22/24 16:47       |
| Total/NA  | Prep       | 7470A        |     |                 | 419395       | A6US    | EET CF | 04/22/24 08:54       |
| Total/NA  | Analysis   | 7470A        |     | 1               | 419490       | A6US    | EET CF | 04/22/24 14:43       |
| Total/NA  | Analysis   | SM 2540C     |     | 1               | 418518       | D7CP    | EET CF | 04/11/24 14:49       |
| Total/NA  | Analysis   | SM 4500 H+ B |     | 1               | 418415       | A3GU    | EET CF | 04/10/24 17:18       |
| Total/NA  | Prep       | PrecSep-21   |     |                 | 656973       | MLT     | EET SL | 04/15/24 08:58       |
| Total/NA  | Analysis   | 9315         |     | 1               | 660741       | FLC     | EET SL | 05/08/24 10:00       |
| Total/NA  | Prep       | PrecSep_0    |     |                 | 656974       | MLT     | EET SL | 04/15/24 09:07       |
| Total/NA  | Analysis   | 9320         |     | 1               | 659960       | SCB     | EET SL | 05/03/24 12:11       |
| Total/NA  | Analysis   | Ra226_Ra228  |     | 1               | 661432       | FLC     | EET SL | 05/13/24 14:13       |

**Client Sample ID: MW-2R - CCR**

**Lab Sample ID: 310-278560-3**

**Date Collected: 04/08/24 10:25**

**Matrix: Water**

**Date Received: 04/10/24 13:45**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | 9056A        |     | 5               | 418728       | QTZ5    | EET CF | 04/12/24 18:29       |
| Total/NA  | Prep       | 3005A        |     |                 | 418409       | QTZ5    | EET CF | 04/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 419537       | A6US    | EET CF | 04/22/24 16:51       |
| Total/NA  | Prep       | 7470A        |     |                 | 419395       | A6US    | EET CF | 04/22/24 08:54       |
| Total/NA  | Analysis   | 7470A        |     | 1               | 419490       | A6US    | EET CF | 04/22/24 14:45       |
| Total/NA  | Analysis   | SM 2540C     |     | 1               | 418518       | D7CP    | EET CF | 04/11/24 14:49       |

Eurofins Cedar Falls

# Lab Chronicle

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

**Client Sample ID: MW-2R - CCR**

**Lab Sample ID: 310-278560-3**

**Date Collected: 04/08/24 10:25**

**Matrix: Water**

**Date Received: 04/10/24 13:45**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | SM 4500 H+ B |     | 1               | 418415       | A3GU    | EET CF | 04/10/24 17:19       |
| Total/NA  | Prep       | PrecSep-21   |     |                 | 656973       | MLT     | EET SL | 04/15/24 08:58       |
| Total/NA  | Analysis   | 9315         |     | 1               | 660741       | FLC     | EET SL | 05/08/24 10:00       |
| Total/NA  | Prep       | PrecSep_0    |     |                 | 656974       | MLT     | EET SL | 04/15/24 09:07       |
| Total/NA  | Analysis   | 9320         |     | 1               | 659976       | SCB     | EET SL | 05/03/24 12:17       |
| Total/NA  | Analysis   | Ra226_Ra228  |     | 1               | 661432       | FLC     | EET SL | 05/13/24 14:13       |

**Client Sample ID: MW-3 - CCR**

**Lab Sample ID: 310-278560-4**

**Date Collected: 04/08/24 15:45**

**Matrix: Water**

**Date Received: 04/10/24 13:45**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | 9056A        |     | 5               | 418728       | QTZ5    | EET CF | 04/12/24 18:41       |
| Total/NA  | Prep       | 3005A        |     |                 | 418409       | QTZ5    | EET CF | 04/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 419537       | A6US    | EET CF | 04/22/24 16:54       |
| Total/NA  | Prep       | 7470A        |     |                 | 419395       | A6US    | EET CF | 04/22/24 08:54       |
| Total/NA  | Analysis   | 7470A        |     | 1               | 419490       | A6US    | EET CF | 04/22/24 14:47       |
| Total/NA  | Analysis   | SM 2540C     |     | 1               | 418518       | D7CP    | EET CF | 04/11/24 14:49       |
| Total/NA  | Analysis   | SM 4500 H+ B |     | 1               | 418415       | A3GU    | EET CF | 04/10/24 17:42       |
| Total/NA  | Prep       | PrecSep-21   |     |                 | 656973       | MLT     | EET SL | 04/15/24 08:58       |
| Total/NA  | Analysis   | 9315         |     | 1               | 660741       | FLC     | EET SL | 05/08/24 10:02       |
| Total/NA  | Prep       | PrecSep_0    |     |                 | 656974       | MLT     | EET SL | 04/15/24 09:07       |
| Total/NA  | Analysis   | 9320         |     | 1               | 659976       | SCB     | EET SL | 05/03/24 12:17       |
| Total/NA  | Analysis   | Ra226_Ra228  |     | 1               | 661432       | FLC     | EET SL | 05/13/24 14:13       |

**Client Sample ID: MW-3R - CCR**

**Lab Sample ID: 310-278560-5**

**Date Collected: 04/08/24 15:40**

**Matrix: Water**

**Date Received: 04/10/24 13:45**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | 9056A        |     | 5               | 418728       | QTZ5    | EET CF | 04/12/24 18:53       |
| Total/NA  | Prep       | 3005A        |     |                 | 418409       | QTZ5    | EET CF | 04/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 419537       | A6US    | EET CF | 04/22/24 16:58       |
| Total/NA  | Prep       | 7470A        |     |                 | 419395       | A6US    | EET CF | 04/22/24 08:54       |
| Total/NA  | Analysis   | 7470A        |     | 1               | 419490       | A6US    | EET CF | 04/22/24 14:49       |
| Total/NA  | Analysis   | SM 2540C     |     | 1               | 418518       | D7CP    | EET CF | 04/11/24 14:49       |
| Total/NA  | Analysis   | SM 4500 H+ B |     | 1               | 418415       | A3GU    | EET CF | 04/10/24 17:42       |
| Total/NA  | Prep       | PrecSep-21   |     |                 | 656973       | MLT     | EET SL | 04/15/24 08:58       |
| Total/NA  | Analysis   | 9315         |     | 1               | 660741       | FLC     | EET SL | 05/08/24 10:02       |
| Total/NA  | Prep       | PrecSep_0    |     |                 | 656974       | MLT     | EET SL | 04/15/24 09:07       |
| Total/NA  | Analysis   | 9320         |     | 1               | 659976       | SCB     | EET SL | 05/03/24 12:17       |
| Total/NA  | Analysis   | Ra226_Ra228  |     | 1               | 661432       | FLC     | EET SL | 05/13/24 14:13       |

Eurofins Cedar Falls



# Lab Chronicle

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

**Client Sample ID: MW-3RD - CCR**

**Lab Sample ID: 310-278560-6**

**Date Collected: 04/08/24 14:25**

**Matrix: Water**

**Date Received: 04/10/24 13:45**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | 9056A        |     | 5               | 418728       | QTZ5    | EET CF | 04/12/24 19:05       |
| Total/NA  | Prep       | 3005A        |     |                 | 418409       | QTZ5    | EET CF | 04/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 419537       | A6US    | EET CF | 04/22/24 17:01       |
| Total/NA  | Prep       | 7470A        |     |                 | 418621       | A6US    | EET CF | 04/12/24 13:16       |
| Total/NA  | Analysis   | 7470A        |     | 1               | 418782       | A6US    | EET CF | 04/15/24 12:02       |
| Total/NA  | Analysis   | SM 2540C     |     | 1               | 418523       | D7CP    | EET CF | 04/11/24 15:13       |
| Total/NA  | Analysis   | SM 4500 H+ B |     | 1               | 418415       | A3GU    | EET CF | 04/10/24 17:26       |
| Total/NA  | Prep       | PrecSep-21   |     |                 | 656973       | MLT     | EET SL | 04/15/24 08:58       |
| Total/NA  | Analysis   | 9315         |     | 1               | 660741       | FLC     | EET SL | 05/08/24 10:02       |
| Total/NA  | Prep       | PrecSep_0    |     |                 | 656974       | MLT     | EET SL | 04/15/24 09:07       |
| Total/NA  | Analysis   | 9320         |     | 1               | 659976       | SCB     | EET SL | 05/03/24 12:17       |
| Total/NA  | Analysis   | Ra226_Ra228  |     | 1               | 661432       | FLC     | EET SL | 05/13/24 17:59       |

**Client Sample ID: MW-4 - CCR**

**Lab Sample ID: 310-278560-7**

**Date Collected: 04/08/24 13:40**

**Matrix: Water**

**Date Received: 04/10/24 13:45**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | 9056A        |     | 5               | 418728       | QTZ5    | EET CF | 04/12/24 19:42       |
| Total/NA  | Prep       | 3005A        |     |                 | 418409       | QTZ5    | EET CF | 04/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 419537       | A6US    | EET CF | 04/22/24 17:17       |
| Total/NA  | Prep       | 3005A        |     |                 | 418409       | QTZ5    | EET CF | 04/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 419651       | NFT2    | EET CF | 04/23/24 15:53       |
| Total/NA  | Prep       | 7470A        |     |                 | 418621       | A6US    | EET CF | 04/12/24 13:16       |
| Total/NA  | Analysis   | 7470A        |     | 1               | 418782       | A6US    | EET CF | 04/15/24 12:13       |
| Total/NA  | Analysis   | SM 2540C     |     | 1               | 418518       | D7CP    | EET CF | 04/11/24 14:49       |
| Total/NA  | Analysis   | SM 4500 H+ B |     | 1               | 418415       | A3GU    | EET CF | 04/10/24 17:25       |
| Total/NA  | Prep       | PrecSep-21   |     |                 | 656973       | MLT     | EET SL | 04/15/24 08:58       |
| Total/NA  | Analysis   | 9315         |     | 1               | 660741       | FLC     | EET SL | 05/08/24 10:02       |
| Total/NA  | Prep       | PrecSep_0    |     |                 | 656974       | MLT     | EET SL | 04/15/24 09:07       |
| Total/NA  | Analysis   | 9320         |     | 1               | 659976       | SCB     | EET SL | 05/03/24 12:17       |
| Total/NA  | Analysis   | Ra226_Ra228  |     | 1               | 661432       | FLC     | EET SL | 05/13/24 17:59       |

**Client Sample ID: MW-2RD - CCR**

**Lab Sample ID: 310-278560-8**

**Date Collected: 04/08/24 16:50**

**Matrix: Water**

**Date Received: 04/10/24 13:45**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | 9056A        |     | 5               | 418728       | QTZ5    | EET CF | 04/12/24 19:54       |
| Total/NA  | Prep       | 3005A        |     |                 | 418409       | QTZ5    | EET CF | 04/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 419537       | A6US    | EET CF | 04/22/24 17:35       |
| Total/NA  | Prep       | 7470A        |     |                 | 418621       | A6US    | EET CF | 04/12/24 13:16       |
| Total/NA  | Analysis   | 7470A        |     | 1               | 418782       | A6US    | EET CF | 04/15/24 12:15       |
| Total/NA  | Analysis   | SM 2540C     |     | 1               | 418518       | D7CP    | EET CF | 04/11/24 14:49       |

Eurofins Cedar Falls



# Lab Chronicle

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

**Client Sample ID: MW-2RD - CCR**

**Lab Sample ID: 310-278560-8**

**Date Collected: 04/08/24 16:50**

**Matrix: Water**

**Date Received: 04/10/24 13:45**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | SM 4500 H+ B |     | 1               | 418415       | A3GU    | EET CF | 04/10/24 17:22       |
| Total/NA  | Prep       | PrecSep-21   |     |                 | 656973       | MLT     | EET SL | 04/15/24 08:58       |
| Total/NA  | Analysis   | 9315         |     | 1               | 660741       | FLC     | EET SL | 05/08/24 10:02       |
| Total/NA  | Prep       | PrecSep_0    |     |                 | 656974       | MLT     | EET SL | 04/15/24 09:07       |
| Total/NA  | Analysis   | 9320         |     | 1               | 659976       | SCB     | EET SL | 05/03/24 12:17       |
| Total/NA  | Analysis   | Ra226_Ra228  |     | 1               | 661432       | FLC     | EET SL | 05/13/24 17:59       |

**Client Sample ID: Field Blank 1 - CCR**

**Lab Sample ID: 310-278560-9**

**Date Collected: 04/09/24 09:45**

**Matrix: Water**

**Date Received: 04/10/24 13:45**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | 9056A        |     | 1               | 418833       | QTZ5    | EET CF | 04/15/24 18:51       |
| Total/NA  | Prep       | 3005A        |     |                 | 418409       | QTZ5    | EET CF | 04/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 419537       | A6US    | EET CF | 04/22/24 17:38       |
| Total/NA  | Prep       | 7470A        |     |                 | 418621       | A6US    | EET CF | 04/12/24 13:16       |
| Total/NA  | Analysis   | 7470A        |     | 1               | 418782       | A6US    | EET CF | 04/15/24 12:17       |
| Total/NA  | Analysis   | SM 2540C     |     | 1               | 418523       | D7CP    | EET CF | 04/11/24 15:13       |
| Total/NA  | Analysis   | SM 4500 H+ B |     | 1               | 418415       | A3GU    | EET CF | 04/10/24 17:28       |
| Total/NA  | Prep       | PrecSep-21   |     |                 | 656973       | MLT     | EET SL | 04/15/24 08:58       |
| Total/NA  | Analysis   | 9315         |     | 1               | 660744       | FLC     | EET SL | 05/08/24 10:18       |
| Total/NA  | Prep       | PrecSep_0    |     |                 | 656974       | MLT     | EET SL | 04/15/24 09:07       |
| Total/NA  | Analysis   | 9320         |     | 1               | 659976       | SCB     | EET SL | 05/03/24 12:18       |
| Total/NA  | Analysis   | Ra226_Ra228  |     | 1               | 661432       | FLC     | EET SL | 05/13/24 17:59       |

**Client Sample ID: Duplicate-1 - CCR**

**Lab Sample ID: 310-278560-10**

**Date Collected: 04/08/24 00:00**

**Matrix: Water**

**Date Received: 04/10/24 13:45**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | 9056A        |     | 5               | 418728       | QTZ5    | EET CF | 04/12/24 20:06       |
| Total/NA  | Prep       | 3005A        |     |                 | 418409       | QTZ5    | EET CF | 04/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 419537       | A6US    | EET CF | 04/22/24 17:41       |
| Total/NA  | Prep       | 7470A        |     |                 | 418621       | A6US    | EET CF | 04/12/24 13:16       |
| Total/NA  | Analysis   | 7470A        |     | 1               | 418782       | A6US    | EET CF | 04/15/24 11:26       |
| Total/NA  | Analysis   | SM 2540C     |     | 1               | 418518       | D7CP    | EET CF | 04/11/24 14:49       |
| Total/NA  | Analysis   | SM 4500 H+ B |     | 1               | 418415       | A3GU    | EET CF | 04/10/24 17:29       |
| Total/NA  | Prep       | PrecSep-21   |     |                 | 656973       | MLT     | EET SL | 04/15/24 08:58       |
| Total/NA  | Analysis   | 9315         |     | 1               | 660744       | FLC     | EET SL | 05/08/24 10:18       |
| Total/NA  | Prep       | PrecSep_0    |     |                 | 656974       | MLT     | EET SL | 04/15/24 09:07       |
| Total/NA  | Analysis   | 9320         |     | 1               | 659976       | SCB     | EET SL | 05/03/24 12:18       |
| Total/NA  | Analysis   | Ra226_Ra228  |     | 1               | 661432       | FLC     | EET SL | 05/13/24 17:59       |

Eurofins Cedar Falls

# Lab Chronicle

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

**Client Sample ID: Equipment Blank - CCR**

**Lab Sample ID: 310-278560-11**

**Date Collected: 04/09/24 09:10**

**Matrix: Water**

**Date Received: 04/10/24 13:45**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | 9056A        |     | 1               | 418833       | QTZ5    | EET CF | 04/15/24 19:29       |
| Total/NA  | Prep       | 3005A        |     |                 | 418409       | QTZ5    | EET CF | 04/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 419537       | A6US    | EET CF | 04/22/24 17:45       |
| Total/NA  | Prep       | 7470A        |     |                 | 419395       | A6US    | EET CF | 04/22/24 08:54       |
| Total/NA  | Analysis   | 7470A        |     | 1               | 419490       | A6US    | EET CF | 04/22/24 14:51       |
| Total/NA  | Analysis   | SM 2540C     |     | 1               | 418523       | D7CP    | EET CF | 04/11/24 15:13       |
| Total/NA  | Analysis   | SM 4500 H+ B |     | 1               | 418415       | A3GU    | EET CF | 04/10/24 17:30       |
| Total/NA  | Prep       | PrecSep-21   |     |                 | 656973       | MLT     | EET SL | 04/15/24 08:58       |
| Total/NA  | Analysis   | 9315         |     | 1               | 660744       | FLC     | EET SL | 05/08/24 10:18       |
| Total/NA  | Prep       | PrecSep_0    |     |                 | 656974       | MLT     | EET SL | 04/15/24 09:07       |
| Total/NA  | Analysis   | 9320         |     | 1               | 659976       | SCB     | EET SL | 05/03/24 12:18       |
| Total/NA  | Analysis   | Ra226_Ra228  |     | 1               | 661432       | FLC     | EET SL | 05/13/24 17:59       |

## Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Accreditation/Certification Summary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

## Laboratory: Eurofins Cedar Falls

The accreditations/certifications listed below are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|-----------|---------|-----------------------|-----------------|
| Minnesota | NELAP   | 019-999-319           | 12-31-24        |

## Laboratory: Eurofins St. Louis

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

| Authority                | Program                                 | Identification Number      | Expiration Date |
|--------------------------|-----------------------------------------|----------------------------|-----------------|
| Alaska (UST)             | State                                   | 20-001                     | 05-06-25        |
| ANAB                     | Dept. of Defense ELAP                   | L2305                      | 04-06-25        |
| ANAB                     | Dept. of Energy                         | L2305.01                   | 04-08-25        |
| ANAB                     | ISO/IEC 17025                           | L2305                      | 04-06-25        |
| Arizona                  | State                                   | AZ0813                     | 12-08-24        |
| California               | Los Angeles County Sanitation Districts | 10259                      | 06-30-22 *      |
| California               | State                                   | 2886                       | 06-30-24        |
| Connecticut              | State                                   | PH-0241                    | 03-31-25        |
| Florida                  | NELAP                                   | E87689                     | 06-30-24        |
| HI - RadChem Recognition | State                                   | n/a                        | 06-30-24        |
| Illinois                 | NELAP                                   | 200023                     | 11-30-24        |
| Iowa                     | State                                   | 373                        | 12-01-24        |
| Kansas                   | NELAP                                   | E-10236                    | 10-31-24        |
| Kentucky (DW)            | State                                   | KY90125                    | 12-31-24        |
| Kentucky (WW)            | State                                   | KY90125 (Permit KY0004049) | 12-31-24        |
| Louisiana                | NELAP                                   | 04080                      | 06-30-22 *      |
| Louisiana (All)          | NELAP                                   | 04080                      | 06-30-24        |
| Louisiana (DW)           | State                                   | LA011                      | 12-31-24        |
| Maryland                 | State                                   | 310                        | 09-30-24        |
| Massachusetts            | State                                   | M-MO054                    | 06-30-24        |
| MI - RadChem Recognition | State                                   | 9005                       | 06-30-24        |
| Missouri                 | State                                   | 780                        | 06-30-25        |
| Nevada                   | State                                   | MO00054                    | 07-31-24        |
| New Jersey               | NELAP                                   | MO002                      | 06-30-24        |
| New Mexico               | State                                   | MO00054                    | 06-30-24        |
| New York                 | NELAP                                   | 11616                      | 03-31-25        |
| North Carolina (DW)      | State                                   | 29700                      | 07-31-24        |
| North Dakota             | State                                   | R-207                      | 06-30-24        |
| Oklahoma                 | NELAP                                   | 9997                       | 08-31-24        |
| Oregon                   | NELAP                                   | 4157                       | 09-01-24        |
| Pennsylvania             | NELAP                                   | 68-00540                   | 02-28-25        |
| South Carolina           | State                                   | 85002001                   | 06-30-24        |
| Texas                    | NELAP                                   | T104704193                 | 07-31-24        |
| US Fish & Wildlife       | US Federal Programs                     | 058448                     | 07-31-24        |
| USDA                     | US Federal Programs                     | P330-17-00028              | 05-18-26        |
| Utah                     | NELAP                                   | MO00054                    | 07-31-24        |
| Virginia                 | NELAP                                   | 10310                      | 06-15-25        |
| Washington               | State                                   | C592                       | 08-30-24        |
| West Virginia DEP        | State                                   | 381                        | 10-31-24        |

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

Eurofins Cedar Falls

## Method Summary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

| Method       | Method Description                                     | Protocol | Laboratory |
|--------------|--------------------------------------------------------|----------|------------|
| 9056A        | Anions, Ion Chromatography                             | SW846    | EET CF     |
| 6020B        | Metals (ICP/MS)                                        | SW846    | EET CF     |
| 7470A        | Mercury (CVAA)                                         | SW846    | EET CF     |
| SM 2540C     | Solids, Total Dissolved (TDS)                          | SM       | EET CF     |
| SM 4500 H+ B | pH                                                     | SM       | EET CF     |
| 9315         | Radium-226 (GFPC)                                      | SW846    | EET SL     |
| 9320         | Radium-228 (GFPC)                                      | SW846    | EET SL     |
| Ra226_Ra228  | Combined Radium-226 and Radium-228                     | TAL-STL  | EET SL     |
| 3005A        | Preparation, Total Metals                              | SW846    | EET CF     |
| 7470A        | Preparation, Mercury                                   | SW846    | EET CF     |
| PrecSep_0    | Preparation, Precipitate Separation                    | None     | EET SL     |
| PrecSep-21   | Preparation, Precipitate Separation (21-Day In-Growth) | None     | EET SL     |

### Protocol References:

None = None

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

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

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

### Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Environment Testing  
America



310-278560 Chain of Custody

### Cooler/Sample Receipt and Temperature Log Form

|                                                                                                                                                                                                                                  |                |                                                                     |                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Client Information</b>                                                                                                                                                                                                        |                |                                                                     |                                                                                                          |
| Client: <u>GES</u>                                                                                                                                                                                                               |                |                                                                     |                                                                                                          |
| City/State:                                                                                                                                                                                                                      | CITY           | STATE                                                               | Project:                                                                                                 |
|                                                                                                                                                                                                                                  |                | <u>MN</u>                                                           |                                                                                                          |
| <b>Receipt Information</b>                                                                                                                                                                                                       |                |                                                                     |                                                                                                          |
| Date/Time Received:                                                                                                                                                                                                              | DATE           | TIME                                                                | Received By:                                                                                             |
|                                                                                                                                                                                                                                  | <u>4-10-24</u> | <u>1345</u>                                                         | <u>ML</u>                                                                                                |
| Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee                                              |                |                                                                     |                                                                                                          |
| <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____                                                       |                |                                                                     |                                                                                                          |
| <b>Condition of Cooler/Containers</b>                                                                                                                                                                                            |                |                                                                     |                                                                                                          |
| Sample(s) received in Cooler?                                                                                                                                                                                                    |                | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | If yes: Cooler ID:                                                                                       |
| Multiple Coolers?                                                                                                                                                                                                                |                | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | If yes: Cooler # <u>1</u> of <u>4</u>                                                                    |
| Cooler Custody Seals Present?                                                                                                                                                                                                    |                | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Sample Custody Seals Present?                                                                                                                                                                                                    |                | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No            |
| Trip Blank Present?                                                                                                                                                                                                              |                | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes: Which VOA samples are in cooler? ↓                                                               |
|                                                                                                                                                                                                                                  |                |                                                                     |                                                                                                          |
| <b>Temperature Record</b>                                                                                                                                                                                                        |                |                                                                     |                                                                                                          |
| Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE                                      |                |                                                                     |                                                                                                          |
| Thermometer ID:                                                                                                                                                                                                                  |                | Correction Factor (°C):                                             |                                                                                                          |
| <u>X</u>                                                                                                                                                                                                                         |                | <u>0</u>                                                            |                                                                                                          |
| • Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature                                                                                                   |                |                                                                     |                                                                                                          |
| Uncorrected Temp (°C):                                                                                                                                                                                                           |                | Corrected Temp (°C):                                                |                                                                                                          |
| <u>0-8</u>                                                                                                                                                                                                                       |                | <u>0-8</u>                                                          |                                                                                                          |
| • Sample Container Temperature                                                                                                                                                                                                   |                |                                                                     |                                                                                                          |
| Container(s) used:                                                                                                                                                                                                               | CONTAINER 1    |                                                                     | CONTAINER 2                                                                                              |
| Uncorrected Temp (°C):                                                                                                                                                                                                           |                |                                                                     |                                                                                                          |
| Corrected Temp (°C):                                                                                                                                                                                                             |                |                                                                     |                                                                                                          |
| <b>Exceptions Noted</b>                                                                                                                                                                                                          |                |                                                                     |                                                                                                          |
| 1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                        |                |                                                                     |                                                                                                          |
| a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                           |                |                                                                     |                                                                                                          |
| 2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No |                |                                                                     |                                                                                                          |
| NOTE If yes, contact PM before proceeding If no, proceed with login                                                                                                                                                              |                |                                                                     |                                                                                                          |
| <b>Additional Comments</b>                                                                                                                                                                                                       |                |                                                                     |                                                                                                          |
|                                                                                                                                                                                                                                  |                |                                                                     |                                                                                                          |
|                                                                                                                                                                                                                                  |                |                                                                     |                                                                                                          |
|                                                                                                                                                                                                                                  |                |                                                                     |                                                                                                          |



Environment Testing  
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Place COC scanning label  
here

### Cooler/Sample Receipt and Temperature Log Form

|                                                                                                                                                                                                                                  |                    |                                                                     |                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Client Information</b>                                                                                                                                                                                                        |                    |                                                                     |                                                                                                          |
| Client: <u>GES</u>                                                                                                                                                                                                               |                    |                                                                     |                                                                                                          |
| City/State:                                                                                                                                                                                                                      | CITY               | STATE                                                               | Project:                                                                                                 |
|                                                                                                                                                                                                                                  |                    | <u>MN</u>                                                           |                                                                                                          |
| <b>Receipt Information</b>                                                                                                                                                                                                       |                    |                                                                     |                                                                                                          |
| Date/Time Received:                                                                                                                                                                                                              | DATE               | TIME                                                                | Received By:                                                                                             |
|                                                                                                                                                                                                                                  | <u>4-10-24</u>     | <u>1345</u>                                                         | <u>ML</u>                                                                                                |
| Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee                                              |                    |                                                                     |                                                                                                          |
| <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____                                                       |                    |                                                                     |                                                                                                          |
| <b>Condition of Cooler/Containers</b>                                                                                                                                                                                            |                    |                                                                     |                                                                                                          |
| Sample(s) received in Cooler?                                                                                                                                                                                                    |                    | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | If yes: Cooler ID:                                                                                       |
| Multiple Coolers?                                                                                                                                                                                                                |                    | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | If yes: Cooler # <u>2</u> of <u>4</u>                                                                    |
| Cooler Custody Seals Present?                                                                                                                                                                                                    |                    | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Sample Custody Seals Present?                                                                                                                                                                                                    |                    | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No            |
| Trip Blank Present?                                                                                                                                                                                                              |                    | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes: Which VOA samples are in cooler? ↓                                                               |
|                                                                                                                                                                                                                                  |                    |                                                                     |                                                                                                          |
| <b>Temperature Record</b>                                                                                                                                                                                                        |                    |                                                                     |                                                                                                          |
| Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE                                      |                    |                                                                     |                                                                                                          |
| Thermometer ID:                                                                                                                                                                                                                  |                    | <u>X</u>                                                            | Correction Factor (°C): <u>0</u>                                                                         |
| • Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature                                                                                                   |                    |                                                                     |                                                                                                          |
| Uncorrected Temp (°C):                                                                                                                                                                                                           |                    | <u>6.2</u>                                                          | Corrected Temp (°C): <u>6.2</u>                                                                          |
| • Sample Container Temperature                                                                                                                                                                                                   |                    |                                                                     |                                                                                                          |
| Container(s) used:                                                                                                                                                                                                               | <u>CONTAINER 1</u> |                                                                     | <u>CONTAINER 2</u>                                                                                       |
| Uncorrected Temp (°C):                                                                                                                                                                                                           |                    |                                                                     |                                                                                                          |
| Corrected Temp (°C):                                                                                                                                                                                                             |                    |                                                                     |                                                                                                          |
| <b>Exceptions Noted</b>                                                                                                                                                                                                          |                    |                                                                     |                                                                                                          |
| 1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                        |                    |                                                                     |                                                                                                          |
| a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                           |                    |                                                                     |                                                                                                          |
| 2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No |                    |                                                                     |                                                                                                          |
| NOTE: If yes, contact PM before proceeding. If no, proceed with login                                                                                                                                                            |                    |                                                                     |                                                                                                          |
| <b>Additional Comments</b>                                                                                                                                                                                                       |                    |                                                                     |                                                                                                          |
|                                                                                                                                                                                                                                  |                    |                                                                     |                                                                                                          |
|                                                                                                                                                                                                                                  |                    |                                                                     |                                                                                                          |
|                                                                                                                                                                                                                                  |                    |                                                                     |                                                                                                          |



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### Cooler/Sample Receipt and Temperature Log Form

|                                                                                                                                                                                                                                  |                    |                                                                     |                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Client Information</b>                                                                                                                                                                                                        |                    |                                                                     |                                                                                                          |
| Client: <u>GES</u>                                                                                                                                                                                                               |                    |                                                                     |                                                                                                          |
| City/State:                                                                                                                                                                                                                      | CITY               | STATE                                                               | Project:                                                                                                 |
|                                                                                                                                                                                                                                  |                    | <u>MN</u>                                                           |                                                                                                          |
| <b>Receipt Information</b>                                                                                                                                                                                                       |                    |                                                                     |                                                                                                          |
| Date/Time Received:                                                                                                                                                                                                              | DATE               | TIME                                                                | Received By:                                                                                             |
|                                                                                                                                                                                                                                  | <u>4-10-24</u>     | <u>1345</u>                                                         | <u>ML</u>                                                                                                |
| Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee                                              |                    |                                                                     |                                                                                                          |
| <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____                                                       |                    |                                                                     |                                                                                                          |
| <b>Condition of Cooler/Containers</b>                                                                                                                                                                                            |                    |                                                                     |                                                                                                          |
| Sample(s) received in Cooler?                                                                                                                                                                                                    |                    | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | If yes: Cooler ID: _____                                                                                 |
| Multiple Coolers?                                                                                                                                                                                                                |                    | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | If yes: Cooler # <u>3</u> of <u>4</u>                                                                    |
| Cooler Custody Seals Present?                                                                                                                                                                                                    |                    | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Sample Custody Seals Present?                                                                                                                                                                                                    |                    | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No            |
| Trip Blank Present?                                                                                                                                                                                                              |                    | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes: Which VOA samples are in cooler? ↓                                                               |
|                                                                                                                                                                                                                                  |                    |                                                                     |                                                                                                          |
| <b>Temperature Record</b>                                                                                                                                                                                                        |                    |                                                                     |                                                                                                          |
| Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE                                      |                    |                                                                     |                                                                                                          |
| Thermometer ID: <u>X</u>                                                                                                                                                                                                         |                    | Correction Factor (°C): <u>0</u>                                    |                                                                                                          |
| • Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature                                                                                                   |                    |                                                                     |                                                                                                          |
| Uncorrected Temp (°C): <u>1.7</u>                                                                                                                                                                                                |                    | Corrected Temp (°C): <u>1.7</u>                                     |                                                                                                          |
| • Sample Container Temperature                                                                                                                                                                                                   |                    |                                                                     |                                                                                                          |
| Container(s) used:                                                                                                                                                                                                               | <u>CONTAINER 1</u> |                                                                     | <u>CONTAINER 2</u>                                                                                       |
| Uncorrected Temp (°C):                                                                                                                                                                                                           |                    |                                                                     |                                                                                                          |
| Corrected Temp (°C):                                                                                                                                                                                                             |                    |                                                                     |                                                                                                          |
| <b>Exceptions Noted</b>                                                                                                                                                                                                          |                    |                                                                     |                                                                                                          |
| 1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                        |                    |                                                                     |                                                                                                          |
| a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                           |                    |                                                                     |                                                                                                          |
| 2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No |                    |                                                                     |                                                                                                          |
| NOTE: If yes, contact PM before proceeding. If no, proceed with login                                                                                                                                                            |                    |                                                                     |                                                                                                          |
| <b>Additional Comments</b>                                                                                                                                                                                                       |                    |                                                                     |                                                                                                          |
|                                                                                                                                                                                                                                  |                    |                                                                     |                                                                                                          |
|                                                                                                                                                                                                                                  |                    |                                                                     |                                                                                                          |
|                                                                                                                                                                                                                                  |                    |                                                                     |                                                                                                          |





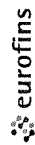
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### Cooler/Sample Receipt and Temperature Log Form

|                                                                                                                                                                                                                                  |                    |                                                                     |                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Client Information</b>                                                                                                                                                                                                        |                    |                                                                     |                                                                                                          |
| Client: <u>GES</u>                                                                                                                                                                                                               |                    |                                                                     |                                                                                                          |
| City/State:                                                                                                                                                                                                                      | CITY               | STATE                                                               | Project:                                                                                                 |
|                                                                                                                                                                                                                                  |                    | <u>MN</u>                                                           |                                                                                                          |
| <b>Receipt Information</b>                                                                                                                                                                                                       |                    |                                                                     |                                                                                                          |
| Date/Time Received:                                                                                                                                                                                                              | DATE               | TIME                                                                | Received By:                                                                                             |
|                                                                                                                                                                                                                                  | <u>4-10-24</u>     | <u>1345</u>                                                         | <u>ML</u>                                                                                                |
| Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee                                              |                    |                                                                     |                                                                                                          |
| <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____                                                       |                    |                                                                     |                                                                                                          |
| <b>Condition of Cooler/Containers</b>                                                                                                                                                                                            |                    |                                                                     |                                                                                                          |
| Sample(s) received in Cooler?                                                                                                                                                                                                    |                    | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | If yes: Cooler ID:                                                                                       |
| Multiple Coolers?                                                                                                                                                                                                                |                    | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | If yes: Cooler # <u>4</u> of <u>4</u>                                                                    |
| Cooler Custody Seals Present?                                                                                                                                                                                                    |                    | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Sample Custody Seals Present?                                                                                                                                                                                                    |                    | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No            |
| Trip Blank Present?                                                                                                                                                                                                              |                    | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes: Which VOA samples are in cooler? ↓                                                               |
|                                                                                                                                                                                                                                  |                    |                                                                     |                                                                                                          |
| <b>Temperature Record</b>                                                                                                                                                                                                        |                    |                                                                     |                                                                                                          |
| Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE                                      |                    |                                                                     |                                                                                                          |
| Thermometer ID:                                                                                                                                                                                                                  |                    | <u>X</u>                                                            | Correction Factor (°C): <u>0</u>                                                                         |
| • Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature                                                                                                   |                    |                                                                     |                                                                                                          |
| Uncorrected Temp (°C):                                                                                                                                                                                                           |                    | <u>1.4</u>                                                          | Corrected Temp (°C): <u>1.4</u>                                                                          |
| • Sample Container Temperature                                                                                                                                                                                                   |                    |                                                                     |                                                                                                          |
| Container(s) used:                                                                                                                                                                                                               | <u>CONTAINER 1</u> |                                                                     | <u>CONTAINER 2</u>                                                                                       |
| Uncorrected Temp (°C):                                                                                                                                                                                                           |                    |                                                                     |                                                                                                          |
| Corrected Temp (°C):                                                                                                                                                                                                             |                    |                                                                     |                                                                                                          |
| <b>Exceptions Noted</b>                                                                                                                                                                                                          |                    |                                                                     |                                                                                                          |
| 1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                        |                    |                                                                     |                                                                                                          |
| a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                           |                    |                                                                     |                                                                                                          |
| 2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No |                    |                                                                     |                                                                                                          |
| NOTE: If yes, contact PM before proceeding. If no, proceed with login                                                                                                                                                            |                    |                                                                     |                                                                                                          |
| <b>Additional Comments</b>                                                                                                                                                                                                       |                    |                                                                     |                                                                                                          |
|                                                                                                                                                                                                                                  |                    |                                                                     |                                                                                                          |
|                                                                                                                                                                                                                                  |                    |                                                                     |                                                                                                          |
|                                                                                                                                                                                                                                  |                    |                                                                     |                                                                                                          |

## Chain of Custody Record

Eurofins Minneapolis SC  
213

|                                                                                                                                                                                                                                                          |               |                                                                                                                                                                                                                             |             |                                                                                                                                                                                        |                                                             |                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------|
| <b>Client Information</b>                                                                                                                                                                                                                                |               | Sampler: <i>N. W. W. W. W.</i>                                                                                                                                                                                              |             | Lab PM: Bindert, Zach T                                                                                                                                                                | Carrier Tracking No(s):                                     | COC No: 310-68661-19671 1           |
| Client Contact: Mr. Nicholas Schlage                                                                                                                                                                                                                     |               | Phone: <i>651-792-6665</i>                                                                                                                                                                                                  |             | E-Mail: Zach.Bindert@Eurofins.com                                                                                                                                                      | State of Origin: MN                                         | Page: Page 1 of 1                   |
| Company: Groundwater & Environmental Services Inc                                                                                                                                                                                                        |               | PWSID:                                                                                                                                                                                                                      |             | Job #:                                                                                                                                                                                 |                                                             |                                     |
| Address: 1301 Corporate Center Drive Suite 190                                                                                                                                                                                                           |               | Due Date Requested                                                                                                                                                                                                          |             | Analysis Requested                                                                                                                                                                     |                                                             |                                     |
| City: Eagan                                                                                                                                                                                                                                              |               | TAT Requested (days): <i>Standard</i>                                                                                                                                                                                       |             | Preservation Codes                                                                                                                                                                     |                                                             |                                     |
| State, Zip: MN, 55121-1562                                                                                                                                                                                                                               |               | Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                                                                     |             | A - HCL<br>B - NaOH<br>C - Zn Acetate<br>D - Nitric Acid<br>E - NaHSO4<br>F - MeOH<br>G - Anchlor<br>H - Ascorbic Acid<br>I - Ice<br>J - DI Water<br>K - EDTA<br>L - EDA<br>Other:     |                                                             |                                     |
| Phone:                                                                                                                                                                                                                                                   |               | Purchase Order Requested                                                                                                                                                                                                    |             | M - Hexane<br>N - None<br>O - AsNaO2<br>P - Na2O4S<br>Q - Na2SO3<br>R - Na2S2O3<br>S - H2SO4<br>T - TSP Dodecalhydrate<br>U - Acetone<br>V - MCAA<br>W - pH 4-5<br>Z - other (specify) |                                                             |                                     |
| Email: NSchlage@gesonline.com                                                                                                                                                                                                                            |               | WO #:                                                                                                                                                                                                                       |             | Total Number of Containers                                                                                                                                                             |                                                             |                                     |
| Project Name: SKB Lansing CCR Monitoring                                                                                                                                                                                                                 |               | Project #:                                                                                                                                                                                                                  |             | Total Metals - 60208 -<br>(Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Ti) 7470A - Mercury<br>2640C - Calcd - TDS SM4500_H+ - pH                                                |                                                             |                                     |
| Site: Minnesota                                                                                                                                                                                                                                          |               | SSOW#:                                                                                                                                                                                                                      |             | Total Number of Containers                                                                                                                                                             |                                                             |                                     |
| Sample Identification                                                                                                                                                                                                                                    |               | Sample Date                                                                                                                                                                                                                 | Sample Time | Sample Type<br>(C=Comp, G=Grab)                                                                                                                                                        | Matrix<br>(W=water, S=solid, O=wastefill, BT=Tissue, A=Air) | Field Filled Sample (Yes or No)     |
| MW-1 - CCR                                                                                                                                                                                                                                               | <i>4/9/24</i> | <i>9:55</i>                                                                                                                                                                                                                 | <i>6</i>    | <i>6</i>                                                                                                                                                                               | Water                                                       | <input checked="" type="checkbox"/> |
| MW-1RD - CCR                                                                                                                                                                                                                                             | <i>4/9/24</i> | <i>9:10</i>                                                                                                                                                                                                                 | <i>6</i>    | <i>6</i>                                                                                                                                                                               | Water                                                       | <input checked="" type="checkbox"/> |
| MW-2R - CCR                                                                                                                                                                                                                                              | <i>4/9/24</i> | <i>10:25</i>                                                                                                                                                                                                                | <i>6</i>    | <i>6</i>                                                                                                                                                                               | Water                                                       | <input checked="" type="checkbox"/> |
| MW-3 - CCR                                                                                                                                                                                                                                               | <i>4/9/24</i> | <i>15:45</i>                                                                                                                                                                                                                | <i>6</i>    | <i>6</i>                                                                                                                                                                               | Water                                                       | <input checked="" type="checkbox"/> |
| MW-3R - CCR                                                                                                                                                                                                                                              | <i>4/9/24</i> | <i>15:40</i>                                                                                                                                                                                                                | <i>6</i>    | <i>6</i>                                                                                                                                                                               | Water                                                       | <input checked="" type="checkbox"/> |
| MW-3RD - CCR                                                                                                                                                                                                                                             | <i>4/9/24</i> | <i>14:25</i>                                                                                                                                                                                                                | <i>6</i>    | <i>6</i>                                                                                                                                                                               | Water                                                       | <input checked="" type="checkbox"/> |
| MW-4 - CCR                                                                                                                                                                                                                                               | <i>4/9/24</i> | <i>13:40</i>                                                                                                                                                                                                                | <i>6</i>    | <i>6</i>                                                                                                                                                                               | Water                                                       | <input checked="" type="checkbox"/> |
| MW-2RD - CCR                                                                                                                                                                                                                                             | <i>4/9/24</i> | <i>15:40</i>                                                                                                                                                                                                                | <i>6</i>    | <i>6</i>                                                                                                                                                                               | Water                                                       | <input checked="" type="checkbox"/> |
| Field Blank 1 - CCR                                                                                                                                                                                                                                      | <i>4/9/24</i> | <i>9:45</i>                                                                                                                                                                                                                 | <i>6</i>    | <i>6</i>                                                                                                                                                                               | Water                                                       | <input checked="" type="checkbox"/> |
| Duplicate 1 - CCR                                                                                                                                                                                                                                        | <i>4/9/24</i> | <i>9:45</i>                                                                                                                                                                                                                 | <i>6</i>    | <i>6</i>                                                                                                                                                                               | Water                                                       | <input checked="" type="checkbox"/> |
| Equipment Blank - CCR                                                                                                                                                                                                                                    | <i>4/9/24</i> | <i>9:50</i>                                                                                                                                                                                                                 | <i>6</i>    | <i>6</i>                                                                                                                                                                               | Water                                                       | <input checked="" type="checkbox"/> |
| Possible Hazard Identification<br><input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological |               | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)<br><input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months |             | Special Instructions/Note:                                                                                                                                                             |                                                             |                                     |
| Deliverable Requested I II III IV Other (specify)                                                                                                                                                                                                        |               | Special Instructions/QC Requirements:                                                                                                                                                                                       |             | Special Instructions/Note:                                                                                                                                                             |                                                             |                                     |
| Empty Kit Relinquished by                                                                                                                                                                                                                                |               | Time:                                                                                                                                                                                                                       |             | Method of Shipment:                                                                                                                                                                    |                                                             |                                     |
| Relinquished by <i>[Signature]</i>                                                                                                                                                                                                                       |               | Date/Time: <i>4/9/24 13:15</i>                                                                                                                                                                                              |             | Company: <i>Eurofins</i>                                                                                                                                                               |                                                             |                                     |
| Relinquished by <i>[Signature]</i>                                                                                                                                                                                                                       |               | Date/Time: <i>4/9/24 13:45</i>                                                                                                                                                                                              |             | Company: <i>Eurofins</i>                                                                                                                                                               |                                                             |                                     |
| Relinquished by <i>[Signature]</i>                                                                                                                                                                                                                       |               | Date/Time: <i>4/9/24 13:45</i>                                                                                                                                                                                              |             | Company: <i>Eurofins</i>                                                                                                                                                               |                                                             |                                     |
| Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                                                                                                |               | Custody Seal No                                                                                                                                                                                                             |             | Cooler Temperature(s) °C and Other Remarks:                                                                                                                                            |                                                             |                                     |

## Login Sample Receipt Checklist

Client: Waste Connections, Inc.

Job Number: 310-278560-1

**Login Number: 278560**

**List Source: Eurofins Cedar Falls**

**List Number: 1**

**Creator: Costello, Mackenzie K**

| Question                                                                                 | Answer | Comment |
|------------------------------------------------------------------------------------------|--------|---------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | N/A    |         |
| The cooler's custody seal, if present, is intact.                                        | True   |         |
| Sample custody seals, if present, are intact.                                            | N/A    |         |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |         |
| Samples were received on ice.                                                            | True   |         |
| Cooler Temperature is acceptable.                                                        | True   |         |
| Cooler Temperature is recorded.                                                          | True   |         |
| COC is present.                                                                          | True   |         |
| COC is filled out in ink and legible.                                                    | True   |         |
| COC is filled out with all pertinent information.                                        | True   |         |
| Is the Field Sampler's name present on COC?                                              | True   |         |
| There are no discrepancies between the containers received and the COC.                  | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |         |
| Sample containers have legible labels.                                                   | True   |         |
| Containers are not broken or leaking.                                                    | True   |         |
| Sample collection date/times are provided.                                               | True   |         |
| Appropriate sample containers are used.                                                  | True   |         |
| Sample bottles are completely filled.                                                    | True   |         |
| Sample Preservation Verified.                                                            | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |         |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | True   |         |
| Multiphasic samples are not present.                                                     | True   |         |
| Samples do not require splitting or compositing.                                         | True   |         |
| Residual Chlorine Checked.                                                               | N/A    |         |

## Login Sample Receipt Checklist

Client: Waste Connections, Inc.

Job Number: 310-278560-1

**Login Number: 278560**

**List Source: Eurofins Cedar Falls**

**List Number: 2**

**Creator: Costello, Mackenzie K**

| Question                                                                         | Answer | Comment |
|----------------------------------------------------------------------------------|--------|---------|
| Radioactivity either was not measured or, if measured, is at or below background | N/A    |         |
| The cooler's custody seal, if present, is intact.                                | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | N/A    |         |
| Samples were received on ice.                                                    | True   |         |
| Cooler Temperature is acceptable.                                                | True   |         |
| Cooler Temperature is recorded.                                                  | True   |         |
| COC is present.                                                                  | True   |         |
| COC is filled out in ink and legible.                                            | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the sample IDs on the containers and the COC. | True   |         |
| Samples are received within Holding Time (Excluding tests with immediate HTs)..  | True   |         |
| Sample containers have legible labels.                                           | True   |         |
| Containers are not broken or leaking.                                            | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.                                          | True   |         |
| Sample bottles are completely filled.                                            | True   |         |
| Sample Preservation Verified                                                     | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.     | True   |         |
| If necessary, staff have been informed of any short hold time or quick TAT needs | True   |         |
| Multiphasic samples are not present.                                             | True   |         |
| Samples do not require splitting or compositing.                                 | True   |         |
| Sampling Company provided.                                                       | True   |         |
| Samples received within 48 hours of sampling.                                    | True   |         |
| Samples requiring field filtration have been filtered in the field.              | True   |         |
| Chlorine Residual checked.                                                       | N/A    |         |

## Tracer/Carrier Summary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-278560-1

### Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

|                       |                       | Percent Yield (Acceptance Limits) |  |  |  |  |  |
|-----------------------|-----------------------|-----------------------------------|--|--|--|--|--|
|                       |                       | Ba                                |  |  |  |  |  |
| Lab Sample ID         | Client Sample ID      | (30-110)                          |  |  |  |  |  |
| 310-278560-1          | MW-1 - CCR            | 89.3                              |  |  |  |  |  |
| 310-278560-2          | MW-1RD - CCR          | 94.9                              |  |  |  |  |  |
| 310-278560-3          | MW-2R - CCR           | 96.7                              |  |  |  |  |  |
| 310-278560-4          | MW-3 - CCR            | 90.1                              |  |  |  |  |  |
| 310-278560-5          | MW-3R - CCR           | 90.6                              |  |  |  |  |  |
| 310-278560-6          | MW-3RD - CCR          | 84.5                              |  |  |  |  |  |
| 310-278560-6 MS       | MW-3RD - CCR          | 88.8                              |  |  |  |  |  |
| 310-278560-6 MSD      | MW-3RD - CCR          | 80.2                              |  |  |  |  |  |
| 310-278560-7          | MW-4 - CCR            | 76.9                              |  |  |  |  |  |
| 310-278560-8          | MW-2RD - CCR          | 78.2                              |  |  |  |  |  |
| 310-278560-9          | Field Blank 1 - CCR   | 91.1                              |  |  |  |  |  |
| 310-278560-10         | Duplicate-1 - CCR     | 86.8                              |  |  |  |  |  |
| 310-278560-11         | Equipment Blank - CCR | 91.4                              |  |  |  |  |  |
| LCS 160-656973/2-A    | Lab Control Sample    | 99.0                              |  |  |  |  |  |
| MB 160-656973/1-A     | Method Blank          | 92.1                              |  |  |  |  |  |
| Tracer/Carrier Legend |                       |                                   |  |  |  |  |  |
| Ba = Barium           |                       |                                   |  |  |  |  |  |

### Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

|                       |                       | Percent Yield (Acceptance Limits) |          |  |  |  |  |
|-----------------------|-----------------------|-----------------------------------|----------|--|--|--|--|
|                       |                       | Ba                                | Y        |  |  |  |  |
| Lab Sample ID         | Client Sample ID      | (30-110)                          | (30-110) |  |  |  |  |
| 310-278560-1          | MW-1 - CCR            | 89.3                              | 86.4     |  |  |  |  |
| 310-278560-2          | MW-1RD - CCR          | 94.9                              | 86.7     |  |  |  |  |
| 310-278560-3          | MW-2R - CCR           | 96.7                              | 86.7     |  |  |  |  |
| 310-278560-4          | MW-3 - CCR            | 90.1                              | 85.6     |  |  |  |  |
| 310-278560-5          | MW-3R - CCR           | 90.6                              | 86.0     |  |  |  |  |
| 310-278560-6          | MW-3RD - CCR          | 84.5                              | 85.6     |  |  |  |  |
| 310-278560-6 MS       | MW-3RD - CCR          | 88.8                              | 84.9     |  |  |  |  |
| 310-278560-6 MSD      | MW-3RD - CCR          | 80.2                              | 85.6     |  |  |  |  |
| 310-278560-7          | MW-4 - CCR            | 76.9                              | 78.5     |  |  |  |  |
| 310-278560-8          | MW-2RD - CCR          | 78.2                              | 86.4     |  |  |  |  |
| 310-278560-9          | Field Blank 1 - CCR   | 91.1                              | 86.4     |  |  |  |  |
| 310-278560-10         | Duplicate-1 - CCR     | 86.8                              | 86.0     |  |  |  |  |
| 310-278560-11         | Equipment Blank - CCR | 91.4                              | 86.7     |  |  |  |  |
| LCS 160-656974/2-A    | Lab Control Sample    | 99.0                              | 81.1     |  |  |  |  |
| MB 160-656974/1-A     | Method Blank          | 92.1                              | 86.0     |  |  |  |  |
| Tracer/Carrier Legend |                       |                                   |          |  |  |  |  |
| Ba = Barium           |                       |                                   |          |  |  |  |  |
| Y = Y Carrier         |                       |                                   |          |  |  |  |  |



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Megan Lindstrom  
Waste Connections, Inc.  
13425 Courthouse Blvd  
Rosemount, Minnesota 55068

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## JOB DESCRIPTION

SKB Lansing CCR Monitoring

## JOB NUMBER

310-285362-1

# Eurofins Cedar Falls

## Job Notes

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

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

## Authorization



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# Case Narrative

Client: Waste Connections, Inc.  
Project: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

**Job ID: 310-285362-1**

**Eurofins Cedar Falls**

## Job Narrative 310-285362-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

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

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

### Receipt

The samples were received on 7/10/2024 1:15 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were -1.2°C, 1.0°C, 1.0°C, 1.3°C and 1.5°C.

### HPLC/IC

Method 9056A\_ORGFM\_28D: The following samples were diluted due to the nature of the sample matrix: MW-1 - CCR (310-285362-1), MW-1RD - CCR (310-285362-2), MW-2R - CCR (310-285362-3) and MW-2RD - CCR (310-285362-8). Elevated reporting limits (RLs) are provided.

Method 9056A\_ORGFM\_28D: The following samples were diluted due to the nature of the sample matrix: MW-3 - CCR (310-285362-4), MW-3R - CCR (310-285362-5), MW-3RD - CCR (310-285362-6), MW-4 - CCR (310-285362-7) and Duplicate 1 - CCR (310-285362-10). Elevated reporting limits (RLs) are provided.

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

### Metals

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

### General Chemistry

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

Eurofins Cedar Falls

## Case Narrative

Client: Waste Connections, Inc.  
Project: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

**Job ID: 310-285362-2**

**Eurofins Cedar Falls**

### **Job Narrative 310-285362-2**

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

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

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

#### **Receipt**

The samples were received on 7/10/2024 1:15 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were -1.2°C, 1.0°C, 1.0°C, 1.3°C and 1.5°C.

#### **Gas Flow Proportional Counter**

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

#### **Rad**

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

Eurofins Cedar Falls

# Sample Summary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

| Lab Sample ID | Client Sample ID      | Matrix | Collected      | Received       |
|---------------|-----------------------|--------|----------------|----------------|
| 310-285362-1  | MW-1 - CCR            | Water  | 07/08/24 14:40 | 07/10/24 13:15 |
| 310-285362-2  | MW-1RD - CCR          | Water  | 07/08/24 14:25 | 07/10/24 13:15 |
| 310-285362-3  | MW-2R - CCR           | Water  | 07/08/24 15:45 | 07/10/24 13:15 |
| 310-285362-4  | MW-3 - CCR            | Water  | 07/09/24 07:45 | 07/10/24 13:15 |
| 310-285362-5  | MW-3R - CCR           | Water  | 07/09/24 07:30 | 07/10/24 13:15 |
| 310-285362-6  | MW-3RD - CCR          | Water  | 07/09/24 08:30 | 07/10/24 13:15 |
| 310-285362-7  | MW-4 - CCR            | Water  | 07/09/24 10:00 | 07/10/24 13:15 |
| 310-285362-8  | MW-2RD - CCR          | Water  | 07/08/24 16:00 | 07/10/24 13:15 |
| 310-285362-9  | Field Blank 1         | Water  | 07/09/24 10:20 | 07/10/24 13:15 |
| 310-285362-10 | Duplicate 1 - CCR     | Water  | 07/09/24 00:00 | 07/10/24 13:15 |
| 310-285362-11 | Equipment Blank - CCR | Water  | 07/09/24 10:30 | 07/10/24 13:15 |

# Detection Summary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

## Client Sample ID: MW-1 - CCR

## Lab Sample ID: 310-285362-1

| Analyte                | Result | Qualifier | RL     | MDL | Unit | Dil Fac | D | Method       | Prep Type |
|------------------------|--------|-----------|--------|-----|------|---------|---|--------------|-----------|
| Chloride               | 31     |           | 5.0    |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Sulfate                | 150    |           | 5.0    |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Barium                 | 0.15   |           | 0.0020 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Boron                  | 0.14   |           | 0.10   |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Calcium                | 148    |           | 0.50   |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Total Dissolved Solids | 688    |           | 50.0   |     | mg/L | 1       |   | SM 2540C     | Total/NA  |
| pH                     | 6.8    | HF        | 1.0    |     | SU   | 1       |   | SM 4500 H+ B | Total/NA  |

## Client Sample ID: MW-1RD - CCR

## Lab Sample ID: 310-285362-2

| Analyte                | Result  | Qualifier | RL      | MDL | Unit | Dil Fac | D | Method       | Prep Type |
|------------------------|---------|-----------|---------|-----|------|---------|---|--------------|-----------|
| Chloride               | 24      |           | 5.0     |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Sulfate                | 51      |           | 5.0     |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Barium                 | 0.14    |           | 0.0020  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Calcium                | 76.2    |           | 0.50    |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Cobalt                 | 0.00061 |           | 0.00050 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Molybdenum             | 0.0029  |           | 0.0020  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Total Dissolved Solids | 352     |           | 50.0    |     | mg/L | 1       |   | SM 2540C     | Total/NA  |
| pH                     | 7.4     | HF        | 1.0     |     | SU   | 1       |   | SM 4500 H+ B | Total/NA  |

## Client Sample ID: MW-2R - CCR

## Lab Sample ID: 310-285362-3

| Analyte                | Result | Qualifier | RL      | MDL | Unit | Dil Fac | D | Method       | Prep Type |
|------------------------|--------|-----------|---------|-----|------|---------|---|--------------|-----------|
| Chloride               | 79     |           | 5.0     |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Sulfate                | 230    |           | 5.0     |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Barium                 | 0.22   |           | 0.0020  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Boron                  | 4.1    |           | 0.10    |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Calcium                | 199    |           | 0.50    |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Cobalt                 | 0.0010 |           | 0.00050 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Total Dissolved Solids | 1060   |           | 50.0    |     | mg/L | 1       |   | SM 2540C     | Total/NA  |
| pH                     | 6.8    | HF        | 1.0     |     | SU   | 1       |   | SM 4500 H+ B | Total/NA  |

## Client Sample ID: MW-3 - CCR

## Lab Sample ID: 310-285362-4

| Analyte                | Result  | Qualifier | RL      | MDL | Unit | Dil Fac | D | Method       | Prep Type |
|------------------------|---------|-----------|---------|-----|------|---------|---|--------------|-----------|
| Chloride               | 40      |           | 5.0     |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Sulfate                | 41      |           | 5.0     |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Barium                 | 0.15    |           | 0.0020  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Boron                  | 0.94    |           | 0.10    |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Calcium                | 150     |           | 0.50    |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Cobalt                 | 0.00097 |           | 0.00050 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Molybdenum             | 0.0042  |           | 0.0020  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Total Dissolved Solids | 632     |           | 50.0    |     | mg/L | 1       |   | SM 2540C     | Total/NA  |
| pH                     | 6.8     | HF        | 1.0     |     | SU   | 1       |   | SM 4500 H+ B | Total/NA  |

## Client Sample ID: MW-3R - CCR

## Lab Sample ID: 310-285362-5

| Analyte  | Result | Qualifier | RL     | MDL | Unit | Dil Fac | D | Method | Prep Type |
|----------|--------|-----------|--------|-----|------|---------|---|--------|-----------|
| Chloride | 27     |           | 5.0    |     | mg/L | 5       |   | 9056A  | Total/NA  |
| Sulfate  | 8.9    |           | 5.0    |     | mg/L | 5       |   | 9056A  | Total/NA  |
| Arsenic  | 0.0023 |           | 0.0020 |     | mg/L | 1       |   | 6020B  | Total/NA  |
| Barium   | 0.57   |           | 0.0020 |     | mg/L | 1       |   | 6020B  | Total/NA  |
| Calcium  | 233    |           | 0.50   |     | mg/L | 1       |   | 6020B  | Total/NA  |

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

# Detection Summary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

## Client Sample ID: MW-3R - CCR (Continued)

Lab Sample ID: 310-285362-5

| Analyte                | Result | Qualifier | RL    | MDL | Unit | Dil Fac | D | Method       | Prep Type |
|------------------------|--------|-----------|-------|-----|------|---------|---|--------------|-----------|
| Lithium                | 0.017  |           | 0.010 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Total Dissolved Solids | 922    |           | 50.0  |     | mg/L | 1       |   | SM 2540C     | Total/NA  |
| pH                     | 6.6    | HF        | 1.0   |     | SU   | 1       |   | SM 4500 H+ B | Total/NA  |

## Client Sample ID: MW-3RD - CCR

Lab Sample ID: 310-285362-6

| Analyte                | Result | Qualifier | RL     | MDL | Unit | Dil Fac | D | Method       | Prep Type |
|------------------------|--------|-----------|--------|-----|------|---------|---|--------------|-----------|
| Chloride               | 28     |           | 5.0    |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Sulfate                | 76     | F1        | 5.0    |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Arsenic                | 0.0037 |           | 0.0020 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Barium                 | 0.19   |           | 0.0020 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Calcium                | 121    |           | 0.50   |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Lithium                | 0.011  |           | 0.010  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Molybdenum             | 0.0034 |           | 0.0020 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Total Dissolved Solids | 528    |           | 50.0   |     | mg/L | 1       |   | SM 2540C     | Total/NA  |
| pH                     | 7.0    | HF        | 1.0    |     | SU   | 1       |   | SM 4500 H+ B | Total/NA  |

## Client Sample ID: MW-4 - CCR

Lab Sample ID: 310-285362-7

| Analyte                | Result  | Qualifier | RL      | MDL | Unit | Dil Fac | D | Method       | Prep Type |
|------------------------|---------|-----------|---------|-----|------|---------|---|--------------|-----------|
| Chloride               | 11      |           | 5.0     |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Sulfate                | 180     |           | 5.0     |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Barium                 | 0.20    |           | 0.0020  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Boron                  | 0.50    |           | 0.10    |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Cadmium                | 0.00020 |           | 0.00020 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Calcium                | 200     |           | 0.50    |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Molybdenum             | 0.0024  |           | 0.0020  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Total Dissolved Solids | 862     |           | 50.0    |     | mg/L | 1       |   | SM 2540C     | Total/NA  |
| pH                     | 7.0     | HF        | 1.0     |     | SU   | 1       |   | SM 4500 H+ B | Total/NA  |

## Client Sample ID: MW-2RD - CCR

Lab Sample ID: 310-285362-8

| Analyte                | Result | Qualifier | RL      | MDL | Unit | Dil Fac | D | Method       | Prep Type |
|------------------------|--------|-----------|---------|-----|------|---------|---|--------------|-----------|
| Chloride               | 43     |           | 5.0     |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Sulfate                | 80     |           | 5.0     |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Barium                 | 0.19   |           | 0.0020  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Boron                  | 0.23   |           | 0.10    |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Calcium                | 156    |           | 0.50    |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Cobalt                 | 0.0027 |           | 0.00050 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Molybdenum             | 0.0022 |           | 0.0020  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Selenium               | 0.031  |           | 0.0050  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Total Dissolved Solids | 638    |           | 50.0    |     | mg/L | 1       |   | SM 2540C     | Total/NA  |
| pH                     | 7.0    | HF        | 1.0     |     | SU   | 1       |   | SM 4500 H+ B | Total/NA  |

## Client Sample ID: Field Blank 1

Lab Sample ID: 310-285362-9

| Analyte | Result | Qualifier | RL  | RL | Unit | Dil Fac | D | Method       | Prep Type |
|---------|--------|-----------|-----|----|------|---------|---|--------------|-----------|
| pH      | 5.8    | HF        | 1.0 |    | SU   | 1       |   | SM 4500 H+ B | Total/NA  |

## Client Sample ID: Duplicate 1 - CCR

Lab Sample ID: 310-285362-10

| Analyte  | Result | Qualifier | RL  | MDL | Unit | Dil Fac | D | Method | Prep Type |
|----------|--------|-----------|-----|-----|------|---------|---|--------|-----------|
| Chloride | 29     |           | 5.0 |     | mg/L | 5       |   | 9056A  | Total/NA  |

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

## Detection Summary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

### Client Sample ID: Duplicate 1 - CCR (Continued)

Lab Sample ID: 310-285362-10

| Analyte                | Result | Qualifier | RL     | MDL | Unit | Dil Fac | D | Method       | Prep Type |
|------------------------|--------|-----------|--------|-----|------|---------|---|--------------|-----------|
| Sulfate                | 78     |           | 5.0    |     | mg/L | 5       |   | 9056A        | Total/NA  |
| Arsenic                | 0.0039 |           | 0.0020 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Barium                 | 0.19   |           | 0.0020 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Calcium                | 124    |           | 0.50   |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Lithium                | 0.012  |           | 0.010  |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Molybdenum             | 0.0035 |           | 0.0020 |     | mg/L | 1       |   | 6020B        | Total/NA  |
| Total Dissolved Solids | 742    |           | 50.0   |     | mg/L | 1       |   | SM 2540C     | Total/NA  |
| pH                     | 7.1    | HF        | 1.0    |     | SU   | 1       |   | SM 4500 H+ B | Total/NA  |

### Client Sample ID: Equipment Blank - CCR

Lab Sample ID: 310-285362-11

| Analyte | Result | Qualifier | RL  | RL | Unit | Dil Fac | D | Method       | Prep Type |
|---------|--------|-----------|-----|----|------|---------|---|--------------|-----------|
| pH      | 6.1    | HF        | 1.0 |    | SU   | 1       |   | SM 4500 H+ B | Total/NA  |

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

Client Sample ID: MW-1 - CCR

Lab Sample ID: 310-285362-1

Date Collected: 07/08/24 14:40

Matrix: Water

Date Received: 07/10/24 13:15

## Method: SW846 9056A - Anions, Ion Chromatography

| Analyte  | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Chloride | 31     |           | 5.0 |     | mg/L |   |          | 07/17/24 14:54 | 5       |
| Fluoride | <1.0   |           | 1.0 |     | mg/L |   |          | 07/17/24 14:54 | 5       |
| Sulfate  | 150    |           | 5.0 |     | mg/L |   |          | 07/17/24 14:54 | 5       |

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

| Analyte    | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:55 | 1       |
| Arsenic    | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:55 | 1       |
| Barium     | 0.15     |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:55 | 1       |
| Beryllium  | <0.0010  |           | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:55 | 1       |
| Boron      | 0.14     |           | 0.10    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:55 | 1       |
| Cadmium    | <0.00020 |           | 0.00020 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:55 | 1       |
| Calcium    | 148      |           | 0.50    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:55 | 1       |
| Chromium   | <0.0050  |           | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:55 | 1       |
| Cobalt     | <0.00050 |           | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:55 | 1       |
| Lead       | <0.00050 |           | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:55 | 1       |
| Lithium    | <0.010   |           | 0.010   |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:55 | 1       |
| Molybdenum | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:55 | 1       |
| Selenium   | <0.0050  |           | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:55 | 1       |
| Thallium   | <0.0010  |           | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:55 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020 |           | 0.00020 |     | mg/L |   | 07/11/24 10:36 | 07/16/24 11:43 | 1       |

## General Chemistry

| Analyte                           | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids (SM 2540C) | 688    |           | 50.0 |     | mg/L |   |          | 07/11/24 16:41 | 1       |
| Analyte                           | Result | Qualifier | RL   | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
| pH (SM 4500 H+ B)                 | 6.8    | HF        | 1.0  |     | SU   |   |          | 07/10/24 17:13 | 1       |

## Method: SW846 9315 - Radium-226 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-226 | <0.122 | U         | 0.0795                      | 0.0798                      | 1.00 | 0.122 | pCi/L | 07/12/24 07:52 | 08/05/24 08:03 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 87.8   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:52 | 08/05/24 08:03 | 1       |

## Method: SW846 9320 - Radium-228 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-228 | <0.574 | U         | 0.346                       | 0.347                       | 1.00 | 0.574 | pCi/L | 07/12/24 07:56 | 07/24/24 12:34 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 87.8   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:56 | 07/24/24 12:34 | 1       |
| Y Carrier  | 84.5   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:56 | 07/24/24 12:34 | 1       |

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# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

**Client Sample ID: MW-1 - CCR**  
**Date Collected: 07/08/24 14:40**  
**Date Received: 07/10/24 13:15**

**Lab Sample ID: 310-285362-1**  
**Matrix: Water**

| Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228 |         |           |         |         |      |       |       |          |                |         |
|------------------------------------------------------------------|---------|-----------|---------|---------|------|-------|-------|----------|----------------|---------|
| Analyte                                                          | Result  | Qualifier | Count   | Total   | RL   | MDC   | Unit  | Prepared | Analyzed       | Dil Fac |
|                                                                  |         |           | Uncert. | Uncert. |      |       |       |          |                |         |
| (2σ+/-)                                                          | (2σ+/-) |           |         |         |      |       |       |          |                |         |
| Combined Radium 226<br>+ 228                                     | <0.574  | U         | 0.355   | 0.356   | 5.00 | 0.574 | pCi/L |          | 08/06/24 13:10 | 1       |

# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

Client Sample ID: MW-1RD - CCR

Lab Sample ID: 310-285362-2

Date Collected: 07/08/24 14:25

Matrix: Water

Date Received: 07/10/24 13:15

## Method: SW846 9056A - Anions, Ion Chromatography

| Analyte  | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Chloride | 24     |           | 5.0 |     | mg/L |   |          | 07/17/24 15:08 | 5       |
| Fluoride | <1.0   |           | 1.0 |     | mg/L |   |          | 07/17/24 15:08 | 5       |
| Sulfate  | 51     |           | 5.0 |     | mg/L |   |          | 07/17/24 15:08 | 5       |

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

| Analyte    | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:57 | 1       |
| Arsenic    | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:57 | 1       |
| Barium     | 0.14     |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:57 | 1       |
| Beryllium  | <0.0010  |           | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:57 | 1       |
| Boron      | <0.10    |           | 0.10    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:57 | 1       |
| Cadmium    | <0.00020 |           | 0.00020 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:57 | 1       |
| Calcium    | 76.2     |           | 0.50    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:57 | 1       |
| Chromium   | <0.0050  |           | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:57 | 1       |
| Cobalt     | 0.00061  |           | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:57 | 1       |
| Lead       | <0.00050 |           | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:57 | 1       |
| Lithium    | <0.010   |           | 0.010   |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:57 | 1       |
| Molybdenum | 0.0029   |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:57 | 1       |
| Selenium   | <0.0050  |           | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:57 | 1       |
| Thallium   | <0.0010  |           | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:57 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020 |           | 0.00020 |     | mg/L |   | 07/11/24 10:36 | 07/16/24 11:45 | 1       |

## General Chemistry

| Analyte                           | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids (SM 2540C) | 352    |           | 50.0 |     | mg/L |   |          | 07/11/24 16:41 | 1       |
| Analyte                           | Result | Qualifier | RL   | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
| pH (SM 4500 H+ B)                 | 7.4    | HF        | 1.0  |     | SU   |   |          | 07/10/24 17:15 | 1       |

## Method: SW846 9315 - Radium-226 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC    | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|--------|-------|----------------|----------------|---------|
| Radium-226 | 0.338  |           | 0.110                       | 0.114                       | 1.00 | 0.0981 | pCi/L | 07/12/24 07:52 | 08/05/24 08:04 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |        |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 87.3   |           | 30 - 110                    |                             |      |        |       | 07/12/24 07:52 | 08/05/24 08:04 | 1       |

## Method: SW846 9320 - Radium-228 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-228 | 0.601  |           | 0.380                       | 0.384                       | 1.00 | 0.556 | pCi/L | 07/12/24 07:56 | 07/24/24 12:34 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 87.3   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:56 | 07/24/24 12:34 | 1       |
| Y Carrier  | 86.0   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:56 | 07/24/24 12:34 | 1       |

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Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

Client Sample ID: MW-1RD - CCR

Lab Sample ID: 310-285362-2

Date Collected: 07/08/24 14:25

Matrix: Water

Date Received: 07/10/24 13:15

| Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228 |        |           |                             |                             |      |       |       |          |                |         |
|------------------------------------------------------------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------|----------------|---------|
| Analyte                                                          | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared | Analyzed       | Dil Fac |
| Combined Radium<br>226 + 228                                     | 0.939  |           | 0.396                       | 0.401                       | 5.00 | 0.556 | pCi/L |          | 08/06/24 13:10 | 1       |

# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

Client Sample ID: MW-2R - CCR

Lab Sample ID: 310-285362-3

Date Collected: 07/08/24 15:45

Matrix: Water

Date Received: 07/10/24 13:15

## Method: SW846 9056A - Anions, Ion Chromatography

| Analyte  | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Chloride | 79     |           | 5.0 |     | mg/L |   |          | 07/17/24 15:22 | 5       |
| Fluoride | <1.0   |           | 1.0 |     | mg/L |   |          | 07/17/24 15:22 | 5       |
| Sulfate  | 230    |           | 5.0 |     | mg/L |   |          | 07/17/24 15:22 | 5       |

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

| Analyte    | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:59 | 1       |
| Arsenic    | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:59 | 1       |
| Barium     | 0.22     |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:59 | 1       |
| Beryllium  | <0.0010  |           | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:59 | 1       |
| Boron      | 4.1      |           | 0.10    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:59 | 1       |
| Cadmium    | <0.00020 |           | 0.00020 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:59 | 1       |
| Calcium    | 199      |           | 0.50    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:59 | 1       |
| Chromium   | <0.0050  |           | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:59 | 1       |
| Cobalt     | 0.0010   |           | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:59 | 1       |
| Lead       | <0.00050 |           | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:59 | 1       |
| Lithium    | <0.010   |           | 0.010   |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:59 | 1       |
| Molybdenum | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:59 | 1       |
| Selenium   | <0.0050  |           | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:59 | 1       |
| Thallium   | <0.0010  |           | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:59 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020 |           | 0.00020 |     | mg/L |   | 07/11/24 10:36 | 07/16/24 11:47 | 1       |

## General Chemistry

| Analyte                           | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids (SM 2540C) | 1060   |           | 50.0 |     | mg/L |   |          | 07/11/24 16:41 | 1       |
| Analyte                           | Result | Qualifier | RL   | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
| pH (SM 4500 H+ B)                 | 6.8    | HF        | 1.0  |     | SU   |   |          | 07/10/24 17:17 | 1       |

## Method: SW846 9315 - Radium-226 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-226 | 0.382  |           | 0.136                       | 0.140                       | 1.00 | 0.130 | pCi/L | 07/12/24 07:52 | 08/05/24 08:04 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 90.1   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:52 | 08/05/24 08:04 | 1       |

## Method: SW846 9320 - Radium-228 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-228 | <0.761 | U         | 0.398                       | 0.398                       | 1.00 | 0.761 | pCi/L | 07/12/24 07:56 | 07/24/24 12:34 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 90.1   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:56 | 07/24/24 12:34 | 1       |
| Y Carrier  | 84.9   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:56 | 07/24/24 12:34 | 1       |

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# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

**Client Sample ID: MW-2R - CCR**  
**Date Collected: 07/08/24 15:45**  
**Date Received: 07/10/24 13:15**

**Lab Sample ID: 310-285362-3**  
**Matrix: Water**

Method: TAL-STL Ra226\_Ra228 - Combined Radium-226 and Radium-228

| Analyte                      | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared | Analyzed       | Dil Fac |
|------------------------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------|----------------|---------|
| Combined Radium 226<br>+ 228 | <0.761 | U         | 0.421                       | 0.422                       | 5.00 | 0.761 | pCi/L |          | 08/06/24 13:10 | 1       |

# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

Client Sample ID: MW-3 - CCR

Lab Sample ID: 310-285362-4

Date Collected: 07/09/24 07:45

Matrix: Water

Date Received: 07/10/24 13:15

## Method: SW846 9056A - Anions, Ion Chromatography

| Analyte  | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Chloride | 40     |           | 5.0 |     | mg/L |   |          | 07/19/24 17:25 | 5       |
| Fluoride | <1.0   |           | 1.0 |     | mg/L |   |          | 07/19/24 17:25 | 5       |
| Sulfate  | 41     |           | 5.0 |     | mg/L |   |          | 07/19/24 17:25 | 5       |

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

| Analyte    | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:02 | 1       |
| Arsenic    | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:02 | 1       |
| Barium     | 0.15     |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:02 | 1       |
| Beryllium  | <0.0010  |           | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:02 | 1       |
| Boron      | 0.94     |           | 0.10    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:02 | 1       |
| Cadmium    | <0.00020 |           | 0.00020 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:02 | 1       |
| Calcium    | 150      |           | 0.50    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:02 | 1       |
| Chromium   | <0.0050  |           | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:02 | 1       |
| Cobalt     | 0.00097  |           | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:02 | 1       |
| Lead       | <0.00050 |           | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:02 | 1       |
| Lithium    | <0.010   |           | 0.010   |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:02 | 1       |
| Molybdenum | 0.0042   |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:02 | 1       |
| Selenium   | <0.0050  |           | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:02 | 1       |
| Thallium   | <0.0010  |           | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:02 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020 |           | 0.00020 |     | mg/L |   | 07/16/24 17:06 | 07/18/24 14:00 | 1       |

## General Chemistry

| Analyte                           | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids (SM 2540C) | 632    |           | 50.0 |     | mg/L |   |          | 07/11/24 16:41 | 1       |
| Analyte                           | Result | Qualifier | RL   | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
| pH (SM 4500 H+ B)                 | 6.8    | HF        | 1.0  |     | SU   |   |          | 07/10/24 17:18 | 1       |

## Method: SW846 9315 - Radium-226 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-226 | 0.152  |           | 0.0961                      | 0.0970                      | 1.00 | 0.124 | pCi/L | 07/12/24 07:52 | 08/05/24 08:04 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 87.6   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:52 | 08/05/24 08:04 | 1       |

## Method: SW846 9320 - Radium-228 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-228 | <0.683 | U         | 0.447                       | 0.450                       | 1.00 | 0.683 | pCi/L | 07/12/24 07:56 | 07/24/24 12:34 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 87.6   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:56 | 07/24/24 12:34 | 1       |
| Y Carrier  | 83.7   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:56 | 07/24/24 12:34 | 1       |

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Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

Client Sample ID: MW-3 - CCR

Lab Sample ID: 310-285362-4

Date Collected: 07/09/24 07:45

Matrix: Water

Date Received: 07/10/24 13:15

| Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228 |        |           |                             |                             |      |       |       |          |                |         |
|------------------------------------------------------------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------|----------------|---------|
| Analyte                                                          | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared | Analyzed       | Dil Fac |
| Combined Radium<br>226 + 228                                     | 0.711  |           | 0.457                       | 0.460                       | 5.00 | 0.683 | pCi/L |          | 08/06/24 13:10 | 1       |

# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

Client Sample ID: MW-3R - CCR

Lab Sample ID: 310-285362-5

Date Collected: 07/09/24 07:30

Matrix: Water

Date Received: 07/10/24 13:15

## Method: SW846 9056A - Anions, Ion Chromatography

| Analyte  | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Chloride | 27     |           | 5.0 |     | mg/L |   |          | 07/19/24 17:39 | 5       |
| Fluoride | <1.0   |           | 1.0 |     | mg/L |   |          | 07/19/24 17:39 | 5       |
| Sulfate  | 8.9    |           | 5.0 |     | mg/L |   |          | 07/19/24 17:39 | 5       |

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

| Analyte    | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:04 | 1       |
| Arsenic    | 0.0023   |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:04 | 1       |
| Barium     | 0.57     |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:04 | 1       |
| Beryllium  | <0.0010  |           | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:04 | 1       |
| Boron      | <0.10    |           | 0.10    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:04 | 1       |
| Cadmium    | <0.00020 |           | 0.00020 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:04 | 1       |
| Calcium    | 233      |           | 0.50    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:04 | 1       |
| Chromium   | <0.0050  |           | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:04 | 1       |
| Cobalt     | <0.00050 |           | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:04 | 1       |
| Lead       | <0.00050 |           | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:04 | 1       |
| Lithium    | 0.017    |           | 0.010   |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:04 | 1       |
| Molybdenum | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:04 | 1       |
| Selenium   | <0.0050  |           | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:04 | 1       |
| Thallium   | <0.0010  |           | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:04 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020 |           | 0.00020 |     | mg/L |   | 07/16/24 17:06 | 07/18/24 14:07 | 1       |

## General Chemistry

| Analyte                           | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids (SM 2540C) | 922    |           | 50.0 |     | mg/L |   |          | 07/11/24 16:41 | 1       |
| Analyte                           | Result | Qualifier | RL   | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
| pH (SM 4500 H+ B)                 | 6.6    | HF        | 1.0  |     | SU   |   |          | 07/10/24 17:07 | 1       |

## Method: SW846 9315 - Radium-226 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-226 | 0.580  |           | 0.168                       | 0.176                       | 1.00 | 0.137 | pCi/L | 07/12/24 07:52 | 08/05/24 08:04 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 81.9   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:52 | 08/05/24 08:04 | 1       |

## Method: SW846 9320 - Radium-228 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-228 | 0.782  |           | 0.499                       | 0.505                       | 1.00 | 0.721 | pCi/L | 07/12/24 07:56 | 07/24/24 12:35 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 81.9   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:56 | 07/24/24 12:35 | 1       |
| Y Carrier  | 83.7   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:56 | 07/24/24 12:35 | 1       |

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Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

Client Sample ID: MW-3R - CCR

Lab Sample ID: 310-285362-5

Date Collected: 07/09/24 07:30

Matrix: Water

Date Received: 07/10/24 13:15

| Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228 |        |           |                             |                             |      |       |       |          |                |         |
|------------------------------------------------------------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------|----------------|---------|
| Analyte                                                          | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared | Analyzed       | Dil Fac |
| Combined Radium<br>226 + 228                                     | 1.36   |           | 0.527                       | 0.535                       | 5.00 | 0.721 | pCi/L |          | 08/06/24 13:10 | 1       |

# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

Client Sample ID: MW-3RD - CCR

Lab Sample ID: 310-285362-6

Date Collected: 07/09/24 08:30

Matrix: Water

Date Received: 07/10/24 13:15

## Method: SW846 9056A - Anions, Ion Chromatography

| Analyte  | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Chloride | 28     |           | 5.0 |     | mg/L |   |          | 07/19/24 17:53 | 5       |
| Fluoride | <1.0   | F1        | 1.0 |     | mg/L |   |          | 07/19/24 17:53 | 5       |
| Sulfate  | 76     | F1        | 5.0 |     | mg/L |   |          | 07/19/24 17:53 | 5       |

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

| Analyte    | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:06 | 1       |
| Arsenic    | 0.0037   |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:06 | 1       |
| Barium     | 0.19     |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:06 | 1       |
| Beryllium  | <0.0010  |           | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:06 | 1       |
| Boron      | <0.10    |           | 0.10    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:06 | 1       |
| Cadmium    | <0.00020 |           | 0.00020 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:06 | 1       |
| Calcium    | 121      |           | 0.50    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:06 | 1       |
| Chromium   | <0.0050  |           | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:06 | 1       |
| Cobalt     | <0.00050 |           | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:06 | 1       |
| Lead       | <0.00050 |           | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:06 | 1       |
| Lithium    | 0.011    |           | 0.010   |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:06 | 1       |
| Molybdenum | 0.0034   |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:06 | 1       |
| Selenium   | <0.0050  |           | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:06 | 1       |
| Thallium   | <0.0010  |           | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:06 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020 |           | 0.00020 |     | mg/L |   | 07/16/24 17:06 | 07/18/24 13:42 | 1       |

## General Chemistry

| Analyte                           | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids (SM 2540C) | 528    |           | 50.0 |     | mg/L |   |          | 07/11/24 16:41 | 1       |
| Analyte                           | Result | Qualifier | RL   | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
| pH (SM 4500 H+ B)                 | 7.0    | HF        | 1.0  |     | SU   |   |          | 07/10/24 17:09 | 1       |

## Method: SW846 9315 - Radium-226 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC    | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|--------|-------|----------------|----------------|---------|
| Radium-226 | 0.516  |           | 0.129                       | 0.137                       | 1.00 | 0.0946 | pCi/L | 07/12/24 07:52 | 08/05/24 08:04 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |        |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 89.3   |           | 30 - 110                    |                             |      |        |       | 07/12/24 07:52 | 08/05/24 08:04 | 1       |

## Method: SW846 9320 - Radium-228 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-228 | <0.544 | U         | 0.332                       | 0.333                       | 1.00 | 0.544 | pCi/L | 07/12/24 07:56 | 07/24/24 12:35 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 89.3   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:56 | 07/24/24 12:35 | 1       |
| Y Carrier  | 83.7   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:56 | 07/24/24 12:35 | 1       |

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Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

Client Sample ID: MW-3RD - CCR

Lab Sample ID: 310-285362-6

Date Collected: 07/09/24 08:30

Matrix: Water

Date Received: 07/10/24 13:15

| Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228 |        |           |                             |                             |      |       |       |          |                |         |
|------------------------------------------------------------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------|----------------|---------|
| Analyte                                                          | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared | Analyzed       | Dil Fac |
| Combined Radium<br>226 + 228                                     | 0.806  |           | 0.356                       | 0.360                       | 5.00 | 0.544 | pCi/L |          | 08/06/24 13:10 | 1       |

# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

Client Sample ID: MW-4 - CCR

Lab Sample ID: 310-285362-7

Date Collected: 07/09/24 10:00

Matrix: Water

Date Received: 07/10/24 13:15

## Method: SW846 9056A - Anions, Ion Chromatography

| Analyte  | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Chloride | 11     |           | 5.0 |     | mg/L |   |          | 07/19/24 18:35 | 5       |
| Fluoride | <1.0   |           | 1.0 |     | mg/L |   |          | 07/19/24 18:35 | 5       |
| Sulfate  | 180    |           | 5.0 |     | mg/L |   |          | 07/19/24 18:35 | 5       |

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

| Analyte    | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:26 | 1       |
| Arsenic    | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:26 | 1       |
| Barium     | 0.20     |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:26 | 1       |
| Beryllium  | <0.0010  |           | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:26 | 1       |
| Boron      | 0.50     |           | 0.10    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:26 | 1       |
| Cadmium    | 0.00020  |           | 0.00020 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:26 | 1       |
| Calcium    | 200      |           | 0.50    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:26 | 1       |
| Chromium   | <0.0050  |           | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:26 | 1       |
| Cobalt     | <0.00050 |           | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:26 | 1       |
| Lead       | <0.00050 |           | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:26 | 1       |
| Lithium    | <0.010   |           | 0.010   |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:26 | 1       |
| Molybdenum | 0.0024   |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:26 | 1       |
| Selenium   | <0.0050  |           | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:26 | 1       |
| Thallium   | <0.0010  |           | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:26 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020 |           | 0.00020 |     | mg/L |   | 07/16/24 17:06 | 07/18/24 14:09 | 1       |

## General Chemistry

| Analyte                           | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids (SM 2540C) | 862    |           | 50.0 |     | mg/L |   |          | 07/11/24 16:41 | 1       |
| Analyte                           | Result | Qualifier | RL   | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
| pH (SM 4500 H+ B)                 | 7.0    | HF        | 1.0  |     | SU   |   |          | 07/10/24 17:12 | 1       |

## Method: SW846 9315 - Radium-226 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC    | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|--------|-------|----------------|----------------|---------|
| Radium-226 | 0.229  |           | 0.0909                      | 0.0933                      | 1.00 | 0.0884 | pCi/L | 07/12/24 07:52 | 08/05/24 09:36 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |        |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 86.6   |           | 30 - 110                    |                             |      |        |       | 07/12/24 07:52 | 08/05/24 09:36 | 1       |

## Method: SW846 9320 - Radium-228 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-228 | 0.838  |           | 0.415                       | 0.422                       | 1.00 | 0.565 | pCi/L | 07/12/24 07:56 | 07/24/24 12:47 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 86.6   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:56 | 07/24/24 12:47 | 1       |
| Y Carrier  | 85.6   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:56 | 07/24/24 12:47 | 1       |

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Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

Client Sample ID: MW-4 - CCR

Lab Sample ID: 310-285362-7

Date Collected: 07/09/24 10:00

Matrix: Water

Date Received: 07/10/24 13:15

| Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228 |        |           |                             |                             |      |       |       |          |                |         |
|------------------------------------------------------------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------|----------------|---------|
| Analyte                                                          | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared | Analyzed       | Dil Fac |
| Combined Radium<br>226 + 228                                     | 1.07   |           | 0.425                       | 0.432                       | 5.00 | 0.565 | pCi/L |          | 08/06/24 13:10 | 1       |



# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

Client Sample ID: MW-2RD - CCR

Lab Sample ID: 310-285362-8

Date Collected: 07/08/24 16:00

Matrix: Water

Date Received: 07/10/24 13:15

## Method: SW846 9056A - Anions, Ion Chromatography

| Analyte  | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Chloride | 43     |           | 5.0 |     | mg/L |   |          | 07/18/24 19:04 | 5       |
| Fluoride | <1.0   |           | 1.0 |     | mg/L |   |          | 07/18/24 19:04 | 5       |
| Sulfate  | 80     |           | 5.0 |     | mg/L |   |          | 07/18/24 19:04 | 5       |

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

| Analyte    | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:28 | 1       |
| Arsenic    | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:28 | 1       |
| Barium     | 0.19     |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:28 | 1       |
| Beryllium  | <0.0010  |           | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:28 | 1       |
| Boron      | 0.23     |           | 0.10    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:28 | 1       |
| Cadmium    | <0.00020 |           | 0.00020 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:28 | 1       |
| Calcium    | 156      |           | 0.50    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:28 | 1       |
| Chromium   | <0.0050  |           | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:28 | 1       |
| Cobalt     | 0.0027   |           | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:28 | 1       |
| Lead       | <0.00050 |           | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:28 | 1       |
| Lithium    | <0.010   |           | 0.010   |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:28 | 1       |
| Molybdenum | 0.0022   |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:28 | 1       |
| Selenium   | 0.031    |           | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:28 | 1       |
| Thallium   | <0.0010  |           | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:28 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020 |           | 0.00020 |     | mg/L |   | 07/16/24 17:06 | 07/18/24 14:11 | 1       |

## General Chemistry

| Analyte                           | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids (SM 2540C) | 638    |           | 50.0 |     | mg/L |   |          | 07/11/24 16:41 | 1       |
| Analyte                           | Result | Qualifier | RL   | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
| pH (SM 4500 H+ B)                 | 7.0    | HF        | 1.0  |     | SU   |   |          | 07/10/24 17:01 | 1       |

## Method: SW846 9315 - Radium-226 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC    | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|--------|-------|----------------|----------------|---------|
| Radium-226 | 0.578  |           | 0.141                       | 0.150                       | 1.00 | 0.0928 | pCi/L | 07/12/24 07:52 | 08/05/24 09:36 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |        |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 79.2   |           | 30 - 110                    |                             |      |        |       | 07/12/24 07:52 | 08/05/24 09:36 | 1       |

## Method: SW846 9320 - Radium-228 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-228 | 1.14   |           | 0.452                       | 0.464                       | 1.00 | 0.553 | pCi/L | 07/12/24 07:56 | 07/24/24 12:48 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 79.2   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:56 | 07/24/24 12:48 | 1       |
| Y Carrier  | 87.9   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:56 | 07/24/24 12:48 | 1       |

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Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

Client Sample ID: MW-2RD - CCR

Lab Sample ID: 310-285362-8

Date Collected: 07/08/24 16:00

Matrix: Water

Date Received: 07/10/24 13:15

| Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228 |        |           |                             |                             |      |       |       |          |                |         |
|------------------------------------------------------------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------|----------------|---------|
| Analyte                                                          | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared | Analyzed       | Dil Fac |
| Combined Radium<br>226 + 228                                     | 1.72   |           | 0.473                       | 0.488                       | 5.00 | 0.553 | pCi/L |          | 08/06/24 13:10 | 1       |

# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

Client Sample ID: Field Blank 1

Lab Sample ID: 310-285362-9

Date Collected: 07/09/24 10:20

Matrix: Water

Date Received: 07/10/24 13:15

## Method: SW846 9056A - Anions, Ion Chromatography

| Analyte  | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Chloride | <1.0   |           | 1.0  |     | mg/L |   |          | 07/19/24 18:50 | 1       |
| Fluoride | <0.20  |           | 0.20 |     | mg/L |   |          | 07/19/24 18:50 | 1       |
| Sulfate  | <1.0   |           | 1.0  |     | mg/L |   |          | 07/19/24 18:50 | 1       |

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

| Analyte    | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:30 | 1       |
| Arsenic    | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:30 | 1       |
| Barium     | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:30 | 1       |
| Beryllium  | <0.0010  |           | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:30 | 1       |
| Boron      | <0.10    |           | 0.10    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:30 | 1       |
| Cadmium    | <0.00020 |           | 0.00020 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:30 | 1       |
| Calcium    | <0.50    |           | 0.50    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:30 | 1       |
| Chromium   | <0.0050  |           | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:30 | 1       |
| Cobalt     | <0.00050 |           | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:30 | 1       |
| Lead       | <0.00050 |           | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:30 | 1       |
| Lithium    | <0.010   |           | 0.010   |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:30 | 1       |
| Molybdenum | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:30 | 1       |
| Selenium   | <0.0050  |           | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:30 | 1       |
| Thallium   | <0.0010  |           | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:30 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020 |           | 0.00020 |     | mg/L |   | 07/16/24 17:06 | 07/18/24 14:13 | 1       |

## General Chemistry

| Analyte                           | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids (SM 2540C) | <50.0  |           | 50.0 |     | mg/L |   |          | 07/11/24 16:41 | 1       |
| Analyte                           | Result | Qualifier | RL   | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
| pH (SM 4500 H+ B)                 | 5.8    | HF        | 1.0  |     | SU   |   |          | 07/10/24 17:05 | 1       |

## Method: SW846 9315 - Radium-226 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-226 | <0.123 | U         | 0.0674                      | 0.0675                      | 1.00 | 0.123 | pCi/L | 07/12/24 07:52 | 08/05/24 09:36 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 92.3   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:52 | 08/05/24 09:36 | 1       |

## Method: SW846 9320 - Radium-228 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-228 | 0.503  |           | 0.337                       | 0.340                       | 1.00 | 0.495 | pCi/L | 07/12/24 07:56 | 07/24/24 12:48 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 92.3   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:56 | 07/24/24 12:48 | 1       |
| Y Carrier  | 85.6   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:56 | 07/24/24 12:48 | 1       |

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Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

Client Sample ID: Field Blank 1

Lab Sample ID: 310-285362-9

Date Collected: 07/09/24 10:20

Matrix: Water

Date Received: 07/10/24 13:15

| Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228 |        |           |                             |                             |      |       |       |          |                |         |
|------------------------------------------------------------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------|----------------|---------|
| Analyte                                                          | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared | Analyzed       | Dil Fac |
| Combined Radium<br>226 + 228                                     | 0.529  |           | 0.344                       | 0.347                       | 5.00 | 0.495 | pCi/L |          | 08/06/24 13:10 | 1       |

# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

Client Sample ID: Duplicate 1 - CCR

Lab Sample ID: 310-285362-10

Date Collected: 07/09/24 00:00

Matrix: Water

Date Received: 07/10/24 13:15

## Method: SW846 9056A - Anions, Ion Chromatography

| Analyte  | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Chloride | 29     |           | 5.0 |     | mg/L |   |          | 07/19/24 19:04 | 5       |
| Fluoride | <1.0   |           | 1.0 |     | mg/L |   |          | 07/19/24 19:04 | 5       |
| Sulfate  | 78     |           | 5.0 |     | mg/L |   |          | 07/19/24 19:04 | 5       |

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

| Analyte    | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:33 | 1       |
| Arsenic    | 0.0039   |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:33 | 1       |
| Barium     | 0.19     |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:33 | 1       |
| Beryllium  | <0.0010  |           | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:33 | 1       |
| Boron      | <0.10    |           | 0.10    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:33 | 1       |
| Cadmium    | <0.00020 |           | 0.00020 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:33 | 1       |
| Calcium    | 124      |           | 0.50    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:33 | 1       |
| Chromium   | <0.0050  |           | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:33 | 1       |
| Cobalt     | <0.00050 |           | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:33 | 1       |
| Lead       | <0.00050 |           | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:33 | 1       |
| Lithium    | 0.012    |           | 0.010   |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:33 | 1       |
| Molybdenum | 0.0035   |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:33 | 1       |
| Selenium   | <0.0050  |           | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:33 | 1       |
| Thallium   | <0.0010  |           | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:33 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020 |           | 0.00020 |     | mg/L |   | 07/16/24 17:06 | 07/18/24 14:15 | 1       |

## General Chemistry

| Analyte                           | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids (SM 2540C) | 742    |           | 50.0 |     | mg/L |   |          | 07/11/24 16:41 | 1       |
| Analyte                           | Result | Qualifier | RL   | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
| pH (SM 4500 H+ B)                 | 7.1    | HF        | 1.0  |     | SU   |   |          | 07/10/24 17:04 | 1       |

## Method: SW846 9315 - Radium-226 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-226 | 0.583  |           | 0.139                       | 0.148                       | 1.00 | 0.106 | pCi/L | 07/12/24 07:52 | 08/05/24 09:36 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 87.6   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:52 | 08/05/24 09:36 | 1       |

## Method: SW846 9320 - Radium-228 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-228 | 0.643  |           | 0.399                       | 0.404                       | 1.00 | 0.585 | pCi/L | 07/12/24 07:56 | 07/24/24 12:48 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 87.6   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:56 | 07/24/24 12:48 | 1       |
| Y Carrier  | 85.2   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:56 | 07/24/24 12:48 | 1       |

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Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

Client Sample ID: Duplicate 1 - CCR

Lab Sample ID: 310-285362-10

Date Collected: 07/09/24 00:00

Matrix: Water

Date Received: 07/10/24 13:15

| Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228 |        |           |                             |                             |      |       |       |          |                |         |
|------------------------------------------------------------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------|----------------|---------|
| Analyte                                                          | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared | Analyzed       | Dil Fac |
| Combined Radium<br>226 + 228                                     | 1.23   |           | 0.423                       | 0.430                       | 5.00 | 0.585 | pCi/L |          | 08/06/24 13:10 | 1       |

# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

Client Sample ID: Equipment Blank - CCR

Lab Sample ID: 310-285362-11

Date Collected: 07/09/24 10:30

Matrix: Water

Date Received: 07/10/24 13:15

## Method: SW846 9056A - Anions, Ion Chromatography

| Analyte  | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Chloride | <1.0   |           | 1.0  |     | mg/L |   |          | 07/19/24 19:46 | 1       |
| Fluoride | <0.20  |           | 0.20 |     | mg/L |   |          | 07/19/24 19:46 | 1       |
| Sulfate  | <1.0   |           | 1.0  |     | mg/L |   |          | 07/19/24 19:46 | 1       |

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

| Analyte    | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:35 | 1       |
| Arsenic    | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:35 | 1       |
| Barium     | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:35 | 1       |
| Beryllium  | <0.0010  |           | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:35 | 1       |
| Boron      | <0.10    |           | 0.10    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:35 | 1       |
| Cadmium    | <0.00020 |           | 0.00020 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:35 | 1       |
| Calcium    | <0.50    |           | 0.50    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:35 | 1       |
| Chromium   | <0.0050  |           | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:35 | 1       |
| Cobalt     | <0.00050 |           | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:35 | 1       |
| Lead       | <0.00050 |           | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:35 | 1       |
| Lithium    | <0.010   |           | 0.010   |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:35 | 1       |
| Molybdenum | <0.0020  |           | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:35 | 1       |
| Selenium   | <0.0050  |           | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:35 | 1       |
| Thallium   | <0.0010  |           | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 20:35 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result   | Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|----------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020 |           | 0.00020 |     | mg/L |   | 07/16/24 17:06 | 07/18/24 14:18 | 1       |

## General Chemistry

| Analyte                           | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids (SM 2540C) | <50.0  |           | 50.0 |     | mg/L |   |          | 07/11/24 16:41 | 1       |
| Analyte                           | Result | Qualifier | RL   | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
| pH (SM 4500 H+ B)                 | 6.1    | HF        | 1.0  |     | SU   |   |          | 07/10/24 17:08 | 1       |

## Method: SW846 9315 - Radium-226 (GFPC)

| Analyte    | Result  | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC    | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|---------|-----------|-----------------------------|-----------------------------|------|--------|-------|----------------|----------------|---------|
| Radium-226 | <0.0818 | U         | 0.0431                      | 0.0431                      | 1.00 | 0.0818 | pCi/L | 07/12/24 07:52 | 08/05/24 09:39 | 1       |
| Carrier    | %Yield  | Qualifier | Limits                      |                             |      |        |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 96.0    |           | 30 - 110                    |                             |      |        |       | 07/12/24 07:52 | 08/05/24 09:39 | 1       |

## Method: SW846 9320 - Radium-228 (GFPC)

| Analyte    | Result | Qualifier | Count<br>Uncert.<br>(2σ+/-) | Total<br>Uncert.<br>(2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-----------------------------|-----------------------------|------|-------|-------|----------------|----------------|---------|
| Radium-228 | <0.562 | U         | 0.280                       | 0.280                       | 1.00 | 0.562 | pCi/L | 07/12/24 07:56 | 07/24/24 12:48 | 1       |
| Carrier    | %Yield | Qualifier | Limits                      |                             |      |       |       | Prepared       | Analyzed       | Dil Fac |
| Barium     | 96.0   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:56 | 07/24/24 12:48 | 1       |
| Y Carrier  | 84.9   |           | 30 - 110                    |                             |      |       |       | 07/12/24 07:56 | 07/24/24 12:48 | 1       |

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# Client Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

**Client Sample ID: Equipment Blank - CCR**  
**Date Collected: 07/09/24 10:30**  
**Date Received: 07/10/24 13:15**

**Lab Sample ID: 310-285362-11**  
**Matrix: Water**

| Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228 |         |           |         |         |      |       |       |          |                |         |
|------------------------------------------------------------------|---------|-----------|---------|---------|------|-------|-------|----------|----------------|---------|
| Analyte                                                          | Result  | Qualifier | Count   | Total   | RL   | MDC   | Unit  | Prepared | Analyzed       | Dil Fac |
|                                                                  |         |           | Uncert. | Uncert. |      |       |       |          |                |         |
| (2σ+/-)                                                          | (2σ+/-) |           |         |         |      |       |       |          |                |         |
| Combined Radium 226 + 228                                        | <0.562  | U         | 0.283   | 0.283   | 5.00 | 0.562 | pCi/L |          | 08/06/24 13:10 | 1       |

## Definitions/Glossary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

### Qualifiers

#### HPLC/IC

| Qualifier | Qualifier Description                          |
|-----------|------------------------------------------------|
| F1        | MS and/or MSD recovery exceeds control limits. |

#### Metals

| Qualifier | Qualifier Description                                                                                                                                     |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4         | MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable. |

#### General Chemistry

| Qualifier | Qualifier Description                                                                                                                    |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------|
| HF        | Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time. |

#### Rad

| Qualifier | Qualifier Description                           |
|-----------|-------------------------------------------------|
| U         | Result is less than the sample detection limit. |

### Glossary

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

# QC Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

## Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-427832/3

Matrix: Water

Analysis Batch: 427832

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|------|-----|------|---|----------|----------------|---------|
| Chloride | <1.0      |              | 1.0  |     | mg/L |   |          | 07/17/24 10:18 | 1       |
| Fluoride | <0.20     |              | 0.20 |     | mg/L |   |          | 07/17/24 10:18 | 1       |
| Sulfate  | <1.0      |              | 1.0  |     | mg/L |   |          | 07/17/24 10:18 | 1       |

Lab Sample ID: LCS 310-427832/4

Matrix: Water

Analysis Batch: 427832

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|----------|-------------|------------|---------------|------|---|------|-------------|
| Chloride | 10.0        | 9.66       |               | mg/L |   | 97   | 90 - 110    |
| Fluoride | 2.00        | 2.07       |               | mg/L |   | 104  | 90 - 110    |
| Sulfate  | 10.0        | 10.3       |               | mg/L |   | 103  | 90 - 110    |

Lab Sample ID: MB 310-427985/3

Matrix: Water

Analysis Batch: 427985

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|------|-----|------|---|----------|----------------|---------|
| Chloride | <1.0      |              | 1.0  |     | mg/L |   |          | 07/19/24 16:15 | 1       |
| Fluoride | <0.20     |              | 0.20 |     | mg/L |   |          | 07/19/24 16:15 | 1       |
| Sulfate  | <1.0      |              | 1.0  |     | mg/L |   |          | 07/19/24 16:15 | 1       |

Lab Sample ID: LCS 310-427985/6

Matrix: Water

Analysis Batch: 427985

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|----------|-------------|------------|---------------|------|---|------|-------------|
| Chloride | 10.0        | 9.80       |               | mg/L |   | 98   | 90 - 110    |
| Fluoride | 2.00        | 2.08       |               | mg/L |   | 104  | 90 - 110    |
| Sulfate  | 10.0        | 10.3       |               | mg/L |   | 103  | 90 - 110    |

Lab Sample ID: 310-285362-6 MS

Matrix: Water

Analysis Batch: 427985

Client Sample ID: MW-3RD - CCR

Prep Type: Total/NA

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|----------|---------------|------------------|-------------|-----------|--------------|------|---|------|-------------|
| Chloride | 28            |                  | 25.0        | 52.0      |              | mg/L |   | 95   | 80 - 120    |
| Fluoride | <1.0          | F1               | 5.00        | 5.25      |              | mg/L |   | 105  | 80 - 120    |
| Sulfate  | 76            | F1               | 25.0        | 101       |              | mg/L |   | 96   | 80 - 120    |

Lab Sample ID: 310-285362-6 MSD

Matrix: Water

Analysis Batch: 427985

Client Sample ID: MW-3RD - CCR

Prep Type: Total/NA

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|----------|---------------|------------------|-------------|------------|---------------|------|---|------|-------------|-----|-----------|
| Chloride | 28            |                  | 25.0        | 52.0       |               | mg/L |   | 95   | 80 - 120    | 0   | 15        |
| Fluoride | <1.0          | F1               | 5.00        | 5.32       |               | mg/L |   | 106  | 80 - 120    | 1   | 15        |
| Sulfate  | 76            | F1               | 25.0        | 101        |               | mg/L |   | 99   | 80 - 120    | 1   | 15        |

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# QC Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

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

Lab Sample ID: MB 310-426923/1-A

Matrix: Water

Analysis Batch: 427207

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 426923

| Analyte    | MB Result | MB Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|-----------|--------------|---------|-----|------|---|----------------|----------------|---------|
| Antimony   | <0.0020   |              | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:41 | 1       |
| Arsenic    | <0.0020   |              | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:41 | 1       |
| Barium     | <0.0020   |              | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:41 | 1       |
| Beryllium  | <0.0010   |              | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:41 | 1       |
| Boron      | <0.10     |              | 0.10    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:41 | 1       |
| Cadmium    | <0.00020  |              | 0.00020 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:41 | 1       |
| Calcium    | <0.50     |              | 0.50    |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:41 | 1       |
| Chromium   | <0.0050   |              | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:41 | 1       |
| Cobalt     | <0.00050  |              | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:41 | 1       |
| Lead       | <0.00050  |              | 0.00050 |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:41 | 1       |
| Lithium    | <0.010    |              | 0.010   |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:41 | 1       |
| Molybdenum | <0.0020   |              | 0.0020  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:41 | 1       |
| Selenium   | <0.0050   |              | 0.0050  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:41 | 1       |
| Thallium   | <0.0010   |              | 0.0010  |     | mg/L |   | 07/11/24 09:00 | 07/12/24 19:41 | 1       |

Lab Sample ID: LCS 310-426923/2-A

Matrix: Water

Analysis Batch: 427207

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 426923

| Analyte    | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|------------|-------------|------------|---------------|------|---|------|-------------|
| Antimony   | 0.200       | 0.216      |               | mg/L |   | 108  | 80 - 120    |
| Arsenic    | 0.200       | 0.205      |               | mg/L |   | 102  | 80 - 120    |
| Barium     | 0.100       | 0.103      |               | mg/L |   | 103  | 80 - 120    |
| Beryllium  | 0.100       | 0.102      |               | mg/L |   | 102  | 80 - 120    |
| Boron      | 0.200       | 0.200      |               | mg/L |   | 100  | 80 - 120    |
| Cadmium    | 0.100       | 0.0992     |               | mg/L |   | 99   | 80 - 120    |
| Calcium    | 2.00        | 1.64       |               | mg/L |   | 82   | 80 - 120    |
| Chromium   | 0.100       | 0.0985     |               | mg/L |   | 98   | 80 - 120    |
| Cobalt     | 0.100       | 0.104      |               | mg/L |   | 104  | 80 - 120    |
| Lead       | 0.200       | 0.205      |               | mg/L |   | 102  | 80 - 120    |
| Lithium    | 0.200       | 0.194      |               | mg/L |   | 97   | 80 - 120    |
| Molybdenum | 0.200       | 0.194      |               | mg/L |   | 97   | 80 - 120    |
| Selenium   | 0.400       | 0.394      |               | mg/L |   | 98   | 80 - 120    |
| Thallium   | 0.100       | 0.110      |               | mg/L |   | 110  | 80 - 120    |

Lab Sample ID: 310-285362-6 MS

Matrix: Water

Analysis Batch: 427207

Client Sample ID: MW-3RD - CCR

Prep Type: Total/NA

Prep Batch: 426923

| Analyte   | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|-----------|---------------|------------------|-------------|-----------|--------------|------|---|------|-------------|
| Antimony  | <0.0020       |                  | 0.200       | 0.220     |              | mg/L |   | 110  | 75 - 125    |
| Arsenic   | 0.0037        |                  | 0.200       | 0.215     |              | mg/L |   | 106  | 75 - 125    |
| Barium    | 0.19          |                  | 0.100       | 0.297     |              | mg/L |   | 106  | 75 - 125    |
| Beryllium | <0.0010       |                  | 0.100       | 0.108     |              | mg/L |   | 108  | 75 - 125    |
| Boron     | <0.10         |                  | 0.200       | 0.233     |              | mg/L |   | 117  | 75 - 125    |
| Cadmium   | <0.00020      |                  | 0.100       | 0.101     |              | mg/L |   | 101  | 75 - 125    |
| Calcium   | 121           |                  | 2.00        | 125.0     | 4            | mg/L |   | 175  | 75 - 125    |
| Chromium  | <0.0050       |                  | 0.100       | 0.0994    |              | mg/L |   | 99   | 75 - 125    |
| Cobalt    | <0.00050      |                  | 0.100       | 0.104     |              | mg/L |   | 104  | 75 - 125    |

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# QC Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

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

Lab Sample ID: 310-285362-6 MS

Matrix: Water

Analysis Batch: 427207

Client Sample ID: MW-3RD - CCR

Prep Type: Total/NA

Prep Batch: 426923

| Analyte    | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|------------|---------------|------------------|-------------|-----------|--------------|------|---|------|-------------|
| Lead       | <0.00050      |                  | 0.200       | 0.209     |              | mg/L |   | 105  | 75 - 125    |
| Lithium    | 0.011         |                  | 0.200       | 0.205     |              | mg/L |   | 97   | 75 - 125    |
| Molybdenum | 0.0034        |                  | 0.200       | 0.204     |              | mg/L |   | 100  | 75 - 125    |
| Selenium   | <0.0050       |                  | 0.400       | 0.406     |              | mg/L |   | 101  | 75 - 125    |
| Thallium   | <0.0010       |                  | 0.100       | 0.106     |              | mg/L |   | 106  | 75 - 125    |

Lab Sample ID: 310-285362-6 MSD

Matrix: Water

Analysis Batch: 427207

Client Sample ID: MW-3RD - CCR

Prep Type: Total/NA

Prep Batch: 426923

| Analyte    | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|------------|---------------|------------------|-------------|------------|---------------|------|---|------|-------------|-----|-----------|
| Antimony   | <0.0020       |                  | 0.200       | 0.218      |               | mg/L |   | 109  | 75 - 125    | 1   | 20        |
| Arsenic    | 0.0037        |                  | 0.200       | 0.212      |               | mg/L |   | 104  | 75 - 125    | 1   | 20        |
| Barium     | 0.19          |                  | 0.100       | 0.299      |               | mg/L |   | 108  | 75 - 125    | 1   | 20        |
| Beryllium  | <0.0010       |                  | 0.100       | 0.103      |               | mg/L |   | 103  | 75 - 125    | 5   | 20        |
| Boron      | <0.10         |                  | 0.200       | 0.224      |               | mg/L |   | 112  | 75 - 125    | 4   | 20        |
| Cadmium    | <0.00020      |                  | 0.100       | 0.0998     |               | mg/L |   | 100  | 75 - 125    | 1   | 20        |
| Calcium    | 121           |                  | 2.00        | 123.8      | 4             | mg/L |   | 115  | 75 - 125    | 1   | 20        |
| Chromium   | <0.0050       |                  | 0.100       | 0.0991     |               | mg/L |   | 99   | 75 - 125    | 0   | 20        |
| Cobalt     | <0.00050      |                  | 0.100       | 0.103      |               | mg/L |   | 103  | 75 - 125    | 1   | 20        |
| Lead       | <0.00050      |                  | 0.200       | 0.206      |               | mg/L |   | 103  | 75 - 125    | 1   | 20        |
| Lithium    | 0.011         |                  | 0.200       | 0.206      |               | mg/L |   | 97   | 75 - 125    | 0   | 20        |
| Molybdenum | 0.0034        |                  | 0.200       | 0.206      |               | mg/L |   | 101  | 75 - 125    | 1   | 20        |
| Selenium   | <0.0050       |                  | 0.400       | 0.398      |               | mg/L |   | 100  | 75 - 125    | 2   | 20        |
| Thallium   | <0.0010       |                  | 0.100       | 0.108      |               | mg/L |   | 108  | 75 - 125    | 2   | 20        |

Lab Sample ID: 310-285362-11 DU

Matrix: Water

Analysis Batch: 427207

Client Sample ID: Equipment Blank - CCR

Prep Type: Total/NA

Prep Batch: 426923

| Analyte    | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|------------|---------------|------------------|-----------|--------------|------|---|-----|-----------|
| Antimony   | <0.0020       |                  | <0.0020   |              | mg/L |   | NC  | 20        |
| Arsenic    | <0.0020       |                  | <0.0020   |              | mg/L |   | NC  | 20        |
| Barium     | <0.0020       |                  | <0.0020   |              | mg/L |   | NC  | 20        |
| Beryllium  | <0.0010       |                  | <0.0010   |              | mg/L |   | NC  | 20        |
| Boron      | <0.10         |                  | <0.10     |              | mg/L |   | NC  | 20        |
| Cadmium    | <0.00020      |                  | <0.00020  |              | mg/L |   | NC  | 20        |
| Calcium    | <0.50         |                  | <0.50     |              | mg/L |   | NC  | 20        |
| Chromium   | <0.0050       |                  | <0.0050   |              | mg/L |   | NC  | 20        |
| Cobalt     | <0.00050      |                  | <0.00050  |              | mg/L |   | NC  | 20        |
| Lead       | <0.00050      |                  | <0.00050  |              | mg/L |   | NC  | 20        |
| Lithium    | <0.010        |                  | <0.010    |              | mg/L |   | NC  | 20        |
| Molybdenum | <0.0020       |                  | <0.0020   |              | mg/L |   | NC  | 20        |
| Selenium   | <0.0050       |                  | <0.0050   |              | mg/L |   | NC  | 20        |
| Thallium   | <0.0010       |                  | <0.0010   |              | mg/L |   | NC  | 20        |

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# QC Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

## Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-427003/1-A  
Matrix: Water  
Analysis Batch: 427426

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 427003

| Analyte | MB Result | MB Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|-----------|--------------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020  |              | 0.00020 |     | mg/L |   | 07/11/24 10:36 | 07/16/24 10:27 | 1       |

Lab Sample ID: LCS 310-427003/2-A  
Matrix: Water  
Analysis Batch: 427426

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 427003

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---------|-------------|------------|---------------|------|---|------|-------------|
| Mercury | 0.00167     | 0.00164    |               | mg/L |   | 98   | 80 - 120    |

Lab Sample ID: MB 310-427059/1-A  
Matrix: Water  
Analysis Batch: 427752

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 427059

| Analyte | MB Result | MB Qualifier | RL      | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|-----------|--------------|---------|-----|------|---|----------------|----------------|---------|
| Mercury | <0.00020  |              | 0.00020 |     | mg/L |   | 07/16/24 17:06 | 07/18/24 13:38 | 1       |

Lab Sample ID: LCS 310-427059/2-A  
Matrix: Water  
Analysis Batch: 427752

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 427059

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---------|-------------|------------|---------------|------|---|------|-------------|
| Mercury | 0.00167     | 0.00180    |               | mg/L |   | 108  | 80 - 120    |

Lab Sample ID: 310-285362-6 MS  
Matrix: Water  
Analysis Batch: 427752

Client Sample ID: MW-3RD - CCR  
Prep Type: Total/NA  
Prep Batch: 427059

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---------|---------------|------------------|-------------|-----------|--------------|------|---|------|-------------|
| Mercury | <0.00020      |                  | 0.00167     | 0.00175   |              | mg/L |   | 105  | 80 - 120    |

Lab Sample ID: 310-285362-6 MSD  
Matrix: Water  
Analysis Batch: 427752

Client Sample ID: MW-3RD - CCR  
Prep Type: Total/NA  
Prep Batch: 427059

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---------|---------------|------------------|-------------|------------|---------------|------|---|------|-------------|-----|-----------|
| Mercury | <0.00020      |                  | 0.00167     | 0.00179    |               | mg/L |   | 108  | 80 - 120    | 3   | 20        |

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 310-427053/1  
Matrix: Water  
Analysis Batch: 427053

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

| Analyte                | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------|-----------|--------------|------|-----|------|---|----------|----------------|---------|
| Total Dissolved Solids | <50.0     |              | 50.0 |     | mg/L |   |          | 07/11/24 16:41 | 1       |

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# QC Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

## Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 310-427053/2  
Matrix: Water  
Analysis Batch: 427053

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

| Analyte                | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|------------------------|-------------|------------|---------------|------|---|------|-------------|
| Total Dissolved Solids | 1000        | 982.0      |               | mg/L |   | 98   | 88 - 110    |

Lab Sample ID: 310-285362-6 DU  
Matrix: Water  
Analysis Batch: 427053

Client Sample ID: MW-3RD - CCR  
Prep Type: Total/NA

| Analyte                | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|------------------------|---------------|------------------|-----------|--------------|------|---|-----|-----------|
| Total Dissolved Solids | 528           |                  | 520.0     |              | mg/L |   | 2   | 16        |

## Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-426924/1  
Matrix: Water  
Analysis Batch: 426924

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---------|-------------|------------|---------------|------|---|------|-------------|
| pH      | 7.00        | 7.0        |               | SU   |   | 100  | 98 - 102    |

Lab Sample ID: LCS 310-426924/27  
Matrix: Water  
Analysis Batch: 426924

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---------|-------------|------------|---------------|------|---|------|-------------|
| pH      | 7.00        | 7.0        |               | SU   |   | 100  | 98 - 102    |

Lab Sample ID: 310-285362-4 DU  
Matrix: Water  
Analysis Batch: 426924

Client Sample ID: MW-3 - CCR  
Prep Type: Total/NA

| Analyte | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|---------|---------------|------------------|-----------|--------------|------|---|-----|-----------|
| pH      | 6.8           | HF               | 6.8       |              | SU   |   | 0.9 | 20        |

Lab Sample ID: 310-285362-9 DU  
Matrix: Water  
Analysis Batch: 426924

Client Sample ID: Field Blank 1  
Prep Type: Total/NA

| Analyte | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|---------|---------------|------------------|-----------|--------------|------|---|-----|-----------|
| pH      | 5.8           | HF               | 5.8       |              | SU   |   | 0.2 | 20        |

## Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-670460/1-A  
Matrix: Water  
Analysis Batch: 673675

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 670460

| Analyte    | MB Result | MB Qualifier | Count Uncert. (2σ+/-) | Total Uncert. (2σ+/-) | RL   | MDC    | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|-----------|--------------|-----------------------|-----------------------|------|--------|-------|----------------|----------------|---------|
| Radium-226 | <0.0960   | U            | 0.0497                | 0.0498                | 1.00 | 0.0960 | pCi/L | 07/12/24 07:52 | 08/05/24 07:44 | 1       |

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# QC Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

## Method: 9315 - Radium-226 (GFPC) (Continued)

Lab Sample ID: MB 160-670460/1-A  
Matrix: Water  
Analysis Batch: 673675

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 670460

|         | MB     | MB        |          |                |                |         |  |  |  |  |  |
|---------|--------|-----------|----------|----------------|----------------|---------|--|--|--|--|--|
| Carrier | %Yield | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |  |  |  |  |  |
| Barium  | 91.6   |           | 30 - 110 | 07/12/24 07:52 | 08/05/24 07:44 | 1       |  |  |  |  |  |

Lab Sample ID: LCS 160-670460/2-A  
Matrix: Water  
Analysis Batch: 673675

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 670460

| Analyte    |        | Spike Added | LCS Result | LCS Qual | Total Uncert. (2σ+/-) | RL   | MDC    | Unit  | %Rec | %Rec Limits |  |  |
|------------|--------|-------------|------------|----------|-----------------------|------|--------|-------|------|-------------|--|--|
| Radium-226 |        | 9.58        | 10.15      |          | 1.06                  | 1.00 | 0.0920 | pCi/L | 106  | 75 - 125    |  |  |
| Carrier    | LCS    | LCS         |            |          |                       |      |        |       |      |             |  |  |
|            | %Yield | Qualifier   | Limits     |          |                       |      |        |       |      |             |  |  |
| Barium     | 93.1   |             | 30 - 110   |          |                       |      |        |       |      |             |  |  |

Lab Sample ID: 310-285362-6 MS  
Matrix: Water  
Analysis Batch: 673671

Client Sample ID: MW-3RD - CCR  
Prep Type: Total/NA  
Prep Batch: 670460

| Analyte    | Sample Result | Sample Qual | Spike Added | MS Result | MS Qual | Total Uncert. (2σ+/-) | RL   | MDC   | Unit  | %Rec | %Rec Limits |  |  |
|------------|---------------|-------------|-------------|-----------|---------|-----------------------|------|-------|-------|------|-------------|--|--|
| Radium-226 | 0.516         |             | 9.60        | 9.785     |         | 1.02                  | 1.00 | 0.102 | pCi/L | 97   | 60 - 140    |  |  |
| Carrier    | MS            | MS          |             |           |         |                       |      |       |       |      |             |  |  |
|            | %Yield        | Qualifier   | Limits      |           |         |                       |      |       |       |      |             |  |  |
| Barium     | 93.5          |             | 30 - 110    |           |         |                       |      |       |       |      |             |  |  |

Lab Sample ID: 310-285362-6 MSD  
Matrix: Water  
Analysis Batch: 673671

Client Sample ID: MW-3RD - CCR  
Prep Type: Total/NA  
Prep Batch: 670460

| Analyte    | Sample Result | Sample Qual | Spike Added | MSD Result | MSD Qual | Total Uncert. (2σ+/-) | RL   | MDC   | Unit  | %Rec | %Rec Limits | RER  | RER Limit |
|------------|---------------|-------------|-------------|------------|----------|-----------------------|------|-------|-------|------|-------------|------|-----------|
| Radium-226 | 0.516         |             | 9.55        | 10.49      |          | 1.11                  | 1.00 | 0.144 | pCi/L | 104  | 60 - 140    | 0.33 | 1         |
| Carrier    | MSD           | MSD         |             |            |          |                       |      |       |       |      |             |      |           |
|            | %Yield        | Qualifier   | Limits      |            |          |                       |      |       |       |      |             |      |           |
| Barium     | 80.9          |             | 30 - 110    |            |          |                       |      |       |       |      |             |      |           |

## Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-670462/1-A  
Matrix: Water  
Analysis Batch: 672157

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 670462

| Analyte    | MB Result | MB Qualifier | Count Uncert. (2σ+/-) | Total Uncert. (2σ+/-) | RL   | MDC   | Unit  | Prepared       | Analyzed       | Dil Fac |
|------------|-----------|--------------|-----------------------|-----------------------|------|-------|-------|----------------|----------------|---------|
| Radium-228 | <0.505    | U            | 0.301                 | 0.301                 | 1.00 | 0.505 | pCi/L | 07/12/24 07:56 | 07/24/24 12:33 | 1       |
| Carrier    | MB        | MB           |                       |                       |      |       |       |                |                |         |
|            | %Yield    | Qualifier    | Limits                |                       |      |       |       |                |                |         |
| Barium     | 91.6      |              | 30 - 110              |                       |      |       |       | 07/12/24 07:56 | 07/24/24 12:33 | 1       |

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# QC Sample Results

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

## Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: MB 160-670462/1-A  
Matrix: Water  
Analysis Batch: 672157

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 670462

|           | MB     | MB        |          |
|-----------|--------|-----------|----------|
| Carrier   | %Yield | Qualifier | Limits   |
| Y Carrier | 84.5   |           | 30 - 110 |

| Prepared       | Analyzed       | Dil Fac |
|----------------|----------------|---------|
| 07/12/24 07:56 | 07/24/24 12:33 | 1       |

Lab Sample ID: LCS 160-670462/2-A  
Matrix: Water  
Analysis Batch: 672157

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 670462

| Analyte    |  | Spike Added | LCS Result | LCS Qual | Total Uncert. (2σ+/-) | RL   | MDC   | Unit  | %Rec | %Rec Limits |
|------------|--|-------------|------------|----------|-----------------------|------|-------|-------|------|-------------|
| Radium-228 |  | 8.74        | 9.839      |          | 1.34                  | 1.00 | 0.494 | pCi/L | 113  | 75 - 125    |

|           | LCS    | LCS       |          |
|-----------|--------|-----------|----------|
| Carrier   | %Yield | Qualifier | Limits   |
| Barium    | 93.1   |           | 30 - 110 |
| Y Carrier | 83.7   |           | 30 - 110 |

Lab Sample ID: 310-285362-6 MS  
Matrix: Water  
Analysis Batch: 672158

Client Sample ID: MW-3RD - CCR  
Prep Type: Total/NA  
Prep Batch: 670462

| Analyte    | Sample Result | Sample Qual | Spike Added | MS Result | MS Qual | Total Uncert. (2σ+/-) | RL   | MDC   | Unit  | %Rec | %Rec Limits |
|------------|---------------|-------------|-------------|-----------|---------|-----------------------|------|-------|-------|------|-------------|
| Radium-228 | <0.544        | U           | 8.75        | 9.771     |         | 1.34                  | 1.00 | 0.572 | pCi/L | 108  | 60 - 140    |

|           | MS     | MS        |          |
|-----------|--------|-----------|----------|
| Carrier   | %Yield | Qualifier | Limits   |
| Barium    | 93.5   |           | 30 - 110 |
| Y Carrier | 87.1   |           | 30 - 110 |

Lab Sample ID: 310-285362-6 MSD  
Matrix: Water  
Analysis Batch: 672158

Client Sample ID: MW-3RD - CCR  
Prep Type: Total/NA  
Prep Batch: 670462

| Analyte    | Sample Result | Sample Qual | Spike Added | MSD Result | MSD Qual | Total Uncert. (2σ+/-) | RL   | MDC   | Unit  | %Rec | %Rec Limits | RER  | RER Limit |
|------------|---------------|-------------|-------------|------------|----------|-----------------------|------|-------|-------|------|-------------|------|-----------|
| Radium-228 | <0.544        | U           | 8.71        | 9.389      |          | 1.36                  | 1.00 | 0.659 | pCi/L | 104  | 60 - 140    | 0.14 | 1         |

|           | MSD    | MSD       |          |
|-----------|--------|-----------|----------|
| Carrier   | %Yield | Qualifier | Limits   |
| Barium    | 80.9   |           | 30 - 110 |
| Y Carrier | 87.5   |           | 30 - 110 |

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# QC Association Summary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

## HPLC/IC

### Analysis Batch: 427832

| Lab Sample ID    | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 310-285362-1     | MW-1 - CCR         | Total/NA  | Water  | 9056A  |            |
| 310-285362-2     | MW-1RD - CCR       | Total/NA  | Water  | 9056A  |            |
| 310-285362-3     | MW-2R - CCR        | Total/NA  | Water  | 9056A  |            |
| 310-285362-8     | MW-2RD - CCR       | Total/NA  | Water  | 9056A  |            |
| MB 310-427832/3  | Method Blank       | Total/NA  | Water  | 9056A  |            |
| LCS 310-427832/4 | Lab Control Sample | Total/NA  | Water  | 9056A  |            |

### Analysis Batch: 427985

| Lab Sample ID    | Client Sample ID      | Prep Type | Matrix | Method | Prep Batch |
|------------------|-----------------------|-----------|--------|--------|------------|
| 310-285362-4     | MW-3 - CCR            | Total/NA  | Water  | 9056A  |            |
| 310-285362-5     | MW-3R - CCR           | Total/NA  | Water  | 9056A  |            |
| 310-285362-6     | MW-3RD - CCR          | Total/NA  | Water  | 9056A  |            |
| 310-285362-7     | MW-4 - CCR            | Total/NA  | Water  | 9056A  |            |
| 310-285362-9     | Field Blank 1         | Total/NA  | Water  | 9056A  |            |
| 310-285362-10    | Duplicate 1 - CCR     | Total/NA  | Water  | 9056A  |            |
| 310-285362-11    | Equipment Blank - CCR | Total/NA  | Water  | 9056A  |            |
| MB 310-427985/3  | Method Blank          | Total/NA  | Water  | 9056A  |            |
| LCS 310-427985/6 | Lab Control Sample    | Total/NA  | Water  | 9056A  |            |
| 310-285362-6 MS  | MW-3RD - CCR          | Total/NA  | Water  | 9056A  |            |
| 310-285362-6 MSD | MW-3RD - CCR          | Total/NA  | Water  | 9056A  |            |

## Metals

### Prep Batch: 426923

| Lab Sample ID      | Client Sample ID      | Prep Type | Matrix | Method | Prep Batch |
|--------------------|-----------------------|-----------|--------|--------|------------|
| 310-285362-1       | MW-1 - CCR            | Total/NA  | Water  | 3005A  |            |
| 310-285362-2       | MW-1RD - CCR          | Total/NA  | Water  | 3005A  |            |
| 310-285362-3       | MW-2R - CCR           | Total/NA  | Water  | 3005A  |            |
| 310-285362-4       | MW-3 - CCR            | Total/NA  | Water  | 3005A  |            |
| 310-285362-5       | MW-3R - CCR           | Total/NA  | Water  | 3005A  |            |
| 310-285362-6       | MW-3RD - CCR          | Total/NA  | Water  | 3005A  |            |
| 310-285362-7       | MW-4 - CCR            | Total/NA  | Water  | 3005A  |            |
| 310-285362-8       | MW-2RD - CCR          | Total/NA  | Water  | 3005A  |            |
| 310-285362-9       | Field Blank 1         | Total/NA  | Water  | 3005A  |            |
| 310-285362-10      | Duplicate 1 - CCR     | Total/NA  | Water  | 3005A  |            |
| 310-285362-11      | Equipment Blank - CCR | Total/NA  | Water  | 3005A  |            |
| MB 310-426923/1-A  | Method Blank          | Total/NA  | Water  | 3005A  |            |
| LCS 310-426923/2-A | Lab Control Sample    | Total/NA  | Water  | 3005A  |            |
| 310-285362-6 MS    | MW-3RD - CCR          | Total/NA  | Water  | 3005A  |            |
| 310-285362-6 MSD   | MW-3RD - CCR          | Total/NA  | Water  | 3005A  |            |
| 310-285362-11 DU   | Equipment Blank - CCR | Total/NA  | Water  | 3005A  |            |

### Prep Batch: 427003

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 310-285362-1       | MW-1 - CCR         | Total/NA  | Water  | 7470A  |            |
| 310-285362-2       | MW-1RD - CCR       | Total/NA  | Water  | 7470A  |            |
| 310-285362-3       | MW-2R - CCR        | Total/NA  | Water  | 7470A  |            |
| MB 310-427003/1-A  | Method Blank       | Total/NA  | Water  | 7470A  |            |
| LCS 310-427003/2-A | Lab Control Sample | Total/NA  | Water  | 7470A  |            |

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# QC Association Summary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

## Metals

### Prep Batch: 427059

| Lab Sample ID      | Client Sample ID      | Prep Type | Matrix | Method | Prep Batch |
|--------------------|-----------------------|-----------|--------|--------|------------|
| 310-285362-4       | MW-3 - CCR            | Total/NA  | Water  | 7470A  |            |
| 310-285362-5       | MW-3R - CCR           | Total/NA  | Water  | 7470A  |            |
| 310-285362-6       | MW-3RD - CCR          | Total/NA  | Water  | 7470A  |            |
| 310-285362-7       | MW-4 - CCR            | Total/NA  | Water  | 7470A  |            |
| 310-285362-8       | MW-2RD - CCR          | Total/NA  | Water  | 7470A  |            |
| 310-285362-9       | Field Blank 1         | Total/NA  | Water  | 7470A  |            |
| 310-285362-10      | Duplicate 1 - CCR     | Total/NA  | Water  | 7470A  |            |
| 310-285362-11      | Equipment Blank - CCR | Total/NA  | Water  | 7470A  |            |
| MB 310-427059/1-A  | Method Blank          | Total/NA  | Water  | 7470A  |            |
| LCS 310-427059/2-A | Lab Control Sample    | Total/NA  | Water  | 7470A  |            |
| 310-285362-6 MS    | MW-3RD - CCR          | Total/NA  | Water  | 7470A  |            |
| 310-285362-6 MSD   | MW-3RD - CCR          | Total/NA  | Water  | 7470A  |            |

### Analysis Batch: 427207

| Lab Sample ID      | Client Sample ID      | Prep Type | Matrix | Method | Prep Batch |
|--------------------|-----------------------|-----------|--------|--------|------------|
| 310-285362-1       | MW-1 - CCR            | Total/NA  | Water  | 6020B  | 426923     |
| 310-285362-2       | MW-1RD - CCR          | Total/NA  | Water  | 6020B  | 426923     |
| 310-285362-3       | MW-2R - CCR           | Total/NA  | Water  | 6020B  | 426923     |
| 310-285362-4       | MW-3 - CCR            | Total/NA  | Water  | 6020B  | 426923     |
| 310-285362-5       | MW-3R - CCR           | Total/NA  | Water  | 6020B  | 426923     |
| 310-285362-6       | MW-3RD - CCR          | Total/NA  | Water  | 6020B  | 426923     |
| 310-285362-7       | MW-4 - CCR            | Total/NA  | Water  | 6020B  | 426923     |
| 310-285362-8       | MW-2RD - CCR          | Total/NA  | Water  | 6020B  | 426923     |
| 310-285362-9       | Field Blank 1         | Total/NA  | Water  | 6020B  | 426923     |
| 310-285362-10      | Duplicate 1 - CCR     | Total/NA  | Water  | 6020B  | 426923     |
| 310-285362-11      | Equipment Blank - CCR | Total/NA  | Water  | 6020B  | 426923     |
| MB 310-426923/1-A  | Method Blank          | Total/NA  | Water  | 6020B  | 426923     |
| LCS 310-426923/2-A | Lab Control Sample    | Total/NA  | Water  | 6020B  | 426923     |
| 310-285362-6 MS    | MW-3RD - CCR          | Total/NA  | Water  | 6020B  | 426923     |
| 310-285362-6 MSD   | MW-3RD - CCR          | Total/NA  | Water  | 6020B  | 426923     |
| 310-285362-11 DU   | Equipment Blank - CCR | Total/NA  | Water  | 6020B  | 426923     |

### Analysis Batch: 427426

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 310-285362-1       | MW-1 - CCR         | Total/NA  | Water  | 7470A  | 427003     |
| 310-285362-2       | MW-1RD - CCR       | Total/NA  | Water  | 7470A  | 427003     |
| 310-285362-3       | MW-2R - CCR        | Total/NA  | Water  | 7470A  | 427003     |
| MB 310-427003/1-A  | Method Blank       | Total/NA  | Water  | 7470A  | 427003     |
| LCS 310-427003/2-A | Lab Control Sample | Total/NA  | Water  | 7470A  | 427003     |

### Analysis Batch: 427752

| Lab Sample ID     | Client Sample ID      | Prep Type | Matrix | Method | Prep Batch |
|-------------------|-----------------------|-----------|--------|--------|------------|
| 310-285362-4      | MW-3 - CCR            | Total/NA  | Water  | 7470A  | 427059     |
| 310-285362-5      | MW-3R - CCR           | Total/NA  | Water  | 7470A  | 427059     |
| 310-285362-6      | MW-3RD - CCR          | Total/NA  | Water  | 7470A  | 427059     |
| 310-285362-7      | MW-4 - CCR            | Total/NA  | Water  | 7470A  | 427059     |
| 310-285362-8      | MW-2RD - CCR          | Total/NA  | Water  | 7470A  | 427059     |
| 310-285362-9      | Field Blank 1         | Total/NA  | Water  | 7470A  | 427059     |
| 310-285362-10     | Duplicate 1 - CCR     | Total/NA  | Water  | 7470A  | 427059     |
| 310-285362-11     | Equipment Blank - CCR | Total/NA  | Water  | 7470A  | 427059     |
| MB 310-427059/1-A | Method Blank          | Total/NA  | Water  | 7470A  | 427059     |

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# QC Association Summary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

## Metals (Continued)

### Analysis Batch: 427752 (Continued)

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| LCS 310-427059/2-A | Lab Control Sample | Total/NA  | Water  | 7470A  | 427059     |
| 310-285362-6 MS    | MW-3RD - CCR       | Total/NA  | Water  | 7470A  | 427059     |
| 310-285362-6 MSD   | MW-3RD - CCR       | Total/NA  | Water  | 7470A  | 427059     |

## General Chemistry

### Analysis Batch: 426924

| Lab Sample ID     | Client Sample ID      | Prep Type | Matrix | Method       | Prep Batch |
|-------------------|-----------------------|-----------|--------|--------------|------------|
| 310-285362-1      | MW-1 - CCR            | Total/NA  | Water  | SM 4500 H+ B |            |
| 310-285362-2      | MW-1RD - CCR          | Total/NA  | Water  | SM 4500 H+ B |            |
| 310-285362-3      | MW-2R - CCR           | Total/NA  | Water  | SM 4500 H+ B |            |
| 310-285362-4      | MW-3 - CCR            | Total/NA  | Water  | SM 4500 H+ B |            |
| 310-285362-5      | MW-3R - CCR           | Total/NA  | Water  | SM 4500 H+ B |            |
| 310-285362-6      | MW-3RD - CCR          | Total/NA  | Water  | SM 4500 H+ B |            |
| 310-285362-7      | MW-4 - CCR            | Total/NA  | Water  | SM 4500 H+ B |            |
| 310-285362-8      | MW-2RD - CCR          | Total/NA  | Water  | SM 4500 H+ B |            |
| 310-285362-9      | Field Blank 1         | Total/NA  | Water  | SM 4500 H+ B |            |
| 310-285362-10     | Duplicate 1 - CCR     | Total/NA  | Water  | SM 4500 H+ B |            |
| 310-285362-11     | Equipment Blank - CCR | Total/NA  | Water  | SM 4500 H+ B |            |
| LCS 310-426924/1  | Lab Control Sample    | Total/NA  | Water  | SM 4500 H+ B |            |
| LCS 310-426924/27 | Lab Control Sample    | Total/NA  | Water  | SM 4500 H+ B |            |
| 310-285362-4 DU   | MW-3 - CCR            | Total/NA  | Water  | SM 4500 H+ B |            |
| 310-285362-9 DU   | Field Blank 1         | Total/NA  | Water  | SM 4500 H+ B |            |

### Analysis Batch: 427053

| Lab Sample ID    | Client Sample ID      | Prep Type | Matrix | Method   | Prep Batch |
|------------------|-----------------------|-----------|--------|----------|------------|
| 310-285362-1     | MW-1 - CCR            | Total/NA  | Water  | SM 2540C |            |
| 310-285362-2     | MW-1RD - CCR          | Total/NA  | Water  | SM 2540C |            |
| 310-285362-3     | MW-2R - CCR           | Total/NA  | Water  | SM 2540C |            |
| 310-285362-4     | MW-3 - CCR            | Total/NA  | Water  | SM 2540C |            |
| 310-285362-5     | MW-3R - CCR           | Total/NA  | Water  | SM 2540C |            |
| 310-285362-6     | MW-3RD - CCR          | Total/NA  | Water  | SM 2540C |            |
| 310-285362-7     | MW-4 - CCR            | Total/NA  | Water  | SM 2540C |            |
| 310-285362-8     | MW-2RD - CCR          | Total/NA  | Water  | SM 2540C |            |
| 310-285362-9     | Field Blank 1         | Total/NA  | Water  | SM 2540C |            |
| 310-285362-10    | Duplicate 1 - CCR     | Total/NA  | Water  | SM 2540C |            |
| 310-285362-11    | Equipment Blank - CCR | Total/NA  | Water  | SM 2540C |            |
| MB 310-427053/1  | Method Blank          | Total/NA  | Water  | SM 2540C |            |
| LCS 310-427053/2 | Lab Control Sample    | Total/NA  | Water  | SM 2540C |            |
| 310-285362-6 DU  | MW-3RD - CCR          | Total/NA  | Water  | SM 2540C |            |

## Rad

### Prep Batch: 670460

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method     | Prep Batch |
|---------------|------------------|-----------|--------|------------|------------|
| 310-285362-1  | MW-1 - CCR       | Total/NA  | Water  | PrecSep-21 |            |
| 310-285362-2  | MW-1RD - CCR     | Total/NA  | Water  | PrecSep-21 |            |
| 310-285362-3  | MW-2R - CCR      | Total/NA  | Water  | PrecSep-21 |            |
| 310-285362-4  | MW-3 - CCR       | Total/NA  | Water  | PrecSep-21 |            |
| 310-285362-5  | MW-3R - CCR      | Total/NA  | Water  | PrecSep-21 |            |
| 310-285362-6  | MW-3RD - CCR     | Total/NA  | Water  | PrecSep-21 |            |
| 310-285362-7  | MW-4 - CCR       | Total/NA  | Water  | PrecSep-21 |            |

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# QC Association Summary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

## Rad (Continued)

### Prep Batch: 670460 (Continued)

| Lab Sample ID      | Client Sample ID      | Prep Type | Matrix | Method     | Prep Batch |
|--------------------|-----------------------|-----------|--------|------------|------------|
| 310-285362-8       | MW-2RD - CCR          | Total/NA  | Water  | PrecSep-21 |            |
| 310-285362-9       | Field Blank 1         | Total/NA  | Water  | PrecSep-21 |            |
| 310-285362-10      | Duplicate 1 - CCR     | Total/NA  | Water  | PrecSep-21 |            |
| 310-285362-11      | Equipment Blank - CCR | Total/NA  | Water  | PrecSep-21 |            |
| MB 160-670460/1-A  | Method Blank          | Total/NA  | Water  | PrecSep-21 |            |
| LCS 160-670460/2-A | Lab Control Sample    | Total/NA  | Water  | PrecSep-21 |            |
| 310-285362-6 MS    | MW-3RD - CCR          | Total/NA  | Water  | PrecSep-21 |            |
| 310-285362-6 MSD   | MW-3RD - CCR          | Total/NA  | Water  | PrecSep-21 |            |

### Prep Batch: 670462

| Lab Sample ID      | Client Sample ID      | Prep Type | Matrix | Method    | Prep Batch |
|--------------------|-----------------------|-----------|--------|-----------|------------|
| 310-285362-1       | MW-1 - CCR            | Total/NA  | Water  | PrecSep_0 |            |
| 310-285362-2       | MW-1RD - CCR          | Total/NA  | Water  | PrecSep_0 |            |
| 310-285362-3       | MW-2R - CCR           | Total/NA  | Water  | PrecSep_0 |            |
| 310-285362-4       | MW-3 - CCR            | Total/NA  | Water  | PrecSep_0 |            |
| 310-285362-5       | MW-3R - CCR           | Total/NA  | Water  | PrecSep_0 |            |
| 310-285362-6       | MW-3RD - CCR          | Total/NA  | Water  | PrecSep_0 |            |
| 310-285362-7       | MW-4 - CCR            | Total/NA  | Water  | PrecSep_0 |            |
| 310-285362-8       | MW-2RD - CCR          | Total/NA  | Water  | PrecSep_0 |            |
| 310-285362-9       | Field Blank 1         | Total/NA  | Water  | PrecSep_0 |            |
| 310-285362-10      | Duplicate 1 - CCR     | Total/NA  | Water  | PrecSep_0 |            |
| 310-285362-11      | Equipment Blank - CCR | Total/NA  | Water  | PrecSep_0 |            |
| MB 160-670462/1-A  | Method Blank          | Total/NA  | Water  | PrecSep_0 |            |
| LCS 160-670462/2-A | Lab Control Sample    | Total/NA  | Water  | PrecSep_0 |            |
| 310-285362-6 MS    | MW-3RD - CCR          | Total/NA  | Water  | PrecSep_0 |            |
| 310-285362-6 MSD   | MW-3RD - CCR          | Total/NA  | Water  | PrecSep_0 |            |

# Lab Chronicle

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

**Client Sample ID: MW-1 - CCR**

**Lab Sample ID: 310-285362-1**

**Date Collected: 07/08/24 14:40**

**Matrix: Water**

**Date Received: 07/10/24 13:15**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | 9056A        |     | 5               | 427832       | QTZ5    | EET CF | 07/17/24 14:54       |
| Total/NA  | Prep       | 3005A        |     |                 | 426923       | QTZ5    | EET CF | 07/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 427207       | A6US    | EET CF | 07/12/24 19:55       |
| Total/NA  | Prep       | 7470A        |     |                 | 427003       | A6US    | EET CF | 07/11/24 10:36       |
| Total/NA  | Analysis   | 7470A        |     | 1               | 427426       | A6US    | EET CF | 07/16/24 11:43       |
| Total/NA  | Analysis   | SM 2540C     |     | 1               | 427053       | MDU9    | EET CF | 07/11/24 16:41       |
| Total/NA  | Analysis   | SM 4500 H+ B |     | 1               | 426924       | A3GU    | EET CF | 07/10/24 17:13       |
| Total/NA  | Prep       | PrecSep-21   |     |                 | 670460       | MLT     | EET SL | 07/12/24 07:52       |
| Total/NA  | Analysis   | 9315         |     | 1               | 673671       | SCB     | EET SL | 08/05/24 08:03       |
| Total/NA  | Prep       | PrecSep_0    |     |                 | 670462       | MLT     | EET SL | 07/12/24 07:56       |
| Total/NA  | Analysis   | 9320         |     | 1               | 672157       | SWS     | EET SL | 07/24/24 12:34       |
| Total/NA  | Analysis   | Ra226_Ra228  |     | 1               | 674015       | FLC     | EET SL | 08/06/24 13:10       |

**Client Sample ID: MW-1RD - CCR**

**Lab Sample ID: 310-285362-2**

**Date Collected: 07/08/24 14:25**

**Matrix: Water**

**Date Received: 07/10/24 13:15**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | 9056A        |     | 5               | 427832       | QTZ5    | EET CF | 07/17/24 15:08       |
| Total/NA  | Prep       | 3005A        |     |                 | 426923       | QTZ5    | EET CF | 07/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 427207       | A6US    | EET CF | 07/12/24 19:57       |
| Total/NA  | Prep       | 7470A        |     |                 | 427003       | A6US    | EET CF | 07/11/24 10:36       |
| Total/NA  | Analysis   | 7470A        |     | 1               | 427426       | A6US    | EET CF | 07/16/24 11:45       |
| Total/NA  | Analysis   | SM 2540C     |     | 1               | 427053       | MDU9    | EET CF | 07/11/24 16:41       |
| Total/NA  | Analysis   | SM 4500 H+ B |     | 1               | 426924       | A3GU    | EET CF | 07/10/24 17:15       |
| Total/NA  | Prep       | PrecSep-21   |     |                 | 670460       | MLT     | EET SL | 07/12/24 07:52       |
| Total/NA  | Analysis   | 9315         |     | 1               | 673671       | SCB     | EET SL | 08/05/24 08:04       |
| Total/NA  | Prep       | PrecSep_0    |     |                 | 670462       | MLT     | EET SL | 07/12/24 07:56       |
| Total/NA  | Analysis   | 9320         |     | 1               | 672157       | SWS     | EET SL | 07/24/24 12:34       |
| Total/NA  | Analysis   | Ra226_Ra228  |     | 1               | 674015       | FLC     | EET SL | 08/06/24 13:10       |

**Client Sample ID: MW-2R - CCR**

**Lab Sample ID: 310-285362-3**

**Date Collected: 07/08/24 15:45**

**Matrix: Water**

**Date Received: 07/10/24 13:15**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | 9056A        |     | 5               | 427832       | QTZ5    | EET CF | 07/17/24 15:22       |
| Total/NA  | Prep       | 3005A        |     |                 | 426923       | QTZ5    | EET CF | 07/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 427207       | A6US    | EET CF | 07/12/24 19:59       |
| Total/NA  | Prep       | 7470A        |     |                 | 427003       | A6US    | EET CF | 07/11/24 10:36       |
| Total/NA  | Analysis   | 7470A        |     | 1               | 427426       | A6US    | EET CF | 07/16/24 11:47       |
| Total/NA  | Analysis   | SM 2540C     |     | 1               | 427053       | MDU9    | EET CF | 07/11/24 16:41       |
| Total/NA  | Analysis   | SM 4500 H+ B |     | 1               | 426924       | A3GU    | EET CF | 07/10/24 17:17       |

Eurofins Cedar Falls



# Lab Chronicle

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

## Client Sample ID: MW-2R - CCR

Date Collected: 07/08/24 15:45

Date Received: 07/10/24 13:15

## Lab Sample ID: 310-285362-3

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Prep       | PrecSep-21   |     |                 | 670460       | MLT     | EET SL | 07/12/24 07:52       |
| Total/NA  | Analysis   | 9315         |     | 1               | 673671       | SCB     | EET SL | 08/05/24 08:04       |
| Total/NA  | Prep       | PrecSep_0    |     |                 | 670462       | MLT     | EET SL | 07/12/24 07:56       |
| Total/NA  | Analysis   | 9320         |     | 1               | 672157       | SWS     | EET SL | 07/24/24 12:34       |
| Total/NA  | Analysis   | Ra226_Ra228  |     | 1               | 674015       | FLC     | EET SL | 08/06/24 13:10       |

## Client Sample ID: MW-3 - CCR

Date Collected: 07/09/24 07:45

Date Received: 07/10/24 13:15

## Lab Sample ID: 310-285362-4

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | 9056A        |     | 5               | 427985       | QTZ5    | EET CF | 07/19/24 17:25       |
| Total/NA  | Prep       | 3005A        |     |                 | 426923       | QTZ5    | EET CF | 07/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 427207       | A6US    | EET CF | 07/12/24 20:02       |
| Total/NA  | Prep       | 7470A        |     |                 | 427059       | A6US    | EET CF | 07/16/24 17:06       |
| Total/NA  | Analysis   | 7470A        |     | 1               | 427752       | A6US    | EET CF | 07/18/24 14:00       |
| Total/NA  | Analysis   | SM 2540C     |     | 1               | 427053       | MDU9    | EET CF | 07/11/24 16:41       |
| Total/NA  | Analysis   | SM 4500 H+ B |     | 1               | 426924       | A3GU    | EET CF | 07/10/24 17:18       |
| Total/NA  | Prep       | PrecSep-21   |     |                 | 670460       | MLT     | EET SL | 07/12/24 07:52       |
| Total/NA  | Analysis   | 9315         |     | 1               | 673671       | SCB     | EET SL | 08/05/24 08:04       |
| Total/NA  | Prep       | PrecSep_0    |     |                 | 670462       | MLT     | EET SL | 07/12/24 07:56       |
| Total/NA  | Analysis   | 9320         |     | 1               | 672157       | SWS     | EET SL | 07/24/24 12:34       |
| Total/NA  | Analysis   | Ra226_Ra228  |     | 1               | 674015       | FLC     | EET SL | 08/06/24 13:10       |

## Client Sample ID: MW-3R - CCR

Date Collected: 07/09/24 07:30

Date Received: 07/10/24 13:15

## Lab Sample ID: 310-285362-5

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | 9056A        |     | 5               | 427985       | QTZ5    | EET CF | 07/19/24 17:39       |
| Total/NA  | Prep       | 3005A        |     |                 | 426923       | QTZ5    | EET CF | 07/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 427207       | A6US    | EET CF | 07/12/24 20:04       |
| Total/NA  | Prep       | 7470A        |     |                 | 427059       | A6US    | EET CF | 07/16/24 17:06       |
| Total/NA  | Analysis   | 7470A        |     | 1               | 427752       | A6US    | EET CF | 07/18/24 14:07       |
| Total/NA  | Analysis   | SM 2540C     |     | 1               | 427053       | MDU9    | EET CF | 07/11/24 16:41       |
| Total/NA  | Analysis   | SM 4500 H+ B |     | 1               | 426924       | A3GU    | EET CF | 07/10/24 17:07       |
| Total/NA  | Prep       | PrecSep-21   |     |                 | 670460       | MLT     | EET SL | 07/12/24 07:52       |
| Total/NA  | Analysis   | 9315         |     | 1               | 673671       | SCB     | EET SL | 08/05/24 08:04       |
| Total/NA  | Prep       | PrecSep_0    |     |                 | 670462       | MLT     | EET SL | 07/12/24 07:56       |
| Total/NA  | Analysis   | 9320         |     | 1               | 672157       | SWS     | EET SL | 07/24/24 12:35       |
| Total/NA  | Analysis   | Ra226_Ra228  |     | 1               | 674015       | FLC     | EET SL | 08/06/24 13:10       |

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# Lab Chronicle

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

**Client Sample ID: MW-3RD - CCR**

**Date Collected: 07/09/24 08:30**

**Date Received: 07/10/24 13:15**

**Lab Sample ID: 310-285362-6**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | 9056A        |     | 5               | 427985       | QTZ5    | EET CF | 07/19/24 17:53       |
| Total/NA  | Prep       | 3005A        |     |                 | 426923       | QTZ5    | EET CF | 07/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 427207       | A6US    | EET CF | 07/12/24 20:06       |
| Total/NA  | Prep       | 7470A        |     |                 | 427059       | A6US    | EET CF | 07/16/24 17:06       |
| Total/NA  | Analysis   | 7470A        |     | 1               | 427752       | A6US    | EET CF | 07/18/24 13:42       |
| Total/NA  | Analysis   | SM 2540C     |     | 1               | 427053       | MDU9    | EET CF | 07/11/24 16:41       |
| Total/NA  | Analysis   | SM 4500 H+ B |     | 1               | 426924       | A3GU    | EET CF | 07/10/24 17:09       |
| Total/NA  | Prep       | PrecSep-21   |     |                 | 670460       | MLT     | EET SL | 07/12/24 07:52       |
| Total/NA  | Analysis   | 9315         |     | 1               | 673671       | SCB     | EET SL | 08/05/24 08:04       |
| Total/NA  | Prep       | PrecSep_0    |     |                 | 670462       | MLT     | EET SL | 07/12/24 07:56       |
| Total/NA  | Analysis   | 9320         |     | 1               | 672157       | SWS     | EET SL | 07/24/24 12:35       |
| Total/NA  | Analysis   | Ra226_Ra228  |     | 1               | 674015       | FLC     | EET SL | 08/06/24 13:10       |

**Client Sample ID: MW-4 - CCR**

**Date Collected: 07/09/24 10:00**

**Date Received: 07/10/24 13:15**

**Lab Sample ID: 310-285362-7**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | 9056A        |     | 5               | 427985       | QTZ5    | EET CF | 07/19/24 18:35       |
| Total/NA  | Prep       | 3005A        |     |                 | 426923       | QTZ5    | EET CF | 07/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 427207       | A6US    | EET CF | 07/12/24 20:26       |
| Total/NA  | Prep       | 7470A        |     |                 | 427059       | A6US    | EET CF | 07/16/24 17:06       |
| Total/NA  | Analysis   | 7470A        |     | 1               | 427752       | A6US    | EET CF | 07/18/24 14:09       |
| Total/NA  | Analysis   | SM 2540C     |     | 1               | 427053       | MDU9    | EET CF | 07/11/24 16:41       |
| Total/NA  | Analysis   | SM 4500 H+ B |     | 1               | 426924       | A3GU    | EET CF | 07/10/24 17:12       |
| Total/NA  | Prep       | PrecSep-21   |     |                 | 670460       | MLT     | EET SL | 07/12/24 07:52       |
| Total/NA  | Analysis   | 9315         |     | 1               | 673675       | SWS     | EET SL | 08/05/24 09:36       |
| Total/NA  | Prep       | PrecSep_0    |     |                 | 670462       | MLT     | EET SL | 07/12/24 07:56       |
| Total/NA  | Analysis   | 9320         |     | 1               | 672158       | SCB     | EET SL | 07/24/24 12:47       |
| Total/NA  | Analysis   | Ra226_Ra228  |     | 1               | 674015       | FLC     | EET SL | 08/06/24 13:10       |

**Client Sample ID: MW-2RD - CCR**

**Date Collected: 07/08/24 16:00**

**Date Received: 07/10/24 13:15**

**Lab Sample ID: 310-285362-8**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | 9056A        |     | 5               | 427832       | QTZ5    | EET CF | 07/18/24 19:04       |
| Total/NA  | Prep       | 3005A        |     |                 | 426923       | QTZ5    | EET CF | 07/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 427207       | A6US    | EET CF | 07/12/24 20:28       |
| Total/NA  | Prep       | 7470A        |     |                 | 427059       | A6US    | EET CF | 07/16/24 17:06       |
| Total/NA  | Analysis   | 7470A        |     | 1               | 427752       | A6US    | EET CF | 07/18/24 14:11       |
| Total/NA  | Analysis   | SM 2540C     |     | 1               | 427053       | MDU9    | EET CF | 07/11/24 16:41       |
| Total/NA  | Analysis   | SM 4500 H+ B |     | 1               | 426924       | A3GU    | EET CF | 07/10/24 17:01       |

Eurofins Cedar Falls

# Lab Chronicle

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

**Client Sample ID: MW-2RD - CCR**

**Lab Sample ID: 310-285362-8**

**Date Collected: 07/08/24 16:00**

**Matrix: Water**

**Date Received: 07/10/24 13:15**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Prep       | PrecSep-21   |     |                 | 670460       | MLT     | EET SL | 07/12/24 07:52       |
| Total/NA  | Analysis   | 9315         |     | 1               | 673675       | SWS     | EET SL | 08/05/24 09:36       |
| Total/NA  | Prep       | PrecSep_0    |     |                 | 670462       | MLT     | EET SL | 07/12/24 07:56       |
| Total/NA  | Analysis   | 9320         |     | 1               | 672158       | SCB     | EET SL | 07/24/24 12:48       |
| Total/NA  | Analysis   | Ra226_Ra228  |     | 1               | 674015       | FLC     | EET SL | 08/06/24 13:10       |

**Client Sample ID: Field Blank 1**

**Lab Sample ID: 310-285362-9**

**Date Collected: 07/09/24 10:20**

**Matrix: Water**

**Date Received: 07/10/24 13:15**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | 9056A        |     | 1               | 427985       | QTZ5    | EET CF | 07/19/24 18:50       |
| Total/NA  | Prep       | 3005A        |     |                 | 426923       | QTZ5    | EET CF | 07/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 427207       | A6US    | EET CF | 07/12/24 20:30       |
| Total/NA  | Prep       | 7470A        |     |                 | 427059       | A6US    | EET CF | 07/16/24 17:06       |
| Total/NA  | Analysis   | 7470A        |     | 1               | 427752       | A6US    | EET CF | 07/18/24 14:13       |
| Total/NA  | Analysis   | SM 2540C     |     | 1               | 427053       | MDU9    | EET CF | 07/11/24 16:41       |
| Total/NA  | Analysis   | SM 4500 H+ B |     | 1               | 426924       | A3GU    | EET CF | 07/10/24 17:05       |
| Total/NA  | Prep       | PrecSep-21   |     |                 | 670460       | MLT     | EET SL | 07/12/24 07:52       |
| Total/NA  | Analysis   | 9315         |     | 1               | 673675       | SWS     | EET SL | 08/05/24 09:36       |
| Total/NA  | Prep       | PrecSep_0    |     |                 | 670462       | MLT     | EET SL | 07/12/24 07:56       |
| Total/NA  | Analysis   | 9320         |     | 1               | 672158       | SCB     | EET SL | 07/24/24 12:48       |
| Total/NA  | Analysis   | Ra226_Ra228  |     | 1               | 674015       | FLC     | EET SL | 08/06/24 13:10       |

**Client Sample ID: Duplicate 1 - CCR**

**Lab Sample ID: 310-285362-10**

**Date Collected: 07/09/24 00:00**

**Matrix: Water**

**Date Received: 07/10/24 13:15**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | 9056A        |     | 5               | 427985       | QTZ5    | EET CF | 07/19/24 19:04       |
| Total/NA  | Prep       | 3005A        |     |                 | 426923       | QTZ5    | EET CF | 07/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 427207       | A6US    | EET CF | 07/12/24 20:33       |
| Total/NA  | Prep       | 7470A        |     |                 | 427059       | A6US    | EET CF | 07/16/24 17:06       |
| Total/NA  | Analysis   | 7470A        |     | 1               | 427752       | A6US    | EET CF | 07/18/24 14:15       |
| Total/NA  | Analysis   | SM 2540C     |     | 1               | 427053       | MDU9    | EET CF | 07/11/24 16:41       |
| Total/NA  | Analysis   | SM 4500 H+ B |     | 1               | 426924       | A3GU    | EET CF | 07/10/24 17:04       |
| Total/NA  | Prep       | PrecSep-21   |     |                 | 670460       | MLT     | EET SL | 07/12/24 07:52       |
| Total/NA  | Analysis   | 9315         |     | 1               | 673675       | SWS     | EET SL | 08/05/24 09:36       |
| Total/NA  | Prep       | PrecSep_0    |     |                 | 670462       | MLT     | EET SL | 07/12/24 07:56       |
| Total/NA  | Analysis   | 9320         |     | 1               | 672158       | SCB     | EET SL | 07/24/24 12:48       |
| Total/NA  | Analysis   | Ra226_Ra228  |     | 1               | 674015       | FLC     | EET SL | 08/06/24 13:10       |

Eurofins Cedar Falls

# Lab Chronicle

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

**Client Sample ID: Equipment Blank - CCR**

**Lab Sample ID: 310-285362-11**

**Date Collected: 07/09/24 10:30**

**Matrix: Water**

**Date Received: 07/10/24 13:15**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | 9056A        |     | 1               | 427985       | QTZ5    | EET CF | 07/19/24 19:46       |
| Total/NA  | Prep       | 3005A        |     |                 | 426923       | QTZ5    | EET CF | 07/11/24 09:00       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 427207       | A6US    | EET CF | 07/12/24 20:35       |
| Total/NA  | Prep       | 7470A        |     |                 | 427059       | A6US    | EET CF | 07/16/24 17:06       |
| Total/NA  | Analysis   | 7470A        |     | 1               | 427752       | A6US    | EET CF | 07/18/24 14:18       |
| Total/NA  | Analysis   | SM 2540C     |     | 1               | 427053       | MDU9    | EET CF | 07/11/24 16:41       |
| Total/NA  | Analysis   | SM 4500 H+ B |     | 1               | 426924       | A3GU    | EET CF | 07/10/24 17:08       |
| Total/NA  | Prep       | PrecSep-21   |     |                 | 670460       | MLT     | EET SL | 07/12/24 07:52       |
| Total/NA  | Analysis   | 9315         |     | 1               | 673675       | SWS     | EET SL | 08/05/24 09:39       |
| Total/NA  | Prep       | PrecSep_0    |     |                 | 670462       | MLT     | EET SL | 07/12/24 07:56       |
| Total/NA  | Analysis   | 9320         |     | 1               | 672158       | SCB     | EET SL | 07/24/24 12:48       |
| Total/NA  | Analysis   | Ra226_Ra228  |     | 1               | 674015       | FLC     | EET SL | 08/06/24 13:10       |

## Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Accreditation/Certification Summary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

## Laboratory: Eurofins Cedar Falls

The accreditations/certifications listed below are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|-----------|---------|-----------------------|-----------------|
| Minnesota | NELAP   | 019-999-319           | 12-31-24        |

## Laboratory: Eurofins St. Louis

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

| Authority                | Program                                 | Identification Number      | Expiration Date |
|--------------------------|-----------------------------------------|----------------------------|-----------------|
| Alaska (UST)             | State                                   | 20-001                     | 05-06-25        |
| ANAB                     | Dept. of Defense ELAP                   | L2305                      | 04-06-25        |
| ANAB                     | Dept. of Energy                         | L2305.01                   | 04-08-25        |
| ANAB                     | ISO/IEC 17025                           | L2305                      | 04-06-25        |
| Arizona                  | State                                   | AZ0813                     | 12-08-24        |
| California               | Los Angeles County Sanitation Districts | 10259                      | 06-30-22 *      |
| California               | State                                   | 2886                       | 06-30-24 *      |
| Connecticut              | State                                   | PH-0241                    | 03-31-25        |
| Florida                  | NELAP                                   | E87689                     | 06-30-25        |
| HI - RadChem Recognition | State                                   | n/a                        | 06-30-25        |
| Illinois                 | NELAP                                   | 200023                     | 11-30-24        |
| Iowa                     | State                                   | 373                        | 12-01-24        |
| Kansas                   | NELAP                                   | E-10236                    | 10-31-24        |
| Kentucky (DW)            | State                                   | KY90125                    | 12-31-24        |
| Kentucky (WW)            | State                                   | KY90125 (Permit KY0004049) | 12-31-24        |
| Louisiana                | NELAP                                   | 04080                      | 06-30-22 *      |
| Louisiana (All)          | NELAP                                   | 04080                      | 06-30-25        |
| Louisiana (DW)           | State                                   | LA011                      | 12-31-24        |
| Maryland                 | State                                   | 310                        | 09-30-24        |
| Massachusetts            | State                                   | M-MO054                    | 06-30-25        |
| Missouri                 | State                                   | 780                        | 06-30-25        |
| Nevada                   | State                                   | MO00054                    | 10-31-24        |
| New Jersey               | NELAP                                   | MO002                      | 06-30-25        |
| New Mexico               | State                                   | MO00054                    | 10-01-24        |
| New York                 | NELAP                                   | 11616                      | 03-31-25        |
| North Carolina (DW)      | State                                   | 29700                      | 07-31-24 *      |
| Oklahoma                 | NELAP                                   | 9997                       | 08-31-24        |
| Oregon                   | NELAP                                   | 4157                       | 09-01-24        |
| Pennsylvania             | NELAP                                   | 68-00540                   | 02-28-25        |
| South Carolina           | State                                   | 85002001                   | 06-30-24 *      |
| Texas                    | NELAP                                   | T104704193                 | 07-31-25        |
| US Fish & Wildlife       | US Federal Programs                     | 058448                     | 07-31-25        |
| USDA                     | US Federal Programs                     | P330-17-00028              | 05-18-26        |
| Utah                     | NELAP                                   | MO00054                    | 07-31-24 *      |
| Virginia                 | NELAP                                   | 460230                     | 06-14-25        |
| Washington               | State                                   | C592                       | 08-30-24        |
| West Virginia DEP        | State                                   | 381                        | 10-31-24        |

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

Eurofins Cedar Falls

# Method Summary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

| Method       | Method Description                                     | Protocol | Laboratory |
|--------------|--------------------------------------------------------|----------|------------|
| 9056A        | Anions, Ion Chromatography                             | SW846    | EET CF     |
| 6020B        | Metals (ICP/MS)                                        | SW846    | EET CF     |
| 7470A        | Mercury (CVAA)                                         | SW846    | EET CF     |
| SM 2540C     | Solids, Total Dissolved (TDS)                          | SM       | EET CF     |
| SM 4500 H+ B | pH                                                     | SM       | EET CF     |
| 9315         | Radium-226 (GFPC)                                      | SW846    | EET SL     |
| 9320         | Radium-228 (GFPC)                                      | SW846    | EET SL     |
| Ra226_Ra228  | Combined Radium-226 and Radium-228                     | TAL-STL  | EET SL     |
| 3005A        | Preparation, Total Metals                              | SW846    | EET CF     |
| 7470A        | Preparation, Mercury                                   | SW846    | EET CF     |
| PrecSep_0    | Preparation, Precipitate Separation                    | None     | EET SL     |
| PrecSep-21   | Preparation, Precipitate Separation (21-Day In-Growth) | None     | EET SL     |

## Protocol References:

None = None

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

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

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

## Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



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310-285362 Chain of Custody

### Cooler/Sample Receipt and Temperature Log Form

|                                                                                                                                                                                                                                                                                                                                                                   |                     |                                                                                                                                                                   |                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>Client Information</b>                                                                                                                                                                                                                                                                                                                                         |                     |                                                                                                                                                                   |                        |
| Client: <u>GES</u>                                                                                                                                                                                                                                                                                                                                                |                     |                                                                                                                                                                   |                        |
| City/State: <u>CITY</u>                                                                                                                                                                                                                                                                                                                                           | STATE               | Project:                                                                                                                                                          |                        |
| <b>Receipt Information</b>                                                                                                                                                                                                                                                                                                                                        |                     |                                                                                                                                                                   |                        |
| Date/Time Received:                                                                                                                                                                                                                                                                                                                                               | DATE <u>7/10/24</u> | TIME <u>1315</u>                                                                                                                                                  | Received By: <u>fm</u> |
| Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee<br><input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____ |                     |                                                                                                                                                                   |                        |
| <b>Condition of Cooler/Containers</b>                                                                                                                                                                                                                                                                                                                             |                     |                                                                                                                                                                   |                        |
| Sample(s) received in Cooler?                                                                                                                                                                                                                                                                                                                                     |                     | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler ID: _____                                                                      |                        |
| Multiple Coolers?                                                                                                                                                                                                                                                                                                                                                 |                     | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler # <u>1</u> of <u>5</u>                                                         |                        |
| Cooler Custody Seals Present?                                                                                                                                                                                                                                                                                                                                     |                     | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No |                        |
| Sample Custody Seals Present?                                                                                                                                                                                                                                                                                                                                     |                     | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No |                        |
| Trip Blank Present?                                                                                                                                                                                                                                                                                                                                               |                     | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Which VOA samples are in cooler? ↓                                                    |                        |
| <b>Temperature Record</b>                                                                                                                                                                                                                                                                                                                                         |                     |                                                                                                                                                                   |                        |
| Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE                                                                                                                                                                       |                     |                                                                                                                                                                   |                        |
| Thermometer ID <u>4</u>                                                                                                                                                                                                                                                                                                                                           |                     | Correction Factor (°C): <u>0</u>                                                                                                                                  |                        |
| • Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature                                                                                                                                                                                                                                    |                     |                                                                                                                                                                   |                        |
| Uncorrected Temp (°C): <u>1.3</u>                                                                                                                                                                                                                                                                                                                                 |                     | Corrected Temp (°C): <u>1.3</u>                                                                                                                                   |                        |
| • Sample Container Temperature                                                                                                                                                                                                                                                                                                                                    |                     |                                                                                                                                                                   |                        |
| Container(s) used:                                                                                                                                                                                                                                                                                                                                                | <u>CONTAINER 1</u>  |                                                                                                                                                                   | <u>CONTAINER 2</u>     |
| Uncorrected Temp (°C):                                                                                                                                                                                                                                                                                                                                            |                     |                                                                                                                                                                   |                        |
| Corrected Temp (°C):                                                                                                                                                                                                                                                                                                                                              |                     |                                                                                                                                                                   |                        |
| <b>Exceptions Noted</b>                                                                                                                                                                                                                                                                                                                                           |                     |                                                                                                                                                                   |                        |
| 1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No<br>a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                               |                     |                                                                                                                                                                   |                        |
| 2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                                                  |                     |                                                                                                                                                                   |                        |
| NOTE If yes, contact PM before proceeding If no, proceed with login                                                                                                                                                                                                                                                                                               |                     |                                                                                                                                                                   |                        |
| <b>Additional Comments</b>                                                                                                                                                                                                                                                                                                                                        |                     |                                                                                                                                                                   |                        |
|                                                                                                                                                                                                                                                                                                                                                                   |                     |                                                                                                                                                                   |                        |
|                                                                                                                                                                                                                                                                                                                                                                   |                     |                                                                                                                                                                   |                        |
|                                                                                                                                                                                                                                                                                                                                                                   |                     |                                                                                                                                                                   |                        |



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### Cooler/Sample Receipt and Temperature Log Form

|                                                                                                                                                                                                                                                                                                                                                                   |                     |                                                                     |                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| <b>Client Information</b>                                                                                                                                                                                                                                                                                                                                         |                     |                                                                     |                                                                                               |
| Client: <u>GES</u>                                                                                                                                                                                                                                                                                                                                                |                     |                                                                     |                                                                                               |
| City/State:                                                                                                                                                                                                                                                                                                                                                       | CITY                | STATE                                                               | Project:                                                                                      |
| <b>Receipt Information</b>                                                                                                                                                                                                                                                                                                                                        |                     |                                                                     |                                                                                               |
| Date/Time Received:                                                                                                                                                                                                                                                                                                                                               | DATE <u>7/10/24</u> | TIME <u>1315</u>                                                    | Received By: <u>fm</u>                                                                        |
| Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee<br><input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____ |                     |                                                                     |                                                                                               |
| <b>Condition of Cooler/Containers</b>                                                                                                                                                                                                                                                                                                                             |                     |                                                                     |                                                                                               |
| Sample(s) received in Cooler?                                                                                                                                                                                                                                                                                                                                     |                     | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | If yes: Cooler ID: _____                                                                      |
| Multiple Coolers?                                                                                                                                                                                                                                                                                                                                                 |                     | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | If yes: Cooler # <u>2</u> of <u>5</u>                                                         |
| Cooler Custody Seals Present?                                                                                                                                                                                                                                                                                                                                     |                     | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Sample Custody Seals Present?                                                                                                                                                                                                                                                                                                                                     |                     | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Trip Blank Present?                                                                                                                                                                                                                                                                                                                                               |                     | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes: Which VOA samples are in cooler? ↓                                                    |
| <b>Temperature Record</b>                                                                                                                                                                                                                                                                                                                                         |                     |                                                                     |                                                                                               |
| Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE                                                                                                                                                                       |                     |                                                                     |                                                                                               |
| Thermometer ID: <u>4</u>                                                                                                                                                                                                                                                                                                                                          |                     | Correction Factor (°C): <u>0</u>                                    |                                                                                               |
| • Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature                                                                                                                                                                                                                                    |                     |                                                                     |                                                                                               |
| Uncorrected Temp (°C): <u>-1.2</u>                                                                                                                                                                                                                                                                                                                                |                     | Corrected Temp (°C): <u>-1.2</u>                                    |                                                                                               |
| <b>Sample Container Temperature</b>                                                                                                                                                                                                                                                                                                                               |                     |                                                                     |                                                                                               |
| Container(s) used:                                                                                                                                                                                                                                                                                                                                                | CONTAINER 1         | CONTAINER 2                                                         |                                                                                               |
| Uncorrected Temp (°C):                                                                                                                                                                                                                                                                                                                                            |                     |                                                                     |                                                                                               |
| Corrected Temp (°C):                                                                                                                                                                                                                                                                                                                                              |                     |                                                                     |                                                                                               |
| <b>Exceptions Noted</b>                                                                                                                                                                                                                                                                                                                                           |                     |                                                                     |                                                                                               |
| 1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No<br>a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                               |                     |                                                                     |                                                                                               |
| 2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                                                  |                     |                                                                     |                                                                                               |
| NOTE If yes, contact PM before proceeding If no, proceed with login                                                                                                                                                                                                                                                                                               |                     |                                                                     |                                                                                               |
| <b>Additional Comments</b>                                                                                                                                                                                                                                                                                                                                        |                     |                                                                     |                                                                                               |
|                                                                                                                                                                                                                                                                                                                                                                   |                     |                                                                     |                                                                                               |
|                                                                                                                                                                                                                                                                                                                                                                   |                     |                                                                     |                                                                                               |
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### Cooler/Sample Receipt and Temperature Log Form

|                                                                                                                                                                                                                                                                                                                                                                   |                      |                                                                     |                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| <b>Client Information</b>                                                                                                                                                                                                                                                                                                                                         |                      |                                                                     |                                                                                               |
| Client: <u>GES</u>                                                                                                                                                                                                                                                                                                                                                |                      |                                                                     |                                                                                               |
| City/State:                                                                                                                                                                                                                                                                                                                                                       | <u>CT</u>            | STATE:                                                              | Project:                                                                                      |
| <b>Receipt Information</b>                                                                                                                                                                                                                                                                                                                                        |                      |                                                                     |                                                                                               |
| Date/Time Received:                                                                                                                                                                                                                                                                                                                                               | DATE: <u>2/10/24</u> | TIME: <u>1315</u>                                                   | Received By: <u>FM</u>                                                                        |
| Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee<br><input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____ |                      |                                                                     |                                                                                               |
| <b>Condition of Cooler/Containers</b>                                                                                                                                                                                                                                                                                                                             |                      |                                                                     |                                                                                               |
| Sample(s) received in Cooler?                                                                                                                                                                                                                                                                                                                                     |                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | If yes: Cooler ID: _____                                                                      |
| Multiple Coolers?                                                                                                                                                                                                                                                                                                                                                 |                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | If yes: Cooler # <u>3</u> of <u>5</u>                                                         |
| Cooler Custody Seals Present?                                                                                                                                                                                                                                                                                                                                     |                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Sample Custody Seals Present?                                                                                                                                                                                                                                                                                                                                     |                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Trip Blank Present?                                                                                                                                                                                                                                                                                                                                               |                      | <input type="checkbox"/> Yes <input type="checkbox"/> No            | If yes: Which VOA samples are in cooler? ↓                                                    |
| <b>Temperature Record</b>                                                                                                                                                                                                                                                                                                                                         |                      |                                                                     |                                                                                               |
| Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE                                                                                                                                                                       |                      |                                                                     |                                                                                               |
| Thermometer ID: <u>4</u>                                                                                                                                                                                                                                                                                                                                          |                      | Correction Factor (°C): <u>0</u>                                    |                                                                                               |
| • Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature                                                                                                                                                                                                                                    |                      |                                                                     |                                                                                               |
| Uncorrected Temp (°C): <u>1.0</u>                                                                                                                                                                                                                                                                                                                                 |                      | Corrected Temp (°C): <u>1.0</u>                                     |                                                                                               |
| <b>Sample Container Temperature</b>                                                                                                                                                                                                                                                                                                                               |                      |                                                                     |                                                                                               |
| Container(s) used:                                                                                                                                                                                                                                                                                                                                                | <u>CONTAINER 1</u>   | <u>CONTAINER 2</u>                                                  |                                                                                               |
| Uncorrected Temp (°C):                                                                                                                                                                                                                                                                                                                                            |                      |                                                                     |                                                                                               |
| Corrected Temp (°C):                                                                                                                                                                                                                                                                                                                                              |                      |                                                                     |                                                                                               |
| <b>Exceptions Noted</b>                                                                                                                                                                                                                                                                                                                                           |                      |                                                                     |                                                                                               |
| 1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No<br>a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                               |                      |                                                                     |                                                                                               |
| 2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                                                  |                      |                                                                     |                                                                                               |
| NOTE If yes, contact PM before proceeding If no, proceed with login                                                                                                                                                                                                                                                                                               |                      |                                                                     |                                                                                               |
| <b>Additional Comments</b>                                                                                                                                                                                                                                                                                                                                        |                      |                                                                     |                                                                                               |
|                                                                                                                                                                                                                                                                                                                                                                   |                      |                                                                     |                                                                                               |
|                                                                                                                                                                                                                                                                                                                                                                   |                      |                                                                     |                                                                                               |
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### Cooler/Sample Receipt and Temperature Log Form

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------|
| <b>Client Information</b>                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                      |                                                                                               |                        |
| Client: <u>GES</u>                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                      |                                                                                               |                        |
| City/State:                                                                                                                                                                                                                                                                                                                                                       | CITY                                                                                                                                                 | STATE                                                                                         | Project:               |
| <b>Receipt Information</b>                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                      |                                                                                               |                        |
| Date/Time Received:                                                                                                                                                                                                                                                                                                                                               | DATE <u>2/10/24</u>                                                                                                                                  | TIME <u>1315</u>                                                                              | Received By: <u>fm</u> |
| Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee<br><input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____ |                                                                                                                                                      |                                                                                               |                        |
| <b>Condition of Cooler/Containers</b>                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                      |                                                                                               |                        |
| Sample(s) received in Cooler?                                                                                                                                                                                                                                                                                                                                     | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                                                  | If yes: Cooler ID: _____                                                                      |                        |
| Multiple Coolers?                                                                                                                                                                                                                                                                                                                                                 | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                                                  | If yes: Cooler # <u>4</u> of <u>5</u>                                                         |                        |
| Cooler Custody Seals Present?                                                                                                                                                                                                                                                                                                                                     | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                                                  | If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No |                        |
| Sample Custody Seals Present?                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                  | If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No |                        |
| Trip Blank Present?                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                  | If yes: Which VOA samples are in cooler? ↓                                                    |                        |
| <b>Temperature Record</b>                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                      |                                                                                               |                        |
| Coolant:                                                                                                                                                                                                                                                                                                                                                          | <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ | <input type="checkbox"/> NONE                                                                 |                        |
| Thermometer ID:                                                                                                                                                                                                                                                                                                                                                   | <u>4</u>                                                                                                                                             | Correction Factor (°C): <u>0</u>                                                              |                        |
| • Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature                                                                                                                                                                                                                                    |                                                                                                                                                      |                                                                                               |                        |
| Uncorrected Temp (°C):                                                                                                                                                                                                                                                                                                                                            | <u>1.0</u>                                                                                                                                           | Corrected Temp (°C): <u>1.0</u>                                                               |                        |
| <b>Sample Container Temperature</b>                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                      |                                                                                               |                        |
| Container(s) used:                                                                                                                                                                                                                                                                                                                                                | <u>CONTAINER 1</u>                                                                                                                                   | <u>CONTAINER 2</u>                                                                            |                        |
| Uncorrected Temp (°C):                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                      |                                                                                               |                        |
| Corrected Temp (°C):                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                      |                                                                                               |                        |
| <b>Exceptions Noted</b>                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                      |                                                                                               |                        |
| 1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No<br>a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                               |                                                                                                                                                      |                                                                                               |                        |
| 2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                                                  |                                                                                                                                                      |                                                                                               |                        |
| NOTE If yes, contact PM before proceeding If no, proceed with login                                                                                                                                                                                                                                                                                               |                                                                                                                                                      |                                                                                               |                        |
| <b>Additional Comments</b>                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                      |                                                                                               |                        |
|                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                      |                                                                                               |                        |
|                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                      |                                                                                               |                        |
|                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                      |                                                                                               |                        |



Environment Testing  
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Place COC scanning label  
here

### Cooler/Sample Receipt and Temperature Log Form

|                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                      |                                                                                               |                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------|
| <b>Client Information</b>                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                      |                                                                                               |                        |
| Client: <u>GES</u>                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                      |                                                                                               |                        |
| City/State: <u>City</u>                                                                                                                                                                                                                                                                                                                                           | STATE                                                                                                                                                | Project:                                                                                      |                        |
| <b>Receipt Information</b>                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                      |                                                                                               |                        |
| Date/Time Received:                                                                                                                                                                                                                                                                                                                                               | DATE <u>7/10/24</u>                                                                                                                                  | TIME <u>1315</u>                                                                              | Received By: <u>fm</u> |
| Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee<br><input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____ |                                                                                                                                                      |                                                                                               |                        |
| <b>Condition of Cooler/Containers</b>                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                      |                                                                                               |                        |
| Sample(s) received in Cooler?                                                                                                                                                                                                                                                                                                                                     | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                                                  | If yes: Cooler ID: _____                                                                      |                        |
| Multiple Coolers?                                                                                                                                                                                                                                                                                                                                                 | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                                                  | If yes: Cooler # <u>5</u> of <u>5</u>                                                         |                        |
| Cooler Custody Seals Present?                                                                                                                                                                                                                                                                                                                                     | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                                                  | If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No |                        |
| Sample Custody Seals Present?                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                  | If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No |                        |
| Trip Blank Present?                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                  | If yes: Which VOA samples are in cooler? ↓                                                    |                        |
| <b>Temperature Record</b>                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                      |                                                                                               |                        |
| Coolant:                                                                                                                                                                                                                                                                                                                                                          | <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ | <input type="checkbox"/> NONE                                                                 |                        |
| Thermometer ID: <u>Y</u>                                                                                                                                                                                                                                                                                                                                          | Correction Factor (°C): <u>0</u>                                                                                                                     |                                                                                               |                        |
| • Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature                                                                                                                                                                                                                                    |                                                                                                                                                      |                                                                                               |                        |
| Uncorrected Temp (°C): <u>1.5</u>                                                                                                                                                                                                                                                                                                                                 | Corrected Temp (°C): <u>1.5</u>                                                                                                                      |                                                                                               |                        |
| <b>Sample Container Temperature</b>                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                      |                                                                                               |                        |
| Container(s) used:                                                                                                                                                                                                                                                                                                                                                | CONTAINER 1                                                                                                                                          | CONTAINER 2                                                                                   |                        |
| Uncorrected Temp (°C):                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                      |                                                                                               |                        |
| Corrected Temp (°C):                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                      |                                                                                               |                        |
| <b>Exceptions Noted</b>                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                      |                                                                                               |                        |
| 1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No<br>a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                               |                                                                                                                                                      |                                                                                               |                        |
| 2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                                                  |                                                                                                                                                      |                                                                                               |                        |
| NOTE If yes, contact PM before proceeding. If no, proceed with login                                                                                                                                                                                                                                                                                              |                                                                                                                                                      |                                                                                               |                        |
| <b>Additional Comments</b>                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                      |                                                                                               |                        |
|                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                      |                                                                                               |                        |
|                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                      |                                                                                               |                        |
|                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                      |                                                                                               |                        |

## Chain of Custody Record

Eurofins Minneapolis SC  
213Environmental Testing  
America

|                                                                                                                                                                                                                                                          |         |                                                                                         |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------------------------------------------------------------------------------------|-------------|-----------------------------------|-----------------------------------------------------------|-----------------------------------|----------------------------|---------------------------|-------------------------|-----------------------------------------------|--------------------------------------------------------------------------------|----------------------------------|----------------------------|----------------------------|
| <b>Client Information</b>                                                                                                                                                                                                                                |         | Sampler: <i>M-Schlager</i>                                                              |             | Lab PM: Bindert, Zach T           |                                                           | Carrier Tracking No(s)            |                            | COC No: 310-68661-19671 1 |                         |                                               |                                                                                |                                  |                            |                            |
| Client Contact: Mr. Nicholas Schlager                                                                                                                                                                                                                    |         | Phone: 651-792-6085                                                                     |             | E-Mail: Zach.Bindert@Eurofins.com |                                                           | State of Origin: MN               |                            | Page: 1 of 4              |                         |                                               |                                                                                |                                  |                            |                            |
| Company: Groundwater & Environmental Services Inc                                                                                                                                                                                                        |         | PWSID:                                                                                  |             |                                   |                                                           |                                   |                            | Job #:                    |                         |                                               |                                                                                |                                  |                            |                            |
| Address: 1301 Corporate Center Drive Suite 150                                                                                                                                                                                                           |         | Due Date Requested:                                                                     |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
| City: Eagan                                                                                                                                                                                                                                              |         | TAT Requested (days): <i>Standard</i>                                                   |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
| State Zip: MN, 55121-1562                                                                                                                                                                                                                                |         | Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
| Phone:                                                                                                                                                                                                                                                   |         | PO #:                                                                                   |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
|                                                                                                                                                                                                                                                          |         | Purchase Order Requested                                                                |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
|                                                                                                                                                                                                                                                          |         | WO #:                                                                                   |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
| Email: NSchlager@gesonline.com                                                                                                                                                                                                                           |         | Project #:                                                                              |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
| Project Name: SKB Lansing CCR Monitoring                                                                                                                                                                                                                 |         | 31013984                                                                                |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
| Site: Minnesota                                                                                                                                                                                                                                          |         | SSOW#:                                                                                  |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
| Sample Identification                                                                                                                                                                                                                                    |         | Sample Date                                                                             | Sample Time | Sample Type (C=Comp, G=grab)      | Matrix (W=water, S=solid, O=wastefluid, BT=tissue, A=air) | Field Filtered Sample (Yes or No) | Perform MS/MSD (Yes or No) | 9316 Ra226 - Radium 226   | 9320 Ra228 - Radium 228 | 9068A ORGFM 28D - Chloride, Fluoride, Sulfate | Total Metals - 6020B - (Sb,As,Ba,Bi,B,Cd,Cr,Cu,Pb,LI,Mo,Se,Ti) 7470A - Mercury | 2640C Calcd - TDS SM4500-H+ - PH | Total Number of Containers | Special Instructions/Note: |
| MW-1 - CCR                                                                                                                                                                                                                                               | 7/19/24 | 14:40                                                                                   | 6           | Water                             | Water                                                     |                                   |                            | X                         | X                       | X                                             | X                                                                              | X                                | 5                          |                            |
| MW-1RD - CCR                                                                                                                                                                                                                                             | 7/19/24 | 14:25                                                                                   | 6           | Water                             | Water                                                     |                                   |                            | X                         | X                       | X                                             | X                                                                              | X                                | 5                          |                            |
| MW-2R - CCR                                                                                                                                                                                                                                              | 7/19/24 | 15:45                                                                                   | 6           | Water                             | Water                                                     |                                   |                            | X                         | X                       | X                                             | X                                                                              | X                                | 5                          |                            |
| MW-3 - CCR                                                                                                                                                                                                                                               | 7/19/24 | 7:45                                                                                    | 6           | Water                             | Water                                                     |                                   |                            | X                         | X                       | X                                             | X                                                                              | X                                | 5                          |                            |
| MW-3R - CCR                                                                                                                                                                                                                                              | 7/19/24 | 7:30                                                                                    | 6           | Water                             | Water                                                     |                                   |                            | X                         | X                       | X                                             | X                                                                              | X                                | 5                          |                            |
| MW-3RD - CCR                                                                                                                                                                                                                                             | 7/19/24 | 8:30                                                                                    | 6           | Water                             | Water                                                     |                                   |                            | X                         | X                       | X                                             | X                                                                              | X                                | 5                          | MS/MSD                     |
| MW-4 - CCR                                                                                                                                                                                                                                               | 7/19/24 | 10:00                                                                                   | 6           | Water                             | Water                                                     |                                   |                            | X                         | X                       | X                                             | X                                                                              | X                                | 5                          |                            |
| MW-2RD - CCR                                                                                                                                                                                                                                             | 7/19/24 | 16:00                                                                                   | 6           | Water                             | Water                                                     |                                   |                            | X                         | X                       | X                                             | X                                                                              | X                                | 5                          |                            |
| Field Blank 1 - CCR                                                                                                                                                                                                                                      | 7/19/24 | 10:20                                                                                   | 6           | Water                             | Water                                                     |                                   |                            | X                         | X                       | X                                             | X                                                                              | X                                | 5                          |                            |
| Duplicate 1 - CCR                                                                                                                                                                                                                                        | 7/19/24 |                                                                                         | 6           | Water                             | Water                                                     |                                   |                            | X                         | X                       | X                                             | X                                                                              | X                                | 5                          |                            |
| Equipment Blank - CCR                                                                                                                                                                                                                                    | 7/19/24 | 10:30                                                                                   | 6           | Water                             | Water                                                     |                                   |                            | X                         | X                       | X                                             | X                                                                              | X                                | 5                          |                            |
| Possible Hazard Identification<br><input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological |         |                                                                                         |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
| Deliverable Requested I, II, III, IV Other (specify)                                                                                                                                                                                                     |         |                                                                                         |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
| Empty Kit Relinquished by                                                                                                                                                                                                                                |         |                                                                                         |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
| Relinquished by <i>Joern</i> Date/Time: 7/19/24 14:29 Company: <i>GES</i>                                                                                                                                                                                |         |                                                                                         |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
| Relinquished by <i>Joern</i> Date/Time: 7/19/24 17:00 Company: <i>GES</i>                                                                                                                                                                                |         |                                                                                         |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
| Relinquished by <i>Joern</i> Date/Time: 7/19/24 17:00 Company: <i>GES</i>                                                                                                                                                                                |         |                                                                                         |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
| Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                                                                                                |         |                                                                                         |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
| Custody Seal No.                                                                                                                                                                                                                                         |         |                                                                                         |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
| Cooler Temperature(s) °C and Other Remarks: <i>SM 7/10/24 1315</i>                                                                                                                                                                                       |         |                                                                                         |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
| Special Instructions/QC Requirements.                                                                                                                                                                                                                    |         |                                                                                         |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
| Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)<br><input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months                              |         |                                                                                         |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
| Method of Shipment:                                                                                                                                                                                                                                      |         |                                                                                         |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
| Received by <i>Joern</i> Date/Time: 7/19/24 14:29 Company: <i>GES</i>                                                                                                                                                                                    |         |                                                                                         |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
| Received by <i>Joern</i> Date/Time: 7/19/24 17:00 Company: <i>GES</i>                                                                                                                                                                                    |         |                                                                                         |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
| Received by <i>Joern</i> Date/Time: 7/19/24 17:00 Company: <i>GES</i>                                                                                                                                                                                    |         |                                                                                         |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |
| Cooler Temperature(s) °C and Other Remarks: <i>SM 7/10/24 1315</i>                                                                                                                                                                                       |         |                                                                                         |             |                                   |                                                           |                                   |                            |                           |                         |                                               |                                                                                |                                  |                            |                            |

## Login Sample Receipt Checklist

Client: Waste Connections, Inc.

Job Number: 310-285362-1

**Login Number: 285362**

**List Source: Eurofins Cedar Falls**

**List Number: 1**

**Creator: Bindert, Zach T**

| Question                                                                                 | Answer | Comment |
|------------------------------------------------------------------------------------------|--------|---------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | N/A    |         |
| The cooler's custody seal, if present, is intact.                                        | True   |         |
| Sample custody seals, if present, are intact.                                            | N/A    |         |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |         |
| Samples were received on ice.                                                            | True   |         |
| Cooler Temperature is acceptable.                                                        | True   |         |
| Cooler Temperature is recorded.                                                          | True   |         |
| COC is present.                                                                          | True   |         |
| COC is filled out in ink and legible.                                                    | True   |         |
| COC is filled out with all pertinent information.                                        | True   |         |
| Is the Field Sampler's name present on COC?                                              | True   |         |
| There are no discrepancies between the containers received and the COC.                  | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |         |
| Sample containers have legible labels.                                                   | True   |         |
| Containers are not broken or leaking.                                                    | True   |         |
| Sample collection date/times are provided.                                               | True   |         |
| Appropriate sample containers are used.                                                  | True   |         |
| Sample bottles are completely filled.                                                    | True   |         |
| Sample Preservation Verified.                                                            | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |         |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | True   |         |
| Multiphasic samples are not present.                                                     | True   |         |
| Samples do not require splitting or compositing.                                         | True   |         |
| Residual Chlorine Checked.                                                               | N/A    |         |

## Login Sample Receipt Checklist

Client: Waste Connections, Inc.

Job Number: 310-285362-1

**Login Number: 285362**

**List Source: Eurofins Cedar Falls**

**List Number: 2**

**Creator: Bindert, Zach T**

| Question                                                                         | Answer | Comment |
|----------------------------------------------------------------------------------|--------|---------|
| Radioactivity either was not measured or, if measured, is at or below background |        |         |
| The cooler's custody seal, if present, is intact.                                |        |         |
| The cooler or samples do not appear to have been compromised or tampered with.   |        |         |
| Samples were received on ice.                                                    |        |         |
| Cooler Temperature is acceptable.                                                |        |         |
| Cooler Temperature is recorded.                                                  |        |         |
| COC is present.                                                                  |        |         |
| COC is filled out in ink and legible.                                            |        |         |
| COC is filled out with all pertinent information.                                |        |         |
| Is the Field Sampler's name present on COC?                                      |        |         |
| There are no discrepancies between the sample IDs on the containers and the COC. |        |         |
| Samples are received within Holding Time (Excluding tests with immediate HTs)..  |        |         |
| Sample containers have legible labels.                                           |        |         |
| Containers are not broken or leaking.                                            |        |         |
| Sample collection date/times are provided.                                       |        |         |
| Appropriate sample containers are used.                                          |        |         |
| Sample bottles are completely filled.                                            |        |         |
| Sample Preservation Verified                                                     |        |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs |        |         |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.     |        |         |
| If necessary, staff have been informed of any short hold time or quick TAT needs |        |         |
| Multiphasic samples are not present.                                             |        |         |
| Samples do not require splitting or compositing.                                 |        |         |
| Sampling Company provided.                                                       |        |         |
| Samples received within 48 hours of sampling.                                    |        |         |
| Samples requiring field filtration have been filtered in the field.              |        |         |
| Chlorine Residual checked.                                                       |        |         |

## Tracer/Carrier Summary

Client: Waste Connections, Inc.  
Project/Site: SKB Lansing CCR Monitoring

Job ID: 310-285362-1

### Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

|                       |                       | Percent Yield (Acceptance Limits) |  |  |  |  |  |
|-----------------------|-----------------------|-----------------------------------|--|--|--|--|--|
|                       |                       | Ba                                |  |  |  |  |  |
| Lab Sample ID         | Client Sample ID      | (30-110)                          |  |  |  |  |  |
| 310-285362-1          | MW-1 - CCR            | 87.8                              |  |  |  |  |  |
| 310-285362-2          | MW-1RD - CCR          | 87.3                              |  |  |  |  |  |
| 310-285362-3          | MW-2R - CCR           | 90.1                              |  |  |  |  |  |
| 310-285362-4          | MW-3 - CCR            | 87.6                              |  |  |  |  |  |
| 310-285362-5          | MW-3R - CCR           | 81.9                              |  |  |  |  |  |
| 310-285362-6          | MW-3RD - CCR          | 89.3                              |  |  |  |  |  |
| 310-285362-6 MS       | MW-3RD - CCR          | 93.5                              |  |  |  |  |  |
| 310-285362-6 MSD      | MW-3RD - CCR          | 80.9                              |  |  |  |  |  |
| 310-285362-7          | MW-4 - CCR            | 86.6                              |  |  |  |  |  |
| 310-285362-8          | MW-2RD - CCR          | 79.2                              |  |  |  |  |  |
| 310-285362-9          | Field Blank 1         | 92.3                              |  |  |  |  |  |
| 310-285362-10         | Duplicate 1 - CCR     | 87.6                              |  |  |  |  |  |
| 310-285362-11         | Equipment Blank - CCR | 96.0                              |  |  |  |  |  |
| LCS 160-670460/2-A    | Lab Control Sample    | 93.1                              |  |  |  |  |  |
| MB 160-670460/1-A     | Method Blank          | 91.6                              |  |  |  |  |  |
| Tracer/Carrier Legend |                       |                                   |  |  |  |  |  |
| Ba = Barium           |                       |                                   |  |  |  |  |  |

### Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

|                       |                       | Percent Yield (Acceptance Limits) |          |  |  |  |  |
|-----------------------|-----------------------|-----------------------------------|----------|--|--|--|--|
|                       |                       | Ba                                | Y        |  |  |  |  |
| Lab Sample ID         | Client Sample ID      | (30-110)                          | (30-110) |  |  |  |  |
| 310-285362-1          | MW-1 - CCR            | 87.8                              | 84.5     |  |  |  |  |
| 310-285362-2          | MW-1RD - CCR          | 87.3                              | 86.0     |  |  |  |  |
| 310-285362-3          | MW-2R - CCR           | 90.1                              | 84.9     |  |  |  |  |
| 310-285362-4          | MW-3 - CCR            | 87.6                              | 83.7     |  |  |  |  |
| 310-285362-5          | MW-3R - CCR           | 81.9                              | 83.7     |  |  |  |  |
| 310-285362-6          | MW-3RD - CCR          | 89.3                              | 83.7     |  |  |  |  |
| 310-285362-6 MS       | MW-3RD - CCR          | 93.5                              | 87.1     |  |  |  |  |
| 310-285362-6 MSD      | MW-3RD - CCR          | 80.9                              | 87.5     |  |  |  |  |
| 310-285362-7          | MW-4 - CCR            | 86.6                              | 85.6     |  |  |  |  |
| 310-285362-8          | MW-2RD - CCR          | 79.2                              | 87.9     |  |  |  |  |
| 310-285362-9          | Field Blank 1         | 92.3                              | 85.6     |  |  |  |  |
| 310-285362-10         | Duplicate 1 - CCR     | 87.6                              | 85.2     |  |  |  |  |
| 310-285362-11         | Equipment Blank - CCR | 96.0                              | 84.9     |  |  |  |  |
| LCS 160-670462/2-A    | Lab Control Sample    | 93.1                              | 83.7     |  |  |  |  |
| MB 160-670462/1-A     | Method Blank          | 91.6                              | 84.5     |  |  |  |  |
| Tracer/Carrier Legend |                       |                                   |          |  |  |  |  |
| Ba = Barium           |                       |                                   |          |  |  |  |  |
| Y = Y Carrier         |                       |                                   |          |  |  |  |  |



## Appendix C – Statistical Evaluation Data

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|    | A                                                                                                                        | B | C | D                                                    | E                                                         | F | G | H       | I | J | K | L |
|----|--------------------------------------------------------------------------------------------------------------------------|---|---|------------------------------------------------------|-----------------------------------------------------------|---|---|---------|---|---|---|---|
| 1  |                                                                                                                          |   |   | Background Statistics for Data Sets with Non-Detects |                                                           |   |   |         |   |   |   |   |
| 2  | User Selected Options                                                                                                    |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 3  | Date/Time of Computation                                                                                                 |   |   | ProUCL 5.11/18/2024 12:52:41 AM                      |                                                           |   |   |         |   |   |   |   |
| 4  | From File                                                                                                                |   |   | ProUCL 2023.xls                                      |                                                           |   |   |         |   |   |   |   |
| 5  | Full Precision                                                                                                           |   |   | OFF                                                  |                                                           |   |   |         |   |   |   |   |
| 6  | Confidence Coefficient                                                                                                   |   |   | 95%                                                  |                                                           |   |   |         |   |   |   |   |
| 7  | Coverage                                                                                                                 |   |   | 95%                                                  |                                                           |   |   |         |   |   |   |   |
| 8  | Different or Future K Observations                                                                                       |   |   | 1                                                    |                                                           |   |   |         |   |   |   |   |
| 9  | Number of Bootstrap Operations                                                                                           |   |   | 2000                                                 |                                                           |   |   |         |   |   |   |   |
| 10 |                                                                                                                          |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 11 | Antimony                                                                                                                 |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 12 |                                                                                                                          |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 13 | General Statistics                                                                                                       |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 14 | Total Number of Observations                                                                                             |   |   | 114                                                  | Number of Missing Observations                            |   |   | 27      |   |   |   |   |
| 15 | Number of Distinct Observations                                                                                          |   |   | 5                                                    |                                                           |   |   |         |   |   |   |   |
| 16 | Number of Detects                                                                                                        |   |   | 2                                                    | Number of Non-Detects                                     |   |   | 112     |   |   |   |   |
| 17 | Number of Distinct Detects                                                                                               |   |   | 2                                                    | Number of Distinct Non-Detects                            |   |   | 3       |   |   |   |   |
| 18 | Minimum Detect                                                                                                           |   |   | 3.6000E-4                                            | Minimum Non-Detect                                        |   |   | 0.001   |   |   |   |   |
| 19 | Maximum Detect                                                                                                           |   |   | 0.0032                                               | Maximum Non-Detect                                        |   |   | 0.02    |   |   |   |   |
| 20 | Variance Detected                                                                                                        |   |   | 4.0328E-6                                            | Percent Non-Detects                                       |   |   | 98.25%  |   |   |   |   |
| 21 | Mean Detected                                                                                                            |   |   | 0.00178                                              | SD Detected                                               |   |   | 0.00201 |   |   |   |   |
| 22 | Mean of Detected Logged Data                                                                                             |   |   | -6.837                                               | SD of Detected Logged Data                                |   |   | 1.545   |   |   |   |   |
| 23 |                                                                                                                          |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 24 | Warning: Data set has only 2 Detected Values.                                                                            |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 25 | This is not enough to compute meaningful or reliable statistics and estimates.                                           |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 26 |                                                                                                                          |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 27 |                                                                                                                          |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 28 | Critical Values for Background Threshold Values (BTVs)                                                                   |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 29 | Tolerance Factor K (For UTL)                                                                                             |   |   | 1.904                                                | d2max (for USL)                                           |   |   | 3.254   |   |   |   |   |
| 30 |                                                                                                                          |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 31 | Normal GOF Test on Detects Only                                                                                          |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 32 | Not Enough Data to Perform GOF Test                                                                                      |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 33 | Nonparametric Distribution Free Background Statistics                                                                    |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 34 | Data do not follow a Discernible Distribution (0.05)                                                                     |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 35 |                                                                                                                          |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 36 | Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)                                  |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 37 | Order of Statistic, r                                                                                                    |   |   | 111                                                  | 95% UTL with95% Coverage                                  |   |   | 0.02    |   |   |   |   |
| 38 | Approx, f used to compute achieved CC                                                                                    |   |   | 1.461                                                | Approximate Actual Confidence Coefficient achieved by UTL |   |   | 0.827   |   |   |   |   |
| 39 | Approximate Sample Size needed to achieve specified CC                                                                   |   |   | 153                                                  | 95% UPL                                                   |   |   | 0.02    |   |   |   |   |
| 40 | 95% USL                                                                                                                  |   |   | 0.02                                                 | 95% KM Chebyshev UPL                                      |   |   | 0.00159 |   |   |   |   |
| 41 |                                                                                                                          |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 42 | Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 43 | Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers    |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 44 | and consists of observations collected from clean unimpacted locations.                                                  |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 45 | The use of USL tends to provide a balance between false positives and false negatives provided the data                  |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 46 | represents a background data set and when many onsite observations need to be compared with the BTV.                     |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 47 |                                                                                                                          |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 48 | Arsenic                                                                                                                  |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 49 |                                                                                                                          |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 50 | General Statistics                                                                                                       |   |   |                                                      |                                                           |   |   |         |   |   |   |   |
| 51 | Total Number of Observations                                                                                             |   |   | 139                                                  | Number of Missing Observations                            |   |   | 42      |   |   |   |   |
| 52 | Number of Distinct Observations                                                                                          |   |   | 31                                                   |                                                           |   |   |         |   |   |   |   |



|     | A                                                                                                                        | B | C | D | E | F         | G                                                         | H | I | J | K | L         |
|-----|--------------------------------------------------------------------------------------------------------------------------|---|---|---|---|-----------|-----------------------------------------------------------|---|---|---|---|-----------|
| 53  | Number of Detects                                                                                                        |   |   |   |   | 78        | Number of Non-Detects                                     |   |   |   |   | 61        |
| 54  | Number of Distinct Detects                                                                                               |   |   |   |   | 31        | Number of Distinct Non-Detects                            |   |   |   |   | 2         |
| 55  | Minimum Detect                                                                                                           |   |   |   |   | 0.001     | Minimum Non-Detect                                        |   |   |   |   | 0.001     |
| 56  | Maximum Detect                                                                                                           |   |   |   |   | 0.0049    | Maximum Non-Detect                                        |   |   |   |   | 0.002     |
| 57  | Variance Detected                                                                                                        |   |   |   |   | 9.7833E-7 | Percent Non-Detects                                       |   |   |   |   | 43.88%    |
| 58  | Mean Detected                                                                                                            |   |   |   |   | 0.00276   | SD Detected                                               |   |   |   |   | 9.8911E-4 |
| 59  | Mean of Detected Logged Data                                                                                             |   |   |   |   | -5.962    | SD of Detected Logged Data                                |   |   |   |   | 0.381     |
| 60  |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 61  | Critical Values for Background Threshold Values (BTVs)                                                                   |   |   |   |   |           |                                                           |   |   |   |   |           |
| 62  | Tolerance Factor K (For UTL)                                                                                             |   |   |   |   | 1.877     | d2max (for USL)                                           |   |   |   |   | 3.319     |
| 63  |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 64  | Normal GOF Test on Detects Only                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 65  | Shapiro Wilk Test Statistic                                                                                              |   |   |   |   | 0.931     | Normal GOF Test on Detected Observations Only             |   |   |   |   |           |
| 66  | 5% Shapiro Wilk P Value                                                                                                  |   |   |   |   | 3.8160E-4 | Data Not Normal at 5% Significance Level                  |   |   |   |   |           |
| 67  | Lilliefors Test Statistic                                                                                                |   |   |   |   | 0.152     | Lilliefors GOF Test                                       |   |   |   |   |           |
| 68  | 5% Lilliefors Critical Value                                                                                             |   |   |   |   | 0.1       | Data Not Normal at 5% Significance Level                  |   |   |   |   |           |
| 69  | Data Not Normal at 5% Significance Level                                                                                 |   |   |   |   |           |                                                           |   |   |   |   |           |
| 70  | Data do not follow a Discernible Distribution (0.05)                                                                     |   |   |   |   |           |                                                           |   |   |   |   |           |
| 71  |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 72  | Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)                                  |   |   |   |   |           |                                                           |   |   |   |   |           |
| 73  | Order of Statistic, r                                                                                                    |   |   |   |   | 136       | 95% UTL with95% Coverage                                  |   |   |   |   | 0.0044    |
| 74  | Approx, f used to compute achieved CC                                                                                    |   |   |   |   | 1.789     | Approximate Actual Confidence Coefficient achieved by UTL |   |   |   |   | 0.921     |
| 75  | Approximate Sample Size needed to achieve specified CC                                                                   |   |   |   |   | 153       | 95% UPL                                                   |   |   |   |   | 0.0042    |
| 76  | 95% USL                                                                                                                  |   |   |   |   | 0.0049    | 95% KM Chebyshev UPL                                      |   |   |   |   | 0.00685   |
| 77  |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 78  | Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. |   |   |   |   |           |                                                           |   |   |   |   |           |
| 79  | Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers    |   |   |   |   |           |                                                           |   |   |   |   |           |
| 80  | and consists of observations collected from clean unimpacted locations.                                                  |   |   |   |   |           |                                                           |   |   |   |   |           |
| 81  | The use of USL tends to provide a balance between false positives and false negatives provided the data                  |   |   |   |   |           |                                                           |   |   |   |   |           |
| 82  | represents a background data set and when many onsite observations need to be compared with the BTV.                     |   |   |   |   |           |                                                           |   |   |   |   |           |
| 83  |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 84  | Barium                                                                                                                   |   |   |   |   |           |                                                           |   |   |   |   |           |
| 85  |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 86  | General Statistics                                                                                                       |   |   |   |   |           |                                                           |   |   |   |   |           |
| 87  | Total Number of Observations                                                                                             |   |   |   |   | 142       | Number of Distinct Observations                           |   |   |   |   | 40        |
| 88  |                                                                                                                          |   |   |   |   |           | Number of Missing Observations                            |   |   |   |   | 39        |
| 89  | Minimum                                                                                                                  |   |   |   |   | 0.062     | First Quartile                                            |   |   |   |   | 0.16      |
| 90  | Second Largest                                                                                                           |   |   |   |   | 0.68      | Median                                                    |   |   |   |   | 0.19      |
| 91  | Maximum                                                                                                                  |   |   |   |   | 0.71      | Third Quartile                                            |   |   |   |   | 0.24      |
| 92  | Mean                                                                                                                     |   |   |   |   | 0.234     | SD                                                        |   |   |   |   | 0.143     |
| 93  | Coefficient of Variation                                                                                                 |   |   |   |   | 0.609     | Skewness                                                  |   |   |   |   | 1.897     |
| 94  | Mean of logged Data                                                                                                      |   |   |   |   | -1.587    | SD of logged Data                                         |   |   |   |   | 0.496     |
| 95  |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 96  | Critical Values for Background Threshold Values (BTVs)                                                                   |   |   |   |   |           |                                                           |   |   |   |   |           |
| 97  | Tolerance Factor K (For UTL)                                                                                             |   |   |   |   | 1.875     | d2max (for USL)                                           |   |   |   |   | 3.325     |
| 98  |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 99  | Normal GOF Test                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 100 | Shapiro Wilk Test Statistic                                                                                              |   |   |   |   | 0.732     | Normal GOF Test                                           |   |   |   |   |           |
| 101 | 5% Shapiro Wilk P Value                                                                                                  |   |   |   |   | 0         | Data Not Normal at 5% Significance Level                  |   |   |   |   |           |
| 102 | Lilliefors Test Statistic                                                                                                |   |   |   |   | 0.266     | Lilliefors GOF Test                                       |   |   |   |   |           |
| 103 | 5% Lilliefors Critical Value                                                                                             |   |   |   |   | 0.0747    | Data Not Normal at 5% Significance Level                  |   |   |   |   |           |
| 104 | Data Not Normal at 5% Significance Level                                                                                 |   |   |   |   |           |                                                           |   |   |   |   |           |

|     |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
|-----|--------------------------------------------------------------------------------------------------------------------------|---|---|---|---|-----------|-----------------------------------------------------------|---|---|---|---|-----------|
|     | A                                                                                                                        | B | C | D | E | F         | G                                                         | H | I | J | K | L         |
| 105 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 106 | Nonparametric Distribution Free Background Statistics                                                                    |   |   |   |   |           |                                                           |   |   |   |   |           |
| 107 | Data do not follow a Discernible Distribution (0.05)                                                                     |   |   |   |   |           |                                                           |   |   |   |   |           |
| 108 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 109 | Nonparametric Upper Limits for Background Threshold Values                                                               |   |   |   |   |           |                                                           |   |   |   |   |           |
| 110 | Order of Statistic, r                                                                                                    |   |   |   |   | 138       | 95% UTL with 95% Coverage                                 |   |   |   |   | 0.64      |
| 111 | Approx, f used to compute achieved CC                                                                                    |   |   |   |   | 1.453     | Approximate Actual Confidence Coefficient achieved by UTL |   |   |   |   | 0.843     |
| 112 |                                                                                                                          |   |   |   |   |           | Approximate Sample Size needed to achieve specified CC    |   |   |   |   | 181       |
| 113 | 95% Percentile Bootstrap UTL with 95% Coverage                                                                           |   |   |   |   | 0.64      | 95% BCA Bootstrap UTL with 95% Coverage                   |   |   |   |   | 0.64      |
| 114 | 95% UPL                                                                                                                  |   |   |   |   | 0.6       | 90% Percentile                                            |   |   |   |   | 0.532     |
| 115 | 90% Chebyshev UPL                                                                                                        |   |   |   |   | 0.664     | 95% Percentile                                            |   |   |   |   | 0.599     |
| 116 | 95% Chebyshev UPL                                                                                                        |   |   |   |   | 0.859     | 99% Percentile                                            |   |   |   |   | 0.668     |
| 117 | 95% USL                                                                                                                  |   |   |   |   | 0.71      |                                                           |   |   |   |   |           |
| 118 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 119 | Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. |   |   |   |   |           |                                                           |   |   |   |   |           |
| 120 | Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers    |   |   |   |   |           |                                                           |   |   |   |   |           |
| 121 | and consists of observations collected from clean unimpacted locations.                                                  |   |   |   |   |           |                                                           |   |   |   |   |           |
| 122 | The use of USL tends to provide a balance between false positives and false negatives provided the data                  |   |   |   |   |           |                                                           |   |   |   |   |           |
| 123 | represents a background data set and when many onsite observations need to be compared with the BTV.                     |   |   |   |   |           |                                                           |   |   |   |   |           |
| 124 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 125 | Beryllium                                                                                                                |   |   |   |   |           |                                                           |   |   |   |   |           |
| 126 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 127 | General Statistics                                                                                                       |   |   |   |   |           |                                                           |   |   |   |   |           |
| 128 | Total Number of Observations                                                                                             |   |   |   |   | 108       | Number of Missing Observations                            |   |   |   |   | 33        |
| 129 | Number of Distinct Observations                                                                                          |   |   |   |   | 6         |                                                           |   |   |   |   |           |
| 130 | Number of Detects                                                                                                        |   |   |   |   | 3         | Number of Non-Detects                                     |   |   |   |   | 105       |
| 131 | Number of Distinct Detects                                                                                               |   |   |   |   | 3         | Number of Distinct Non-Detects                            |   |   |   |   | 3         |
| 132 | Minimum Detect                                                                                                           |   |   |   |   | 4.1000E-5 | Minimum Non-Detect                                        |   |   |   |   | 7.0000E-4 |
| 133 | Maximum Detect                                                                                                           |   |   |   |   | 1.6000E-4 | Maximum Non-Detect                                        |   |   |   |   | 0.002     |
| 134 | Variance Detected                                                                                                        |   |   |   |   | 3.5770E-9 | Percent Non-Detects                                       |   |   |   |   | 97.22%    |
| 135 | Mean Detected                                                                                                            |   |   |   |   | 9.7000E-5 | SD Detected                                               |   |   |   |   | 5.9808E-5 |
| 136 | Mean of Detected Logged Data                                                                                             |   |   |   |   | -9.386    | SD of Detected Logged Data                                |   |   |   |   | 0.684     |
| 137 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 138 | Warning: Data set has only 3 Detected Values.                                                                            |   |   |   |   |           |                                                           |   |   |   |   |           |
| 139 | This is not enough to compute meaningful or reliable statistics and estimates.                                           |   |   |   |   |           |                                                           |   |   |   |   |           |
| 140 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 141 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 142 | Critical Values for Background Threshold Values (BTVs)                                                                   |   |   |   |   |           |                                                           |   |   |   |   |           |
| 143 | Tolerance Factor K (For UTL)                                                                                             |   |   |   |   | 1.912     | d2max (for USL)                                           |   |   |   |   | 3.236     |
| 144 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 145 | Normal GOF Test on Detects Only                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 146 | Shapiro Wilk Test Statistic                                                                                              |   |   |   |   | 0.99      | Shapiro Wilk GOF Test                                     |   |   |   |   |           |
| 147 | 5% Shapiro Wilk Critical Value                                                                                           |   |   |   |   | 0.767     | Detected Data appear Normal at 5% Significance Level      |   |   |   |   |           |
| 148 | Lilliefors Test Statistic                                                                                                |   |   |   |   | 0.213     | Lilliefors GOF Test                                       |   |   |   |   |           |
| 149 | 5% Lilliefors Critical Value                                                                                             |   |   |   |   | 0.425     | Detected Data appear Normal at 5% Significance Level      |   |   |   |   |           |
| 150 | Detected Data appear Normal at 5% Significance Level                                                                     |   |   |   |   |           |                                                           |   |   |   |   |           |
| 151 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 152 | Kaplan Meier (KM) Background Statistics Assuming Normal Distribution                                                     |   |   |   |   |           |                                                           |   |   |   |   |           |
| 153 | KM Mean                                                                                                                  |   |   |   |   | 9.7000E-5 | KM SD                                                     |   |   |   |   | 4.8833E-5 |
| 154 | 95% UTL95% Coverage                                                                                                      |   |   |   |   | 1.9036E-4 | 95% KM UPL (t)                                            |   |   |   |   | 1.7840E-4 |
| 155 | 90% KM Percentile (z)                                                                                                    |   |   |   |   | 1.5958E-4 | 95% KM Percentile (z)                                     |   |   |   |   | 1.7732E-4 |
| 156 | 99% KM Percentile (z)                                                                                                    |   |   |   |   | 2.1060E-4 | 95% KM USL                                                |   |   |   |   | 2.5500E-4 |

|     |                                                                                                                          |   |   |   |   |           |                                          |   |   |   |   |           |
|-----|--------------------------------------------------------------------------------------------------------------------------|---|---|---|---|-----------|------------------------------------------|---|---|---|---|-----------|
|     | A                                                                                                                        | B | C | D | E | F         | G                                        | H | I | J | K | L         |
| 157 |                                                                                                                          |   |   |   |   |           |                                          |   |   |   |   |           |
| 158 | DL/2 Substitution Background Statistics Assuming Normal Distribution                                                     |   |   |   |   |           |                                          |   |   |   |   |           |
| 159 | Mean                                                                                                                     |   |   |   |   | 4.3001E-4 | SD                                       |   |   |   |   | 1.8132E-4 |
| 160 | 95% UTL95% Coverage                                                                                                      |   |   |   |   | 7.7666E-4 | 95% UPL (t)                              |   |   |   |   | 7.3225E-4 |
| 161 | 90% Percentile (z)                                                                                                       |   |   |   |   | 6.6238E-4 | 95% Percentile (z)                       |   |   |   |   | 7.2825E-4 |
| 162 | 99% Percentile (z)                                                                                                       |   |   |   |   | 8.5182E-4 | 95% USL                                  |   |   |   |   | 0.00102   |
| 163 | DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons                                   |   |   |   |   |           |                                          |   |   |   |   |           |
| 164 |                                                                                                                          |   |   |   |   |           |                                          |   |   |   |   |           |
| 165 | Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. |   |   |   |   |           |                                          |   |   |   |   |           |
| 166 | Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers    |   |   |   |   |           |                                          |   |   |   |   |           |
| 167 | and consists of observations collected from clean unimpacted locations.                                                  |   |   |   |   |           |                                          |   |   |   |   |           |
| 168 | The use of USL tends to provide a balance between false positives and false negatives provided the data                  |   |   |   |   |           |                                          |   |   |   |   |           |
| 169 | represents a background data set and when many onsite observations need to be compared with the BTV.                     |   |   |   |   |           |                                          |   |   |   |   |           |
| 170 |                                                                                                                          |   |   |   |   |           |                                          |   |   |   |   |           |
| 171 | Cadmium                                                                                                                  |   |   |   |   |           |                                          |   |   |   |   |           |
| 172 |                                                                                                                          |   |   |   |   |           |                                          |   |   |   |   |           |
| 173 | General Statistics                                                                                                       |   |   |   |   |           |                                          |   |   |   |   |           |
| 174 | Total Number of Observations                                                                                             |   |   |   |   | 131       | Number of Missing Observations           |   |   |   |   | 50        |
| 175 | Number of Distinct Observations                                                                                          |   |   |   |   | 16        |                                          |   |   |   |   |           |
| 176 | Number of Detects                                                                                                        |   |   |   |   | 16        | Number of Non-Detects                    |   |   |   |   | 115       |
| 177 | Number of Distinct Detects                                                                                               |   |   |   |   | 13        | Number of Distinct Non-Detects           |   |   |   |   | 3         |
| 178 | Minimum Detect                                                                                                           |   |   |   |   | 1.3000E-4 | Minimum Non-Detect                       |   |   |   |   | 1.0000E-4 |
| 179 | Maximum Detect                                                                                                           |   |   |   |   | 0.0014    | Maximum Non-Detect                       |   |   |   |   | 5.0000E-4 |
| 180 | Variance Detected                                                                                                        |   |   |   |   | 1.4768E-7 | Percent Non-Detects                      |   |   |   |   | 87.79%    |
| 181 | Mean Detected                                                                                                            |   |   |   |   | 5.0125E-4 | SD Detected                              |   |   |   |   | 3.8429E-4 |
| 182 | Mean of Detected Logged Data                                                                                             |   |   |   |   | -7.846    | SD of Detected Logged Data               |   |   |   |   | 0.723     |
| 183 |                                                                                                                          |   |   |   |   |           |                                          |   |   |   |   |           |
| 184 | Critical Values for Background Threshold Values (BTVs)                                                                   |   |   |   |   |           |                                          |   |   |   |   |           |
| 185 | Tolerance Factor K (For UTL)                                                                                             |   |   |   |   | 1.885     | d2max (for USL)                          |   |   |   |   | 3.299     |
| 186 |                                                                                                                          |   |   |   |   |           |                                          |   |   |   |   |           |
| 187 | Normal GOF Test on Detects Only                                                                                          |   |   |   |   |           |                                          |   |   |   |   |           |
| 188 | Shapiro Wilk Test Statistic                                                                                              |   |   |   |   | 0.824     | Shapiro Wilk GOF Test                    |   |   |   |   |           |
| 189 | 5% Shapiro Wilk Critical Value                                                                                           |   |   |   |   | 0.887     | Data Not Normal at 5% Significance Level |   |   |   |   |           |
| 190 | Lilliefors Test Statistic                                                                                                |   |   |   |   | 0.229     | Lilliefors GOF Test                      |   |   |   |   |           |
| 191 | 5% Lilliefors Critical Value                                                                                             |   |   |   |   | 0.213     | Data Not Normal at 5% Significance Level |   |   |   |   |           |
| 192 | Data Not Normal at 5% Significance Level                                                                                 |   |   |   |   |           |                                          |   |   |   |   |           |
| 193 |                                                                                                                          |   |   |   |   |           |                                          |   |   |   |   |           |
| 194 | Kaplan Meier (KM) Background Statistics Assuming Normal Distribution                                                     |   |   |   |   |           |                                          |   |   |   |   |           |
| 195 | KM Mean                                                                                                                  |   |   |   |   | 1.7514E-4 | KM SD                                    |   |   |   |   | 1.8370E-4 |
| 196 | 95% UTL95% Coverage                                                                                                      |   |   |   |   | 5.2140E-4 | 95% KM UPL (t)                           |   |   |   |   | 4.8063E-4 |
| 197 | 90% KM Percentile (z)                                                                                                    |   |   |   |   | 4.1056E-4 | 95% KM Percentile (z)                    |   |   |   |   | 4.7730E-4 |
| 198 | 99% KM Percentile (z)                                                                                                    |   |   |   |   | 6.0249E-4 | 95% KM USL                               |   |   |   |   | 7.8124E-4 |
| 199 |                                                                                                                          |   |   |   |   |           |                                          |   |   |   |   |           |
| 200 | DL/2 Substitution Background Statistics Assuming Normal Distribution                                                     |   |   |   |   |           |                                          |   |   |   |   |           |
| 201 | Mean                                                                                                                     |   |   |   |   | 2.0740E-4 | SD                                       |   |   |   |   | 1.8517E-4 |
| 202 | 95% UTL95% Coverage                                                                                                      |   |   |   |   | 5.5644E-4 | 95% UPL (t)                              |   |   |   |   | 5.1534E-4 |
| 203 | 90% Percentile (z)                                                                                                       |   |   |   |   | 4.4471E-4 | 95% Percentile (z)                       |   |   |   |   | 5.1199E-4 |
| 204 | 99% Percentile (z)                                                                                                       |   |   |   |   | 6.3818E-4 | 95% USL                                  |   |   |   |   | 8.1835E-4 |
| 205 | DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons                                   |   |   |   |   |           |                                          |   |   |   |   |           |
| 206 |                                                                                                                          |   |   |   |   |           |                                          |   |   |   |   |           |
| 207 | Gamma GOF Tests on Detected Observations Only                                                                            |   |   |   |   |           |                                          |   |   |   |   |           |
| 208 | A-D Test Statistic                                                                                                       |   |   |   |   | 0.382     | Anderson-Darling GOF Test                |   |   |   |   |           |

|     | A                                                                                                                         | B | C | D | E | G         | H                                                               | I                     | J | K | L         |           |
|-----|---------------------------------------------------------------------------------------------------------------------------|---|---|---|---|-----------|-----------------------------------------------------------------|-----------------------|---|---|-----------|-----------|
| 209 | 5% A-D Critical Value                                                                                                     |   |   |   |   | 0.749     | Detected data appear Gamma Distributed at 5% Significance Level |                       |   |   |           |           |
| 210 | K-S Test Statistic                                                                                                        |   |   |   |   | 0.16      | Kolmogorov-Smirnov GOF                                          |                       |   |   |           |           |
| 211 | 5% K-S Critical Value                                                                                                     |   |   |   |   | 0.218     | Detected data appear Gamma Distributed at 5% Significance Level |                       |   |   |           |           |
| 212 | Detected data appear Gamma Distributed at 5% Significance Level                                                           |   |   |   |   |           |                                                                 |                       |   |   |           |           |
| 213 |                                                                                                                           |   |   |   |   |           |                                                                 |                       |   |   |           |           |
| 214 | Gamma Statistics on Detected Data Only                                                                                    |   |   |   |   |           |                                                                 |                       |   |   |           |           |
| 215 | k hat (MLE)                                                                                                               |   |   |   |   | 2.171     | k star (bias corrected MLE)                                     |                       |   |   |           | 1.805     |
| 216 | Theta hat (MLE)                                                                                                           |   |   |   |   | 2.3091E-4 | Theta star (bias corrected MLE)                                 |                       |   |   |           | 2.7764E-4 |
| 217 | nu hat (MLE)                                                                                                              |   |   |   |   | 69.46     | nu star (bias corrected)                                        |                       |   |   |           | 57.77     |
| 218 | MLE Mean (bias corrected)                                                                                                 |   |   |   |   | 5.0125E-4 |                                                                 |                       |   |   |           |           |
| 219 | MLE Sd (bias corrected)                                                                                                   |   |   |   |   | 3.7305E-4 | 95% Percentile of Chisquare (2kstar)                            |                       |   |   |           | 8.85      |
| 220 |                                                                                                                           |   |   |   |   |           |                                                                 |                       |   |   |           |           |
| 221 | Gamma ROS Statistics using Imputed Non-Detects                                                                            |   |   |   |   |           |                                                                 |                       |   |   |           |           |
| 222 | GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs                              |   |   |   |   |           |                                                                 |                       |   |   |           |           |
| 223 | GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20) |   |   |   |   |           |                                                                 |                       |   |   |           |           |
| 224 | For such situations, GROS method may yield incorrect values of UCLs and BTVs                                              |   |   |   |   |           |                                                                 |                       |   |   |           |           |
| 225 | This is especially true when the sample size is small.                                                                    |   |   |   |   |           |                                                                 |                       |   |   |           |           |
| 226 | For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates               |   |   |   |   |           |                                                                 |                       |   |   |           |           |
| 227 | Minimum                                                                                                                   |   |   |   |   | 1.3000E-4 | Mean                                                            |                       |   |   |           | 0.00884   |
| 228 | Maximum                                                                                                                   |   |   |   |   | 0.01      | Median                                                          |                       |   |   |           | 0.01      |
| 229 | SD                                                                                                                        |   |   |   |   | 0.00312   | CV                                                              |                       |   |   |           | 0.354     |
| 230 | k hat (MLE)                                                                                                               |   |   |   |   | 1.985     | k star (bias corrected MLE)                                     |                       |   |   |           | 1.945     |
| 231 | Theta hat (MLE)                                                                                                           |   |   |   |   | 0.00445   | Theta star (bias corrected MLE)                                 |                       |   |   |           | 0.00455   |
| 232 | nu hat (MLE)                                                                                                              |   |   |   |   | 520.1     | nu star (bias corrected)                                        |                       |   |   |           | 509.6     |
| 233 | MLE Mean (bias corrected)                                                                                                 |   |   |   |   | 0.00884   | MLE Sd (bias corrected)                                         |                       |   |   |           | 0.00634   |
| 234 | 95% Percentile of Chisquare (2kstar)                                                                                      |   |   |   |   | 9.308     | 90% Percentile                                                  |                       |   |   |           | 0.0173    |
| 235 | 95% Percentile                                                                                                            |   |   |   |   | 0.0212    | 99% Percentile                                                  |                       |   |   |           | 0.0297    |
| 236 | The following statistics are computed using Gamma ROS Statistics on Imputed Data                                          |   |   |   |   |           |                                                                 |                       |   |   |           |           |
| 237 | Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods                                                   |   |   |   |   |           |                                                                 |                       |   |   |           |           |
| 238 |                                                                                                                           |   |   |   |   | WH        | HW                                                              |                       |   |   | WH        | HW        |
| 239 | 95% Approx. Gamma UTL with 95% Coverage                                                                                   |   |   |   |   | 0.0234    | 0.0266                                                          | 95% Approx. Gamma UPL |   |   | 0.021     | 0.0234    |
| 240 | 95% Gamma USL                                                                                                             |   |   |   |   | 0.0436    | 0.0555                                                          |                       |   |   |           |           |
| 241 |                                                                                                                           |   |   |   |   |           |                                                                 |                       |   |   |           |           |
| 242 | Estimates of Gamma Parameters using KM Estimates                                                                          |   |   |   |   |           |                                                                 |                       |   |   |           |           |
| 243 | Mean (KM)                                                                                                                 |   |   |   |   | 1.7514E-4 | SD (KM)                                                         |                       |   |   |           | 1.8370E-4 |
| 244 | Variance (KM)                                                                                                             |   |   |   |   | 3.3747E-8 | SE of Mean (KM)                                                 |                       |   |   |           | 1.8984E-5 |
| 245 | k hat (KM)                                                                                                                |   |   |   |   | 0.909     | k star (KM)                                                     |                       |   |   |           | 0.893     |
| 246 | nu hat (KM)                                                                                                               |   |   |   |   | 238.1     | nu star (KM)                                                    |                       |   |   |           | 234       |
| 247 | theta hat (KM)                                                                                                            |   |   |   |   | 1.9269E-4 | theta star (KM)                                                 |                       |   |   |           | 1.9608E-4 |
| 248 | 80% gamma percentile (KM)                                                                                                 |   |   |   |   | 2.8427E-4 | 90% gamma percentile (KM)                                       |                       |   |   |           | 4.1461E-4 |
| 249 | 95% gamma percentile (KM)                                                                                                 |   |   |   |   | 5.4614E-4 | 99% gamma percentile (KM)                                       |                       |   |   |           | 8.5414E-4 |
| 250 |                                                                                                                           |   |   |   |   |           |                                                                 |                       |   |   |           |           |
| 251 | The following statistics are computed using gamma distribution and KM estimates                                           |   |   |   |   |           |                                                                 |                       |   |   |           |           |
| 252 | Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods                                                   |   |   |   |   |           |                                                                 |                       |   |   |           |           |
| 253 |                                                                                                                           |   |   |   |   | WH        | HW                                                              |                       |   |   | WH        | HW        |
| 254 | 95% Approx. Gamma UTL with 95% Coverage                                                                                   |   |   |   |   | 4.1404E-4 | 4.0374E-4                                                       | 95% Approx. Gamma UPL |   |   | 3.7351E-4 | 3.6322E-4 |
| 255 | 95% KM Gamma Percentile                                                                                                   |   |   |   |   | 3.7033E-4 | 3.6005E-4                                                       | 95% Gamma USL         |   |   | 7.4287E-4 | 7.4711E-4 |
| 256 |                                                                                                                           |   |   |   |   |           |                                                                 |                       |   |   |           |           |
| 257 | Lognormal GOF Test on Detected Observations Only                                                                          |   |   |   |   |           |                                                                 |                       |   |   |           |           |
| 258 | Shapiro Wilk Test Statistic                                                                                               |   |   |   |   | 0.959     | Shapiro Wilk GOF Test                                           |                       |   |   |           |           |
| 259 | 5% Shapiro Wilk Critical Value                                                                                            |   |   |   |   | 0.887     | Detected Data appear Lognormal at 5% Significance Level         |                       |   |   |           |           |
| 260 | Lilliefors Test Statistic                                                                                                 |   |   |   |   | 0.113     | Lilliefors GOF Test                                             |                       |   |   |           |           |

|     |                                                                                                                          |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
|-----|--------------------------------------------------------------------------------------------------------------------------|---|---|---|-----------|-----------------------------------------------------------|---------------------------------------------------------|---|---|-----------|---|---|--|
|     | A                                                                                                                        | B | C | D | E         | F                                                         | G                                                       | H | I | J         | K | L |  |
| 261 | 5% Lilliefors Critical Value                                                                                             |   |   |   |           | 0.213                                                     | Detected Data appear Lognormal at 5% Significance Level |   |   |           |   |   |  |
| 262 | Detected Data appear Lognormal at 5% Significance Level                                                                  |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
| 263 |                                                                                                                          |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
| 264 | Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects                            |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
| 265 | Mean in Original Scale                                                                                                   |   |   |   | 1.4575E-4 | Mean in Log Scale                                         |                                                         |   |   | -9.388    |   |   |  |
| 266 | SD in Original Scale                                                                                                     |   |   |   | 2.0160E-4 | SD in Log Scale                                           |                                                         |   |   | 1.041     |   |   |  |
| 267 | 95% UTL95% Coverage                                                                                                      |   |   |   | 5.9551E-4 | 95% BCA UTL95% Coverage                                   |                                                         |   |   | 6.8000E-4 |   |   |  |
| 268 | 95% Bootstrap (%) UTL95% Coverage                                                                                        |   |   |   | 6.8000E-4 | 95% UPL (t)                                               |                                                         |   |   | 4.7270E-4 |   |   |  |
| 269 | 90% Percentile (z)                                                                                                       |   |   |   | 3.1783E-4 | 95% Percentile (z)                                        |                                                         |   |   | 4.6387E-4 |   |   |  |
| 270 | 99% Percentile (z)                                                                                                       |   |   |   | 9.4278E-4 | 95% USL                                                   |                                                         |   |   | 0.0026    |   |   |  |
| 271 |                                                                                                                          |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
| 272 | Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution                                         |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
| 273 | KM Mean of Logged Data                                                                                                   |   |   |   | -8.854    | 95% KM UTL (Lognormal)95% Coverage                        |                                                         |   |   | 3.7754E-4 |   |   |  |
| 274 | KM SD of Logged Data                                                                                                     |   |   |   | 0.516     | 95% KM UPL (Lognormal)                                    |                                                         |   |   | 3.3671E-4 |   |   |  |
| 275 | 95% KM Percentile Lognormal (z)                                                                                          |   |   |   | 3.3358E-4 | 95% KM USL (Lognormal)                                    |                                                         |   |   | 7.8297E-4 |   |   |  |
| 276 |                                                                                                                          |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
| 277 | Background DL/2 Statistics Assuming Lognormal Distribution                                                               |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
| 278 | Mean in Original Scale                                                                                                   |   |   |   | 2.0740E-4 | Mean in Log Scale                                         |                                                         |   |   | -8.696    |   |   |  |
| 279 | SD in Original Scale                                                                                                     |   |   |   | 1.8517E-4 | SD in Log Scale                                           |                                                         |   |   | 0.608     |   |   |  |
| 280 | 95% UTL95% Coverage                                                                                                      |   |   |   | 5.2615E-4 | 95% UPL (t)                                               |                                                         |   |   | 4.5974E-4 |   |   |  |
| 281 | 90% Percentile (z)                                                                                                       |   |   |   | 3.6459E-4 | 95% Percentile (z)                                        |                                                         |   |   | 4.5471E-4 |   |   |  |
| 282 | 99% Percentile (z)                                                                                                       |   |   |   | 6.8813E-4 | 95% USL                                                   |                                                         |   |   | 0.00124   |   |   |  |
| 283 | DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.                                  |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
| 284 |                                                                                                                          |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
| 285 | Nonparametric Distribution Free Background Statistics                                                                    |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
| 286 | Data appear to follow a Discernible Distribution at 5% Significance Level                                                |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
| 287 |                                                                                                                          |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
| 288 | Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)                                  |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
| 289 | Order of Statistic, r                                                                                                    |   |   |   | 128       | 95% UTL with95% Coverage                                  |                                                         |   |   | 6.8000E-4 |   |   |  |
| 290 | Approx, f used to compute achieved CC                                                                                    |   |   |   | 1.684     | Approximate Actual Confidence Coefficient achieved by UTL |                                                         |   |   | 0.898     |   |   |  |
| 291 | Approximate Sample Size needed to achieve specified CC                                                                   |   |   |   | 153       | 95% UPL                                                   |                                                         |   |   | 5.0800E-4 |   |   |  |
| 292 | 95% USL                                                                                                                  |   |   |   | 0.0014    | 95% KM Chebyshev UPL                                      |                                                         |   |   | 9.7893E-4 |   |   |  |
| 293 |                                                                                                                          |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
| 294 | Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
| 295 | Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers    |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
| 296 | and consists of observations collected from clean unimpacted locations.                                                  |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
| 297 | The use of USL tends to provide a balance between false positives and false negatives provided the data                  |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
| 298 | represents a background data set and when many onsite observations need to be compared with the BTV.                     |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
| 299 |                                                                                                                          |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
| 300 | Chromium (total)                                                                                                         |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
| 301 |                                                                                                                          |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
| 302 | General Statistics                                                                                                       |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |
| 303 | Total Number of Observations                                                                                             |   |   |   | 131       | Number of Missing Observations                            |                                                         |   |   | 50        |   |   |  |
| 304 | Number of Distinct Observations                                                                                          |   |   |   | 4         |                                                           |                                                         |   |   |           |   |   |  |
| 305 | Number of Detects                                                                                                        |   |   |   | 3         | Number of Non-Detects                                     |                                                         |   |   | 128       |   |   |  |
| 306 | Number of Distinct Detects                                                                                               |   |   |   | 3         | Number of Distinct Non-Detects                            |                                                         |   |   | 2         |   |   |  |
| 307 | Minimum Detect                                                                                                           |   |   |   | 0.004     | Minimum Non-Detect                                        |                                                         |   |   | 0.004     |   |   |  |
| 308 | Maximum Detect                                                                                                           |   |   |   | 0.012     | Maximum Non-Detect                                        |                                                         |   |   | 0.005     |   |   |  |
| 309 | Variance Detected                                                                                                        |   |   |   | 1.6333E-5 | Percent Non-Detects                                       |                                                         |   |   | 97.71%    |   |   |  |
| 310 | Mean Detected                                                                                                            |   |   |   | 0.00833   | SD Detected                                               |                                                         |   |   | 0.00404   |   |   |  |
| 311 | Mean of Detected Logged Data                                                                                             |   |   |   | -4.885    | SD of Detected Logged Data                                |                                                         |   |   | 0.57      |   |   |  |
| 312 |                                                                                                                          |   |   |   |           |                                                           |                                                         |   |   |           |   |   |  |

|     | A                                                                                                                         | B | C         | D | E                                    | F | G                                                    | H | I         | J | K     | L |
|-----|---------------------------------------------------------------------------------------------------------------------------|---|-----------|---|--------------------------------------|---|------------------------------------------------------|---|-----------|---|-------|---|
| 313 | Warning: Data set has only 3 Detected Values.                                                                             |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 314 | This is not enough to compute meaningful or reliable statistics and estimates.                                            |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 315 |                                                                                                                           |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 316 |                                                                                                                           |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 317 | Critical Values for Background Threshold Values (BTVs)                                                                    |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 318 | Tolerance Factor K (For UTL)                                                                                              |   |           |   | 1.885                                |   | d2max (for USL)                                      |   |           |   | 3.299 |   |
| 319 |                                                                                                                           |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 320 | Normal GOF Test on Detects Only                                                                                           |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 321 | Shapiro Wilk Test Statistic                                                                                               |   |           |   | 0.98                                 |   | Shapiro Wilk GOF Test                                |   |           |   |       |   |
| 322 | 5% Shapiro Wilk Critical Value                                                                                            |   |           |   | 0.767                                |   | Detected Data appear Normal at 5% Significance Level |   |           |   |       |   |
| 323 | Lilliefors Test Statistic                                                                                                 |   |           |   | 0.232                                |   | Lilliefors GOF Test                                  |   |           |   |       |   |
| 324 | 5% Lilliefors Critical Value                                                                                              |   |           |   | 0.425                                |   | Detected Data appear Normal at 5% Significance Level |   |           |   |       |   |
| 325 | Detected Data appear Normal at 5% Significance Level                                                                      |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 326 |                                                                                                                           |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 327 | Kaplan Meier (KM) Background Statistics Assuming Normal Distribution                                                      |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 328 | KM Mean                                                                                                                   |   | 0.0041    |   | KM SD                                |   |                                                      |   | 8.1826E-4 |   |       |   |
| 329 | 95% UTL95% Coverage                                                                                                       |   | 0.00564   |   | 95% KM UPL (t)                       |   |                                                      |   | 0.00546   |   |       |   |
| 330 | 90% KM Percentile (z)                                                                                                     |   | 0.00515   |   | 95% KM Percentile (z)                |   |                                                      |   | 0.00545   |   |       |   |
| 331 | 99% KM Percentile (z)                                                                                                     |   | 0.006     |   | 95% KM USL                           |   |                                                      |   | 0.0068    |   |       |   |
| 332 |                                                                                                                           |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 333 | DL/2 Substitution Background Statistics Assuming Normal Distribution                                                      |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 334 | Mean                                                                                                                      |   | 0.0024    |   | SD                                   |   |                                                      |   | 0.00107   |   |       |   |
| 335 | 95% UTL95% Coverage                                                                                                       |   | 0.00441   |   | 95% UPL (t)                          |   |                                                      |   | 0.00418   |   |       |   |
| 336 | 90% Percentile (z)                                                                                                        |   | 0.00377   |   | 95% Percentile (z)                   |   |                                                      |   | 0.00416   |   |       |   |
| 337 | 99% Percentile (z)                                                                                                        |   | 0.00489   |   | 95% USL                              |   |                                                      |   | 0.00593   |   |       |   |
| 338 | DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons                                    |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 339 |                                                                                                                           |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 340 | Gamma GOF Tests on Detected Observations Only                                                                             |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 341 | Not Enough Data to Perform GOF Test                                                                                       |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 342 |                                                                                                                           |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 343 | Gamma Statistics on Detected Data Only                                                                                    |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 344 | k hat (MLE)                                                                                                               |   | 5.292     |   | k star (bias corrected MLE)          |   |                                                      |   | N/A       |   |       |   |
| 345 | Theta hat (MLE)                                                                                                           |   | 0.00157   |   | Theta star (bias corrected MLE)      |   |                                                      |   | N/A       |   |       |   |
| 346 | nu hat (MLE)                                                                                                              |   | 31.75     |   | nu star (bias corrected)             |   |                                                      |   | N/A       |   |       |   |
| 347 | MLE Mean (bias corrected)                                                                                                 |   | N/A       |   |                                      |   |                                                      |   |           |   |       |   |
| 348 | MLE Sd (bias corrected)                                                                                                   |   | N/A       |   | 95% Percentile of Chisquare (2kstar) |   |                                                      |   | N/A       |   |       |   |
| 349 |                                                                                                                           |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 350 | Gamma ROS Statistics using Imputed Non-Detects                                                                            |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 351 | GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs                              |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 352 | GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20) |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 353 | For such situations, GROS method may yield incorrect values of UCLs and BTVs                                              |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 354 | This is especially true when the sample size is small.                                                                    |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 355 | For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates               |   |           |   |                                      |   |                                                      |   |           |   |       |   |
| 356 | Minimum                                                                                                                   |   | 0.004     |   | Mean                                 |   |                                                      |   | 0.00996   |   |       |   |
| 357 | Maximum                                                                                                                   |   | 0.012     |   | Median                               |   |                                                      |   | 0.01      |   |       |   |
| 358 | SD                                                                                                                        |   | 5.6028E-4 |   | CV                                   |   |                                                      |   | 0.0562    |   |       |   |
| 359 | k hat (MLE)                                                                                                               |   | 193.7     |   | k star (bias corrected MLE)          |   |                                                      |   | 189.3     |   |       |   |
| 360 | Theta hat (MLE)                                                                                                           |   | 5.1419E-5 |   | Theta star (bias corrected MLE)      |   |                                                      |   | 5.2622E-5 |   |       |   |
| 361 | nu hat (MLE)                                                                                                              |   | 50760     |   | nu star (bias corrected)             |   |                                                      |   | 49599     |   |       |   |
| 362 | MLE Mean (bias corrected)                                                                                                 |   | 0.00996   |   | MLE Sd (bias corrected)              |   |                                                      |   | 7.2403E-4 |   |       |   |
| 363 | 95% Percentile of Chisquare (2kstar)                                                                                      |   | 425       |   | 90% Percentile                       |   |                                                      |   | 0.0109    |   |       |   |
| 364 | 95% Percentile                                                                                                            |   | 0.0112    |   | 99% Percentile                       |   |                                                      |   | 0.0117    |   |       |   |

|     |                                                                                               |   |   |           |                                                         |                       |   |   |                 |           |         |   |
|-----|-----------------------------------------------------------------------------------------------|---|---|-----------|---------------------------------------------------------|-----------------------|---|---|-----------------|-----------|---------|---|
|     | A                                                                                             | B | C | D         | E                                                       | F                     | G | H | I               | J         | K       | L |
| 365 | The following statistics are computed using Gamma ROS Statistics on Imputed Data              |   |   |           |                                                         |                       |   |   |                 |           |         |   |
| 366 | Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods                       |   |   |           |                                                         |                       |   |   |                 |           |         |   |
| 367 |                                                                                               |   |   | WH        | HW                                                      |                       |   |   |                 | WH        | HW      |   |
| 368 | 95% Approx. Gamma UTL with 95% Coverage                                                       |   |   | 0.0114    | 0.0114                                                  | 95% Approx. Gamma UPL |   |   |                 | 0.0112    | 0.0112  |   |
| 369 | 95% Gamma USL                                                                                 |   |   | 0.0125    | 0.0126                                                  |                       |   |   |                 |           |         |   |
| 370 |                                                                                               |   |   |           |                                                         |                       |   |   |                 |           |         |   |
| 371 | Estimates of Gamma Parameters using KM Estimates                                              |   |   |           |                                                         |                       |   |   |                 |           |         |   |
| 372 | Mean (KM)                                                                                     |   |   | 0.0041    |                                                         |                       |   |   | SD (KM)         | 8.1826E-4 |         |   |
| 373 | Variance (KM)                                                                                 |   |   | 6.6954E-7 |                                                         |                       |   |   | SE of Mean (KM) | 8.7559E-5 |         |   |
| 374 | k hat (KM)                                                                                    |   |   | 25.1      |                                                         |                       |   |   | k star (KM)     | 24.53     |         |   |
| 375 | nu hat (KM)                                                                                   |   |   | 6576      |                                                         |                       |   |   | nu star (KM)    | 6426      |         |   |
| 376 | theta hat (KM)                                                                                |   |   | 1.6333E-4 |                                                         |                       |   |   | theta star (KM) | 1.6713E-4 |         |   |
| 377 | 80% gamma percentile (KM)                                                                     |   |   | 0.00477   | 90% gamma percentile (KM)                               |                       |   |   | 0.00519         |           |         |   |
| 378 | 95% gamma percentile (KM)                                                                     |   |   | 0.00555   | 99% gamma percentile (KM)                               |                       |   |   | 0.00627         |           |         |   |
| 379 |                                                                                               |   |   |           |                                                         |                       |   |   |                 |           |         |   |
| 380 | The following statistics are computed using gamma distribution and KM estimates               |   |   |           |                                                         |                       |   |   |                 |           |         |   |
| 381 | Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods                       |   |   |           |                                                         |                       |   |   |                 |           |         |   |
| 382 |                                                                                               |   |   | WH        | HW                                                      |                       |   |   |                 | WH        | HW      |   |
| 383 | 95% Approx. Gamma UTL with 95% Coverage                                                       |   |   | 0.00524   | 0.00519                                                 | 95% Approx. Gamma UPL |   |   |                 | 0.00509   | 0.00505 |   |
| 384 | 95% KM Gamma Percentile                                                                       |   |   | 0.00508   | 0.00504                                                 | 95% Gamma USL         |   |   |                 | 0.00625   | 0.00618 |   |
| 385 |                                                                                               |   |   |           |                                                         |                       |   |   |                 |           |         |   |
| 386 | Lognormal GOF Test on Detected Observations Only                                              |   |   |           |                                                         |                       |   |   |                 |           |         |   |
| 387 | Shapiro Wilk Test Statistic                                                                   |   |   | 0.93      | Shapiro Wilk GOF Test                                   |                       |   |   |                 |           |         |   |
| 388 | 5% Shapiro Wilk Critical Value                                                                |   |   | 0.767     | Detected Data appear Lognormal at 5% Significance Level |                       |   |   |                 |           |         |   |
| 389 | Lilliefors Test Statistic                                                                     |   |   | 0.287     | Lilliefors GOF Test                                     |                       |   |   |                 |           |         |   |
| 390 | 5% Lilliefors Critical Value                                                                  |   |   | 0.425     | Detected Data appear Lognormal at 5% Significance Level |                       |   |   |                 |           |         |   |
| 391 | Detected Data appear Lognormal at 5% Significance Level                                       |   |   |           |                                                         |                       |   |   |                 |           |         |   |
| 392 |                                                                                               |   |   |           |                                                         |                       |   |   |                 |           |         |   |
| 393 | Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects |   |   |           |                                                         |                       |   |   |                 |           |         |   |
| 394 | Mean in Original Scale                                                                        |   |   | 4.7277E-4 | Mean in Log Scale                                       |                       |   |   | -9.32           |           |         |   |
| 395 | SD in Original Scale                                                                          |   |   | 0.00141   | SD in Log Scale                                         |                       |   |   | 1.861           |           |         |   |
| 396 | 95% UTL95% Coverage                                                                           |   |   | 0.00299   | 95% BCA UTL95% Coverage                                 |                       |   |   | 0.00291         |           |         |   |
| 397 | 95% Bootstrap (%) UTL95% Coverage                                                             |   |   | 0.00319   | 95% UPL (t)                                             |                       |   |   | 0.00198         |           |         |   |
| 398 | 90% Percentile (z)                                                                            |   |   | 9.7285E-4 | 95% Percentile (z)                                      |                       |   |   | 0.00191         |           |         |   |
| 399 | 99% Percentile (z)                                                                            |   |   | 0.0068    | 95% USL                                                 |                       |   |   | 0.0415          |           |         |   |
| 400 |                                                                                               |   |   |           |                                                         |                       |   |   |                 |           |         |   |
| 401 | Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution              |   |   |           |                                                         |                       |   |   |                 |           |         |   |
| 402 | KM Mean of Logged Data                                                                        |   |   | -5.507    | 95% KM UTL (Lognormal)95% Coverage                      |                       |   |   | 0.00507         |           |         |   |
| 403 | KM SD of Logged Data                                                                          |   |   | 0.118     | 95% KM UPL (Lognormal)                                  |                       |   |   | 0.00494         |           |         |   |
| 404 | 95% KM Percentile Lognormal (z)                                                               |   |   | 0.00493   | 95% KM USL (Lognormal)                                  |                       |   |   | 0.006           |           |         |   |
| 405 |                                                                                               |   |   |           |                                                         |                       |   |   |                 |           |         |   |
| 406 | Background DL/2 Statistics Assuming Lognormal Distribution                                    |   |   |           |                                                         |                       |   |   |                 |           |         |   |
| 407 | Mean in Original Scale                                                                        |   |   | 0.0024    | Mean in Log Scale                                       |                       |   |   | -6.072          |           |         |   |
| 408 | SD in Original Scale                                                                          |   |   | 0.00107   | SD in Log Scale                                         |                       |   |   | 0.225           |           |         |   |
| 409 | 95% UTL95% Coverage                                                                           |   |   | 0.00352   | 95% UPL (t)                                             |                       |   |   | 0.00335         |           |         |   |
| 410 | 90% Percentile (z)                                                                            |   |   | 0.00308   | 95% Percentile (z)                                      |                       |   |   | 0.00334         |           |         |   |
| 411 | 99% Percentile (z)                                                                            |   |   | 0.00389   | 95% USL                                                 |                       |   |   | 0.00484         |           |         |   |
| 412 | DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.       |   |   |           |                                                         |                       |   |   |                 |           |         |   |
| 413 |                                                                                               |   |   |           |                                                         |                       |   |   |                 |           |         |   |
| 414 | Nonparametric Distribution Free Background Statistics                                         |   |   |           |                                                         |                       |   |   |                 |           |         |   |
| 415 | Data appear to follow a Discernible Distribution at 5% Significance Level                     |   |   |           |                                                         |                       |   |   |                 |           |         |   |
| 416 |                                                                                               |   |   |           |                                                         |                       |   |   |                 |           |         |   |

| A   | B                                                                                                                        | C | D | E | F         | G                                                         | H | I | J | K         | L |
|-----|--------------------------------------------------------------------------------------------------------------------------|---|---|---|-----------|-----------------------------------------------------------|---|---|---|-----------|---|
| 417 | Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)                                  |   |   |   |           |                                                           |   |   |   |           |   |
| 418 | Order of Statistic, r                                                                                                    |   |   |   | 128       | 95% UTL with95% Coverage                                  |   |   |   | 0.005     |   |
| 419 | Approx, f used to compute achieved CC                                                                                    |   |   |   | 1.684     | Approximate Actual Confidence Coefficient achieved by UTL |   |   |   | 0.898     |   |
| 420 | Approximate Sample Size needed to achieve specified CC                                                                   |   |   |   | 153       | 95% UPL                                                   |   |   |   | 0.005     |   |
| 421 | 95% USL                                                                                                                  |   |   |   | 0.012     | 95% KM Chebyshev UPL                                      |   |   |   | 0.00768   |   |
| 422 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |           |   |
| 423 | Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. |   |   |   |           |                                                           |   |   |   |           |   |
| 424 | Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers    |   |   |   |           |                                                           |   |   |   |           |   |
| 425 | and consists of observations collected from clean unimpacted locations.                                                  |   |   |   |           |                                                           |   |   |   |           |   |
| 426 | The use of USL tends to provide a balance between false positives and false negatives provided the data                  |   |   |   |           |                                                           |   |   |   |           |   |
| 427 | represents a background data set and when many onsite observations need to be compared with the BTV.                     |   |   |   |           |                                                           |   |   |   |           |   |
| 428 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |           |   |
| 429 | Cobalt                                                                                                                   |   |   |   |           |                                                           |   |   |   |           |   |
| 430 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |           |   |
| 431 | General Statistics                                                                                                       |   |   |   |           |                                                           |   |   |   |           |   |
| 432 | Total Number of Observations                                                                                             |   |   |   | 122       | Number of Missing Observations                            |   |   |   | 19        |   |
| 433 | Number of Distinct Observations                                                                                          |   |   |   | 63        |                                                           |   |   |   |           |   |
| 434 | Number of Detects                                                                                                        |   |   |   | 90        | Number of Non-Detects                                     |   |   |   | 32        |   |
| 435 | Number of Distinct Detects                                                                                               |   |   |   | 61        | Number of Distinct Non-Detects                            |   |   |   | 3         |   |
| 436 | Minimum Detect                                                                                                           |   |   |   | 3.0000E-4 | Minimum Non-Detect                                        |   |   |   | 3.0000E-4 |   |
| 437 | Maximum Detect                                                                                                           |   |   |   | 0.0076    | Maximum Non-Detect                                        |   |   |   | 0.004     |   |
| 438 | Variance Detected                                                                                                        |   |   |   | 2.8849E-6 | Percent Non-Detects                                       |   |   |   | 26.23%    |   |
| 439 | Mean Detected                                                                                                            |   |   |   | 0.00184   | SD Detected                                               |   |   |   | 0.0017    |   |
| 440 | Mean of Detected Logged Data                                                                                             |   |   |   | -6.663    | SD of Detected Logged Data                                |   |   |   | 0.842     |   |
| 441 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |           |   |
| 442 | Critical Values for Background Threshold Values (BTVs)                                                                   |   |   |   |           |                                                           |   |   |   |           |   |
| 443 | Tolerance Factor K (For UTL)                                                                                             |   |   |   | 1.894     | d2max (for USL)                                           |   |   |   | 3.276     |   |
| 444 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |           |   |
| 445 | Normal GOF Test on Detects Only                                                                                          |   |   |   |           |                                                           |   |   |   |           |   |
| 446 | Shapiro Wilk Test Statistic                                                                                              |   |   |   | 0.777     | Normal GOF Test on Detected Observations Only             |   |   |   |           |   |
| 447 | 5% Shapiro Wilk P Value                                                                                                  |   |   |   | 0         | Data Not Normal at 5% Significance Level                  |   |   |   |           |   |
| 448 | Lilliefors Test Statistic                                                                                                |   |   |   | 0.202     | Lilliefors GOF Test                                       |   |   |   |           |   |
| 449 | 5% Lilliefors Critical Value                                                                                             |   |   |   | 0.0936    | Data Not Normal at 5% Significance Level                  |   |   |   |           |   |
| 450 | Data Not Normal at 5% Significance Level                                                                                 |   |   |   |           |                                                           |   |   |   |           |   |
| 451 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |           |   |
| 452 | Nonparametric Distribution Free Background Statistics                                                                    |   |   |   |           |                                                           |   |   |   |           |   |
| 453 | Data do not follow a Discernible Distribution (0.05)                                                                     |   |   |   |           |                                                           |   |   |   |           |   |
| 454 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |           |   |
| 455 | Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)                                  |   |   |   |           |                                                           |   |   |   |           |   |
| 456 | Order of Statistic, r                                                                                                    |   |   |   | 119       | 95% UTL with95% Coverage                                  |   |   |   | 0.0055    |   |
| 457 | Approx, f used to compute achieved CC                                                                                    |   |   |   | 1.566     | Approximate Actual Confidence Coefficient achieved by UTL |   |   |   | 0.864     |   |
| 458 | Approximate Sample Size needed to achieve specified CC                                                                   |   |   |   | 153       | 95% UPL                                                   |   |   |   | 0.0054    |   |
| 459 | 95% USL                                                                                                                  |   |   |   | 0.0076    | 95% KM Chebyshev UPL                                      |   |   |   | 0.00843   |   |
| 460 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |           |   |
| 461 | Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. |   |   |   |           |                                                           |   |   |   |           |   |
| 462 | Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers    |   |   |   |           |                                                           |   |   |   |           |   |
| 463 | and consists of observations collected from clean unimpacted locations.                                                  |   |   |   |           |                                                           |   |   |   |           |   |
| 464 | The use of USL tends to provide a balance between false positives and false negatives provided the data                  |   |   |   |           |                                                           |   |   |   |           |   |
| 465 | represents a background data set and when many onsite observations need to be compared with the BTV.                     |   |   |   |           |                                                           |   |   |   |           |   |
| 466 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |           |   |
| 467 | Lead                                                                                                                     |   |   |   |           |                                                           |   |   |   |           |   |
| 468 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |           |   |



|     | A                                                                                                                        | B | C | D | E | F         | G                                                    | H | I | J | K | L         |
|-----|--------------------------------------------------------------------------------------------------------------------------|---|---|---|---|-----------|------------------------------------------------------|---|---|---|---|-----------|
| 469 | General Statistics                                                                                                       |   |   |   |   |           |                                                      |   |   |   |   |           |
| 470 | Total Number of Observations                                                                                             |   |   |   |   | 130       | Number of Missing Observations                       |   |   |   |   | 51        |
| 471 | Number of Distinct Observations                                                                                          |   |   |   |   | 9         |                                                      |   |   |   |   |           |
| 472 | Number of Detects                                                                                                        |   |   |   |   | 7         | Number of Non-Detects                                |   |   |   |   | 123       |
| 473 | Number of Distinct Detects                                                                                               |   |   |   |   | 6         | Number of Distinct Non-Detects                       |   |   |   |   | 3         |
| 474 | Minimum Detect                                                                                                           |   |   |   |   | 6.2000E-4 | Minimum Non-Detect                                   |   |   |   |   | 5.0000E-4 |
| 475 | Maximum Detect                                                                                                           |   |   |   |   | 0.018     | Maximum Non-Detect                                   |   |   |   |   | 0.05      |
| 476 | Variance Detected                                                                                                        |   |   |   |   | 5.8061E-5 | Percent Non-Detects                                  |   |   |   |   | 94.62%    |
| 477 | Mean Detected                                                                                                            |   |   |   |   | 0.00873   | SD Detected                                          |   |   |   |   | 0.00762   |
| 478 | Mean of Detected Logged Data                                                                                             |   |   |   |   | -5.437    | SD of Detected Logged Data                           |   |   |   |   | 1.53      |
| 479 |                                                                                                                          |   |   |   |   |           |                                                      |   |   |   |   |           |
| 480 | Critical Values for Background Threshold Values (BTVs)                                                                   |   |   |   |   |           |                                                      |   |   |   |   |           |
| 481 | Tolerance Factor K (For UTL)                                                                                             |   |   |   |   | 1.886     | d2max (for USL)                                      |   |   |   |   | 3.297     |
| 482 |                                                                                                                          |   |   |   |   |           |                                                      |   |   |   |   |           |
| 483 | Normal GOF Test on Detects Only                                                                                          |   |   |   |   |           |                                                      |   |   |   |   |           |
| 484 | Shapiro Wilk Test Statistic                                                                                              |   |   |   |   | 0.85      | Shapiro Wilk GOF Test                                |   |   |   |   |           |
| 485 | 5% Shapiro Wilk Critical Value                                                                                           |   |   |   |   | 0.803     | Detected Data appear Normal at 5% Significance Level |   |   |   |   |           |
| 486 | Lilliefors Test Statistic                                                                                                |   |   |   |   | 0.244     | Lilliefors GOF Test                                  |   |   |   |   |           |
| 487 | 5% Lilliefors Critical Value                                                                                             |   |   |   |   | 0.304     | Detected Data appear Normal at 5% Significance Level |   |   |   |   |           |
| 488 | Detected Data appear Normal at 5% Significance Level                                                                     |   |   |   |   |           |                                                      |   |   |   |   |           |
| 489 |                                                                                                                          |   |   |   |   |           |                                                      |   |   |   |   |           |
| 490 | Kaplan Meier (KM) Background Statistics Assuming Normal Distribution                                                     |   |   |   |   |           |                                                      |   |   |   |   |           |
| 491 | KM Mean                                                                                                                  |   |   |   |   | 9.5558E-4 | KM SD                                                |   |   |   |   | 0.00249   |
| 492 | 95% UTL95% Coverage                                                                                                      |   |   |   |   | 0.00564   | 95% KM UPL (t)                                       |   |   |   |   | 0.00509   |
| 493 | 90% KM Percentile (z)                                                                                                    |   |   |   |   | 0.00414   | 95% KM Percentile (z)                                |   |   |   |   | 0.00505   |
| 494 | 99% KM Percentile (z)                                                                                                    |   |   |   |   | 0.00674   | 95% KM USL                                           |   |   |   |   | 0.00915   |
| 495 |                                                                                                                          |   |   |   |   |           |                                                      |   |   |   |   |           |
| 496 | DL/2 Substitution Background Statistics Assuming Normal Distribution                                                     |   |   |   |   |           |                                                      |   |   |   |   |           |
| 497 | Mean                                                                                                                     |   |   |   |   | 0.00276   | SD                                                   |   |   |   |   | 0.00373   |
| 498 | 95% UTL95% Coverage                                                                                                      |   |   |   |   | 0.0098    | 95% UPL (t)                                          |   |   |   |   | 0.00897   |
| 499 | 90% Percentile (z)                                                                                                       |   |   |   |   | 0.00754   | 95% Percentile (z)                                   |   |   |   |   | 0.0089    |
| 500 | 99% Percentile (z)                                                                                                       |   |   |   |   | 0.0114    | 95% USL                                              |   |   |   |   | 0.0151    |
| 501 | Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. |   |   |   |   |           |                                                      |   |   |   |   |           |
| 502 | Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers    |   |   |   |   |           |                                                      |   |   |   |   |           |
| 503 | and consists of observations collected from clean unimpacted locations.                                                  |   |   |   |   |           |                                                      |   |   |   |   |           |
| 504 | The use of USL tends to provide a balance between false positives and false negatives provided the data                  |   |   |   |   |           |                                                      |   |   |   |   |           |
| 505 | represents a background data set and when many onsite observations need to be compared with the BTV.                     |   |   |   |   |           |                                                      |   |   |   |   |           |
| 506 |                                                                                                                          |   |   |   |   |           |                                                      |   |   |   |   |           |
| 507 | Mercury                                                                                                                  |   |   |   |   |           |                                                      |   |   |   |   |           |
| 508 |                                                                                                                          |   |   |   |   |           |                                                      |   |   |   |   |           |
| 509 | General Statistics                                                                                                       |   |   |   |   |           |                                                      |   |   |   |   |           |
| 510 | Total Number of Observations                                                                                             |   |   |   |   | 131       | Number of Missing Observations                       |   |   |   |   | 49        |
| 511 | Number of Distinct Observations                                                                                          |   |   |   |   | 2         |                                                      |   |   |   |   |           |
| 512 | Number of Detects                                                                                                        |   |   |   |   | 2         | Number of Non-Detects                                |   |   |   |   | 129       |
| 513 | Number of Distinct Detects                                                                                               |   |   |   |   | 2         | Number of Distinct Non-Detects                       |   |   |   |   | 1         |
| 514 | Minimum Detect                                                                                                           |   |   |   |   | 2.0000E-4 | Minimum Non-Detect                                   |   |   |   |   | 2.0000E-4 |
| 515 | Maximum Detect                                                                                                           |   |   |   |   | 3.0000E-4 | Maximum Non-Detect                                   |   |   |   |   | 2.0000E-4 |
| 516 | Variance Detected                                                                                                        |   |   |   |   | 5.0000E-9 | Percent Non-Detects                                  |   |   |   |   | 98.47%    |
| 517 | Mean Detected                                                                                                            |   |   |   |   | 2.5000E-4 | SD Detected                                          |   |   |   |   | 7.0711E-5 |
| 518 | Mean of Detected Logged Data                                                                                             |   |   |   |   | -8.314    | SD of Detected Logged Data                           |   |   |   |   | 0.287     |
| 519 |                                                                                                                          |   |   |   |   |           |                                                      |   |   |   |   |           |
| 520 | Warning: Data set has only 2 Detected Values.                                                                            |   |   |   |   |           |                                                      |   |   |   |   |           |

|     |                                                                                                                          |   |   |   |           |                                                           |   |   |   |   |   |           |
|-----|--------------------------------------------------------------------------------------------------------------------------|---|---|---|-----------|-----------------------------------------------------------|---|---|---|---|---|-----------|
|     | A                                                                                                                        | B | C | D | E         | F                                                         | G | H | I | J | K | L         |
| 521 | This is not enough to compute meaningful or reliable statistics and estimates.                                           |   |   |   |           |                                                           |   |   |   |   |   |           |
| 522 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |   |   |           |
| 523 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |   |   |           |
| 524 | Critical Values for Background Threshold Values (BTVs)                                                                   |   |   |   |           |                                                           |   |   |   |   |   |           |
| 525 | Tolerance Factor K (For UTL)                                                                                             |   |   |   | 1.885     | d2max (for USL)                                           |   |   |   |   |   | 3.299     |
| 526 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |   |   |           |
| 527 | Nonparametric Distribution Free Background Statistics                                                                    |   |   |   |           |                                                           |   |   |   |   |   |           |
| 528 | Data do not follow a Discernible Distribution (0.05)                                                                     |   |   |   |           |                                                           |   |   |   |   |   |           |
| 529 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |   |   |           |
| 530 | Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)                                  |   |   |   |           |                                                           |   |   |   |   |   |           |
| 531 | Order of Statistic, r                                                                                                    |   |   |   | 128       | 95% UTL with95% Coverage                                  |   |   |   |   |   | 2.0000E-4 |
| 532 | Approx, f used to compute achieved CC                                                                                    |   |   |   | 1.684     | Approximate Actual Confidence Coefficient achieved by UTL |   |   |   |   |   | 0.898     |
| 533 | Approximate Sample Size needed to achieve specified CC                                                                   |   |   |   | 153       | 95% UPL                                                   |   |   |   |   |   | 2.0000E-4 |
| 534 | 95% USL                                                                                                                  |   |   |   | 3.0000E-4 | 95% KM Chebyshev UPL                                      |   |   |   |   |   | 2.3885E-4 |
| 535 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |   |   |           |
| 536 | Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. |   |   |   |           |                                                           |   |   |   |   |   |           |
| 537 | Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers    |   |   |   |           |                                                           |   |   |   |   |   |           |
| 538 | and consists of observations collected from clean unimpacted locations.                                                  |   |   |   |           |                                                           |   |   |   |   |   |           |
| 539 | The use of USL tends to provide a balance between false positives and false negatives provided the data                  |   |   |   |           |                                                           |   |   |   |   |   |           |
| 540 | represents a background data set and when many onsite observations need to be compared with the BTV.                     |   |   |   |           |                                                           |   |   |   |   |   |           |
| 541 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |   |   |           |
| 542 | Molybdenum                                                                                                               |   |   |   |           |                                                           |   |   |   |   |   |           |
| 543 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |   |   |           |
| 544 | General Statistics                                                                                                       |   |   |   |           |                                                           |   |   |   |   |   |           |
| 545 | Total Number of Observations                                                                                             |   |   |   | 120       | Number of Missing Observations                            |   |   |   |   |   | 23        |
| 546 | Number of Distinct Observations                                                                                          |   |   |   | 43        |                                                           |   |   |   |   |   |           |
| 547 | Number of Detects                                                                                                        |   |   |   | 92        | Number of Non-Detects                                     |   |   |   |   |   | 28        |
| 548 | Number of Distinct Detects                                                                                               |   |   |   | 41        | Number of Distinct Non-Detects                            |   |   |   |   |   | 3         |
| 549 | Minimum Detect                                                                                                           |   |   |   | 0.0011    | Minimum Non-Detect                                        |   |   |   |   |   | 0.001     |
| 550 | Maximum Detect                                                                                                           |   |   |   | 0.0075    | Maximum Non-Detect                                        |   |   |   |   |   | 0.01      |
| 551 | Variance Detected                                                                                                        |   |   |   | 2.0209E-6 | Percent Non-Detects                                       |   |   |   |   |   | 23.33%    |
| 552 | Mean Detected                                                                                                            |   |   |   | 0.00311   | SD Detected                                               |   |   |   |   |   | 0.00142   |
| 553 | Mean of Detected Logged Data                                                                                             |   |   |   | -5.869    | SD of Detected Logged Data                                |   |   |   |   |   | 0.438     |
| 554 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |   |   |           |
| 555 | Critical Values for Background Threshold Values (BTVs)                                                                   |   |   |   |           |                                                           |   |   |   |   |   |           |
| 556 | Tolerance Factor K (For UTL)                                                                                             |   |   |   | 1.897     | d2max (for USL)                                           |   |   |   |   |   | 3.271     |
| 557 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |   |   |           |
| 558 | Normal GOF Test on Detects Only                                                                                          |   |   |   |           |                                                           |   |   |   |   |   |           |
| 559 | Shapiro Wilk Test Statistic                                                                                              |   |   |   | 0.898     | Normal GOF Test on Detected Observations Only             |   |   |   |   |   |           |
| 560 | 5% Shapiro Wilk P Value                                                                                                  |   |   |   | 3.1165E-8 | Data Not Normal at 5% Significance Level                  |   |   |   |   |   |           |
| 561 | Lilliefors Test Statistic                                                                                                |   |   |   | 0.133     | Lilliefors GOF Test                                       |   |   |   |   |   |           |
| 562 | 5% Lilliefors Critical Value                                                                                             |   |   |   | 0.0926    | Data Not Normal at 5% Significance Level                  |   |   |   |   |   |           |
| 563 | Data Not Normal at 5% Significance Level                                                                                 |   |   |   |           |                                                           |   |   |   |   |   |           |
| 564 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |   |   |           |
| 565 | Kaplan Meier (KM) Background Statistics Assuming Normal Distribution                                                     |   |   |   |           |                                                           |   |   |   |   |   |           |
| 566 | KM Mean                                                                                                                  |   |   |   | 0.00277   | KM SD                                                     |   |   |   |   |   | 0.00148   |
| 567 | 95% UTL95% Coverage                                                                                                      |   |   |   | 0.00558   | 95% KM UPL (t)                                            |   |   |   |   |   | 0.00523   |
| 568 | 90% KM Percentile (z)                                                                                                    |   |   |   | 0.00467   | 95% KM Percentile (z)                                     |   |   |   |   |   | 0.00521   |
| 569 | 99% KM Percentile (z)                                                                                                    |   |   |   | 0.00621   | 95% KM USL                                                |   |   |   |   |   | 0.00761   |
| 570 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |   |   |           |
| 571 | DL/2 Substitution Background Statistics Assuming Normal Distribution                                                     |   |   |   |           |                                                           |   |   |   |   |   |           |
| 572 | Mean                                                                                                                     |   |   |   | 0.00284   | SD                                                        |   |   |   |   |   | 0.00163   |

|     |                                                                                                                           |   |   |   |        |           |                                                                 |   |   |   |        |           |
|-----|---------------------------------------------------------------------------------------------------------------------------|---|---|---|--------|-----------|-----------------------------------------------------------------|---|---|---|--------|-----------|
|     | A                                                                                                                         | B | C | D | E      | F         | G                                                               | H | I | J | K      | L         |
| 573 | 95% UTL95% Coverage                                                                                                       |   |   |   |        | 0.00594   | 95% UPL (t)                                                     |   |   |   |        | 0.00556   |
| 574 | 90% Percentile (z)                                                                                                        |   |   |   |        | 0.00493   | 95% Percentile (z)                                              |   |   |   |        | 0.00553   |
| 575 | 99% Percentile (z)                                                                                                        |   |   |   |        | 0.00664   | 95% USL                                                         |   |   |   |        | 0.00818   |
| 576 | DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons                                    |   |   |   |        |           |                                                                 |   |   |   |        |           |
| 577 |                                                                                                                           |   |   |   |        |           |                                                                 |   |   |   |        |           |
| 578 | Gamma GOF Tests on Detected Observations Only                                                                             |   |   |   |        |           |                                                                 |   |   |   |        |           |
| 579 | A-D Test Statistic                                                                                                        |   |   |   |        | 0.732     | Anderson-Darling GOF Test                                       |   |   |   |        |           |
| 580 | 5% A-D Critical Value                                                                                                     |   |   |   |        | 0.754     | Detected data appear Gamma Distributed at 5% Significance Level |   |   |   |        |           |
| 581 | K-S Test Statistic                                                                                                        |   |   |   |        | 0.076     | Kolmogorov-Smirnov GOF                                          |   |   |   |        |           |
| 582 | 5% K-S Critical Value                                                                                                     |   |   |   |        | 0.0934    | Detected data appear Gamma Distributed at 5% Significance Level |   |   |   |        |           |
| 583 | Detected data appear Gamma Distributed at 5% Significance Level                                                           |   |   |   |        |           |                                                                 |   |   |   |        |           |
| 584 |                                                                                                                           |   |   |   |        |           |                                                                 |   |   |   |        |           |
| 585 | Gamma Statistics on Detected Data Only                                                                                    |   |   |   |        |           |                                                                 |   |   |   |        |           |
| 586 | k hat (MLE)                                                                                                               |   |   |   |        | 5.394     | k star (bias corrected MLE)                                     |   |   |   |        | 5.226     |
| 587 | Theta hat (MLE)                                                                                                           |   |   |   |        | 5.7650E-4 | Theta star (bias corrected MLE)                                 |   |   |   |        | 5.9511E-4 |
| 588 | nu hat (MLE)                                                                                                              |   |   |   |        | 992.5     | nu star (bias corrected)                                        |   |   |   |        | 961.5     |
| 589 | MLE Mean (bias corrected)                                                                                                 |   |   |   |        | 0.00311   |                                                                 |   |   |   |        |           |
| 590 | MLE Sd (bias corrected)                                                                                                   |   |   |   |        | 0.00136   | 95% Percentile of Chisquare (2kstar)                            |   |   |   |        | 18.93     |
| 591 |                                                                                                                           |   |   |   |        |           |                                                                 |   |   |   |        |           |
| 592 | Gamma ROS Statistics using Imputed Non-Detects                                                                            |   |   |   |        |           |                                                                 |   |   |   |        |           |
| 593 | GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs                              |   |   |   |        |           |                                                                 |   |   |   |        |           |
| 594 | GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20) |   |   |   |        |           |                                                                 |   |   |   |        |           |
| 595 | For such situations, GROS method may yield incorrect values of UCLs and BTVs                                              |   |   |   |        |           |                                                                 |   |   |   |        |           |
| 596 | This is especially true when the sample size is small.                                                                    |   |   |   |        |           |                                                                 |   |   |   |        |           |
| 597 | For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates               |   |   |   |        |           |                                                                 |   |   |   |        |           |
| 598 | Minimum                                                                                                                   |   |   |   |        | 0.0011    | Mean                                                            |   |   |   |        | 0.00472   |
| 599 | Maximum                                                                                                                   |   |   |   |        | 0.01      | Median                                                          |   |   |   |        | 0.00345   |
| 600 | SD                                                                                                                        |   |   |   |        | 0.00318   | CV                                                              |   |   |   |        | 0.674     |
| 601 | k hat (MLE)                                                                                                               |   |   |   |        | 2.453     | k star (bias corrected MLE)                                     |   |   |   |        | 2.398     |
| 602 | Theta hat (MLE)                                                                                                           |   |   |   |        | 0.00192   | Theta star (bias corrected MLE)                                 |   |   |   |        | 0.00197   |
| 603 | nu hat (MLE)                                                                                                              |   |   |   |        | 588.8     | nu star (bias corrected)                                        |   |   |   |        | 575.4     |
| 604 | MLE Mean (bias corrected)                                                                                                 |   |   |   |        | 0.00472   | MLE Sd (bias corrected)                                         |   |   |   |        | 0.00305   |
| 605 | 95% Percentile of Chisquare (2kstar)                                                                                      |   |   |   |        | 10.75     | 90% Percentile                                                  |   |   |   |        | 0.0088    |
| 606 | 95% Percentile                                                                                                            |   |   |   |        | 0.0106    | 99% Percentile                                                  |   |   |   |        | 0.0145    |
| 607 | The following statistics are computed using Gamma ROS Statistics on Imputed Data                                          |   |   |   |        |           |                                                                 |   |   |   |        |           |
| 608 | Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods                                                   |   |   |   |        |           |                                                                 |   |   |   |        |           |
| 609 |                                                                                                                           |   |   |   | WH     | HW        |                                                                 |   |   |   | WH     | HW        |
| 610 | 95% Approx. Gamma UTL with 95% Coverage                                                                                   |   |   |   | 0.0118 | 0.0121    | 95% Approx. Gamma UPL                                           |   |   |   | 0.0106 | 0.0107    |
| 611 | 95% Gamma USL                                                                                                             |   |   |   | 0.0213 | 0.0231    |                                                                 |   |   |   |        |           |
| 612 |                                                                                                                           |   |   |   |        |           |                                                                 |   |   |   |        |           |
| 613 | Estimates of Gamma Parameters using KM Estimates                                                                          |   |   |   |        |           |                                                                 |   |   |   |        |           |
| 614 | Mean (KM)                                                                                                                 |   |   |   |        | 0.00277   | SD (KM)                                                         |   |   |   |        | 0.00148   |
| 615 | Variance (KM)                                                                                                             |   |   |   |        | 2.1909E-6 | SE of Mean (KM)                                                 |   |   |   |        | 1.4116E-4 |
| 616 | k hat (KM)                                                                                                                |   |   |   |        | 3.504     | k star (KM)                                                     |   |   |   |        | 3.422     |
| 617 | nu hat (KM)                                                                                                               |   |   |   |        | 841       | nu star (KM)                                                    |   |   |   |        | 821.3     |
| 618 | theta hat (KM)                                                                                                            |   |   |   |        | 7.9069E-4 | theta star (KM)                                                 |   |   |   |        | 8.0965E-4 |
| 619 | 80% gamma percentile (KM)                                                                                                 |   |   |   |        | 0.00389   | 90% gamma percentile (KM)                                       |   |   |   |        | 0.00478   |
| 620 | 95% gamma percentile (KM)                                                                                                 |   |   |   |        | 0.0056    | 99% gamma percentile (KM)                                       |   |   |   |        | 0.00738   |
| 621 |                                                                                                                           |   |   |   |        |           |                                                                 |   |   |   |        |           |
| 622 | The following statistics are computed using gamma distribution and KM estimates                                           |   |   |   |        |           |                                                                 |   |   |   |        |           |
| 623 | Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods                                                   |   |   |   |        |           |                                                                 |   |   |   |        |           |
| 624 |                                                                                                                           |   |   |   | WH     | HW        |                                                                 |   |   |   | WH     | HW        |

|     | A                                                                                                                        | B | C | D | E       | F       | G                                                         | H | I | J | K       | L       |
|-----|--------------------------------------------------------------------------------------------------------------------------|---|---|---|---------|---------|-----------------------------------------------------------|---|---|---|---------|---------|
| 625 | 95% Approx. Gamma UTL with 95% Coverage                                                                                  |   |   |   | 0.00601 | 0.00612 | 95% Approx. Gamma UPL                                     |   |   |   | 0.00548 | 0.00554 |
| 626 | 95% KM Gamma Percentile                                                                                                  |   |   |   | 0.00543 | 0.0055  | 95% Gamma USL                                             |   |   |   | 0.00992 | 0.0105  |
| 627 |                                                                                                                          |   |   |   |         |         |                                                           |   |   |   |         |         |
| 628 | Lognormal GOF Test on Detected Observations Only                                                                         |   |   |   |         |         |                                                           |   |   |   |         |         |
| 629 | Shapiro Wilk Approximate Test Statistic                                                                                  |   |   |   | 0.971   |         | Shapiro Wilk GOF Test                                     |   |   |   |         |         |
| 630 | 5% Shapiro Wilk P Value                                                                                                  |   |   |   | 0.182   |         | Detected Data appear Lognormal at 5% Significance Level   |   |   |   |         |         |
| 631 | Lilliefors Test Statistic                                                                                                |   |   |   | 0.0679  |         | Lilliefors GOF Test                                       |   |   |   |         |         |
| 632 | 5% Lilliefors Critical Value                                                                                             |   |   |   | 0.0926  |         | Detected Data appear Lognormal at 5% Significance Level   |   |   |   |         |         |
| 633 | Detected Data appear Lognormal at 5% Significance Level                                                                  |   |   |   |         |         |                                                           |   |   |   |         |         |
| 634 |                                                                                                                          |   |   |   |         |         |                                                           |   |   |   |         |         |
| 635 | Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects                            |   |   |   |         |         |                                                           |   |   |   |         |         |
| 636 | Mean in Original Scale                                                                                                   |   |   |   | 0.00276 |         | Mean in Log Scale                                         |   |   |   | -6.026  |         |
| 637 | SD in Original Scale                                                                                                     |   |   |   | 0.00146 |         | SD in Log Scale                                           |   |   |   | 0.527   |         |
| 638 | 95% UTL95% Coverage                                                                                                      |   |   |   | 0.00656 |         | 95% BCA UTL95% Coverage                                   |   |   |   | 0.00653 |         |
| 639 | 95% Bootstrap (%) UTL95% Coverage                                                                                        |   |   |   | 0.00653 |         | 95% UPL (t)                                               |   |   |   | 0.0058  |         |
| 640 | 90% Percentile (z)                                                                                                       |   |   |   | 0.00474 |         | 95% Percentile (z)                                        |   |   |   | 0.00574 |         |
| 641 | 99% Percentile (z)                                                                                                       |   |   |   | 0.00822 |         | 95% USL                                                   |   |   |   | 0.0135  |         |
| 642 |                                                                                                                          |   |   |   |         |         |                                                           |   |   |   |         |         |
| 643 | Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution                                         |   |   |   |         |         |                                                           |   |   |   |         |         |
| 644 | KM Mean of Logged Data                                                                                                   |   |   |   | -6.026  |         | 95% KM UTL (Lognormal)95% Coverage                        |   |   |   | 0.00659 |         |
| 645 | KM SD of Logged Data                                                                                                     |   |   |   | 0.529   |         | 95% KM UPL (Lognormal)                                    |   |   |   | 0.00583 |         |
| 646 | 95% KM Percentile Lognormal (z)                                                                                          |   |   |   | 0.00577 |         | 95% KM USL (Lognormal)                                    |   |   |   | 0.0136  |         |
| 647 |                                                                                                                          |   |   |   |         |         |                                                           |   |   |   |         |         |
| 648 | Background DL/2 Statistics Assuming Lognormal Distribution                                                               |   |   |   |         |         |                                                           |   |   |   |         |         |
| 649 | Mean in Original Scale                                                                                                   |   |   |   | 0.00284 |         | Mean in Log Scale                                         |   |   |   | -6.062  |         |
| 650 | SD in Original Scale                                                                                                     |   |   |   | 0.00163 |         | SD in Log Scale                                           |   |   |   | 0.688   |         |
| 651 | 95% UTL95% Coverage                                                                                                      |   |   |   | 0.0086  |         | 95% UPL (t)                                               |   |   |   | 0.00733 |         |
| 652 | 90% Percentile (z)                                                                                                       |   |   |   | 0.00563 |         | 95% Percentile (z)                                        |   |   |   | 0.00723 |         |
| 653 | 99% Percentile (z)                                                                                                       |   |   |   | 0.0116  |         | 95% USL                                                   |   |   |   | 0.0221  |         |
| 654 | DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.                                  |   |   |   |         |         |                                                           |   |   |   |         |         |
| 655 |                                                                                                                          |   |   |   |         |         |                                                           |   |   |   |         |         |
| 656 | Nonparametric Distribution Free Background Statistics                                                                    |   |   |   |         |         |                                                           |   |   |   |         |         |
| 657 | Data appear to follow a Discernible Distribution at 5% Significance Level                                                |   |   |   |         |         |                                                           |   |   |   |         |         |
| 658 |                                                                                                                          |   |   |   |         |         |                                                           |   |   |   |         |         |
| 659 | Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)                                  |   |   |   |         |         |                                                           |   |   |   |         |         |
| 660 | Order of Statistic, r                                                                                                    |   |   |   | 117     |         | 95% UTL with95% Coverage                                  |   |   |   | 0.01    |         |
| 661 | Approx, f used to compute achieved CC                                                                                    |   |   |   | 1.539   |         | Approximate Actual Confidence Coefficient achieved by UTL |   |   |   | 0.856   |         |
| 662 | Approximate Sample Size needed to achieve specified CC                                                                   |   |   |   | 153     |         | 95% UPL                                                   |   |   |   | 0.01    |         |
| 663 | 95% USL                                                                                                                  |   |   |   | 0.01    |         | 95% KM Chebyshev UPL                                      |   |   |   | 0.00925 |         |
| 664 |                                                                                                                          |   |   |   |         |         |                                                           |   |   |   |         |         |
| 665 | Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. |   |   |   |         |         |                                                           |   |   |   |         |         |
| 666 | Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers    |   |   |   |         |         |                                                           |   |   |   |         |         |
| 667 | and consists of observations collected from clean unimpacted locations.                                                  |   |   |   |         |         |                                                           |   |   |   |         |         |
| 668 | The use of USL tends to provide a balance between false positives and false negatives provided the data                  |   |   |   |         |         |                                                           |   |   |   |         |         |
| 669 | represents a background data set and when many onsite observations need to be compared with the BTV.                     |   |   |   |         |         |                                                           |   |   |   |         |         |
| 670 |                                                                                                                          |   |   |   |         |         |                                                           |   |   |   |         |         |
| 671 | Selenium                                                                                                                 |   |   |   |         |         |                                                           |   |   |   |         |         |
| 672 |                                                                                                                          |   |   |   |         |         |                                                           |   |   |   |         |         |
| 673 | General Statistics                                                                                                       |   |   |   |         |         |                                                           |   |   |   |         |         |
| 674 | Total Number of Observations                                                                                             |   |   |   | 123     |         | Number of Missing Observations                            |   |   |   | 18      |         |
| 675 | Number of Distinct Observations                                                                                          |   |   |   | 14      |         |                                                           |   |   |   |         |         |
| 676 | Number of Detects                                                                                                        |   |   |   | 16      |         | Number of Non-Detects                                     |   |   |   | 107     |         |

|     | A                                                                                                                         | B | C | D | E | F         | G                                                   | H | I | J | K | L       |
|-----|---------------------------------------------------------------------------------------------------------------------------|---|---|---|---|-----------|-----------------------------------------------------|---|---|---|---|---------|
| 677 | Number of Distinct Detects                                                                                                |   |   |   |   | 11        | Number of Distinct Non-Detects                      |   |   |   |   | 3       |
| 678 | Minimum Detect                                                                                                            |   |   |   |   | 0.0011    | Minimum Non-Detect                                  |   |   |   |   | 0.001   |
| 679 | Maximum Detect                                                                                                            |   |   |   |   | 0.034     | Maximum Non-Detect                                  |   |   |   |   | 0.025   |
| 680 | Variance Detected                                                                                                         |   |   |   |   | 1.7977E-4 | Percent Non-Detects                                 |   |   |   |   | 86.99%  |
| 681 | Mean Detected                                                                                                             |   |   |   |   | 0.0113    | SD Detected                                         |   |   |   |   | 0.0134  |
| 682 | Mean of Detected Logged Data                                                                                              |   |   |   |   | -5.363    | SD of Detected Logged Data                          |   |   |   |   | 1.444   |
| 683 |                                                                                                                           |   |   |   |   |           |                                                     |   |   |   |   |         |
| 684 | Critical Values for Background Threshold Values (BTVs)                                                                    |   |   |   |   |           |                                                     |   |   |   |   |         |
| 685 | Tolerance Factor K (For UTL)                                                                                              |   |   |   |   | 1.893     | d2max (for USL)                                     |   |   |   |   | 3.279   |
| 686 |                                                                                                                           |   |   |   |   |           |                                                     |   |   |   |   |         |
| 687 | Normal GOF Test on Detects Only                                                                                           |   |   |   |   |           |                                                     |   |   |   |   |         |
| 688 | Shapiro Wilk Test Statistic                                                                                               |   |   |   |   | 0.729     | Shapiro Wilk GOF Test                               |   |   |   |   |         |
| 689 | 5% Shapiro Wilk Critical Value                                                                                            |   |   |   |   | 0.887     | Data Not Normal at 5% Significance Level            |   |   |   |   |         |
| 690 | Lilliefors Test Statistic                                                                                                 |   |   |   |   | 0.29      | Lilliefors GOF Test                                 |   |   |   |   |         |
| 691 | 5% Lilliefors Critical Value                                                                                              |   |   |   |   | 0.213     | Data Not Normal at 5% Significance Level            |   |   |   |   |         |
| 692 | Data Not Normal at 5% Significance Level                                                                                  |   |   |   |   |           |                                                     |   |   |   |   |         |
| 693 |                                                                                                                           |   |   |   |   |           |                                                     |   |   |   |   |         |
| 694 | Kaplan Meier (KM) Background Statistics Assuming Normal Distribution                                                      |   |   |   |   |           |                                                     |   |   |   |   |         |
| 695 | KM Mean                                                                                                                   |   |   |   |   | 0.00237   | KM SD                                               |   |   |   |   | 0.00584 |
| 696 | 95% UTL95% Coverage                                                                                                       |   |   |   |   | 0.0134    | 95% KM UPL (t)                                      |   |   |   |   | 0.0121  |
| 697 | 90% KM Percentile (z)                                                                                                     |   |   |   |   | 0.00985   | 95% KM Percentile (z)                               |   |   |   |   | 0.012   |
| 698 | 99% KM Percentile (z)                                                                                                     |   |   |   |   | 0.016     | 95% KM USL                                          |   |   |   |   | 0.0215  |
| 699 |                                                                                                                           |   |   |   |   |           |                                                     |   |   |   |   |         |
| 700 | DL/2 Substitution Background Statistics Assuming Normal Distribution                                                      |   |   |   |   |           |                                                     |   |   |   |   |         |
| 701 | Mean                                                                                                                      |   |   |   |   | 0.00317   | SD                                                  |   |   |   |   | 0.00637 |
| 702 | 95% UTL95% Coverage                                                                                                       |   |   |   |   | 0.0152    | 95% UPL (t)                                         |   |   |   |   | 0.0138  |
| 703 | 90% Percentile (z)                                                                                                        |   |   |   |   | 0.0113    | 95% Percentile (z)                                  |   |   |   |   | 0.0137  |
| 704 | 99% Percentile (z)                                                                                                        |   |   |   |   | 0.018     | 95% USL                                             |   |   |   |   | 0.0241  |
| 705 | DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons                                    |   |   |   |   |           |                                                     |   |   |   |   |         |
| 706 |                                                                                                                           |   |   |   |   |           |                                                     |   |   |   |   |         |
| 707 | Gamma GOF Tests on Detected Observations Only                                                                             |   |   |   |   |           |                                                     |   |   |   |   |         |
| 708 | A-D Test Statistic                                                                                                        |   |   |   |   | 1.354     | Anderson-Darling GOF Test                           |   |   |   |   |         |
| 709 | 5% A-D Critical Value                                                                                                     |   |   |   |   | 0.78      | Data Not Gamma Distributed at 5% Significance Level |   |   |   |   |         |
| 710 | K-S Test Statistic                                                                                                        |   |   |   |   | 0.251     | Kolmogorov-Smirnov GOF                              |   |   |   |   |         |
| 711 | 5% K-S Critical Value                                                                                                     |   |   |   |   | 0.224     | Data Not Gamma Distributed at 5% Significance Level |   |   |   |   |         |
| 712 | Data Not Gamma Distributed at 5% Significance Level                                                                       |   |   |   |   |           |                                                     |   |   |   |   |         |
| 713 |                                                                                                                           |   |   |   |   |           |                                                     |   |   |   |   |         |
| 714 | Gamma Statistics on Detected Data Only                                                                                    |   |   |   |   |           |                                                     |   |   |   |   |         |
| 715 | k hat (MLE)                                                                                                               |   |   |   |   | 0.688     | k star (bias corrected MLE)                         |   |   |   |   | 0.601   |
| 716 | Theta hat (MLE)                                                                                                           |   |   |   |   | 0.0164    | Theta star (bias corrected MLE)                     |   |   |   |   | 0.0188  |
| 717 | nu hat (MLE)                                                                                                              |   |   |   |   | 22.03     | nu star (bias corrected)                            |   |   |   |   | 19.23   |
| 718 | MLE Mean (bias corrected)                                                                                                 |   |   |   |   | 0.0113    |                                                     |   |   |   |   |         |
| 719 | MLE Sd (bias corrected)                                                                                                   |   |   |   |   | 0.0146    | 95% Percentile of Chisquare (2kstar)                |   |   |   |   | 4.323   |
| 720 |                                                                                                                           |   |   |   |   |           |                                                     |   |   |   |   |         |
| 721 | Gamma ROS Statistics using Imputed Non-Detects                                                                            |   |   |   |   |           |                                                     |   |   |   |   |         |
| 722 | GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs                              |   |   |   |   |           |                                                     |   |   |   |   |         |
| 723 | GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20) |   |   |   |   |           |                                                     |   |   |   |   |         |
| 724 | For such situations, GROS method may yield incorrect values of UCLs and BTVs                                              |   |   |   |   |           |                                                     |   |   |   |   |         |
| 725 | This is especially true when the sample size is small.                                                                    |   |   |   |   |           |                                                     |   |   |   |   |         |
| 726 | For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates               |   |   |   |   |           |                                                     |   |   |   |   |         |
| 727 | Minimum                                                                                                                   |   |   |   |   | 0.0011    | Mean                                                |   |   |   |   | 0.0102  |
| 728 | Maximum                                                                                                                   |   |   |   |   | 0.034     | Median                                              |   |   |   |   | 0.01    |

|     | A                                                                                             | B | C | D | E | F         | G                                           | H                     | I | J | K | L         |         |
|-----|-----------------------------------------------------------------------------------------------|---|---|---|---|-----------|---------------------------------------------|-----------------------|---|---|---|-----------|---------|
| 729 | SD                                                                                            |   |   |   |   | 0.00472   | CV                                          |                       |   |   |   | 0.464     |         |
| 730 | k hat (MLE)                                                                                   |   |   |   |   | 4.495     | k star (bias corrected MLE)                 |                       |   |   |   | 4.391     |         |
| 731 | Theta hat (MLE)                                                                               |   |   |   |   | 0.00226   | Theta star (bias corrected MLE)             |                       |   |   |   | 0.00232   |         |
| 732 | nu hat (MLE)                                                                                  |   |   |   |   | 1106      | nu star (bias corrected)                    |                       |   |   |   | 1080      |         |
| 733 | MLE Mean (bias corrected)                                                                     |   |   |   |   | 0.0102    | MLE Sd (bias corrected)                     |                       |   |   |   | 0.00485   |         |
| 734 | 95% Percentile of Chisquare (2kstar)                                                          |   |   |   |   | 16.61     | 90% Percentile                              |                       |   |   |   | 0.0167    |         |
| 735 | 95% Percentile                                                                                |   |   |   |   | 0.0192    | 99% Percentile                              |                       |   |   |   | 0.0247    |         |
| 736 | The following statistics are computed using Gamma ROS Statistics on Imputed Data              |   |   |   |   |           |                                             |                       |   |   |   |           |         |
| 737 | Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods                       |   |   |   |   |           |                                             |                       |   |   |   |           |         |
| 738 |                                                                                               |   |   |   |   | WH        | HW                                          |                       |   |   |   | WH        | HW      |
| 739 | 95% Approx. Gamma UTL with 95% Coverage                                                       |   |   |   |   | 0.0208    | 0.0217                                      | 95% Approx. Gamma UPL |   |   |   | 0.0191    | 0.0198  |
| 740 | 95% Gamma USL                                                                                 |   |   |   |   | 0.0333    | 0.0364                                      |                       |   |   |   |           |         |
| 741 |                                                                                               |   |   |   |   |           |                                             |                       |   |   |   |           |         |
| 742 | Estimates of Gamma Parameters using KM Estimates                                              |   |   |   |   |           |                                             |                       |   |   |   |           |         |
| 743 | Mean (KM)                                                                                     |   |   |   |   | 0.00237   | SD (KM)                                     |                       |   |   |   | 0.00584   |         |
| 744 | Variance (KM)                                                                                 |   |   |   |   | 3.4092E-5 | SE of Mean (KM)                             |                       |   |   |   | 5.4582E-4 |         |
| 745 | k hat (KM)                                                                                    |   |   |   |   | 0.165     | k star (KM)                                 |                       |   |   |   | 0.166     |         |
| 746 | nu hat (KM)                                                                                   |   |   |   |   | 40.58     | nu star (KM)                                |                       |   |   |   | 40.92     |         |
| 747 | theta hat (KM)                                                                                |   |   |   |   | 0.0144    | theta star (KM)                             |                       |   |   |   | 0.0143    |         |
| 748 | 80% gamma percentile (KM)                                                                     |   |   |   |   | 0.00279   | 90% gamma percentile (KM)                   |                       |   |   |   | 0.00711   |         |
| 749 | 95% gamma percentile (KM)                                                                     |   |   |   |   | 0.0128    | 99% gamma percentile (KM)                   |                       |   |   |   | 0.0289    |         |
| 750 |                                                                                               |   |   |   |   |           |                                             |                       |   |   |   |           |         |
| 751 | The following statistics are computed using gamma distribution and KM estimates               |   |   |   |   |           |                                             |                       |   |   |   |           |         |
| 752 | Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods                       |   |   |   |   |           |                                             |                       |   |   |   |           |         |
| 753 |                                                                                               |   |   |   |   | WH        | HW                                          |                       |   |   |   | WH        | HW      |
| 754 | 95% Approx. Gamma UTL with 95% Coverage                                                       |   |   |   |   | 0.00735   | 0.00667                                     | 95% Approx. Gamma UPL |   |   |   | 0.00627   | 0.00567 |
| 755 | 95% KM Gamma Percentile                                                                       |   |   |   |   | 0.00619   | 0.00559                                     | 95% Gamma USL         |   |   |   | 0.0165    | 0.0158  |
| 756 |                                                                                               |   |   |   |   |           |                                             |                       |   |   |   |           |         |
| 757 | Lognormal GOF Test on Detected Observations Only                                              |   |   |   |   |           |                                             |                       |   |   |   |           |         |
| 758 | Shapiro Wilk Test Statistic                                                                   |   |   |   |   | 0.807     | Shapiro Wilk GOF Test                       |                       |   |   |   |           |         |
| 759 | 5% Shapiro Wilk Critical Value                                                                |   |   |   |   | 0.887     | Data Not Lognormal at 5% Significance Level |                       |   |   |   |           |         |
| 760 | Lilliefors Test Statistic                                                                     |   |   |   |   | 0.25      | Lilliefors GOF Test                         |                       |   |   |   |           |         |
| 761 | 5% Lilliefors Critical Value                                                                  |   |   |   |   | 0.213     | Data Not Lognormal at 5% Significance Level |                       |   |   |   |           |         |
| 762 | Data Not Lognormal at 5% Significance Level                                                   |   |   |   |   |           |                                             |                       |   |   |   |           |         |
| 763 |                                                                                               |   |   |   |   |           |                                             |                       |   |   |   |           |         |
| 764 | Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects |   |   |   |   |           |                                             |                       |   |   |   |           |         |
| 765 | Mean in Original Scale                                                                        |   |   |   |   | 0.00158   | Mean in Log Scale                           |                       |   |   |   | -10.21    |         |
| 766 | SD in Original Scale                                                                          |   |   |   |   | 0.00603   | SD in Log Scale                             |                       |   |   |   | 2.984     |         |
| 767 | 95% UTL95% Coverage                                                                           |   |   |   |   | 0.0105    | 95% BCA UTL95% Coverage                     |                       |   |   |   | 0.03      |         |
| 768 | 95% Bootstrap (%) UTL95% Coverage                                                             |   |   |   |   | 0.03      | 95% UPL (t)                                 |                       |   |   |   | 0.00529   |         |
| 769 | 90% Percentile (z)                                                                            |   |   |   |   | 0.00169   | 95% Percentile (z)                          |                       |   |   |   | 0.00499   |         |
| 770 | 99% Percentile (z)                                                                            |   |   |   |   | 0.0382    | 95% USL                                     |                       |   |   |   | 0.655     |         |
| 771 |                                                                                               |   |   |   |   |           |                                             |                       |   |   |   |           |         |
| 772 | Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution              |   |   |   |   |           |                                             |                       |   |   |   |           |         |
| 773 | KM Mean of Logged Data                                                                        |   |   |   |   | -6.694    | 95% KM UTL (Lognormal)95% Coverage          |                       |   |   |   | 0.00494   |         |
| 774 | KM SD of Logged Data                                                                          |   |   |   |   | 0.731     | 95% KM UPL (Lognormal)                      |                       |   |   |   | 0.00418   |         |
| 775 | 95% KM Percentile Lognormal (z)                                                               |   |   |   |   | 0.00412   | 95% KM USL (Lognormal)                      |                       |   |   |   | 0.0136    |         |
| 776 |                                                                                               |   |   |   |   |           |                                             |                       |   |   |   |           |         |
| 777 | Background DL/2 Statistics Assuming Lognormal Distribution                                    |   |   |   |   |           |                                             |                       |   |   |   |           |         |
| 778 | Mean in Original Scale                                                                        |   |   |   |   | 0.00317   | Mean in Log Scale                           |                       |   |   |   | -6.708    |         |
| 779 | SD in Original Scale                                                                          |   |   |   |   | 0.00637   | SD in Log Scale                             |                       |   |   |   | 1.194     |         |
| 780 | 95% UTL95% Coverage                                                                           |   |   |   |   | 0.0117    | 95% UPL (t)                                 |                       |   |   |   | 0.00891   |         |

|     |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
|-----|--------------------------------------------------------------------------------------------------------------------------|---|---|---|---|-----------|-----------------------------------------------------------|---|---|---|---|-----------|
|     | A                                                                                                                        | B | C | D | E | F         | G                                                         | H | I | J | K | L         |
| 781 | 90% Percentile (z)                                                                                                       |   |   |   |   | 0.00564   | 95% Percentile (z)                                        |   |   |   |   | 0.0087    |
| 782 | 99% Percentile (z)                                                                                                       |   |   |   |   | 0.0196    | 95% USL                                                   |   |   |   |   | 0.0612    |
| 783 | DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.                                  |   |   |   |   |           |                                                           |   |   |   |   |           |
| 784 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 785 | Nonparametric Distribution Free Background Statistics                                                                    |   |   |   |   |           |                                                           |   |   |   |   |           |
| 786 | Data do not follow a Discernible Distribution (0.05)                                                                     |   |   |   |   |           |                                                           |   |   |   |   |           |
| 787 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 788 | Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)                                  |   |   |   |   |           |                                                           |   |   |   |   |           |
| 789 | Order of Statistic, r                                                                                                    |   |   |   |   | 120       | 95% UTL with95% Coverage                                  |   |   |   |   | 0.03      |
| 790 | Approx, f used to compute achieved CC                                                                                    |   |   |   |   | 1.579     | Approximate Actual Confidence Coefficient achieved by UTL |   |   |   |   | 0.868     |
| 791 | Approximate Sample Size needed to achieve specified CC                                                                   |   |   |   |   | 153       | 95% UPL                                                   |   |   |   |   | 0.025     |
| 792 | 95% USL                                                                                                                  |   |   |   |   | 0.034     | 95% KM Chebyshev UPL                                      |   |   |   |   | 0.0279    |
| 793 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 794 | Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. |   |   |   |   |           |                                                           |   |   |   |   |           |
| 795 | Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers    |   |   |   |   |           |                                                           |   |   |   |   |           |
| 796 | and consists of observations collected from clean unimpacted locations.                                                  |   |   |   |   |           |                                                           |   |   |   |   |           |
| 797 | The use of USL tends to provide a balance between false positives and false negatives provided the data                  |   |   |   |   |           |                                                           |   |   |   |   |           |
| 798 | represents a background data set and when many onsite observations need to be compared with the BTV.                     |   |   |   |   |           |                                                           |   |   |   |   |           |
| 799 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 800 | Thallium                                                                                                                 |   |   |   |   |           |                                                           |   |   |   |   |           |
| 801 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 802 | General Statistics                                                                                                       |   |   |   |   |           |                                                           |   |   |   |   |           |
| 803 | Total Number of Observations                                                                                             |   |   |   |   | 114       | Number of Missing Observations                            |   |   |   |   | 27        |
| 804 | Number of Distinct Observations                                                                                          |   |   |   |   | 10        |                                                           |   |   |   |   |           |
| 805 | Number of Detects                                                                                                        |   |   |   |   | 8         | Number of Non-Detects                                     |   |   |   |   | 106       |
| 806 | Number of Distinct Detects                                                                                               |   |   |   |   | 7         | Number of Distinct Non-Detects                            |   |   |   |   | 3         |
| 807 | Minimum Detect                                                                                                           |   |   |   |   | 5.6000E-5 | Minimum Non-Detect                                        |   |   |   |   | 2.0000E-4 |
| 808 | Maximum Detect                                                                                                           |   |   |   |   | 0.0035    | Maximum Non-Detect                                        |   |   |   |   | 0.02      |
| 809 | Variance Detected                                                                                                        |   |   |   |   | 2.2595E-6 | Percent Non-Detects                                       |   |   |   |   | 92.98%    |
| 810 | Mean Detected                                                                                                            |   |   |   |   | 0.00198   | SD Detected                                               |   |   |   |   | 0.0015    |
| 811 | Mean of Detected Logged Data                                                                                             |   |   |   |   | -6.975    | SD of Detected Logged Data                                |   |   |   |   | 1.781     |
| 812 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 813 | Critical Values for Background Threshold Values (BTVs)                                                                   |   |   |   |   |           |                                                           |   |   |   |   |           |
| 814 | Tolerance Factor K (For UTL)                                                                                             |   |   |   |   | 1.904     | d2max (for USL)                                           |   |   |   |   | 3.254     |
| 815 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 816 | Normal GOF Test on Detects Only                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 817 | Shapiro Wilk Test Statistic                                                                                              |   |   |   |   | 0.844     | Shapiro Wilk GOF Test                                     |   |   |   |   |           |
| 818 | 5% Shapiro Wilk Critical Value                                                                                           |   |   |   |   | 0.818     | Detected Data appear Normal at 5% Significance Level      |   |   |   |   |           |
| 819 | Lilliefors Test Statistic                                                                                                |   |   |   |   | 0.208     | Lilliefors GOF Test                                       |   |   |   |   |           |
| 820 | 5% Lilliefors Critical Value                                                                                             |   |   |   |   | 0.283     | Detected Data appear Normal at 5% Significance Level      |   |   |   |   |           |
| 821 | Detected Data appear Normal at 5% Significance Level                                                                     |   |   |   |   |           |                                                           |   |   |   |   |           |
| 822 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 823 | Kaplan Meier (KM) Background Statistics Assuming Normal Distribution                                                     |   |   |   |   |           |                                                           |   |   |   |   |           |
| 824 | KM Mean                                                                                                                  |   |   |   |   | 2.0189E-4 | KM SD                                                     |   |   |   |   | 6.3747E-4 |
| 825 | 95% UTL95% Coverage                                                                                                      |   |   |   |   | 0.00142   | 95% KM UPL (t)                                            |   |   |   |   | 0.00126   |
| 826 | 90% KM Percentile (z)                                                                                                    |   |   |   |   | 0.00102   | 95% KM Percentile (z)                                     |   |   |   |   | 0.00125   |
| 827 | 99% KM Percentile (z)                                                                                                    |   |   |   |   | 0.00168   | 95% KM USL                                                |   |   |   |   | 0.00228   |
| 828 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 829 | DL/2 Substitution Background Statistics Assuming Normal Distribution                                                     |   |   |   |   |           |                                                           |   |   |   |   |           |
| 830 | Mean                                                                                                                     |   |   |   |   | 0.00102   | SD                                                        |   |   |   |   | 0.00255   |
| 831 | 95% UTL95% Coverage                                                                                                      |   |   |   |   | 0.00588   | 95% UPL (t)                                               |   |   |   |   | 0.00527   |
| 832 | 90% Percentile (z)                                                                                                       |   |   |   |   | 0.00429   | 95% Percentile (z)                                        |   |   |   |   | 0.00522   |

|     |                                                                                                                           |   |   |   |           |                                                                 |                       |   |   |   |           |           |
|-----|---------------------------------------------------------------------------------------------------------------------------|---|---|---|-----------|-----------------------------------------------------------------|-----------------------|---|---|---|-----------|-----------|
|     | A                                                                                                                         | B | C | D | E         | F                                                               | G                     | H | I | J | K         | L         |
| 833 | 99% Percentile (z)                                                                                                        |   |   |   |           | 0.00696                                                         | 95% USL               |   |   |   |           | 0.00932   |
| 834 | DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons                                    |   |   |   |           |                                                                 |                       |   |   |   |           |           |
| 835 |                                                                                                                           |   |   |   |           |                                                                 |                       |   |   |   |           |           |
| 836 | Gamma GOF Tests on Detected Observations Only                                                                             |   |   |   |           |                                                                 |                       |   |   |   |           |           |
| 837 | A-D Test Statistic                                                                                                        |   |   |   | 0.842     | Anderson-Darling GOF Test                                       |                       |   |   |   |           |           |
| 838 | 5% A-D Critical Value                                                                                                     |   |   |   | 0.743     | Data Not Gamma Distributed at 5% Significance Level             |                       |   |   |   |           |           |
| 839 | K-S Test Statistic                                                                                                        |   |   |   | 0.258     | Kolmogorov-Smirnov GOF                                          |                       |   |   |   |           |           |
| 840 | 5% K-S Critical Value                                                                                                     |   |   |   | 0.304     | Detected data appear Gamma Distributed at 5% Significance Level |                       |   |   |   |           |           |
| 841 | Detected data follow Appr. Gamma Distribution at 5% Significance Level                                                    |   |   |   |           |                                                                 |                       |   |   |   |           |           |
| 842 |                                                                                                                           |   |   |   |           |                                                                 |                       |   |   |   |           |           |
| 843 | Gamma Statistics on Detected Data Only                                                                                    |   |   |   |           |                                                                 |                       |   |   |   |           |           |
| 844 | k hat (MLE)                                                                                                               |   |   |   | 0.793     | k star (bias corrected MLE)                                     |                       |   |   |   |           | 0.579     |
| 845 | Theta hat (MLE)                                                                                                           |   |   |   | 0.00249   | Theta star (bias corrected MLE)                                 |                       |   |   |   |           | 0.00341   |
| 846 | nu hat (MLE)                                                                                                              |   |   |   | 12.69     | nu star (bias corrected)                                        |                       |   |   |   |           | 9.268     |
| 847 | MLE Mean (bias corrected)                                                                                                 |   |   |   | 0.00198   |                                                                 |                       |   |   |   |           |           |
| 848 | MLE Sd (bias corrected)                                                                                                   |   |   |   | 0.0026    | 95% Percentile of Chisquare (2kstar)                            |                       |   |   |   | 4.222     |           |
| 849 |                                                                                                                           |   |   |   |           |                                                                 |                       |   |   |   |           |           |
| 850 | Gamma ROS Statistics using Imputed Non-Detects                                                                            |   |   |   |           |                                                                 |                       |   |   |   |           |           |
| 851 | GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs                              |   |   |   |           |                                                                 |                       |   |   |   |           |           |
| 852 | GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20) |   |   |   |           |                                                                 |                       |   |   |   |           |           |
| 853 | For such situations, GROS method may yield incorrect values of UCLs and BTVs                                              |   |   |   |           |                                                                 |                       |   |   |   |           |           |
| 854 | This is especially true when the sample size is small.                                                                    |   |   |   |           |                                                                 |                       |   |   |   |           |           |
| 855 | For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates               |   |   |   |           |                                                                 |                       |   |   |   |           |           |
| 856 | Minimum                                                                                                                   |   |   |   | 5.6000E-5 | Mean                                                            |                       |   |   |   |           | 0.00944   |
| 857 | Maximum                                                                                                                   |   |   |   | 0.01      | Median                                                          |                       |   |   |   |           | 0.01      |
| 858 | SD                                                                                                                        |   |   |   | 0.00209   | CV                                                              |                       |   |   |   |           | 0.222     |
| 859 | k hat (MLE)                                                                                                               |   |   |   | 4.775     | k star (bias corrected MLE)                                     |                       |   |   |   |           | 4.655     |
| 860 | Theta hat (MLE)                                                                                                           |   |   |   | 0.00198   | Theta star (bias corrected MLE)                                 |                       |   |   |   |           | 0.00203   |
| 861 | nu hat (MLE)                                                                                                              |   |   |   | 1089      | nu star (bias corrected)                                        |                       |   |   |   |           | 1061      |
| 862 | MLE Mean (bias corrected)                                                                                                 |   |   |   | 0.00944   | MLE Sd (bias corrected)                                         |                       |   |   |   |           | 0.00437   |
| 863 | 95% Percentile of Chisquare (2kstar)                                                                                      |   |   |   | 17.35     | 90% Percentile                                                  |                       |   |   |   |           | 0.0153    |
| 864 | 95% Percentile                                                                                                            |   |   |   | 0.0176    | 99% Percentile                                                  |                       |   |   |   |           | 0.0225    |
| 865 | The following statistics are computed using Gamma ROS Statistics on Imputed Data                                          |   |   |   |           |                                                                 |                       |   |   |   |           |           |
| 866 | Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods                                                   |   |   |   |           |                                                                 |                       |   |   |   |           |           |
| 867 |                                                                                                                           |   |   |   | WH        | HW                                                              |                       |   |   |   | WH        | HW        |
| 868 | 95% Approx. Gamma UTL with 95% Coverage                                                                                   |   |   |   | 0.0184    | 0.0203                                                          | 95% Approx. Gamma UPL |   |   |   | 0.017     | 0.0184    |
| 869 | 95% Gamma USL                                                                                                             |   |   |   | 0.028     | 0.0332                                                          |                       |   |   |   |           |           |
| 870 |                                                                                                                           |   |   |   |           |                                                                 |                       |   |   |   |           |           |
| 871 | Estimates of Gamma Parameters using KM Estimates                                                                          |   |   |   |           |                                                                 |                       |   |   |   |           |           |
| 872 | Mean (KM)                                                                                                                 |   |   |   | 2.0189E-4 | SD (KM)                                                         |                       |   |   |   |           | 6.3747E-4 |
| 873 | Variance (KM)                                                                                                             |   |   |   | 4.0636E-7 | SE of Mean (KM)                                                 |                       |   |   |   |           | 6.6195E-5 |
| 874 | k hat (KM)                                                                                                                |   |   |   | 0.1       | k star (KM)                                                     |                       |   |   |   |           | 0.104     |
| 875 | nu hat (KM)                                                                                                               |   |   |   | 22.87     | nu star (KM)                                                    |                       |   |   |   |           | 23.6      |
| 876 | theta hat (KM)                                                                                                            |   |   |   | 0.00201   | theta star (KM)                                                 |                       |   |   |   |           | 0.00195   |
| 877 | 80% gamma percentile (KM)                                                                                                 |   |   |   | 1.4711E-4 | 90% gamma percentile (KM)                                       |                       |   |   |   |           | 5.4481E-4 |
| 878 | 95% gamma percentile (KM)                                                                                                 |   |   |   | 0.00117   | 99% gamma percentile (KM)                                       |                       |   |   |   |           | 0.00315   |
| 879 |                                                                                                                           |   |   |   |           |                                                                 |                       |   |   |   |           |           |
| 880 | The following statistics are computed using gamma distribution and KM estimates                                           |   |   |   |           |                                                                 |                       |   |   |   |           |           |
| 881 | Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods                                                   |   |   |   |           |                                                                 |                       |   |   |   |           |           |
| 882 |                                                                                                                           |   |   |   | WH        | HW                                                              |                       |   |   |   | WH        | HW        |
| 883 | 95% Approx. Gamma UTL with 95% Coverage                                                                                   |   |   |   | 6.6689E-4 | 5.7986E-4                                                       | 95% Approx. Gamma UPL |   |   |   | 5.5005E-4 | 4.7451E-4 |
| 884 | 95% KM Gamma Percentile                                                                                                   |   |   |   | 5.4053E-4 | 4.6603E-4                                                       | 95% Gamma USL         |   |   |   | 0.00165   | 0.00154   |



|     |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
|-----|--------------------------------------------------------------------------------------------------------------------------|---|---|---|---|-----------|-----------------------------------------------------------|---|---|---|---|-----------|
|     | A                                                                                                                        | B | C | D | E | F         | G                                                         | H | I | J | K | L         |
| 885 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 886 | Lognormal GOF Test on Detected Observations Only                                                                         |   |   |   |   |           |                                                           |   |   |   |   |           |
| 887 | Shapiro Wilk Test Statistic                                                                                              |   |   |   |   | 0.734     | Shapiro Wilk GOF Test                                     |   |   |   |   |           |
| 888 | 5% Shapiro Wilk Critical Value                                                                                           |   |   |   |   | 0.818     | Data Not Lognormal at 5% Significance Level               |   |   |   |   |           |
| 889 | Lilliefors Test Statistic                                                                                                |   |   |   |   | 0.286     | Lilliefors GOF Test                                       |   |   |   |   |           |
| 890 | 5% Lilliefors Critical Value                                                                                             |   |   |   |   | 0.283     | Data Not Lognormal at 5% Significance Level               |   |   |   |   |           |
| 891 | Data Not Lognormal at 5% Significance Level                                                                              |   |   |   |   |           |                                                           |   |   |   |   |           |
| 892 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 893 | Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects                            |   |   |   |   |           |                                                           |   |   |   |   |           |
| 894 | Mean in Original Scale                                                                                                   |   |   |   |   | 2.7974E-4 | Mean in Log Scale                                         |   |   |   |   | -9.472    |
| 895 | SD in Original Scale                                                                                                     |   |   |   |   | 6.2970E-4 | SD in Log Scale                                           |   |   |   |   | 1.625     |
| 896 | 95% UTL95% Coverage                                                                                                      |   |   |   |   | 0.0017    | 95% BCA UTL95% Coverage                                   |   |   |   |   | 0.00301   |
| 897 | 95% Bootstrap (%) UTL95% Coverage                                                                                        |   |   |   |   | 0.00301   | 95% UPL (t)                                               |   |   |   |   | 0.00115   |
| 898 | 90% Percentile (z)                                                                                                       |   |   |   |   | 6.1717E-4 | 95% Percentile (z)                                        |   |   |   |   | 0.00111   |
| 899 | 99% Percentile (z)                                                                                                       |   |   |   |   | 0.00337   | 95% USL                                                   |   |   |   |   | 0.0152    |
| 900 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 901 | Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution                                         |   |   |   |   |           |                                                           |   |   |   |   |           |
| 902 | KM Mean of Logged Data                                                                                                   |   |   |   |   | -9.561    | 95% KM UTL (Lognormal)95% Coverage                        |   |   |   |   | 3.6842E-4 |
| 903 | KM SD of Logged Data                                                                                                     |   |   |   |   | 0.869     | 95% KM UPL (Lognormal)                                    |   |   |   |   | 2.9950E-4 |
| 904 | 95% KM Percentile Lognormal (z)                                                                                          |   |   |   |   | 2.9411E-4 | 95% KM USL (Lognormal)                                    |   |   |   |   | 0.00119   |
| 905 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 906 | Background DL/2 Statistics Assuming Lognormal Distribution                                                               |   |   |   |   |           |                                                           |   |   |   |   |           |
| 907 | Mean in Original Scale                                                                                                   |   |   |   |   | 0.00102   | Mean in Log Scale                                         |   |   |   |   | -8.335    |
| 908 | SD in Original Scale                                                                                                     |   |   |   |   | 0.00255   | SD in Log Scale                                           |   |   |   |   | 1.386     |
| 909 | 95% UTL95% Coverage                                                                                                      |   |   |   |   | 0.00336   | 95% UPL (t)                                               |   |   |   |   | 0.00241   |
| 910 | 90% Percentile (z)                                                                                                       |   |   |   |   | 0.00142   | 95% Percentile (z)                                        |   |   |   |   | 0.00234   |
| 911 | 99% Percentile (z)                                                                                                       |   |   |   |   | 0.00603   | 95% USL                                                   |   |   |   |   | 0.0218    |
| 912 | DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.                                  |   |   |   |   |           |                                                           |   |   |   |   |           |
| 913 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 914 | Nonparametric Distribution Free Background Statistics                                                                    |   |   |   |   |           |                                                           |   |   |   |   |           |
| 915 | Data appear to follow a Discernible Distribution at 5% Significance Level                                                |   |   |   |   |           |                                                           |   |   |   |   |           |
| 916 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 917 | Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)                                  |   |   |   |   |           |                                                           |   |   |   |   |           |
| 918 | Order of Statistic, r                                                                                                    |   |   |   |   | 111       | 95% UTL with95% Coverage                                  |   |   |   |   | 0.02      |
| 919 | Approx, f used to compute achieved CC                                                                                    |   |   |   |   | 1.461     | Approximate Actual Confidence Coefficient achieved by UTL |   |   |   |   | 0.827     |
| 920 | Approximate Sample Size needed to achieve specified CC                                                                   |   |   |   |   | 153       | 95% UPL                                                   |   |   |   |   | 0.02      |
| 921 | 95% USL                                                                                                                  |   |   |   |   | 0.02      | 95% KM Chebyshev UPL                                      |   |   |   |   | 0.00299   |
| 922 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 923 | Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. |   |   |   |   |           |                                                           |   |   |   |   |           |
| 924 | Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers    |   |   |   |   |           |                                                           |   |   |   |   |           |
| 925 | and consists of observations collected from clean unimpacted locations.                                                  |   |   |   |   |           |                                                           |   |   |   |   |           |
| 926 | The use of USL tends to provide a balance between false positives and false negatives provided the data                  |   |   |   |   |           |                                                           |   |   |   |   |           |
| 927 | represents a background data set and when many onsite observations need to be compared with the BTV.                     |   |   |   |   |           |                                                           |   |   |   |   |           |
| 928 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 929 | Calcium                                                                                                                  |   |   |   |   |           |                                                           |   |   |   |   |           |
| 930 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |           |
| 931 | General Statistics                                                                                                       |   |   |   |   |           |                                                           |   |   |   |   |           |
| 932 | Total Number of Observations                                                                                             |   |   |   |   | 128       | Number of Distinct Observations                           |   |   |   |   | 85        |
| 933 |                                                                                                                          |   |   |   |   |           | Number of Missing Observations                            |   |   |   |   | 13        |
| 934 | Minimum                                                                                                                  |   |   |   |   | 56.7      | First Quartile                                            |   |   |   |   | 123       |
| 935 | Second Largest                                                                                                           |   |   |   |   | 259       | Median                                                    |   |   |   |   | 151       |
| 936 | Maximum                                                                                                                  |   |   |   |   | 287       | Third Quartile                                            |   |   |   |   | 204.3     |

|     | A                                                      | B            | C | D | E     | F                  | G                                                   | H | I | J | K     | L      |
|-----|--------------------------------------------------------|--------------|---|---|-------|--------------------|-----------------------------------------------------|---|---|---|-------|--------|
| 937 | Mean                                                   |              |   |   |       | 158.5              | SD                                                  |   |   |   |       | 53.27  |
| 938 | Coefficient of Variation                               |              |   |   |       | 0.336              | Skewness                                            |   |   |   |       | 0.0528 |
| 939 | Mean of logged Data                                    |              |   |   |       | 5.003              | SD of logged Data                                   |   |   |   |       | 0.369  |
| 940 |                                                        |              |   |   |       |                    |                                                     |   |   |   |       |        |
| 941 | Critical Values for Background Threshold Values (BTVs) |              |   |   |       |                    |                                                     |   |   |   |       |        |
| 942 | Tolerance Factor K (For UTL)                           |              |   |   |       | 1.888              | d2max (for USL)                                     |   |   |   |       | 3.292  |
| 943 |                                                        |              |   |   |       |                    |                                                     |   |   |   |       |        |
| 944 | Normal GOF Test                                        |              |   |   |       |                    |                                                     |   |   |   |       |        |
| 945 | Shapiro Wilk Test Statistic                            |              |   |   |       | 0.944              | Normal GOF Test                                     |   |   |   |       |        |
| 946 | 5% Shapiro Wilk P Value                                |              |   |   |       | 5.9537E-5          | Data Not Normal at 5% Significance Level            |   |   |   |       |        |
| 947 | Lilliefors Test Statistic                              |              |   |   |       | 0.121              | Lilliefors GOF Test                                 |   |   |   |       |        |
| 948 | 5% Lilliefors Critical Value                           |              |   |   |       | 0.0787             | Data Not Normal at 5% Significance Level            |   |   |   |       |        |
| 949 | Data Not Normal at 5% Significance Level               |              |   |   |       |                    |                                                     |   |   |   |       |        |
| 950 |                                                        |              |   |   |       |                    |                                                     |   |   |   |       |        |
| 951 | Background Statistics Assuming Normal Distribution     |              |   |   |       |                    |                                                     |   |   |   |       |        |
| 952 | 95% UTL with                                           | 95% Coverage |   |   | 259.1 | 90% Percentile (z) |                                                     |   |   |   | 226.7 |        |
| 953 |                                                        | 95% UPL (t)  |   |   | 247.1 | 95% Percentile (z) |                                                     |   |   |   | 246.1 |        |
| 954 |                                                        | 95% USL      |   |   | 333.8 | 99% Percentile (z) |                                                     |   |   |   | 282.4 |        |
| 955 |                                                        |              |   |   |       |                    |                                                     |   |   |   |       |        |
| 956 | Gamma GOF Test                                         |              |   |   |       |                    |                                                     |   |   |   |       |        |
| 957 | A-D Test Statistic                                     |              |   |   |       | 2.152              | Anderson-Darling Gamma GOF Test                     |   |   |   |       |        |
| 958 | 5% A-D Critical Value                                  |              |   |   |       | 0.753              | Data Not Gamma Distributed at 5% Significance Level |   |   |   |       |        |
| 959 | K-S Test Statistic                                     |              |   |   |       | 0.0988             | Kolmogorov-Smirnov Gamma GOF Test                   |   |   |   |       |        |
| 960 | 5% K-S Critical Value                                  |              |   |   |       | 0.0822             | Data Not Gamma Distributed at 5% Significance Level |   |   |   |       |        |
| 961 | Data Not Gamma Distributed at 5% Significance Level    |              |   |   |       |                    |                                                     |   |   |   |       |        |
| 962 |                                                        |              |   |   |       |                    |                                                     |   |   |   |       |        |
| 963 | Gamma Statistics                                       |              |   |   |       |                    |                                                     |   |   |   |       |        |
| 964 | k hat (MLE)                                            |              |   |   |       | 8.105              | k star (bias corrected MLE)                         |   |   |   |       | 7.92   |
| 965 | Theta hat (MLE)                                        |              |   |   |       | 19.55              | Theta star (bias corrected MLE)                     |   |   |   |       | 20.01  |
| 966 | nu hat (MLE)                                           |              |   |   |       | 2075               | nu star (bias corrected)                            |   |   |   |       | 2028   |
| 967 | MLE Mean (bias corrected)                              |              |   |   |       | 158.5              | MLE Sd (bias corrected)                             |   |   |   |       | 56.31  |
| 968 |                                                        |              |   |   |       |                    |                                                     |   |   |   |       |        |
| 969 | Background Statistics Assuming Gamma Distribution      |              |   |   |       |                    |                                                     |   |   |   |       |        |
| 970 | 95% Wilson Hilferty (WH) Approx. Gamma UPL             |              |   |   |       | 261.7              | 90% Percentile                                      |   |   |   |       | 233.6  |
| 971 | 95% Hawkins Wixley (HW) Approx. Gamma UPL              |              |   |   |       | 264.5              | 95% Percentile                                      |   |   |   |       | 261    |
| 972 | 95% WH Approx. Gamma UTL with                          | 95% Coverage |   |   | 279.7 | 99% Percentile     |                                                     |   |   |   | 317.9 |        |
| 973 | 95% HW Approx. Gamma UTL with                          | 95% Coverage |   |   | 283.7 |                    |                                                     |   |   |   |       |        |
| 974 | 95% WH USL                                             |              |   |   |       | 410.7              | 95% HW USL                                          |   |   |   |       | 427.7  |
| 975 |                                                        |              |   |   |       |                    |                                                     |   |   |   |       |        |
| 976 | Lognormal GOF Test                                     |              |   |   |       |                    |                                                     |   |   |   |       |        |
| 977 | Shapiro Wilk Test Statistic                            |              |   |   |       | 0.925              | Shapiro Wilk Lognormal GOF Test                     |   |   |   |       |        |
| 978 | 5% Shapiro Wilk P Value                                |              |   |   |       | 7.4702E-8          | Data Not Lognormal at 5% Significance Level         |   |   |   |       |        |
| 979 | Lilliefors Test Statistic                              |              |   |   |       | 0.108              | Lilliefors Lognormal GOF Test                       |   |   |   |       |        |
| 980 | 5% Lilliefors Critical Value                           |              |   |   |       | 0.0787             | Data Not Lognormal at 5% Significance Level         |   |   |   |       |        |
| 981 | Data Not Lognormal at 5% Significance Level            |              |   |   |       |                    |                                                     |   |   |   |       |        |
| 982 |                                                        |              |   |   |       |                    |                                                     |   |   |   |       |        |
| 983 | Background Statistics assuming Lognormal Distribution  |              |   |   |       |                    |                                                     |   |   |   |       |        |
| 984 | 95% UTL with                                           | 95% Coverage |   |   | 298.8 | 90% Percentile (z) |                                                     |   |   |   | 238.9 |        |
| 985 |                                                        | 95% UPL (t)  |   |   | 275   | 95% Percentile (z) |                                                     |   |   |   | 273.2 |        |
| 986 |                                                        | 95% USL      |   |   | 501.9 | 99% Percentile (z) |                                                     |   |   |   | 351.3 |        |
| 987 |                                                        |              |   |   |       |                    |                                                     |   |   |   |       |        |
| 988 | Nonparametric Distribution Free Background Statistics  |              |   |   |       |                    |                                                     |   |   |   |       |        |

|      |                                                                                                                          |   |   |   |        |                                                           |   |   |   |   |   |       |
|------|--------------------------------------------------------------------------------------------------------------------------|---|---|---|--------|-----------------------------------------------------------|---|---|---|---|---|-------|
|      | A                                                                                                                        | B | C | D | E      | F                                                         | G | H | I | J | K | L     |
| 989  | Data do not follow a Discernible Distribution (0.05)                                                                     |   |   |   |        |                                                           |   |   |   |   |   |       |
| 990  |                                                                                                                          |   |   |   |        |                                                           |   |   |   |   |   |       |
| 991  | Nonparametric Upper Limits for Background Threshold Values                                                               |   |   |   |        |                                                           |   |   |   |   |   |       |
| 992  | Order of Statistic, r                                                                                                    |   |   |   | 125    | 95% UTL with 95% Coverage                                 |   |   |   |   |   | 252   |
| 993  | Approx, f used to compute achieved CC                                                                                    |   |   |   | 1.645  | Approximate Actual Confidence Coefficient achieved by UTL |   |   |   |   |   | 0.887 |
| 994  |                                                                                                                          |   |   |   |        | Approximate Sample Size needed to achieve specified CC    |   |   |   |   |   | 153   |
| 995  | 95% Percentile Bootstrap UTL with 95% Coverage                                                                           |   |   |   | 249.9  | 95% BCA Bootstrap UTL with 95% Coverage                   |   |   |   |   |   | 252   |
| 996  | 95% UPL                                                                                                                  |   |   |   | 241.6  | 90% Percentile                                            |   |   |   |   |   | 226   |
| 997  | 90% Chebyshev UPL                                                                                                        |   |   |   | 318.9  | 95% Percentile                                            |   |   |   |   |   | 240.3 |
| 998  | 95% Chebyshev UPL                                                                                                        |   |   |   | 391.6  | 99% Percentile                                            |   |   |   |   |   | 257.1 |
| 999  | 95% USL                                                                                                                  |   |   |   | 287    |                                                           |   |   |   |   |   |       |
| 1000 |                                                                                                                          |   |   |   |        |                                                           |   |   |   |   |   |       |
| 1001 | Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. |   |   |   |        |                                                           |   |   |   |   |   |       |
| 1002 | Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers    |   |   |   |        |                                                           |   |   |   |   |   |       |
| 1003 | and consists of observations collected from clean unimpacted locations.                                                  |   |   |   |        |                                                           |   |   |   |   |   |       |
| 1004 | The use of USL tends to provide a balance between false positives and false negatives provided the data                  |   |   |   |        |                                                           |   |   |   |   |   |       |
| 1005 | represents a background data set and when many onsite observations need to be compared with the BTV.                     |   |   |   |        |                                                           |   |   |   |   |   |       |
| 1006 |                                                                                                                          |   |   |   |        |                                                           |   |   |   |   |   |       |
| 1007 | Chloride                                                                                                                 |   |   |   |        |                                                           |   |   |   |   |   |       |
| 1008 |                                                                                                                          |   |   |   |        |                                                           |   |   |   |   |   |       |
| 1009 | General Statistics                                                                                                       |   |   |   |        |                                                           |   |   |   |   |   |       |
| 1010 | Total Number of Observations                                                                                             |   |   |   | 132    | Number of Distinct Observations                           |   |   |   |   |   | 79    |
| 1011 |                                                                                                                          |   |   |   |        | Number of Missing Observations                            |   |   |   |   |   | 9     |
| 1012 | Minimum                                                                                                                  |   |   |   | 5.7    | First Quartile                                            |   |   |   |   |   | 24    |
| 1013 | Second Largest                                                                                                           |   |   |   | 120    | Median                                                    |   |   |   |   |   | 29    |
| 1014 | Maximum                                                                                                                  |   |   |   | 120    | Third Quartile                                            |   |   |   |   |   | 43.25 |
| 1015 | Mean                                                                                                                     |   |   |   | 39.96  | SD                                                        |   |   |   |   |   | 25.77 |
| 1016 | Coefficient of Variation                                                                                                 |   |   |   | 0.645  | Skewness                                                  |   |   |   |   |   | 1.585 |
| 1017 | Mean of logged Data                                                                                                      |   |   |   | 3.521  | SD of logged Data                                         |   |   |   |   |   | 0.564 |
| 1018 |                                                                                                                          |   |   |   |        |                                                           |   |   |   |   |   |       |
| 1019 | Critical Values for Background Threshold Values (BTVs)                                                                   |   |   |   |        |                                                           |   |   |   |   |   |       |
| 1020 | Tolerance Factor K (For UTL)                                                                                             |   |   |   | 1.884  | d2max (for USL)                                           |   |   |   |   |   | 3.302 |
| 1021 |                                                                                                                          |   |   |   |        |                                                           |   |   |   |   |   |       |
| 1022 | Normal GOF Test                                                                                                          |   |   |   |        |                                                           |   |   |   |   |   |       |
| 1023 | Shapiro Wilk Test Statistic                                                                                              |   |   |   | 0.786  | Normal GOF Test                                           |   |   |   |   |   |       |
| 1024 | 5% Shapiro Wilk P Value                                                                                                  |   |   |   | 0      | Data Not Normal at 5% Significance Level                  |   |   |   |   |   |       |
| 1025 | Lilliefors Test Statistic                                                                                                |   |   |   | 0.22   | Lilliefors GOF Test                                       |   |   |   |   |   |       |
| 1026 | 5% Lilliefors Critical Value                                                                                             |   |   |   | 0.0775 | Data Not Normal at 5% Significance Level                  |   |   |   |   |   |       |
| 1027 | Data Not Normal at 5% Significance Level                                                                                 |   |   |   |        |                                                           |   |   |   |   |   |       |
| 1028 |                                                                                                                          |   |   |   |        |                                                           |   |   |   |   |   |       |
| 1029 | Background Statistics Assuming Normal Distribution                                                                       |   |   |   |        |                                                           |   |   |   |   |   |       |
| 1030 | 95% UTL with 95% Coverage                                                                                                |   |   |   | 88.51  | 90% Percentile (z)                                        |   |   |   |   |   | 72.99 |
| 1031 | 95% UPL (t)                                                                                                              |   |   |   | 82.82  | 95% Percentile (z)                                        |   |   |   |   |   | 82.35 |
| 1032 | 95% USL                                                                                                                  |   |   |   | 125.1  | 99% Percentile (z)                                        |   |   |   |   |   | 99.92 |
| 1033 |                                                                                                                          |   |   |   |        |                                                           |   |   |   |   |   |       |
| 1034 | Gamma GOF Test                                                                                                           |   |   |   |        |                                                           |   |   |   |   |   |       |
| 1035 | A-D Test Statistic                                                                                                       |   |   |   | 5.023  | Anderson-Darling Gamma GOF Test                           |   |   |   |   |   |       |
| 1036 | 5% A-D Critical Value                                                                                                    |   |   |   | 0.759  | Data Not Gamma Distributed at 5% Significance Level       |   |   |   |   |   |       |
| 1037 | K-S Test Statistic                                                                                                       |   |   |   | 0.172  | Kolmogorov-Smirnov Gamma GOF Test                         |   |   |   |   |   |       |
| 1038 | 5% K-S Critical Value                                                                                                    |   |   |   | 0.0817 | Data Not Gamma Distributed at 5% Significance Level       |   |   |   |   |   |       |
| 1039 | Data Not Gamma Distributed at 5% Significance Level                                                                      |   |   |   |        |                                                           |   |   |   |   |   |       |
| 1040 |                                                                                                                          |   |   |   |        |                                                           |   |   |   |   |   |       |

|      | A                                                                                                                        | B | C | D | E | F         | G                                                         | H | I | J | K | L     |
|------|--------------------------------------------------------------------------------------------------------------------------|---|---|---|---|-----------|-----------------------------------------------------------|---|---|---|---|-------|
| 1041 | Gamma Statistics                                                                                                         |   |   |   |   |           |                                                           |   |   |   |   |       |
| 1042 | k hat (MLE)                                                                                                              |   |   |   |   | 3.157     | k star (bias corrected MLE)                               |   |   |   |   | 3.091 |
| 1043 | Theta hat (MLE)                                                                                                          |   |   |   |   | 12.66     | Theta star (bias corrected MLE)                           |   |   |   |   | 12.93 |
| 1044 | nu hat (MLE)                                                                                                             |   |   |   |   | 833.6     | nu star (bias corrected)                                  |   |   |   |   | 816   |
| 1045 | MLE Mean (bias corrected)                                                                                                |   |   |   |   | 39.96     | MLE Sd (bias corrected)                                   |   |   |   |   | 22.73 |
| 1046 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |       |
| 1047 | Background Statistics Assuming Gamma Distribution                                                                        |   |   |   |   |           |                                                           |   |   |   |   |       |
| 1048 | 95% Wilson Hilferty (WH) Approx. Gamma UPL                                                                               |   |   |   |   | 82.93     | 90% Percentile                                            |   |   |   |   | 70.43 |
| 1049 | 95% Hawkins Wixley (HW) Approx. Gamma UPL                                                                                |   |   |   |   | 83.44     | 95% Percentile                                            |   |   |   |   | 83.15 |
| 1050 | 95% WH Approx. Gamma UTL with 95% Coverage                                                                               |   |   |   |   | 91.31     | 99% Percentile                                            |   |   |   |   | 110.7 |
| 1051 | 95% HW Approx. Gamma UTL with 95% Coverage                                                                               |   |   |   |   | 92.39     |                                                           |   |   |   |   |       |
| 1052 | 95% WH USL                                                                                                               |   |   |   |   | 158.7     | 95% HW USL                                                |   |   |   |   | 168   |
| 1053 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |       |
| 1054 | Lognormal GOF Test                                                                                                       |   |   |   |   |           |                                                           |   |   |   |   |       |
| 1055 | Shapiro Wilk Test Statistic                                                                                              |   |   |   |   | 0.937     | Shapiro Wilk Lognormal GOF Test                           |   |   |   |   |       |
| 1056 | 5% Shapiro Wilk P Value                                                                                                  |   |   |   |   | 2.8221E-6 | Data Not Lognormal at 5% Significance Level               |   |   |   |   |       |
| 1057 | Lilliefors Test Statistic                                                                                                |   |   |   |   | 0.137     | Lilliefors Lognormal GOF Test                             |   |   |   |   |       |
| 1058 | 5% Lilliefors Critical Value                                                                                             |   |   |   |   | 0.0775    | Data Not Lognormal at 5% Significance Level               |   |   |   |   |       |
| 1059 | Data Not Lognormal at 5% Significance Level                                                                              |   |   |   |   |           |                                                           |   |   |   |   |       |
| 1060 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |       |
| 1061 | Background Statistics assuming Lognormal Distribution                                                                    |   |   |   |   |           |                                                           |   |   |   |   |       |
| 1062 | 95% UTL with 95% Coverage                                                                                                |   |   |   |   | 97.87     | 90% Percentile (z)                                        |   |   |   |   | 69.68 |
| 1063 | 95% UPL (t)                                                                                                              |   |   |   |   | 86.4      | 95% Percentile (z)                                        |   |   |   |   | 85.52 |
| 1064 | 95% USL                                                                                                                  |   |   |   |   | 217.7     | 99% Percentile (z)                                        |   |   |   |   | 125.6 |
| 1065 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |       |
| 1066 | Nonparametric Distribution Free Background Statistics                                                                    |   |   |   |   |           |                                                           |   |   |   |   |       |
| 1067 | Data do not follow a Discernible Distribution (0.05)                                                                     |   |   |   |   |           |                                                           |   |   |   |   |       |
| 1068 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |       |
| 1069 | Nonparametric Upper Limits for Background Threshold Values                                                               |   |   |   |   |           |                                                           |   |   |   |   |       |
| 1070 | Order of Statistic, r                                                                                                    |   |   |   |   | 129       | 95% UTL with 95% Coverage                                 |   |   |   |   | 110   |
| 1071 | Approx, f used to compute achieved CC                                                                                    |   |   |   |   | 1.697     | Approximate Actual Confidence Coefficient achieved by UTL |   |   |   |   | 0.901 |
| 1072 |                                                                                                                          |   |   |   |   |           | Approximate Sample Size needed to achieve specified CC    |   |   |   |   | 153   |
| 1073 | 95% Percentile Bootstrap UTL with 95% Coverage                                                                           |   |   |   |   | 110       | 95% BCA Bootstrap UTL with 95% Coverage                   |   |   |   |   | 110   |
| 1074 | 95% UPL                                                                                                                  |   |   |   |   | 101.7     | 90% Percentile                                            |   |   |   |   | 78    |
| 1075 | 90% Chebyshev UPL                                                                                                        |   |   |   |   | 117.6     | 95% Percentile                                            |   |   |   |   | 95.99 |
| 1076 | 95% Chebyshev UPL                                                                                                        |   |   |   |   | 152.7     | 99% Percentile                                            |   |   |   |   | 120   |
| 1077 | 95% USL                                                                                                                  |   |   |   |   | 120       |                                                           |   |   |   |   |       |
| 1078 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |       |
| 1079 | Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. |   |   |   |   |           |                                                           |   |   |   |   |       |
| 1080 | Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers    |   |   |   |   |           |                                                           |   |   |   |   |       |
| 1081 | and consists of observations collected from clean unimpacted locations.                                                  |   |   |   |   |           |                                                           |   |   |   |   |       |
| 1082 | The use of USL tends to provide a balance between false positives and false negatives provided the data                  |   |   |   |   |           |                                                           |   |   |   |   |       |
| 1083 | represents a background data set and when many onsite observations need to be compared with the BTV.                     |   |   |   |   |           |                                                           |   |   |   |   |       |
| 1084 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |       |
| 1085 | Fluoride                                                                                                                 |   |   |   |   |           |                                                           |   |   |   |   |       |
| 1086 |                                                                                                                          |   |   |   |   |           |                                                           |   |   |   |   |       |
| 1087 | General Statistics                                                                                                       |   |   |   |   |           |                                                           |   |   |   |   |       |
| 1088 | Total Number of Observations                                                                                             |   |   |   |   | 108       | Number of Missing Observations                            |   |   |   |   | 18    |
| 1089 | Number of Distinct Observations                                                                                          |   |   |   |   | 17        |                                                           |   |   |   |   |       |
| 1090 | Number of Detects                                                                                                        |   |   |   |   | 30        | Number of Non-Detects                                     |   |   |   |   | 78    |
| 1091 | Number of Distinct Detects                                                                                               |   |   |   |   | 16        | Number of Distinct Non-Detects                            |   |   |   |   | 3     |
| 1092 | Minimum Detect                                                                                                           |   |   |   |   | 0.087     | Minimum Non-Detect                                        |   |   |   |   | 0.2   |

|      | A                                                                                                                         | B | C | D | E | F       | G                                                               | H | I | J | K | L      |
|------|---------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---------|-----------------------------------------------------------------|---|---|---|---|--------|
| 1093 | Maximum Detect                                                                                                            |   |   |   |   | 0.33    | Maximum Non-Detect                                              |   |   |   |   | 0.5    |
| 1094 | Variance Detected                                                                                                         |   |   |   |   | 0.00331 | Percent Non-Detects                                             |   |   |   |   | 72.22% |
| 1095 | Mean Detected                                                                                                             |   |   |   |   | 0.215   | SD Detected                                                     |   |   |   |   | 0.0575 |
| 1096 | Mean of Detected Logged Data                                                                                              |   |   |   |   | -1.576  | SD of Detected Logged Data                                      |   |   |   |   | 0.309  |
| 1097 |                                                                                                                           |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1098 | Critical Values for Background Threshold Values (BTVs)                                                                    |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1099 | Tolerance Factor K (For UTL)                                                                                              |   |   |   |   | 1.912   | d2max (for USL)                                                 |   |   |   |   | 3.236  |
| 1100 |                                                                                                                           |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1101 | Normal GOF Test on Detects Only                                                                                           |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1102 | Shapiro Wilk Test Statistic                                                                                               |   |   |   |   | 0.975   | Shapiro Wilk GOF Test                                           |   |   |   |   |        |
| 1103 | 5% Shapiro Wilk Critical Value                                                                                            |   |   |   |   | 0.927   | Detected Data appear Normal at 5% Significance Level            |   |   |   |   |        |
| 1104 | Lilliefors Test Statistic                                                                                                 |   |   |   |   | 0.0999  | Lilliefors GOF Test                                             |   |   |   |   |        |
| 1105 | 5% Lilliefors Critical Value                                                                                              |   |   |   |   | 0.159   | Detected Data appear Normal at 5% Significance Level            |   |   |   |   |        |
| 1106 | Detected Data appear Normal at 5% Significance Level                                                                      |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1107 |                                                                                                                           |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1108 | Kaplan Meier (KM) Background Statistics Assuming Normal Distribution                                                      |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1109 | KM Mean                                                                                                                   |   |   |   |   | 0.19    | KM SD                                                           |   |   |   |   | 0.0499 |
| 1110 | 95% UTL95% Coverage                                                                                                       |   |   |   |   | 0.286   | 95% KM UPL (t)                                                  |   |   |   |   | 0.273  |
| 1111 | 90% KM Percentile (z)                                                                                                     |   |   |   |   | 0.254   | 95% KM Percentile (z)                                           |   |   |   |   | 0.272  |
| 1112 | 99% KM Percentile (z)                                                                                                     |   |   |   |   | 0.306   | 95% KM USL                                                      |   |   |   |   | 0.352  |
| 1113 |                                                                                                                           |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1114 | DL/2 Substitution Background Statistics Assuming Normal Distribution                                                      |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1115 | Mean                                                                                                                      |   |   |   |   | 0.162   | SD                                                              |   |   |   |   | 0.0583 |
| 1116 | 95% UTL95% Coverage                                                                                                       |   |   |   |   | 0.274   | 95% UPL (t)                                                     |   |   |   |   | 0.26   |
| 1117 | 90% Percentile (z)                                                                                                        |   |   |   |   | 0.237   | 95% Percentile (z)                                              |   |   |   |   | 0.258  |
| 1118 | 99% Percentile (z)                                                                                                        |   |   |   |   | 0.298   | 95% USL                                                         |   |   |   |   | 0.351  |
| 1119 | DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons                                    |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1120 |                                                                                                                           |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1121 | Gamma GOF Tests on Detected Observations Only                                                                             |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1122 | A-D Test Statistic                                                                                                        |   |   |   |   | 0.589   | Anderson-Darling GOF Test                                       |   |   |   |   |        |
| 1123 | 5% A-D Critical Value                                                                                                     |   |   |   |   | 0.745   | Detected data appear Gamma Distributed at 5% Significance Level |   |   |   |   |        |
| 1124 | K-S Test Statistic                                                                                                        |   |   |   |   | 0.128   | Kolmogorov-Smirnov GOF                                          |   |   |   |   |        |
| 1125 | 5% K-S Critical Value                                                                                                     |   |   |   |   | 0.16    | Detected data appear Gamma Distributed at 5% Significance Level |   |   |   |   |        |
| 1126 | Detected data appear Gamma Distributed at 5% Significance Level                                                           |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1127 |                                                                                                                           |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1128 | Gamma Statistics on Detected Data Only                                                                                    |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1129 | k hat (MLE)                                                                                                               |   |   |   |   | 12.25   | k star (bias corrected MLE)                                     |   |   |   |   | 11.05  |
| 1130 | Theta hat (MLE)                                                                                                           |   |   |   |   | 0.0176  | Theta star (bias corrected MLE)                                 |   |   |   |   | 0.0195 |
| 1131 | nu hat (MLE)                                                                                                              |   |   |   |   | 735.3   | nu star (bias corrected)                                        |   |   |   |   | 663.1  |
| 1132 | MLE Mean (bias corrected)                                                                                                 |   |   |   |   | 0.215   |                                                                 |   |   |   |   |        |
| 1133 | MLE Sd (bias corrected)                                                                                                   |   |   |   |   | 0.0648  | 95% Percentile of Chisquare (2kstar)                            |   |   |   |   | 34.05  |
| 1134 |                                                                                                                           |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1135 | Gamma ROS Statistics using Imputed Non-Detects                                                                            |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1136 | GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs                              |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1137 | GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20) |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1138 | For such situations, GROS method may yield incorrect values of UCLs and BTVs                                              |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1139 | This is especially true when the sample size is small.                                                                    |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1140 | For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates               |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1141 | Minimum                                                                                                                   |   |   |   |   | 0.087   | Mean                                                            |   |   |   |   | 0.189  |
| 1142 | Maximum                                                                                                                   |   |   |   |   | 0.33    | Median                                                          |   |   |   |   | 0.186  |
| 1143 | SD                                                                                                                        |   |   |   |   | 0.046   | CV                                                              |   |   |   |   | 0.244  |
| 1144 | k hat (MLE)                                                                                                               |   |   |   |   | 16.59   | k star (bias corrected MLE)                                     |   |   |   |   | 16.14  |

|      |                                                                                               |   |   |   |         |                                                         |                                 |   |   |         |       |        |
|------|-----------------------------------------------------------------------------------------------|---|---|---|---------|---------------------------------------------------------|---------------------------------|---|---|---------|-------|--------|
|      | A                                                                                             | B | C | D | E       | F                                                       | G                               | H | I | J       | K     | L      |
| 1145 | Theta hat (MLE)                                                                               |   |   |   |         | 0.0114                                                  | Theta star (bias corrected MLE) |   |   |         |       | 0.0117 |
| 1146 | nu hat (MLE)                                                                                  |   |   |   |         | 3584                                                    | nu star (bias corrected)        |   |   |         |       | 3485   |
| 1147 | MLE Mean (bias corrected)                                                                     |   |   |   |         | 0.189                                                   | MLE Sd (bias corrected)         |   |   |         |       | 0.0469 |
| 1148 | 95% Percentile of Chisquare (2kstar)                                                          |   |   |   |         | 46.52                                                   | 90% Percentile                  |   |   |         |       | 0.251  |
| 1149 | 95% Percentile                                                                                |   |   |   |         | 0.272                                                   | 99% Percentile                  |   |   |         |       | 0.315  |
| 1150 | The following statistics are computed using Gamma ROS Statistics on Imputed Data              |   |   |   |         |                                                         |                                 |   |   |         |       |        |
| 1151 | Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods                       |   |   |   |         |                                                         |                                 |   |   |         |       |        |
| 1152 |                                                                                               |   |   |   | WH      | HW                                                      |                                 |   |   |         | WH    | HW     |
| 1153 | 95% Approx. Gamma UTL with 95% Coverage                                                       |   |   |   | 0.287   | 0.289                                                   | 95% Approx. Gamma UPL           |   |   |         | 0.272 | 0.274  |
| 1154 | 95% Gamma USL                                                                                 |   |   |   | 0.377   | 0.384                                                   |                                 |   |   |         |       |        |
| 1155 |                                                                                               |   |   |   |         |                                                         |                                 |   |   |         |       |        |
| 1156 | Estimates of Gamma Parameters using KM Estimates                                              |   |   |   |         |                                                         |                                 |   |   |         |       |        |
| 1157 | Mean (KM)                                                                                     |   |   |   | 0.19    | SD (KM)                                                 |                                 |   |   | 0.0499  |       |        |
| 1158 | Variance (KM)                                                                                 |   |   |   | 0.00249 | SE of Mean (KM)                                         |                                 |   |   | 0.00912 |       |        |
| 1159 | k hat (KM)                                                                                    |   |   |   | 14.56   | k star (KM)                                             |                                 |   |   | 14.17   |       |        |
| 1160 | nu hat (KM)                                                                                   |   |   |   | 3146    | nu star (KM)                                            |                                 |   |   | 3060    |       |        |
| 1161 | theta hat (KM)                                                                                |   |   |   | 0.0131  | theta star (KM)                                         |                                 |   |   | 0.0134  |       |        |
| 1162 | 80% gamma percentile (KM)                                                                     |   |   |   | 0.231   | 90% gamma percentile (KM)                               |                                 |   |   | 0.257   |       |        |
| 1163 | 95% gamma percentile (KM)                                                                     |   |   |   | 0.28    | 99% gamma percentile (KM)                               |                                 |   |   | 0.327   |       |        |
| 1164 |                                                                                               |   |   |   |         |                                                         |                                 |   |   |         |       |        |
| 1165 | The following statistics are computed using gamma distribution and KM estimates               |   |   |   |         |                                                         |                                 |   |   |         |       |        |
| 1166 | Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods                       |   |   |   |         |                                                         |                                 |   |   |         |       |        |
| 1167 |                                                                                               |   |   |   | WH      | HW                                                      |                                 |   |   |         | WH    | HW     |
| 1168 | 95% Approx. Gamma UTL with 95% Coverage                                                       |   |   |   | 0.305   | 0.308                                                   | 95% Approx. Gamma UPL           |   |   |         | 0.287 | 0.29   |
| 1169 | 95% KM Gamma Percentile                                                                       |   |   |   | 0.286   | 0.288                                                   | 95% Gamma USL                   |   |   |         | 0.412 | 0.424  |
| 1170 |                                                                                               |   |   |   |         |                                                         |                                 |   |   |         |       |        |
| 1171 | Lognormal GOF Test on Detected Observations Only                                              |   |   |   |         |                                                         |                                 |   |   |         |       |        |
| 1172 | Shapiro Wilk Test Statistic                                                                   |   |   |   | 0.906   | Shapiro Wilk GOF Test                                   |                                 |   |   |         |       |        |
| 1173 | 5% Shapiro Wilk Critical Value                                                                |   |   |   | 0.927   | Data Not Lognormal at 5% Significance Level             |                                 |   |   |         |       |        |
| 1174 | Lilliefors Test Statistic                                                                     |   |   |   | 0.135   | Lilliefors GOF Test                                     |                                 |   |   |         |       |        |
| 1175 | 5% Lilliefors Critical Value                                                                  |   |   |   | 0.159   | Detected Data appear Lognormal at 5% Significance Level |                                 |   |   |         |       |        |
| 1176 | Detected Data appear Approximate Lognormal at 5% Significance Level                           |   |   |   |         |                                                         |                                 |   |   |         |       |        |
| 1177 |                                                                                               |   |   |   |         |                                                         |                                 |   |   |         |       |        |
| 1178 | Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects |   |   |   |         |                                                         |                                 |   |   |         |       |        |
| 1179 | Mean in Original Scale                                                                        |   |   |   | 0.186   | Mean in Log Scale                                       |                                 |   |   | -1.714  |       |        |
| 1180 | SD in Original Scale                                                                          |   |   |   | 0.0469  | SD in Log Scale                                         |                                 |   |   | 0.258   |       |        |
| 1181 | 95% UTL95% Coverage                                                                           |   |   |   | 0.295   | 95% BCA UTL95% Coverage                                 |                                 |   |   | 0.28    |       |        |
| 1182 | 95% Bootstrap (%) UTL95% Coverage                                                             |   |   |   | 0.28    | 95% UPL (t)                                             |                                 |   |   | 0.277   |       |        |
| 1183 | 90% Percentile (z)                                                                            |   |   |   | 0.251   | 95% Percentile (z)                                      |                                 |   |   | 0.276   |       |        |
| 1184 | 99% Percentile (z)                                                                            |   |   |   | 0.329   | 95% USL                                                 |                                 |   |   | 0.416   |       |        |
| 1185 |                                                                                               |   |   |   |         |                                                         |                                 |   |   |         |       |        |
| 1186 | Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution              |   |   |   |         |                                                         |                                 |   |   |         |       |        |
| 1187 | KM Mean of Logged Data                                                                        |   |   |   | -1.699  | 95% KM UTL (Lognormal)95% Coverage                      |                                 |   |   | 0.322   |       |        |
| 1188 | KM SD of Logged Data                                                                          |   |   |   | 0.296   | 95% KM UPL (Lognormal)                                  |                                 |   |   | 0.299   |       |        |
| 1189 | 95% KM Percentile Lognormal (z)                                                               |   |   |   | 0.297   | 95% KM USL (Lognormal)                                  |                                 |   |   | 0.476   |       |        |
| 1190 |                                                                                               |   |   |   |         |                                                         |                                 |   |   |         |       |        |
| 1191 | Background DL/2 Statistics Assuming Lognormal Distribution                                    |   |   |   |         |                                                         |                                 |   |   |         |       |        |
| 1192 | Mean in Original Scale                                                                        |   |   |   | 0.162   | Mean in Log Scale                                       |                                 |   |   | -1.873  |       |        |
| 1193 | SD in Original Scale                                                                          |   |   |   | 0.0583  | SD in Log Scale                                         |                                 |   |   | 0.323   |       |        |
| 1194 | 95% UTL95% Coverage                                                                           |   |   |   | 0.285   | 95% UPL (t)                                             |                                 |   |   | 0.263   |       |        |
| 1195 | 90% Percentile (z)                                                                            |   |   |   | 0.232   | 95% Percentile (z)                                      |                                 |   |   | 0.261   |       |        |
| 1196 | 99% Percentile (z)                                                                            |   |   |   | 0.326   | 95% USL                                                 |                                 |   |   | 0.437   |       |        |

|      |                                                                                                                          |   |   |   |           |                                                           |   |   |   |   |         |   |
|------|--------------------------------------------------------------------------------------------------------------------------|---|---|---|-----------|-----------------------------------------------------------|---|---|---|---|---------|---|
|      | A                                                                                                                        | B | C | D | E         | F                                                         | G | H | I | J | K       | L |
| 1197 | DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.                                  |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1198 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1199 | Nonparametric Distribution Free Background Statistics                                                                    |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1200 | Data appear to follow a Discernible Distribution at 5% Significance Level                                                |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1201 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1202 | Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)                                  |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1203 | Order of Statistic, r                                                                                                    |   |   |   | 106       | 95% UTL with95% Coverage                                  |   |   |   |   | 0.5     |   |
| 1204 | Approx, f used to compute achieved CC                                                                                    |   |   |   | 1.86      | Approximate Actual Confidence Coefficient achieved by UTL |   |   |   |   | 0.911   |   |
| 1205 | Approximate Sample Size needed to achieve specified CC                                                                   |   |   |   | 124       | 95% UPL                                                   |   |   |   |   | 0.5     |   |
| 1206 | 95% USL                                                                                                                  |   |   |   | 0.5       | 95% KM Chebyshev UPL                                      |   |   |   |   | 0.409   |   |
| 1207 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1208 | Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1209 | Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers    |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1210 | and consists of observations collected from clean unimpacted locations.                                                  |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1211 | The use of USL tends to provide a balance between false positives and false negatives provided the data                  |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1212 | represents a background data set and when many onsite observations need to be compared with the BTV.                     |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1213 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1214 | Lithium                                                                                                                  |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1215 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1216 | General Statistics                                                                                                       |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1217 | Total Number of Observations                                                                                             |   |   |   | 122       | Number of Missing Observations                            |   |   |   |   | 17      |   |
| 1218 | Number of Distinct Observations                                                                                          |   |   |   | 15        |                                                           |   |   |   |   |         |   |
| 1219 | Number of Detects                                                                                                        |   |   |   | 25        | Number of Non-Detects                                     |   |   |   |   | 97      |   |
| 1220 | Number of Distinct Detects                                                                                               |   |   |   | 13        | Number of Distinct Non-Detects                            |   |   |   |   | 2       |   |
| 1221 | Minimum Detect                                                                                                           |   |   |   | 0.011     | Minimum Non-Detect                                        |   |   |   |   | 0.01    |   |
| 1222 | Maximum Detect                                                                                                           |   |   |   | 0.041     | Maximum Non-Detect                                        |   |   |   |   | 0.03    |   |
| 1223 | Variance Detected                                                                                                        |   |   |   | 5.8460E-5 | Percent Non-Detects                                       |   |   |   |   | 79.51%  |   |
| 1224 | Mean Detected                                                                                                            |   |   |   | 0.0173    | SD Detected                                               |   |   |   |   | 0.00765 |   |
| 1225 | Mean of Detected Logged Data                                                                                             |   |   |   | -4.124    | SD of Detected Logged Data                                |   |   |   |   | 0.34    |   |
| 1226 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1227 | Critical Values for Background Threshold Values (BTVs)                                                                   |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1228 | Tolerance Factor K (For UTL)                                                                                             |   |   |   | 1.894     | d2max (for USL)                                           |   |   |   |   | 3.276   |   |
| 1229 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1230 | Normal GOF Test on Detects Only                                                                                          |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1231 | Shapiro Wilk Test Statistic                                                                                              |   |   |   | 0.679     | Shapiro Wilk GOF Test                                     |   |   |   |   |         |   |
| 1232 | 5% Shapiro Wilk Critical Value                                                                                           |   |   |   | 0.918     | Data Not Normal at 5% Significance Level                  |   |   |   |   |         |   |
| 1233 | Lilliefors Test Statistic                                                                                                |   |   |   | 0.241     | Lilliefors GOF Test                                       |   |   |   |   |         |   |
| 1234 | 5% Lilliefors Critical Value                                                                                             |   |   |   | 0.173     | Data Not Normal at 5% Significance Level                  |   |   |   |   |         |   |
| 1235 | Data Not Normal at 5% Significance Level                                                                                 |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1236 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1237 | Kaplan Meier (KM) Background Statistics Assuming Normal Distribution                                                     |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1238 | KM Mean                                                                                                                  |   |   |   | 0.0138    | KM SD                                                     |   |   |   |   | 0.00495 |   |
| 1239 | 95% UTL95% Coverage                                                                                                      |   |   |   | 0.0232    | 95% KM UPL (t)                                            |   |   |   |   | 0.022   |   |
| 1240 | 90% KM Percentile (z)                                                                                                    |   |   |   | 0.0201    | 95% KM Percentile (z)                                     |   |   |   |   | 0.0219  |   |
| 1241 | 99% KM Percentile (z)                                                                                                    |   |   |   | 0.0253    | 95% KM USL                                                |   |   |   |   | 0.03    |   |
| 1242 |                                                                                                                          |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1243 | DL/2 Substitution Background Statistics Assuming Normal Distribution                                                     |   |   |   |           |                                                           |   |   |   |   |         |   |
| 1244 | Mean                                                                                                                     |   |   |   | 0.0144    | SD                                                        |   |   |   |   | 0.0048  |   |
| 1245 | 95% UTL95% Coverage                                                                                                      |   |   |   | 0.0235    | 95% UPL (t)                                               |   |   |   |   | 0.0224  |   |
| 1246 | 90% Percentile (z)                                                                                                       |   |   |   | 0.0206    | 95% Percentile (z)                                        |   |   |   |   | 0.0223  |   |
| 1247 | 99% Percentile (z)                                                                                                       |   |   |   | 0.0256    | 95% USL                                                   |   |   |   |   | 0.0301  |   |
| 1248 | DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons                                   |   |   |   |           |                                                           |   |   |   |   |         |   |

|      | A                                                                                                                         | B | C | D      | E      | F                     | G                                                   | H | I      | J      | K  | L         |
|------|---------------------------------------------------------------------------------------------------------------------------|---|---|--------|--------|-----------------------|-----------------------------------------------------|---|--------|--------|----|-----------|
| 1249 |                                                                                                                           |   |   |        |        |                       |                                                     |   |        |        |    |           |
| 1250 | Gamma GOF Tests on Detected Observations Only                                                                             |   |   |        |        |                       |                                                     |   |        |        |    |           |
| 1251 | A-D Test Statistic                                                                                                        |   |   |        |        | 1.629                 | Anderson-Darling GOF Test                           |   |        |        |    |           |
| 1252 | 5% A-D Critical Value                                                                                                     |   |   |        |        | 0.746                 | Data Not Gamma Distributed at 5% Significance Level |   |        |        |    |           |
| 1253 | K-S Test Statistic                                                                                                        |   |   |        |        | 0.205                 | Kolmogorov-Smirnov GOF                              |   |        |        |    |           |
| 1254 | 5% K-S Critical Value                                                                                                     |   |   |        |        | 0.175                 | Data Not Gamma Distributed at 5% Significance Level |   |        |        |    |           |
| 1255 | Data Not Gamma Distributed at 5% Significance Level                                                                       |   |   |        |        |                       |                                                     |   |        |        |    |           |
| 1256 |                                                                                                                           |   |   |        |        |                       |                                                     |   |        |        |    |           |
| 1257 | Gamma Statistics on Detected Data Only                                                                                    |   |   |        |        |                       |                                                     |   |        |        |    |           |
| 1258 | k hat (MLE)                                                                                                               |   |   |        |        | 7.814                 | k star (bias corrected MLE)                         |   |        |        |    | 6.903     |
| 1259 | Theta hat (MLE)                                                                                                           |   |   |        |        | 0.00221               | Theta star (bias corrected MLE)                     |   |        |        |    | 0.0025    |
| 1260 | nu hat (MLE)                                                                                                              |   |   |        |        | 390.7                 | nu star (bias corrected)                            |   |        |        |    | 345.1     |
| 1261 | MLE Mean (bias corrected)                                                                                                 |   |   |        |        | 0.0173                |                                                     |   |        |        |    |           |
| 1262 | MLE Sd (bias corrected)                                                                                                   |   |   |        |        | 0.00658               | 95% Percentile of Chisquare (2kstar)                |   |        |        |    | 23.43     |
| 1263 |                                                                                                                           |   |   |        |        |                       |                                                     |   |        |        |    |           |
| 1264 | Gamma ROS Statistics using Imputed Non-Detects                                                                            |   |   |        |        |                       |                                                     |   |        |        |    |           |
| 1265 | GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs                              |   |   |        |        |                       |                                                     |   |        |        |    |           |
| 1266 | GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20) |   |   |        |        |                       |                                                     |   |        |        |    |           |
| 1267 | For such situations, GROS method may yield incorrect values of UCLs and BTVs                                              |   |   |        |        |                       |                                                     |   |        |        |    |           |
| 1268 | This is especially true when the sample size is small.                                                                    |   |   |        |        |                       |                                                     |   |        |        |    |           |
| 1269 | For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates               |   |   |        |        |                       |                                                     |   |        |        |    |           |
| 1270 | Minimum                                                                                                                   |   |   |        |        | 0.01                  | Mean                                                |   |        |        |    | 0.0141    |
| 1271 | Maximum                                                                                                                   |   |   |        |        | 0.041                 | Median                                              |   |        |        |    | 0.012     |
| 1272 | SD                                                                                                                        |   |   |        |        | 0.00569               | CV                                                  |   |        |        |    | 0.405     |
| 1273 | k hat (MLE)                                                                                                               |   |   |        |        | 8.374                 | k star (bias corrected MLE)                         |   |        |        |    | 8.173     |
| 1274 | Theta hat (MLE)                                                                                                           |   |   |        |        | 0.00168               | Theta star (bias corrected MLE)                     |   |        |        |    | 0.00172   |
| 1275 | nu hat (MLE)                                                                                                              |   |   |        |        | 2043                  | nu star (bias corrected)                            |   |        |        |    | 1994      |
| 1276 | MLE Mean (bias corrected)                                                                                                 |   |   |        |        | 0.0141                | MLE Sd (bias corrected)                             |   |        |        |    | 0.00492   |
| 1277 | 95% Percentile of Chisquare (2kstar)                                                                                      |   |   |        |        | 26.75                 | 90% Percentile                                      |   |        |        |    | 0.0206    |
| 1278 | 95% Percentile                                                                                                            |   |   |        |        | 0.023                 | 99% Percentile                                      |   |        |        |    | 0.0279    |
| 1279 | The following statistics are computed using Gamma ROS Statistics on Imputed Data                                          |   |   |        |        |                       |                                                     |   |        |        |    |           |
| 1280 | Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods                                                   |   |   |        |        |                       |                                                     |   |        |        |    |           |
| 1281 |                                                                                                                           |   |   | WH     | HW     |                       |                                                     |   |        | WH     | HW |           |
| 1282 | 95% Approx. Gamma UTL with 95% Coverage                                                                                   |   |   | 0.0246 | 0.0246 | 95% Approx. Gamma UPL |                                                     |   | 0.023  | 0.023  |    |           |
| 1283 | 95% Gamma USL                                                                                                             |   |   | 0.0357 | 0.0364 |                       |                                                     |   |        |        |    |           |
| 1284 |                                                                                                                           |   |   |        |        |                       |                                                     |   |        |        |    |           |
| 1285 | Estimates of Gamma Parameters using KM Estimates                                                                          |   |   |        |        |                       |                                                     |   |        |        |    |           |
| 1286 | Mean (KM)                                                                                                                 |   |   |        |        | 0.0138                | SD (KM)                                             |   |        |        |    | 0.00495   |
| 1287 | Variance (KM)                                                                                                             |   |   |        |        | 2.4457E-5             | SE of Mean (KM)                                     |   |        |        |    | 6.7777E-4 |
| 1288 | k hat (KM)                                                                                                                |   |   |        |        | 7.794                 | k star (KM)                                         |   |        |        |    | 7.607     |
| 1289 | nu hat (KM)                                                                                                               |   |   |        |        | 1902                  | nu star (KM)                                        |   |        |        |    | 1856      |
| 1290 | theta hat (KM)                                                                                                            |   |   |        |        | 0.00177               | theta star (KM)                                     |   |        |        |    | 0.00181   |
| 1291 | 80% gamma percentile (KM)                                                                                                 |   |   |        |        | 0.0177                | 90% gamma percentile (KM)                           |   |        |        |    | 0.0205    |
| 1292 | 95% gamma percentile (KM)                                                                                                 |   |   |        |        | 0.0229                | 99% gamma percentile (KM)                           |   |        |        |    | 0.028     |
| 1293 |                                                                                                                           |   |   |        |        |                       |                                                     |   |        |        |    |           |
| 1294 | The following statistics are computed using gamma distribution and KM estimates                                           |   |   |        |        |                       |                                                     |   |        |        |    |           |
| 1295 | Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods                                                   |   |   |        |        |                       |                                                     |   |        |        |    |           |
| 1296 |                                                                                                                           |   |   | WH     | HW     |                       |                                                     |   |        | WH     | HW |           |
| 1297 | 95% Approx. Gamma UTL with 95% Coverage                                                                                   |   |   | 0.0227 | 0.0227 | 95% Approx. Gamma UPL |                                                     |   | 0.0214 | 0.0214 |    |           |
| 1298 | 95% KM Gamma Percentile                                                                                                   |   |   | 0.0213 | 0.0213 | 95% Gamma USL         |                                                     |   | 0.0318 | 0.0322 |    |           |
| 1299 |                                                                                                                           |   |   |        |        |                       |                                                     |   |        |        |    |           |
| 1300 | Lognormal GOF Test on Detected Observations Only                                                                          |   |   |        |        |                       |                                                     |   |        |        |    |           |



|      | A                                                                                                                        | B | C | D | E | F       | G                                                         | H | I | J | K | L      |  |
|------|--------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---------|-----------------------------------------------------------|---|---|---|---|--------|--|
| 1301 | Shapiro Wilk Test Statistic                                                                                              |   |   |   |   | 0.837   | Shapiro Wilk GOF Test                                     |   |   |   |   |        |  |
| 1302 | 5% Shapiro Wilk Critical Value                                                                                           |   |   |   |   | 0.918   | Data Not Lognormal at 5% Significance Level               |   |   |   |   |        |  |
| 1303 | Lilliefors Test Statistic                                                                                                |   |   |   |   | 0.189   | Lilliefors GOF Test                                       |   |   |   |   |        |  |
| 1304 | 5% Lilliefors Critical Value                                                                                             |   |   |   |   | 0.173   | Data Not Lognormal at 5% Significance Level               |   |   |   |   |        |  |
| 1305 | Data Not Lognormal at 5% Significance Level                                                                              |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1306 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1307 | Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects                            |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1308 | Mean in Original Scale                                                                                                   |   |   |   |   | 0.0133  | Mean in Log Scale                                         |   |   |   |   | -4.413 |  |
| 1309 | SD in Original Scale                                                                                                     |   |   |   |   | 0.00605 | SD in Log Scale                                           |   |   |   |   | 0.421  |  |
| 1310 | 95% UTL95% Coverage                                                                                                      |   |   |   |   | 0.0269  | 95% BCA UTL95% Coverage                                   |   |   |   |   | 0.026  |  |
| 1311 | 95% Bootstrap (%) UTL95% Coverage                                                                                        |   |   |   |   | 0.0261  | 95% UPL (t)                                               |   |   |   |   | 0.0244 |  |
| 1312 | 90% Percentile (z)                                                                                                       |   |   |   |   | 0.0208  | 95% Percentile (z)                                        |   |   |   |   | 0.0242 |  |
| 1313 | 99% Percentile (z)                                                                                                       |   |   |   |   | 0.0323  | 95% USL                                                   |   |   |   |   | 0.0482 |  |
| 1314 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1315 | Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution                                         |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1316 | KM Mean of Logged Data                                                                                                   |   |   |   |   | -4.33   | 95% KM UTL (Lognormal)95% Coverage                        |   |   |   |   | 0.0228 |  |
| 1317 | KM SD of Logged Data                                                                                                     |   |   |   |   | 0.289   | 95% KM UPL (Lognormal)                                    |   |   |   |   | 0.0213 |  |
| 1318 | 95% KM Percentile Lognormal (z)                                                                                          |   |   |   |   | 0.0212  | 95% KM USL (Lognormal)                                    |   |   |   |   | 0.0339 |  |
| 1319 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1320 | Background DL/2 Statistics Assuming Lognormal Distribution                                                               |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1321 | Mean in Original Scale                                                                                                   |   |   |   |   | 0.0144  | Mean in Log Scale                                         |   |   |   |   | -4.301 |  |
| 1322 | SD in Original Scale                                                                                                     |   |   |   |   | 0.0048  | SD in Log Scale                                           |   |   |   |   | 0.379  |  |
| 1323 | 95% UTL95% Coverage                                                                                                      |   |   |   |   | 0.0278  | 95% UPL (t)                                               |   |   |   |   | 0.0255 |  |
| 1324 | 90% Percentile (z)                                                                                                       |   |   |   |   | 0.022   | 95% Percentile (z)                                        |   |   |   |   | 0.0253 |  |
| 1325 | 99% Percentile (z)                                                                                                       |   |   |   |   | 0.0327  | 95% USL                                                   |   |   |   |   | 0.0469 |  |
| 1326 | DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.                                  |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1327 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1328 | Nonparametric Distribution Free Background Statistics                                                                    |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1329 | Data do not follow a Discernible Distribution (0.05)                                                                     |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1330 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1331 | Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)                                  |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1332 | Order of Statistic, r                                                                                                    |   |   |   |   | 119     | 95% UTL with95% Coverage                                  |   |   |   |   | 0.03   |  |
| 1333 | Approx, f used to compute achieved CC                                                                                    |   |   |   |   | 1.566   | Approximate Actual Confidence Coefficient achieved by UTL |   |   |   |   | 0.864  |  |
| 1334 | Approximate Sample Size needed to achieve specified CC                                                                   |   |   |   |   | 153     | 95% UPL                                                   |   |   |   |   | 0.03   |  |
| 1335 | 95% USL                                                                                                                  |   |   |   |   | 0.041   | 95% KM Chebyshev UPL                                      |   |   |   |   | 0.0355 |  |
| 1336 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1337 | Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1338 | Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers    |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1339 | and consists of observations collected from clean unimpacted locations.                                                  |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1340 | The use of USL tends to provide a balance between false positives and false negatives provided the data                  |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1341 | represents a background data set and when many onsite observations need to be compared with the BTV.                     |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1342 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1343 | pH                                                                                                                       |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1344 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1345 | General Statistics                                                                                                       |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1346 | Total Number of Observations                                                                                             |   |   |   |   | 85      | Number of Distinct Observations                           |   |   |   |   | 13     |  |
| 1347 |                                                                                                                          |   |   |   |   |         | Number of Missing Observations                            |   |   |   |   | 4      |  |
| 1348 | Minimum                                                                                                                  |   |   |   |   | 6.5     | First Quartile                                            |   |   |   |   | 6.9    |  |
| 1349 | Second Largest                                                                                                           |   |   |   |   | 7.6     | Median                                                    |   |   |   |   | 7      |  |
| 1350 | Maximum                                                                                                                  |   |   |   |   | 7.7     | Third Quartile                                            |   |   |   |   | 7.2    |  |
| 1351 | Mean                                                                                                                     |   |   |   |   | 7.065   | SD                                                        |   |   |   |   | 0.279  |  |
| 1352 | Coefficient of Variation                                                                                                 |   |   |   |   | 0.0395  | Skewness                                                  |   |   |   |   | 0.058  |  |

|      | A                                                               | B | C            | D | E     | F                  | G                                                               | H | I | J | K     | L      |
|------|-----------------------------------------------------------------|---|--------------|---|-------|--------------------|-----------------------------------------------------------------|---|---|---|-------|--------|
| 1353 | Mean of logged Data                                             |   |              |   |       | 1.954              | SD of logged Data                                               |   |   |   |       | 0.0396 |
| 1354 |                                                                 |   |              |   |       |                    |                                                                 |   |   |   |       |        |
| 1355 | Critical Values for Background Threshold Values (BTVs)          |   |              |   |       |                    |                                                                 |   |   |   |       |        |
| 1356 | Tolerance Factor K (For UTL)                                    |   |              |   |       | 1.95               | d2max (for USL)                                                 |   |   |   |       | 3.153  |
| 1357 |                                                                 |   |              |   |       |                    |                                                                 |   |   |   |       |        |
| 1358 | Normal GOF Test                                                 |   |              |   |       |                    |                                                                 |   |   |   |       |        |
| 1359 | Shapiro Wilk Test Statistic                                     |   |              |   |       | 0.963              | Normal GOF Test                                                 |   |   |   |       |        |
| 1360 | 5% Shapiro Wilk P Value                                         |   |              |   |       | 0.0686             | Data appear Normal at 5% Significance Level                     |   |   |   |       |        |
| 1361 | Lilliefors Test Statistic                                       |   |              |   |       | 0.0975             | Lilliefors GOF Test                                             |   |   |   |       |        |
| 1362 | 5% Lilliefors Critical Value                                    |   |              |   |       | 0.0962             | Data Not Normal at 5% Significance Level                        |   |   |   |       |        |
| 1363 | Data appear Approximate Normal at 5% Significance Level         |   |              |   |       |                    |                                                                 |   |   |   |       |        |
| 1364 |                                                                 |   |              |   |       |                    |                                                                 |   |   |   |       |        |
| 1365 | Background Statistics Assuming Normal Distribution              |   |              |   |       |                    |                                                                 |   |   |   |       |        |
| 1366 | 95% UTL with                                                    |   | 95% Coverage |   | 7.609 | 90% Percentile (z) |                                                                 |   |   |   | 7.423 |        |
| 1367 |                                                                 |   | 95% UPL (t)  |   | 7.532 | 95% Percentile (z) |                                                                 |   |   |   | 7.524 |        |
| 1368 |                                                                 |   | 95% USL      |   | 7.946 | 99% Percentile (z) |                                                                 |   |   |   | 7.715 |        |
| 1369 |                                                                 |   |              |   |       |                    |                                                                 |   |   |   |       |        |
| 1370 | Gamma GOF Test                                                  |   |              |   |       |                    |                                                                 |   |   |   |       |        |
| 1371 | A-D Test Statistic                                              |   |              |   |       | 0.702              | Anderson-Darling Gamma GOF Test                                 |   |   |   |       |        |
| 1372 | 5% A-D Critical Value                                           |   |              |   |       | 0.75               | Detected data appear Gamma Distributed at 5% Significance Level |   |   |   |       |        |
| 1373 | K-S Test Statistic                                              |   |              |   |       | 0.095              | Kolmogorov-Smirnov Gamma GOF Test                               |   |   |   |       |        |
| 1374 | 5% K-S Critical Value                                           |   |              |   |       | 0.0966             | Detected data appear Gamma Distributed at 5% Significance Level |   |   |   |       |        |
| 1375 | Detected data appear Gamma Distributed at 5% Significance Level |   |              |   |       |                    |                                                                 |   |   |   |       |        |
| 1376 |                                                                 |   |              |   |       |                    |                                                                 |   |   |   |       |        |
| 1377 | Gamma Statistics                                                |   |              |   |       |                    |                                                                 |   |   |   |       |        |
| 1378 | k hat (MLE)                                                     |   |              |   |       | 647.2              | k star (bias corrected MLE)                                     |   |   |   |       | 624.4  |
| 1379 | Theta hat (MLE)                                                 |   |              |   |       | 0.0109             | Theta star (bias corrected MLE)                                 |   |   |   |       | 0.0113 |
| 1380 | nu hat (MLE)                                                    |   |              |   |       | 110028             | nu star (bias corrected)                                        |   |   |   |       | 106146 |
| 1381 | MLE Mean (bias corrected)                                       |   |              |   |       | 7.065              | MLE Sd (bias corrected)                                         |   |   |   |       | 0.283  |
| 1382 |                                                                 |   |              |   |       |                    |                                                                 |   |   |   |       |        |
| 1383 | Background Statistics Assuming Gamma Distribution               |   |              |   |       |                    |                                                                 |   |   |   |       |        |
| 1384 | 95% Wilson Hilferty (WH) Approx. Gamma UPL                      |   |              |   |       | 7.539              | 90% Percentile                                                  |   |   |   |       | 7.429  |
| 1385 | 95% Hawkins Wixley (HW) Approx. Gamma UPL                       |   |              |   |       | 7.539              | 95% Percentile                                                  |   |   |   |       | 7.536  |
| 1386 | 95% WH Approx. Gamma UTL with                                   |   | 95% Coverage |   | 7.62  | 99% Percentile     |                                                                 |   |   |   | 7.739 |        |
| 1387 | 95% HW Approx. Gamma UTL with                                   |   | 95% Coverage |   | 7.621 |                    |                                                                 |   |   |   |       |        |
| 1388 | 95% WH USL                                                      |   |              |   |       | 7.979              | 95% HW USL                                                      |   |   |   |       | 7.983  |
| 1389 |                                                                 |   |              |   |       |                    |                                                                 |   |   |   |       |        |
| 1390 | Lognormal GOF Test                                              |   |              |   |       |                    |                                                                 |   |   |   |       |        |
| 1391 | Shapiro Wilk Test Statistic                                     |   |              |   |       | 0.963              | Shapiro Wilk Lognormal GOF Test                                 |   |   |   |       |        |
| 1392 | 5% Shapiro Wilk P Value                                         |   |              |   |       | 0.0683             | Data appear Lognormal at 5% Significance Level                  |   |   |   |       |        |
| 1393 | Lilliefors Test Statistic                                       |   |              |   |       | 0.098              | Lilliefors Lognormal GOF Test                                   |   |   |   |       |        |
| 1394 | 5% Lilliefors Critical Value                                    |   |              |   |       | 0.0962             | Data Not Lognormal at 5% Significance Level                     |   |   |   |       |        |
| 1395 | Data appear Approximate Lognormal at 5% Significance Level      |   |              |   |       |                    |                                                                 |   |   |   |       |        |
| 1396 |                                                                 |   |              |   |       |                    |                                                                 |   |   |   |       |        |
| 1397 | Background Statistics assuming Lognormal Distribution           |   |              |   |       |                    |                                                                 |   |   |   |       |        |
| 1398 | 95% UTL with                                                    |   | 95% Coverage |   | 7.625 | 90% Percentile (z) |                                                                 |   |   |   | 7.426 |        |
| 1399 |                                                                 |   | 95% UPL (t)  |   | 7.542 | 95% Percentile (z) |                                                                 |   |   |   | 7.534 |        |
| 1400 |                                                                 |   | 95% USL      |   | 7.997 | 99% Percentile (z) |                                                                 |   |   |   | 7.74  |        |
| 1401 |                                                                 |   |              |   |       |                    |                                                                 |   |   |   |       |        |
| 1402 | Nonparametric Distribution Free Background Statistics           |   |              |   |       |                    |                                                                 |   |   |   |       |        |
| 1403 | Data appear Approximate Normal at 5% Significance Level         |   |              |   |       |                    |                                                                 |   |   |   |       |        |
| 1404 |                                                                 |   |              |   |       |                    |                                                                 |   |   |   |       |        |

|      | A                                                                                                                        | B | C | D | E | F       | G                                                         | H | I | J | K | L      |
|------|--------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---------|-----------------------------------------------------------|---|---|---|---|--------|
| 1405 | Nonparametric Upper Limits for Background Threshold Values                                                               |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1406 | Order of Statistic, r                                                                                                    |   |   |   |   | 83      | 95% UTL with 95% Coverage                                 |   |   |   |   | 7.6    |
| 1407 | Approx, f used to compute achieved CC                                                                                    |   |   |   |   | 1.456   | Approximate Actual Confidence Coefficient achieved by UTL |   |   |   |   | 0.804  |
| 1408 |                                                                                                                          |   |   |   |   |         | Approximate Sample Size needed to achieve specified CC    |   |   |   |   | 124    |
| 1409 | 95% Percentile Bootstrap UTL with 95% Coverage                                                                           |   |   |   |   | 7.6     | 95% BCA Bootstrap UTL with 95% Coverage                   |   |   |   |   | 7.5    |
| 1410 | 95% UPL                                                                                                                  |   |   |   |   | 7.5     | 90% Percentile                                            |   |   |   |   | 7.4    |
| 1411 | 90% Chebyshev UPL                                                                                                        |   |   |   |   | 7.908   | 95% Percentile                                            |   |   |   |   | 7.5    |
| 1412 | 95% Chebyshev UPL                                                                                                        |   |   |   |   | 8.289   | 99% Percentile                                            |   |   |   |   | 7.616  |
| 1413 | 95% USL                                                                                                                  |   |   |   |   | 7.7     |                                                           |   |   |   |   |        |
| 1414 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1415 | Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1416 | Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers    |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1417 | and consists of observations collected from clean unimpacted locations.                                                  |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1418 | The use of USL tends to provide a balance between false positives and false negatives provided the data                  |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1419 | represents a background data set and when many onsite observations need to be compared with the BTV.                     |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1420 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1421 | Radium (226)                                                                                                             |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1422 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1423 | General Statistics                                                                                                       |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1424 | Total Number of Observations                                                                                             |   |   |   |   | 115     | Number of Missing Observations                            |   |   |   |   | 18     |
| 1425 | Number of Distinct Observations                                                                                          |   |   |   |   | 99      |                                                           |   |   |   |   |        |
| 1426 | Number of Detects                                                                                                        |   |   |   |   | 90      | Number of Non-Detects                                     |   |   |   |   | 25     |
| 1427 | Number of Distinct Detects                                                                                               |   |   |   |   | 81      | Number of Distinct Non-Detects                            |   |   |   |   | 20     |
| 1428 | Minimum Detect                                                                                                           |   |   |   |   | 0.101   | Minimum Non-Detect                                        |   |   |   |   | 0.0816 |
| 1429 | Maximum Detect                                                                                                           |   |   |   |   | 0.816   | Maximum Non-Detect                                        |   |   |   |   | 0.461  |
| 1430 | Variance Detected                                                                                                        |   |   |   |   | 0.0327  | Percent Non-Detects                                       |   |   |   |   | 21.74% |
| 1431 | Mean Detected                                                                                                            |   |   |   |   | 0.456   | SD Detected                                               |   |   |   |   | 0.181  |
| 1432 | Mean of Detected Logged Data                                                                                             |   |   |   |   | -0.873  | SD of Detected Logged Data                                |   |   |   |   | 0.44   |
| 1433 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1434 | Critical Values for Background Threshold Values (BTVs)                                                                   |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1435 | Tolerance Factor K (For UTL)                                                                                             |   |   |   |   | 1.903   | d2max (for USL)                                           |   |   |   |   | 3.257  |
| 1436 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1437 | Normal GOF Test on Detects Only                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1438 | Shapiro Wilk Test Statistic                                                                                              |   |   |   |   | 0.946   | Normal GOF Test on Detected Observations Only             |   |   |   |   |        |
| 1439 | 5% Shapiro Wilk P Value                                                                                                  |   |   |   |   | 0.00199 | Data Not Normal at 5% Significance Level                  |   |   |   |   |        |
| 1440 | Lilliefors Test Statistic                                                                                                |   |   |   |   | 0.095   | Lilliefors GOF Test                                       |   |   |   |   |        |
| 1441 | 5% Lilliefors Critical Value                                                                                             |   |   |   |   | 0.0936  | Data Not Normal at 5% Significance Level                  |   |   |   |   |        |
| 1442 | Data Not Normal at 5% Significance Level                                                                                 |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1443 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1444 | Kaplan Meier (KM) Background Statistics Assuming Normal Distribution                                                     |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1445 | KM Mean                                                                                                                  |   |   |   |   | 0.39    | KM SD                                                     |   |   |   |   | 0.206  |
| 1446 | 95% UTL95% Coverage                                                                                                      |   |   |   |   | 0.782   | 95% KM UPL (t)                                            |   |   |   |   | 0.733  |
| 1447 | 90% KM Percentile (z)                                                                                                    |   |   |   |   | 0.654   | 95% KM Percentile (z)                                     |   |   |   |   | 0.729  |
| 1448 | 99% KM Percentile (z)                                                                                                    |   |   |   |   | 0.869   | 95% KM USL                                                |   |   |   |   | 1.061  |
| 1449 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1450 | DL/2 Substitution Background Statistics Assuming Normal Distribution                                                     |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1451 | Mean                                                                                                                     |   |   |   |   | 0.384   | SD                                                        |   |   |   |   | 0.211  |
| 1452 | 95% UTL95% Coverage                                                                                                      |   |   |   |   | 0.787   | 95% UPL (t)                                               |   |   |   |   | 0.736  |
| 1453 | 90% Percentile (z)                                                                                                       |   |   |   |   | 0.655   | 95% Percentile (z)                                        |   |   |   |   | 0.732  |
| 1454 | 99% Percentile (z)                                                                                                       |   |   |   |   | 0.876   | 95% USL                                                   |   |   |   |   | 1.073  |
| 1455 | DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons                                   |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1456 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |

|      |                                                                                                                           |   |   |       |        |                                                                 |   |   |   |        |       |    |
|------|---------------------------------------------------------------------------------------------------------------------------|---|---|-------|--------|-----------------------------------------------------------------|---|---|---|--------|-------|----|
|      | A                                                                                                                         | B | C | D     | E      | F                                                               | G | H | I | J      | K     | L  |
| 1457 | Gamma GOF Tests on Detected Observations Only                                                                             |   |   |       |        |                                                                 |   |   |   |        |       |    |
| 1458 | A-D Test Statistic                                                                                                        |   |   |       | 0.497  | Anderson-Darling GOF Test                                       |   |   |   |        |       |    |
| 1459 | 5% A-D Critical Value                                                                                                     |   |   |       | 0.754  | Detected data appear Gamma Distributed at 5% Significance Level |   |   |   |        |       |    |
| 1460 | K-S Test Statistic                                                                                                        |   |   |       | 0.0666 | Kolmogorov-Smirnov GOF                                          |   |   |   |        |       |    |
| 1461 | 5% K-S Critical Value                                                                                                     |   |   |       | 0.0944 | Detected data appear Gamma Distributed at 5% Significance Level |   |   |   |        |       |    |
| 1462 | Detected data appear Gamma Distributed at 5% Significance Level                                                           |   |   |       |        |                                                                 |   |   |   |        |       |    |
| 1463 |                                                                                                                           |   |   |       |        |                                                                 |   |   |   |        |       |    |
| 1464 | Gamma Statistics on Detected Data Only                                                                                    |   |   |       |        |                                                                 |   |   |   |        |       |    |
| 1465 | k hat (MLE)                                                                                                               |   |   |       | 5.883  | k star (bias corrected MLE)                                     |   |   |   | 5.694  |       |    |
| 1466 | Theta hat (MLE)                                                                                                           |   |   |       | 0.0775 | Theta star (bias corrected MLE)                                 |   |   |   | 0.0801 |       |    |
| 1467 | nu hat (MLE)                                                                                                              |   |   |       | 1059   | nu star (bias corrected)                                        |   |   |   | 1025   |       |    |
| 1468 | MLE Mean (bias corrected)                                                                                                 |   |   |       | 0.456  |                                                                 |   |   |   |        |       |    |
| 1469 | MLE Sd (bias corrected)                                                                                                   |   |   |       | 0.191  | 95% Percentile of Chisquare (2kstar)                            |   |   |   | 20.2   |       |    |
| 1470 |                                                                                                                           |   |   |       |        |                                                                 |   |   |   |        |       |    |
| 1471 | Gamma ROS Statistics using Imputed Non-Detects                                                                            |   |   |       |        |                                                                 |   |   |   |        |       |    |
| 1472 | GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs                              |   |   |       |        |                                                                 |   |   |   |        |       |    |
| 1473 | GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20) |   |   |       |        |                                                                 |   |   |   |        |       |    |
| 1474 | For such situations, GROS method may yield incorrect values of UCLs and BTVs                                              |   |   |       |        |                                                                 |   |   |   |        |       |    |
| 1475 | This is especially true when the sample size is small.                                                                    |   |   |       |        |                                                                 |   |   |   |        |       |    |
| 1476 | For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates               |   |   |       |        |                                                                 |   |   |   |        |       |    |
| 1477 | Minimum                                                                                                                   |   |   |       | 0.101  | Mean                                                            |   |   |   | 0.398  |       |    |
| 1478 | Maximum                                                                                                                   |   |   |       | 0.816  | Median                                                          |   |   |   | 0.37   |       |    |
| 1479 | SD                                                                                                                        |   |   |       | 0.196  | CV                                                              |   |   |   | 0.491  |       |    |
| 1480 | k hat (MLE)                                                                                                               |   |   |       | 3.95   | k star (bias corrected MLE)                                     |   |   |   | 3.852  |       |    |
| 1481 | Theta hat (MLE)                                                                                                           |   |   |       | 0.101  | Theta star (bias corrected MLE)                                 |   |   |   | 0.103  |       |    |
| 1482 | nu hat (MLE)                                                                                                              |   |   |       | 908.4  | nu star (bias corrected)                                        |   |   |   | 886.1  |       |    |
| 1483 | MLE Mean (bias corrected)                                                                                                 |   |   |       | 0.398  | MLE Sd (bias corrected)                                         |   |   |   | 0.203  |       |    |
| 1484 | 95% Percentile of Chisquare (2kstar)                                                                                      |   |   |       | 15.09  | 90% Percentile                                                  |   |   |   | 0.67   |       |    |
| 1485 | 95% Percentile                                                                                                            |   |   |       | 0.78   | 99% Percentile                                                  |   |   |   | 1.014  |       |    |
| 1486 | The following statistics are computed using Gamma ROS Statistics on Imputed Data                                          |   |   |       |        |                                                                 |   |   |   |        |       |    |
| 1487 | Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods                                                   |   |   |       |        |                                                                 |   |   |   |        |       |    |
| 1488 |                                                                                                                           |   |   | WH    | HW     |                                                                 |   |   |   | WH     |       | HW |
| 1489 | 95% Approx. Gamma UTL with 95% Coverage                                                                                   |   |   | 0.86  | 0.881  | 95% Approx. Gamma UPL                                           |   |   |   | 0.783  | 0.796 |    |
| 1490 | 95% Gamma USL                                                                                                             |   |   | 1.401 | 1.498  |                                                                 |   |   |   |        |       |    |
| 1491 |                                                                                                                           |   |   |       |        |                                                                 |   |   |   |        |       |    |
| 1492 | Estimates of Gamma Parameters using KM Estimates                                                                          |   |   |       |        |                                                                 |   |   |   |        |       |    |
| 1493 | Mean (KM)                                                                                                                 |   |   |       | 0.39   | SD (KM)                                                         |   |   |   | 0.206  |       |    |
| 1494 | Variance (KM)                                                                                                             |   |   |       | 0.0424 | SE of Mean (KM)                                                 |   |   |   | 0.0196 |       |    |
| 1495 | k hat (KM)                                                                                                                |   |   |       | 3.594  | k star (KM)                                                     |   |   |   | 3.506  |       |    |
| 1496 | nu hat (KM)                                                                                                               |   |   |       | 826.6  | nu star (KM)                                                    |   |   |   | 806.4  |       |    |
| 1497 | theta hat (KM)                                                                                                            |   |   |       | 0.109  | theta star (KM)                                                 |   |   |   | 0.111  |       |    |
| 1498 | 80% gamma percentile (KM)                                                                                                 |   |   |       | 0.547  | 90% gamma percentile (KM)                                       |   |   |   | 0.67   |       |    |
| 1499 | 95% gamma percentile (KM)                                                                                                 |   |   |       | 0.784  | 99% gamma percentile (KM)                                       |   |   |   | 1.03   |       |    |
| 1500 |                                                                                                                           |   |   |       |        |                                                                 |   |   |   |        |       |    |
| 1501 | The following statistics are computed using gamma distribution and KM estimates                                           |   |   |       |        |                                                                 |   |   |   |        |       |    |
| 1502 | Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods                                                   |   |   |       |        |                                                                 |   |   |   |        |       |    |
| 1503 |                                                                                                                           |   |   | WH    | HW     |                                                                 |   |   |   | WH     |       | HW |
| 1504 | 95% Approx. Gamma UTL with 95% Coverage                                                                                   |   |   | 0.923 | 0.959  | 95% Approx. Gamma UPL                                           |   |   |   | 0.831  | 0.856 |    |
| 1505 | 95% KM Gamma Percentile                                                                                                   |   |   | 0.823 | 0.847  | 95% Gamma USL                                                   |   |   |   | 1.583  | 1.744 |    |
| 1506 |                                                                                                                           |   |   |       |        |                                                                 |   |   |   |        |       |    |
| 1507 | Lognormal GOF Test on Detected Observations Only                                                                          |   |   |       |        |                                                                 |   |   |   |        |       |    |
| 1508 | Shapiro Wilk Approximate Test Statistic                                                                                   |   |   |       | 0.951  | Shapiro Wilk GOF Test                                           |   |   |   |        |       |    |

|      |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |  |
|------|--------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---------|-----------------------------------------------------------|---|---|---|---|--------|--|
|      | A                                                                                                                        | B | C | D | E | F       | G                                                         | H | I | J | K | L      |  |
| 1509 | 5% Shapiro Wilk P Value                                                                                                  |   |   |   |   | 0.00565 | Data Not Lognormal at 5% Significance Level               |   |   |   |   |        |  |
| 1510 | Lilliefors Test Statistic                                                                                                |   |   |   |   | 0.0664  | Lilliefors GOF Test                                       |   |   |   |   |        |  |
| 1511 | 5% Lilliefors Critical Value                                                                                             |   |   |   |   | 0.0936  | Detected Data appear Lognormal at 5% Significance Level   |   |   |   |   |        |  |
| 1512 | Detected Data appear Approximate Lognormal at 5% Significance Level                                                      |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1513 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1514 | Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects                            |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1515 | Mean in Original Scale                                                                                                   |   |   |   |   | 0.4     | Mean in Log Scale                                         |   |   |   |   | -1.04  |  |
| 1516 | SD in Original Scale                                                                                                     |   |   |   |   | 0.193   | SD in Log Scale                                           |   |   |   |   | 0.512  |  |
| 1517 | 95% UTL95% Coverage                                                                                                      |   |   |   |   | 0.937   | 95% BCA UTL95% Coverage                                   |   |   |   |   | 0.776  |  |
| 1518 | 95% Bootstrap (%) UTL95% Coverage                                                                                        |   |   |   |   | 0.776   | 95% UPL (t)                                               |   |   |   |   | 0.829  |  |
| 1519 | 90% Percentile (z)                                                                                                       |   |   |   |   | 0.681   | 95% Percentile (z)                                        |   |   |   |   | 0.821  |  |
| 1520 | 99% Percentile (z)                                                                                                       |   |   |   |   | 1.164   | 95% USL                                                   |   |   |   |   | 1.874  |  |
| 1521 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1522 | Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution                                         |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1523 | KM Mean of Logged Data                                                                                                   |   |   |   |   | -1.12   | 95% KM UTL (Lognormal)95% Coverage                        |   |   |   |   | 1.132  |  |
| 1524 | KM SD of Logged Data                                                                                                     |   |   |   |   | 0.654   | 95% KM UPL (Lognormal)                                    |   |   |   |   | 0.97   |  |
| 1525 | 95% KM Percentile Lognormal (z)                                                                                          |   |   |   |   | 0.957   | 95% KM USL (Lognormal)                                    |   |   |   |   | 2.745  |  |
| 1526 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1527 | Background DL/2 Statistics Assuming Lognormal Distribution                                                               |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1528 | Mean in Original Scale                                                                                                   |   |   |   |   | 0.384   | Mean in Log Scale                                         |   |   |   |   | -1.154 |  |
| 1529 | SD in Original Scale                                                                                                     |   |   |   |   | 0.211   | SD in Log Scale                                           |   |   |   |   | 0.701  |  |
| 1530 | 95% UTL95% Coverage                                                                                                      |   |   |   |   | 1.196   | 95% UPL (t)                                               |   |   |   |   | 1.013  |  |
| 1531 | 90% Percentile (z)                                                                                                       |   |   |   |   | 0.774   | 95% Percentile (z)                                        |   |   |   |   | 0.999  |  |
| 1532 | 99% Percentile (z)                                                                                                       |   |   |   |   | 1.61    | 95% USL                                                   |   |   |   |   | 3.09   |  |
| 1533 | DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.                                  |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1534 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1535 | Nonparametric Distribution Free Background Statistics                                                                    |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1536 | Data appear to follow a Discernible Distribution at 5% Significance Level                                                |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1537 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1538 | Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)                                  |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1539 | Order of Statistic, r                                                                                                    |   |   |   |   | 112     | 95% UTL with95% Coverage                                  |   |   |   |   | 0.774  |  |
| 1540 | Approx, f used to compute achieved CC                                                                                    |   |   |   |   | 1.474   | Approximate Actual Confidence Coefficient achieved by UTL |   |   |   |   | 0.832  |  |
| 1541 | Approximate Sample Size needed to achieve specified CC                                                                   |   |   |   |   | 153     | 95% UPL                                                   |   |   |   |   | 0.76   |  |
| 1542 | 95% USL                                                                                                                  |   |   |   |   | 0.816   | 95% KM Chebyshev UPL                                      |   |   |   |   | 1.292  |  |
| 1543 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1544 | Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1545 | Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers    |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1546 | and consists of observations collected from clean unimpacted locations.                                                  |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1547 | The use of USL tends to provide a balance between false positives and false negatives provided the data                  |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1548 | represents a background data set and when many onsite observations need to be compared with the BTV.                     |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1549 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1550 | Radium 228                                                                                                               |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1551 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1552 | General Statistics                                                                                                       |   |   |   |   |         |                                                           |   |   |   |   |        |  |
| 1553 | Total Number of Observations                                                                                             |   |   |   |   | 114     | Number of Missing Observations                            |   |   |   |   | 19     |  |
| 1554 | Number of Distinct Observations                                                                                          |   |   |   |   | 101     |                                                           |   |   |   |   |        |  |
| 1555 | Number of Detects                                                                                                        |   |   |   |   | 78      | Number of Non-Detects                                     |   |   |   |   | 36     |  |
| 1556 | Number of Distinct Detects                                                                                               |   |   |   |   | 73      | Number of Distinct Non-Detects                            |   |   |   |   | 30     |  |
| 1557 | Minimum Detect                                                                                                           |   |   |   |   | 0.346   | Minimum Non-Detect                                        |   |   |   |   | 0.297  |  |
| 1558 | Maximum Detect                                                                                                           |   |   |   |   | 1.58    | Maximum Non-Detect                                        |   |   |   |   | 1.08   |  |
| 1559 | Variance Detected                                                                                                        |   |   |   |   | 0.073   | Percent Non-Detects                                       |   |   |   |   | 31.58% |  |
| 1560 | Mean Detected                                                                                                            |   |   |   |   | 0.781   | SD Detected                                               |   |   |   |   | 0.27   |  |

|      | A                                                                                                                         | B | C | D | E | F       | G                                                               | H | I | J | K | L      |
|------|---------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---------|-----------------------------------------------------------------|---|---|---|---|--------|
| 1561 | Mean of Detected Logged Data                                                                                              |   |   |   |   | -0.304  | SD of Detected Logged Data                                      |   |   |   |   | 0.342  |
| 1562 |                                                                                                                           |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1563 | Critical Values for Background Threshold Values (BTVs)                                                                    |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1564 | Tolerance Factor K (For UTL)                                                                                              |   |   |   |   | 1.904   | d2max (for USL)                                                 |   |   |   |   | 3.254  |
| 1565 |                                                                                                                           |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1566 | Normal GOF Test on Detects Only                                                                                           |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1567 | Shapiro Wilk Test Statistic                                                                                               |   |   |   |   | 0.939   | Normal GOF Test on Detected Observations Only                   |   |   |   |   |        |
| 1568 | 5% Shapiro Wilk P Value                                                                                                   |   |   |   |   | 0.00153 | Data Not Normal at 5% Significance Level                        |   |   |   |   |        |
| 1569 | Lilliefors Test Statistic                                                                                                 |   |   |   |   | 0.107   | Lilliefors GOF Test                                             |   |   |   |   |        |
| 1570 | 5% Lilliefors Critical Value                                                                                              |   |   |   |   | 0.1     | Data Not Normal at 5% Significance Level                        |   |   |   |   |        |
| 1571 | Data Not Normal at 5% Significance Level                                                                                  |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1572 |                                                                                                                           |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1573 | Kaplan Meier (KM) Background Statistics Assuming Normal Distribution                                                      |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1574 | KM Mean                                                                                                                   |   |   |   |   | 0.668   | KM SD                                                           |   |   |   |   | 0.286  |
| 1575 | 95% UTL95% Coverage                                                                                                       |   |   |   |   | 1.213   | 95% KM UPL (t)                                                  |   |   |   |   | 1.145  |
| 1576 | 90% KM Percentile (z)                                                                                                     |   |   |   |   | 1.035   | 95% KM Percentile (z)                                           |   |   |   |   | 1.139  |
| 1577 | 99% KM Percentile (z)                                                                                                     |   |   |   |   | 1.334   | 95% KM USL                                                      |   |   |   |   | 1.599  |
| 1578 |                                                                                                                           |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1579 | DL/2 Substitution Background Statistics Assuming Normal Distribution                                                      |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1580 | Mean                                                                                                                      |   |   |   |   | 0.627   | SD                                                              |   |   |   |   | 0.323  |
| 1581 | 95% UTL95% Coverage                                                                                                       |   |   |   |   | 1.241   | 95% UPL (t)                                                     |   |   |   |   | 1.164  |
| 1582 | 90% Percentile (z)                                                                                                        |   |   |   |   | 1.04    | 95% Percentile (z)                                              |   |   |   |   | 1.158  |
| 1583 | 99% Percentile (z)                                                                                                        |   |   |   |   | 1.378   | 95% USL                                                         |   |   |   |   | 1.677  |
| 1584 | DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons                                    |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1585 |                                                                                                                           |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1586 | Gamma GOF Tests on Detected Observations Only                                                                             |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1587 | A-D Test Statistic                                                                                                        |   |   |   |   | 0.342   | Anderson-Darling GOF Test                                       |   |   |   |   |        |
| 1588 | 5% A-D Critical Value                                                                                                     |   |   |   |   | 0.751   | Detected data appear Gamma Distributed at 5% Significance Level |   |   |   |   |        |
| 1589 | K-S Test Statistic                                                                                                        |   |   |   |   | 0.0804  | Kolmogorov-Smirnov GOF                                          |   |   |   |   |        |
| 1590 | 5% K-S Critical Value                                                                                                     |   |   |   |   | 0.101   | Detected data appear Gamma Distributed at 5% Significance Level |   |   |   |   |        |
| 1591 | Detected data appear Gamma Distributed at 5% Significance Level                                                           |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1592 |                                                                                                                           |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1593 | Gamma Statistics on Detected Data Only                                                                                    |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1594 | k hat (MLE)                                                                                                               |   |   |   |   | 8.895   | k star (bias corrected MLE)                                     |   |   |   |   | 8.561  |
| 1595 | Theta hat (MLE)                                                                                                           |   |   |   |   | 0.0878  | Theta star (bias corrected MLE)                                 |   |   |   |   | 0.0912 |
| 1596 | nu hat (MLE)                                                                                                              |   |   |   |   | 1388    | nu star (bias corrected)                                        |   |   |   |   | 1336   |
| 1597 | MLE Mean (bias corrected)                                                                                                 |   |   |   |   | 0.781   |                                                                 |   |   |   |   |        |
| 1598 | MLE Sd (bias corrected)                                                                                                   |   |   |   |   | 0.267   | 95% Percentile of Chisquare (2kstar)                            |   |   |   |   | 27.74  |
| 1599 |                                                                                                                           |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1600 | Gamma ROS Statistics using Imputed Non-Detects                                                                            |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1601 | GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs                              |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1602 | GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20) |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1603 | For such situations, GROS method may yield incorrect values of UCLs and BTVs                                              |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1604 | This is especially true when the sample size is small.                                                                    |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1605 | For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates               |   |   |   |   |         |                                                                 |   |   |   |   |        |
| 1606 | Minimum                                                                                                                   |   |   |   |   | 0.162   | Mean                                                            |   |   |   |   | 0.661  |
| 1607 | Maximum                                                                                                                   |   |   |   |   | 1.58    | Median                                                          |   |   |   |   | 0.599  |
| 1608 | SD                                                                                                                        |   |   |   |   | 0.291   | CV                                                              |   |   |   |   | 0.441  |
| 1609 | k hat (MLE)                                                                                                               |   |   |   |   | 5.451   | k star (bias corrected MLE)                                     |   |   |   |   | 5.314  |
| 1610 | Theta hat (MLE)                                                                                                           |   |   |   |   | 0.121   | Theta star (bias corrected MLE)                                 |   |   |   |   | 0.124  |
| 1611 | nu hat (MLE)                                                                                                              |   |   |   |   | 1243    | nu star (bias corrected)                                        |   |   |   |   | 1212   |
| 1612 | MLE Mean (bias corrected)                                                                                                 |   |   |   |   | 0.661   | MLE Sd (bias corrected)                                         |   |   |   |   | 0.287  |

|      |                                                                                               |   |   |   |        |                                                         |                       |   |   |        |       |       |
|------|-----------------------------------------------------------------------------------------------|---|---|---|--------|---------------------------------------------------------|-----------------------|---|---|--------|-------|-------|
|      | A                                                                                             | B | C | D | E      | F                                                       | G                     | H | I | J      | K     | L     |
| 1613 | 95% Percentile of Chisquare (2kstar)                                                          |   |   |   |        | 19.17                                                   | 90% Percentile        |   |   |        |       | 1.044 |
| 1614 | 95% Percentile                                                                                |   |   |   |        | 1.191                                                   | 99% Percentile        |   |   |        |       | 1.502 |
| 1615 | The following statistics are computed using Gamma ROS Statistics on Imputed Data              |   |   |   |        |                                                         |                       |   |   |        |       |       |
| 1616 | Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods                       |   |   |   |        |                                                         |                       |   |   |        |       |       |
| 1617 |                                                                                               |   |   |   | WH     | HW                                                      |                       |   |   |        | WH    | HW    |
| 1618 | 95% Approx. Gamma UTL with 95% Coverage                                                       |   |   |   | 1.298  | 1.317                                                   | 95% Approx. Gamma UPL |   |   |        | 1.194 | 1.206 |
| 1619 | 95% Gamma USL                                                                                 |   |   |   | 1.997  | 2.091                                                   |                       |   |   |        |       |       |
| 1620 |                                                                                               |   |   |   |        |                                                         |                       |   |   |        |       |       |
| 1621 | Estimates of Gamma Parameters using KM Estimates                                              |   |   |   |        |                                                         |                       |   |   |        |       |       |
| 1622 | Mean (KM)                                                                                     |   |   |   | 0.668  | SD (KM)                                                 |                       |   |   | 0.286  |       |       |
| 1623 | Variance (KM)                                                                                 |   |   |   | 0.0819 | SE of Mean (KM)                                         |                       |   |   | 0.0277 |       |       |
| 1624 | k hat (KM)                                                                                    |   |   |   | 5.451  | k star (KM)                                             |                       |   |   | 5.314  |       |       |
| 1625 | nu hat (KM)                                                                                   |   |   |   | 1243   | nu star (KM)                                            |                       |   |   | 1212   |       |       |
| 1626 | theta hat (KM)                                                                                |   |   |   | 0.123  | theta star (KM)                                         |                       |   |   | 0.126  |       |       |
| 1627 | 80% gamma percentile (KM)                                                                     |   |   |   | 0.892  | 90% gamma percentile (KM)                               |                       |   |   | 1.056  |       |       |
| 1628 | 95% gamma percentile (KM)                                                                     |   |   |   | 1.205  | 99% gamma percentile (KM)                               |                       |   |   | 1.519  |       |       |
| 1629 |                                                                                               |   |   |   |        |                                                         |                       |   |   |        |       |       |
| 1630 | The following statistics are computed using gamma distribution and KM estimates               |   |   |   |        |                                                         |                       |   |   |        |       |       |
| 1631 | Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods                       |   |   |   |        |                                                         |                       |   |   |        |       |       |
| 1632 |                                                                                               |   |   |   | WH     | HW                                                      |                       |   |   |        | WH    | HW    |
| 1633 | 95% Approx. Gamma UTL with 95% Coverage                                                       |   |   |   | 1.285  | 1.301                                                   | 95% Approx. Gamma UPL |   |   |        | 1.186 | 1.195 |
| 1634 | 95% KM Gamma Percentile                                                                       |   |   |   | 1.177  | 1.186                                                   | 95% Gamma USL         |   |   |        | 1.955 | 2.037 |
| 1635 |                                                                                               |   |   |   |        |                                                         |                       |   |   |        |       |       |
| 1636 | Lognormal GOF Test on Detected Observations Only                                              |   |   |   |        |                                                         |                       |   |   |        |       |       |
| 1637 | Shapiro Wilk Approximate Test Statistic                                                       |   |   |   | 0.977  | Shapiro Wilk GOF Test                                   |                       |   |   |        |       |       |
| 1638 | 5% Shapiro Wilk P Value                                                                       |   |   |   | 0.45   | Detected Data appear Lognormal at 5% Significance Level |                       |   |   |        |       |       |
| 1639 | Lilliefors Test Statistic                                                                     |   |   |   | 0.0617 | Lilliefors GOF Test                                     |                       |   |   |        |       |       |
| 1640 | 5% Lilliefors Critical Value                                                                  |   |   |   | 0.1    | Detected Data appear Lognormal at 5% Significance Level |                       |   |   |        |       |       |
| 1641 | Detected Data appear Lognormal at 5% Significance Level                                       |   |   |   |        |                                                         |                       |   |   |        |       |       |
| 1642 |                                                                                               |   |   |   |        |                                                         |                       |   |   |        |       |       |
| 1643 | Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects |   |   |   |        |                                                         |                       |   |   |        |       |       |
| 1644 | Mean in Original Scale                                                                        |   |   |   | 0.671  | Mean in Log Scale                                       |                       |   |   | -0.477 |       |       |
| 1645 | SD in Original Scale                                                                          |   |   |   | 0.279  | SD in Log Scale                                         |                       |   |   | 0.394  |       |       |
| 1646 | 95% UTL95% Coverage                                                                           |   |   |   | 1.313  | 95% BCA UTL95% Coverage                                 |                       |   |   | 1.369  |       |       |
| 1647 | 95% Bootstrap (%) UTL95% Coverage                                                             |   |   |   | 1.369  | 95% UPL (t)                                             |                       |   |   | 1.196  |       |       |
| 1648 | 90% Percentile (z)                                                                            |   |   |   | 1.028  | 95% Percentile (z)                                      |                       |   |   | 1.186  |       |       |
| 1649 | 99% Percentile (z)                                                                            |   |   |   | 1.551  | 95% USL                                                 |                       |   |   | 2.234  |       |       |
| 1650 |                                                                                               |   |   |   |        |                                                         |                       |   |   |        |       |       |
| 1651 | Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution              |   |   |   |        |                                                         |                       |   |   |        |       |       |
| 1652 | KM Mean of Logged Data                                                                        |   |   |   | -0.492 | 95% KM UTL (Lognormal)95% Coverage                      |                       |   |   | 1.363  |       |       |
| 1653 | KM SD of Logged Data                                                                          |   |   |   | 0.421  | 95% KM UPL (Lognormal)                                  |                       |   |   | 1.233  |       |       |
| 1654 | 95% KM Percentile Lognormal (z)                                                               |   |   |   | 1.222  | 95% KM USL (Lognormal)                                  |                       |   |   | 2.407  |       |       |
| 1655 |                                                                                               |   |   |   |        |                                                         |                       |   |   |        |       |       |
| 1656 | Background DL/2 Statistics Assuming Lognormal Distribution                                    |   |   |   |        |                                                         |                       |   |   |        |       |       |
| 1657 | Mean in Original Scale                                                                        |   |   |   | 0.627  | Mean in Log Scale                                       |                       |   |   | -0.611 |       |       |
| 1658 | SD in Original Scale                                                                          |   |   |   | 0.323  | SD in Log Scale                                         |                       |   |   | 0.558  |       |       |
| 1659 | 95% UTL95% Coverage                                                                           |   |   |   | 1.572  | 95% UPL (t)                                             |                       |   |   | 1.376  |       |       |
| 1660 | 90% Percentile (z)                                                                            |   |   |   | 1.11   | 95% Percentile (z)                                      |                       |   |   | 1.36   |       |       |
| 1661 | 99% Percentile (z)                                                                            |   |   |   | 1.99   | 95% USL                                                 |                       |   |   | 3.339  |       |       |
| 1662 | DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.       |   |   |   |        |                                                         |                       |   |   |        |       |       |
| 1663 |                                                                                               |   |   |   |        |                                                         |                       |   |   |        |       |       |
| 1664 | Nonparametric Distribution Free Background Statistics                                         |   |   |   |        |                                                         |                       |   |   |        |       |       |

|      |                                                                                                                          |   |   |   |           |                                                                 |   |   |   |       |   |       |
|------|--------------------------------------------------------------------------------------------------------------------------|---|---|---|-----------|-----------------------------------------------------------------|---|---|---|-------|---|-------|
|      | A                                                                                                                        | B | C | D | E         | F                                                               | G | H | I | J     | K | L     |
| 1665 | Data appear to follow a Discernible Distribution at 5% Significance Level                                                |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1666 |                                                                                                                          |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1667 | Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)                                  |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1668 | Order of Statistic, r                                                                                                    |   |   |   | 111       | 95% UTL with95% Coverage                                        |   |   |   |       |   | 1.32  |
| 1669 | Approx, f used to compute achieved CC                                                                                    |   |   |   | 1.461     | Approximate Actual Confidence Coefficient achieved by UTL       |   |   |   |       |   | 0.827 |
| 1670 | Approximate Sample Size needed to achieve specified CC                                                                   |   |   |   | 153       | 95% UPL                                                         |   |   |   |       |   | 1.195 |
| 1671 | 95% USL                                                                                                                  |   |   |   | 1.58      | 95% KM Chebyshev UPL                                            |   |   |   |       |   | 1.921 |
| 1672 |                                                                                                                          |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1673 | Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1674 | Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers    |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1675 | and consists of observations collected from clean unimpacted locations.                                                  |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1676 | The use of USL tends to provide a balance between false positives and false negatives provided the data                  |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1677 | represents a background data set and when many onsite observations need to be compared with the BTV.                     |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1678 |                                                                                                                          |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1679 | Total Dissolved Solids                                                                                                   |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1680 |                                                                                                                          |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1681 | General Statistics                                                                                                       |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1682 | Total Number of Observations                                                                                             |   |   |   | 136       | Number of Distinct Observations                                 |   |   |   | 120   |   |       |
| 1683 | Minimum                                                                                                                  |   |   |   | 292       | First Quartile                                                  |   |   |   | 517.5 |   |       |
| 1684 | Second Largest                                                                                                           |   |   |   | 1380      | Median                                                          |   |   |   | 641   |   |       |
| 1685 | Maximum                                                                                                                  |   |   |   | 1380      | Third Quartile                                                  |   |   |   | 842.3 |   |       |
| 1686 | Mean                                                                                                                     |   |   |   | 687.3     | SD                                                              |   |   |   | 247.2 |   |       |
| 1687 | Coefficient of Variation                                                                                                 |   |   |   | 0.36      | Skewness                                                        |   |   |   | 0.568 |   |       |
| 1688 | Mean of logged Data                                                                                                      |   |   |   | 6.467     | SD of logged Data                                               |   |   |   | 0.37  |   |       |
| 1689 |                                                                                                                          |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1690 | Critical Values for Background Threshold Values (BTVs)                                                                   |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1691 | Tolerance Factor K (For UTL)                                                                                             |   |   |   | 1.88      | d2max (for USL)                                                 |   |   |   | 3.311 |   |       |
| 1692 |                                                                                                                          |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1693 | Normal GOF Test                                                                                                          |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1694 | Shapiro Wilk Test Statistic                                                                                              |   |   |   | 0.946     | Normal GOF Test                                                 |   |   |   |       |   |       |
| 1695 | 5% Shapiro Wilk P Value                                                                                                  |   |   |   | 6.1403E-5 | Data Not Normal at 5% Significance Level                        |   |   |   |       |   |       |
| 1696 | Lilliefors Test Statistic                                                                                                |   |   |   | 0.0891    | Lilliefors GOF Test                                             |   |   |   |       |   |       |
| 1697 | 5% Lilliefors Critical Value                                                                                             |   |   |   | 0.0763    | Data Not Normal at 5% Significance Level                        |   |   |   |       |   |       |
| 1698 | Data Not Normal at 5% Significance Level                                                                                 |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1699 |                                                                                                                          |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1700 | Background Statistics Assuming Normal Distribution                                                                       |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1701 | 95% UTL with 95% Coverage                                                                                                |   |   |   | 1152      | 90% Percentile (z)                                              |   |   |   | 1004  |   |       |
| 1702 | 95% UPL (t)                                                                                                              |   |   |   | 1098      | 95% Percentile (z)                                              |   |   |   | 1094  |   |       |
| 1703 | 95% USL                                                                                                                  |   |   |   | 1506      | 99% Percentile (z)                                              |   |   |   | 1262  |   |       |
| 1704 |                                                                                                                          |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1705 | Gamma GOF Test                                                                                                           |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1706 | A-D Test Statistic                                                                                                       |   |   |   | 0.624     | Anderson-Darling Gamma GOF Test                                 |   |   |   |       |   |       |
| 1707 | 5% A-D Critical Value                                                                                                    |   |   |   | 0.753     | Detected data appear Gamma Distributed at 5% Significance Level |   |   |   |       |   |       |
| 1708 | K-S Test Statistic                                                                                                       |   |   |   | 0.07      | Kolmogorov-Smirnov Gamma GOF Test                               |   |   |   |       |   |       |
| 1709 | 5% K-S Critical Value                                                                                                    |   |   |   | 0.0802    | Detected data appear Gamma Distributed at 5% Significance Level |   |   |   |       |   |       |
| 1710 | Detected data appear Gamma Distributed at 5% Significance Level                                                          |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1711 |                                                                                                                          |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1712 | Gamma Statistics                                                                                                         |   |   |   |           |                                                                 |   |   |   |       |   |       |
| 1713 | k hat (MLE)                                                                                                              |   |   |   | 7.766     | k star (bias corrected MLE)                                     |   |   |   | 7.6   |   |       |
| 1714 | Theta hat (MLE)                                                                                                          |   |   |   | 88.5      | Theta star (bias corrected MLE)                                 |   |   |   | 90.43 |   |       |
| 1715 | nu hat (MLE)                                                                                                             |   |   |   | 2112      | nu star (bias corrected)                                        |   |   |   | 2067  |   |       |
| 1716 | MLE Mean (bias corrected)                                                                                                |   |   |   | 687.3     | MLE Sd (bias corrected)                                         |   |   |   | 249.3 |   |       |



|      | A                                                                                                                        | B | C | D | E | F       | G                                                         | H | I | J | K | L      |
|------|--------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---------|-----------------------------------------------------------|---|---|---|---|--------|
| 1717 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1718 | Background Statistics Assuming Gamma Distribution                                                                        |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1719 | 95% Wilson Hilferty (WH) Approx. Gamma UPL                                                                               |   |   |   |   | 1145    | 90% Percentile                                            |   |   |   |   | 1020   |
| 1720 | 95% Hawkins Wixley (HW) Approx. Gamma UPL                                                                                |   |   |   |   | 1154    | 95% Percentile                                            |   |   |   |   | 1142   |
| 1721 | 95% WH Approx. Gamma UTL with 95% Coverage                                                                               |   |   |   |   | 1222    | 99% Percentile                                            |   |   |   |   | 1396   |
| 1722 | 95% HW Approx. Gamma UTL with 95% Coverage                                                                               |   |   |   |   | 1236    |                                                           |   |   |   |   |        |
| 1723 | 95% WH USL                                                                                                               |   |   |   |   | 1820    | 95% HW USL                                                |   |   |   |   | 1889   |
| 1724 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1725 | Lognormal GOF Test                                                                                                       |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1726 | Shapiro Wilk Test Statistic                                                                                              |   |   |   |   | 0.958   | Shapiro Wilk Lognormal GOF Test                           |   |   |   |   |        |
| 1727 | 5% Shapiro Wilk P Value                                                                                                  |   |   |   |   | 0.00256 | Data Not Lognormal at 5% Significance Level               |   |   |   |   |        |
| 1728 | Lilliefors Test Statistic                                                                                                |   |   |   |   | 0.0821  | Lilliefors Lognormal GOF Test                             |   |   |   |   |        |
| 1729 | 5% Lilliefors Critical Value                                                                                             |   |   |   |   | 0.0763  | Data Not Lognormal at 5% Significance Level               |   |   |   |   |        |
| 1730 | Data Not Lognormal at 5% Significance Level                                                                              |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1731 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1732 | Background Statistics assuming Lognormal Distribution                                                                    |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1733 | 95% UTL with 95% Coverage                                                                                                |   |   |   |   | 1290    | 90% Percentile (z)                                        |   |   |   |   | 1034   |
| 1734 | 95% UPL (t)                                                                                                              |   |   |   |   | 1190    | 95% Percentile (z)                                        |   |   |   |   | 1182   |
| 1735 | 95% USL                                                                                                                  |   |   |   |   | 2190    | 99% Percentile (z)                                        |   |   |   |   | 1521   |
| 1736 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1737 | Nonparametric Distribution Free Background Statistics                                                                    |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1738 | Data appear Gamma Distributed at 5% Significance Level                                                                   |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1739 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1740 | Nonparametric Upper Limits for Background Threshold Values                                                               |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1741 | Order of Statistic, r                                                                                                    |   |   |   |   | 133     | 95% UTL with 95% Coverage                                 |   |   |   |   | 1240   |
| 1742 | Approx, f used to compute achieved CC                                                                                    |   |   |   |   | 1.75    | Approximate Actual Confidence Coefficient achieved by UTL |   |   |   |   | 0.913  |
| 1743 |                                                                                                                          |   |   |   |   |         | Approximate Sample Size needed to achieve specified CC    |   |   |   |   | 153    |
| 1744 | 95% Percentile Bootstrap UTL with 95% Coverage                                                                           |   |   |   |   | 1240    | 95% BCA Bootstrap UTL with 95% Coverage                   |   |   |   |   | 1240   |
| 1745 | 95% UPL                                                                                                                  |   |   |   |   | 1173    | 90% Percentile                                            |   |   |   |   | 1025   |
| 1746 | 90% Chebyshev UPL                                                                                                        |   |   |   |   | 1432    | 95% Percentile                                            |   |   |   |   | 1118   |
| 1747 | 95% Chebyshev UPL                                                                                                        |   |   |   |   | 1769    | 99% Percentile                                            |   |   |   |   | 1352   |
| 1748 | 95% USL                                                                                                                  |   |   |   |   | 1380    |                                                           |   |   |   |   |        |
| 1749 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1750 | Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1751 | Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers    |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1752 | and consists of observations collected from clean unimpacted locations.                                                  |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1753 | The use of USL tends to provide a balance between false positives and false negatives provided the data                  |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1754 | represents a background data set and when many onsite observations need to be compared with the BTV.                     |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1755 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1756 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1757 | Boron                                                                                                                    |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1758 |                                                                                                                          |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1759 | General Statistics                                                                                                       |   |   |   |   |         |                                                           |   |   |   |   |        |
| 1760 | Total Number of Observations                                                                                             |   |   |   |   | 135     | Number of Missing Observations                            |   |   |   |   | 3      |
| 1761 | Number of Distinct Observations                                                                                          |   |   |   |   | 57      |                                                           |   |   |   |   |        |
| 1762 | Number of Detects                                                                                                        |   |   |   |   | 91      | Number of Non-Detects                                     |   |   |   |   | 44     |
| 1763 | Number of Distinct Detects                                                                                               |   |   |   |   | 57      | Number of Distinct Non-Detects                            |   |   |   |   | 2      |
| 1764 | Minimum Detect                                                                                                           |   |   |   |   | 0.012   | Minimum Non-Detect                                        |   |   |   |   | 0.02   |
| 1765 | Maximum Detect                                                                                                           |   |   |   |   | 4.5     | Maximum Non-Detect                                        |   |   |   |   | 0.1    |
| 1766 | Variance Detected                                                                                                        |   |   |   |   | 0.815   | Percent Non-Detects                                       |   |   |   |   | 32.59% |
| 1767 | Mean Detected                                                                                                            |   |   |   |   | 0.48    | SD Detected                                               |   |   |   |   | 0.903  |
| 1768 | Mean of Detected Logged Data                                                                                             |   |   |   |   | -1.674  | SD of Detected Logged Data                                |   |   |   |   | 1.313  |

|      | A                                                                                                                         | B | C | D | E | F      | G                                                   | H | I | J | K | L     |
|------|---------------------------------------------------------------------------------------------------------------------------|---|---|---|---|--------|-----------------------------------------------------|---|---|---|---|-------|
| 1769 |                                                                                                                           |   |   |   |   |        |                                                     |   |   |   |   |       |
| 1770 | Critical Values for Background Threshold Values (BTVs)                                                                    |   |   |   |   |        |                                                     |   |   |   |   |       |
| 1771 | Tolerance Factor K (For UTL)                                                                                              |   |   |   |   | 1.881  | d2max (for USL)                                     |   |   |   |   | 3.309 |
| 1772 |                                                                                                                           |   |   |   |   |        |                                                     |   |   |   |   |       |
| 1773 | Normal GOF Test on Detects Only                                                                                           |   |   |   |   |        |                                                     |   |   |   |   |       |
| 1774 | Shapiro Wilk Test Statistic                                                                                               |   |   |   |   | 0.502  | Normal GOF Test on Detected Observations Only       |   |   |   |   |       |
| 1775 | 5% Shapiro Wilk P Value                                                                                                   |   |   |   |   | 0      | Data Not Normal at 5% Significance Level            |   |   |   |   |       |
| 1776 | Lilliefors Test Statistic                                                                                                 |   |   |   |   | 0.34   | Lilliefors GOF Test                                 |   |   |   |   |       |
| 1777 | 5% Lilliefors Critical Value                                                                                              |   |   |   |   | 0.0931 | Data Not Normal at 5% Significance Level            |   |   |   |   |       |
| 1778 | Data Not Normal at 5% Significance Level                                                                                  |   |   |   |   |        |                                                     |   |   |   |   |       |
| 1779 |                                                                                                                           |   |   |   |   |        |                                                     |   |   |   |   |       |
| 1780 | Kaplan Meier (KM) Background Statistics Assuming Normal Distribution                                                      |   |   |   |   |        |                                                     |   |   |   |   |       |
| 1781 | KM Mean                                                                                                                   |   |   |   |   | 0.333  | KM SD                                               |   |   |   |   | 0.767 |
| 1782 | 95% UTL95% Coverage                                                                                                       |   |   |   |   | 1.776  | 95% KM UPL (t)                                      |   |   |   |   | 1.608 |
| 1783 | 90% KM Percentile (z)                                                                                                     |   |   |   |   | 1.316  | 95% KM Percentile (z)                               |   |   |   |   | 1.595 |
| 1784 | 99% KM Percentile (z)                                                                                                     |   |   |   |   | 2.117  | 95% KM USL                                          |   |   |   |   | 2.871 |
| 1785 |                                                                                                                           |   |   |   |   |        |                                                     |   |   |   |   |       |
| 1786 | DL/2 Substitution Background Statistics Assuming Normal Distribution                                                      |   |   |   |   |        |                                                     |   |   |   |   |       |
| 1787 | Mean                                                                                                                      |   |   |   |   | 0.337  | SD                                                  |   |   |   |   | 0.768 |
| 1788 | 95% UTL95% Coverage                                                                                                       |   |   |   |   | 1.782  | 95% UPL (t)                                         |   |   |   |   | 1.614 |
| 1789 | 90% Percentile (z)                                                                                                        |   |   |   |   | 1.322  | 95% Percentile (z)                                  |   |   |   |   | 1.601 |
| 1790 | 99% Percentile (z)                                                                                                        |   |   |   |   | 2.124  | 95% USL                                             |   |   |   |   | 2.879 |
| 1791 | DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons                                    |   |   |   |   |        |                                                     |   |   |   |   |       |
| 1792 |                                                                                                                           |   |   |   |   |        |                                                     |   |   |   |   |       |
| 1793 | Gamma GOF Tests on Detected Observations Only                                                                             |   |   |   |   |        |                                                     |   |   |   |   |       |
| 1794 | A-D Test Statistic                                                                                                        |   |   |   |   | 4.538  | Anderson-Darling GOF Test                           |   |   |   |   |       |
| 1795 | 5% A-D Critical Value                                                                                                     |   |   |   |   | 0.804  | Data Not Gamma Distributed at 5% Significance Level |   |   |   |   |       |
| 1796 | K-S Test Statistic                                                                                                        |   |   |   |   | 0.203  | Kolmogorov-Smirnov GOF                              |   |   |   |   |       |
| 1797 | 5% K-S Critical Value                                                                                                     |   |   |   |   | 0.0981 | Data Not Gamma Distributed at 5% Significance Level |   |   |   |   |       |
| 1798 | Data Not Gamma Distributed at 5% Significance Level                                                                       |   |   |   |   |        |                                                     |   |   |   |   |       |
| 1799 |                                                                                                                           |   |   |   |   |        |                                                     |   |   |   |   |       |
| 1800 | Gamma Statistics on Detected Data Only                                                                                    |   |   |   |   |        |                                                     |   |   |   |   |       |
| 1801 | k hat (MLE)                                                                                                               |   |   |   |   | 0.649  | k star (bias corrected MLE)                         |   |   |   |   | 0.635 |
| 1802 | Theta hat (MLE)                                                                                                           |   |   |   |   | 0.74   | Theta star (bias corrected MLE)                     |   |   |   |   | 0.756 |
| 1803 | nu hat (MLE)                                                                                                              |   |   |   |   | 118.1  | nu star (bias corrected)                            |   |   |   |   | 115.6 |
| 1804 | MLE Mean (bias corrected)                                                                                                 |   |   |   |   | 0.48   |                                                     |   |   |   |   |       |
| 1805 | MLE Sd (bias corrected)                                                                                                   |   |   |   |   | 0.603  | 95% Percentile of Chisquare (2kstar)                |   |   |   |   | 4.478 |
| 1806 |                                                                                                                           |   |   |   |   |        |                                                     |   |   |   |   |       |
| 1807 | Gamma ROS Statistics using Imputed Non-Detects                                                                            |   |   |   |   |        |                                                     |   |   |   |   |       |
| 1808 | GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs                              |   |   |   |   |        |                                                     |   |   |   |   |       |
| 1809 | GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20) |   |   |   |   |        |                                                     |   |   |   |   |       |
| 1810 | For such situations, GROS method may yield incorrect values of UCLs and BTVs                                              |   |   |   |   |        |                                                     |   |   |   |   |       |
| 1811 | This is especially true when the sample size is small.                                                                    |   |   |   |   |        |                                                     |   |   |   |   |       |
| 1812 | For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates               |   |   |   |   |        |                                                     |   |   |   |   |       |
| 1813 | Minimum                                                                                                                   |   |   |   |   | 0.01   | Mean                                                |   |   |   |   | 0.327 |
| 1814 | Maximum                                                                                                                   |   |   |   |   | 4.5    | Median                                              |   |   |   |   | 0.073 |
| 1815 | SD                                                                                                                        |   |   |   |   | 0.772  | CV                                                  |   |   |   |   | 2.361 |
| 1816 | k hat (MLE)                                                                                                               |   |   |   |   | 0.43   | k star (bias corrected MLE)                         |   |   |   |   | 0.426 |
| 1817 | Theta hat (MLE)                                                                                                           |   |   |   |   | 0.76   | Theta star (bias corrected MLE)                     |   |   |   |   | 0.768 |
| 1818 | nu hat (MLE)                                                                                                              |   |   |   |   | 116.2  | nu star (bias corrected)                            |   |   |   |   | 114.9 |
| 1819 | MLE Mean (bias corrected)                                                                                                 |   |   |   |   | 0.327  | MLE Sd (bias corrected)                             |   |   |   |   | 0.501 |
| 1820 | 95% Percentile of Chisquare (2kstar)                                                                                      |   |   |   |   | 3.461  | 90% Percentile                                      |   |   |   |   | 0.913 |

|      |                                                                                               |   |   |   |         |                                             |                       |   |   |        |       |       |
|------|-----------------------------------------------------------------------------------------------|---|---|---|---------|---------------------------------------------|-----------------------|---|---|--------|-------|-------|
|      | A                                                                                             | B | C | D | E       | F                                           | G                     | H | I | J      | K     | L     |
| 1821 | 95% Percentile                                                                                |   |   |   |         | 1.33                                        | 99% Percentile        |   |   |        |       | 2.37  |
| 1822 | The following statistics are computed using Gamma ROS Statistics on Imputed Data              |   |   |   |         |                                             |                       |   |   |        |       |       |
| 1823 | Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods                       |   |   |   |         |                                             |                       |   |   |        |       |       |
| 1824 |                                                                                               |   |   |   | WH      | HW                                          |                       |   |   |        | WH    | HW    |
| 1825 | 95% Approx. Gamma UTL with 95% Coverage                                                       |   |   |   | 1.333   | 1.36                                        | 95% Approx. Gamma UPL |   |   |        | 1.094 | 1.086 |
| 1826 | 95% Gamma USL                                                                                 |   |   |   | 3.79    | 4.613                                       |                       |   |   |        |       |       |
| 1827 |                                                                                               |   |   |   |         |                                             |                       |   |   |        |       |       |
| 1828 | Estimates of Gamma Parameters using KM Estimates                                              |   |   |   |         |                                             |                       |   |   |        |       |       |
| 1829 | Mean (KM)                                                                                     |   |   |   | 0.333   | SD (KM)                                     |                       |   |   | 0.767  |       |       |
| 1830 | Variance (KM)                                                                                 |   |   |   | 0.588   | SE of Mean (KM)                             |                       |   |   | 0.0664 |       |       |
| 1831 | k hat (KM)                                                                                    |   |   |   | 0.188   | k star (KM)                                 |                       |   |   | 0.189  |       |       |
| 1832 | nu hat (KM)                                                                                   |   |   |   | 50.81   | nu star (KM)                                |                       |   |   | 51.01  |       |       |
| 1833 | theta hat (KM)                                                                                |   |   |   | 1.768   | theta star (KM)                             |                       |   |   | 1.761  |       |       |
| 1834 | 80% gamma percentile (KM)                                                                     |   |   |   | 0.425   | 90% gamma percentile (KM)                   |                       |   |   | 1.005  |       |       |
| 1835 | 95% gamma percentile (KM)                                                                     |   |   |   | 1.74    | 99% gamma percentile (KM)                   |                       |   |   | 3.78   |       |       |
| 1836 |                                                                                               |   |   |   |         |                                             |                       |   |   |        |       |       |
| 1837 | The following statistics are computed using gamma distribution and KM estimates               |   |   |   |         |                                             |                       |   |   |        |       |       |
| 1838 | Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods                       |   |   |   |         |                                             |                       |   |   |        |       |       |
| 1839 |                                                                                               |   |   |   | WH      | HW                                          |                       |   |   |        | WH    | HW    |
| 1840 | 95% Approx. Gamma UTL with 95% Coverage                                                       |   |   |   | 1.292   | 1.293                                       | 95% Approx. Gamma UPL |   |   |        | 1.071 | 1.048 |
| 1841 | 95% KM Gamma Percentile                                                                       |   |   |   | 1.054   | 1.029                                       | 95% Gamma USL         |   |   |        | 3.518 | 4.099 |
| 1842 |                                                                                               |   |   |   |         |                                             |                       |   |   |        |       |       |
| 1843 | Lognormal GOF Test on Detected Observations Only                                              |   |   |   |         |                                             |                       |   |   |        |       |       |
| 1844 | Shapiro Wilk Approximate Test Statistic                                                       |   |   |   | 0.952   | Shapiro Wilk GOF Test                       |                       |   |   |        |       |       |
| 1845 | 5% Shapiro Wilk P Value                                                                       |   |   |   | 0.00698 | Data Not Lognormal at 5% Significance Level |                       |   |   |        |       |       |
| 1846 | Lilliefors Test Statistic                                                                     |   |   |   | 0.1     | Lilliefors GOF Test                         |                       |   |   |        |       |       |
| 1847 | 5% Lilliefors Critical Value                                                                  |   |   |   | 0.0931  | Data Not Lognormal at 5% Significance Level |                       |   |   |        |       |       |
| 1848 | Data Not Lognormal at 5% Significance Level                                                   |   |   |   |         |                                             |                       |   |   |        |       |       |
| 1849 |                                                                                               |   |   |   |         |                                             |                       |   |   |        |       |       |
| 1850 | Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects |   |   |   |         |                                             |                       |   |   |        |       |       |
| 1851 | Mean in Original Scale                                                                        |   |   |   | 0.333   | Mean in Log Scale                           |                       |   |   | -2.428 |       |       |
| 1852 | SD in Original Scale                                                                          |   |   |   | 0.77    | SD in Log Scale                             |                       |   |   | 1.635  |       |       |
| 1853 | 95% UTL95% Coverage                                                                           |   |   |   | 1.909   | 95% BCA UTL95% Coverage                     |                       |   |   | 3.26   |       |       |
| 1854 | 95% Bootstrap (%) UTL95% Coverage                                                             |   |   |   | 3.29    | 95% UPL (t)                                 |                       |   |   | 1.336  |       |       |
| 1855 | 90% Percentile (z)                                                                            |   |   |   | 0.717   | 95% Percentile (z)                          |                       |   |   | 1.298  |       |       |
| 1856 | 99% Percentile (z)                                                                            |   |   |   | 3.954   | 95% USL                                     |                       |   |   | 19.71  |       |       |
| 1857 |                                                                                               |   |   |   |         |                                             |                       |   |   |        |       |       |
| 1858 | Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution              |   |   |   |         |                                             |                       |   |   |        |       |       |
| 1859 | KM Mean of Logged Data                                                                        |   |   |   | -2.366  | 95% KM UTL (Lognormal)95% Coverage          |                       |   |   | 1.599  |       |       |
| 1860 | KM SD of Logged Data                                                                          |   |   |   | 1.508   | 95% KM UPL (Lognormal)                      |                       |   |   | 1.15   |       |       |
| 1861 | 95% KM Percentile Lognormal (z)                                                               |   |   |   | 1.12    | 95% KM USL (Lognormal)                      |                       |   |   | 13.77  |       |       |
| 1862 |                                                                                               |   |   |   |         |                                             |                       |   |   |        |       |       |
| 1863 | Background DL/2 Statistics Assuming Lognormal Distribution                                    |   |   |   |         |                                             |                       |   |   |        |       |       |
| 1864 | Mean in Original Scale                                                                        |   |   |   | 0.337   | Mean in Log Scale                           |                       |   |   | -2.224 |       |       |
| 1865 | SD in Original Scale                                                                          |   |   |   | 0.768   | SD in Log Scale                             |                       |   |   | 1.392  |       |       |
| 1866 | 95% UTL95% Coverage                                                                           |   |   |   | 1.483   | 95% UPL (t)                                 |                       |   |   | 1.094  |       |       |
| 1867 | 90% Percentile (z)                                                                            |   |   |   | 0.644   | 95% Percentile (z)                          |                       |   |   | 1.068  |       |       |
| 1868 | 99% Percentile (z)                                                                            |   |   |   | 2.757   | 95% USL                                     |                       |   |   | 10.83  |       |       |
| 1869 | DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.       |   |   |   |         |                                             |                       |   |   |        |       |       |
| 1870 |                                                                                               |   |   |   |         |                                             |                       |   |   |        |       |       |
| 1871 | Nonparametric Distribution Free Background Statistics                                         |   |   |   |         |                                             |                       |   |   |        |       |       |
| 1872 | Data do not follow a Discernible Distribution (0.05)                                          |   |   |   |         |                                             |                       |   |   |        |       |       |

|      |                                                                                                                          |   |   |   |   |       |                                                           |   |   |   |   |       |
|------|--------------------------------------------------------------------------------------------------------------------------|---|---|---|---|-------|-----------------------------------------------------------|---|---|---|---|-------|
|      | A                                                                                                                        | B | C | D | E | F     | G                                                         | H | I | J | K | L     |
| 1873 |                                                                                                                          |   |   |   |   |       |                                                           |   |   |   |   |       |
| 1874 | Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)                                  |   |   |   |   |       |                                                           |   |   |   |   |       |
| 1875 | Order of Statistic, r                                                                                                    |   |   |   |   | 132   | 95% UTL with95% Coverage                                  |   |   |   |   | 3.4   |
| 1876 | Approx, f used to compute achieved CC                                                                                    |   |   |   |   | 1.737 | Approximate Actual Confidence Coefficient achieved by UTL |   |   |   |   | 0.91  |
| 1877 | Approximate Sample Size needed to achieve specified CC                                                                   |   |   |   |   | 153   | 95% UPL                                                   |   |   |   |   | 2.16  |
| 1878 | 95% USL                                                                                                                  |   |   |   |   | 4.5   | 95% KM Chebyshev UPL                                      |   |   |   |   | 3.689 |
| 1879 |                                                                                                                          |   |   |   |   |       |                                                           |   |   |   |   |       |
| 1880 | Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. |   |   |   |   |       |                                                           |   |   |   |   |       |
| 1881 | Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers    |   |   |   |   |       |                                                           |   |   |   |   |       |
| 1882 | and consists of observations collected from clean unimpacted locations.                                                  |   |   |   |   |       |                                                           |   |   |   |   |       |
| 1883 | The use of USL tends to provide a balance between false positives and false negatives provided the data                  |   |   |   |   |       |                                                           |   |   |   |   |       |
| 1884 | represents a background data set and when many onsite observations need to be compared with the BTV.                     |   |   |   |   |       |                                                           |   |   |   |   |       |
| 1885 |                                                                                                                          |   |   |   |   |       |                                                           |   |   |   |   |       |

|    |                                                                 |   |              |                                                                                                             |        |   |                                                                 |   |   |   |       |   |
|----|-----------------------------------------------------------------|---|--------------|-------------------------------------------------------------------------------------------------------------|--------|---|-----------------------------------------------------------------|---|---|---|-------|---|
|    | A                                                               | B | C            | D                                                                                                           | E      | F | G                                                               | H | I | J | K     | L |
| 1  |                                                                 |   |              | Background Statistics for Uncensored Full Data Sets                                                         |        |   |                                                                 |   |   |   |       |   |
| 2  | User Selected Options                                           |   |              |                                                                                                             |        |   |                                                                 |   |   |   |       |   |
| 3  | Date/Time of Computation                                        |   |              | ProUCL 5.11/18/2024 10:16:12 AM                                                                             |        |   |                                                                 |   |   |   |       |   |
| 4  | From File                                                       |   |              | \\GES.NET\dw05\Minnesota\Projects\SKB Environmental\Lansing Facility\Statistics\2023 CCR Statistical Evalua |        |   |                                                                 |   |   |   |       |   |
| 5  | Full Precision                                                  |   |              | OFF                                                                                                         |        |   |                                                                 |   |   |   |       |   |
| 6  | Confidence Coefficient                                          |   |              | 95%                                                                                                         |        |   |                                                                 |   |   |   |       |   |
| 7  | Coverage                                                        |   |              | 95%                                                                                                         |        |   |                                                                 |   |   |   |       |   |
| 8  | New or Future K Observations                                    |   |              | 1                                                                                                           |        |   |                                                                 |   |   |   |       |   |
| 9  | Number of Bootstrap Operations                                  |   |              | 2000                                                                                                        |        |   |                                                                 |   |   |   |       |   |
| 10 |                                                                 |   |              |                                                                                                             |        |   |                                                                 |   |   |   |       |   |
| 11 | Sulfate as SO4 T^                                               |   |              |                                                                                                             |        |   |                                                                 |   |   |   |       |   |
| 12 |                                                                 |   |              |                                                                                                             |        |   |                                                                 |   |   |   |       |   |
| 13 | General Statistics                                              |   |              |                                                                                                             |        |   |                                                                 |   |   |   |       |   |
| 14 | Total Number of Observations                                    |   |              |                                                                                                             | 176    |   | Number of Distinct Observations                                 |   |   |   | 150   |   |
| 15 | Minimum                                                         |   |              |                                                                                                             | 1.8    |   | First Quartile                                                  |   |   |   | 28.98 |   |
| 16 | Second Largest                                                  |   |              |                                                                                                             | 481    |   | Median                                                          |   |   |   | 73.1  |   |
| 17 | Maximum                                                         |   |              |                                                                                                             | 481    |   | Third Quartile                                                  |   |   |   | 111.5 |   |
| 18 | Mean                                                            |   |              |                                                                                                             | 90.18  |   | SD                                                              |   |   |   | 89.33 |   |
| 19 | Coefficient of Variation                                        |   |              |                                                                                                             | 0.991  |   | Skewness                                                        |   |   |   | 2.068 |   |
| 20 | Mean of logged Data                                             |   |              |                                                                                                             | 3.979  |   | SD of logged Data                                               |   |   |   | 1.184 |   |
| 21 |                                                                 |   |              |                                                                                                             |        |   |                                                                 |   |   |   |       |   |
| 22 | Critical Values for Background Threshold Values (BTVs)          |   |              |                                                                                                             |        |   |                                                                 |   |   |   |       |   |
| 23 | Tolerance Factor K (For UTL)                                    |   |              |                                                                                                             | 1.849  |   | d2max (for USL)                                                 |   |   |   | 3.393 |   |
| 24 |                                                                 |   |              |                                                                                                             |        |   |                                                                 |   |   |   |       |   |
| 25 | Normal GOF Test                                                 |   |              |                                                                                                             |        |   |                                                                 |   |   |   |       |   |
| 26 | Shapiro Wilk Test Statistic                                     |   |              |                                                                                                             | 0.791  |   | Normal GOF Test                                                 |   |   |   |       |   |
| 27 | 5% Shapiro Wilk P Value                                         |   |              |                                                                                                             | 0      |   | Data Not Normal at 5% Significance Level                        |   |   |   |       |   |
| 28 | Lilliefors Test Statistic                                       |   |              |                                                                                                             | 0.165  |   | Lilliefors GOF Test                                             |   |   |   |       |   |
| 29 | 5% Lilliefors Critical Value                                    |   |              |                                                                                                             | 0.0672 |   | Data Not Normal at 5% Significance Level                        |   |   |   |       |   |
| 30 | Data Not Normal at 5% Significance Level                        |   |              |                                                                                                             |        |   |                                                                 |   |   |   |       |   |
| 31 |                                                                 |   |              |                                                                                                             |        |   |                                                                 |   |   |   |       |   |
| 32 | Background Statistics Assuming Normal Distribution              |   |              |                                                                                                             |        |   |                                                                 |   |   |   |       |   |
| 33 | 95% UTL with                                                    |   | 95% Coverage |                                                                                                             | 255.4  |   | 90% Percentile (z)                                              |   |   |   | 204.7 |   |
| 34 |                                                                 |   | 95% UPL (t)  |                                                                                                             | 238.3  |   | 95% Percentile (z)                                              |   |   |   | 237.1 |   |
| 35 |                                                                 |   | 95% USL      |                                                                                                             | 393.3  |   | 99% Percentile (z)                                              |   |   |   | 298   |   |
| 36 |                                                                 |   |              |                                                                                                             |        |   |                                                                 |   |   |   |       |   |
| 37 | Gamma GOF Test                                                  |   |              |                                                                                                             |        |   |                                                                 |   |   |   |       |   |
| 38 | A-D Test Statistic                                              |   |              |                                                                                                             | 0.525  |   | Anderson-Darling Gamma GOF Test                                 |   |   |   |       |   |
| 39 | 5% A-D Critical Value                                           |   |              |                                                                                                             | 0.781  |   | Detected data appear Gamma Distributed at 5% Significance Level |   |   |   |       |   |
| 40 | K-S Test Statistic                                              |   |              |                                                                                                             | 0.0591 |   | Kolmogorov-Smirnov Gamma GOF Test                               |   |   |   |       |   |
| 41 | 5% K-S Critical Value                                           |   |              |                                                                                                             | 0.0717 |   | Detected data appear Gamma Distributed at 5% Significance Level |   |   |   |       |   |
| 42 | Detected data appear Gamma Distributed at 5% Significance Level |   |              |                                                                                                             |        |   |                                                                 |   |   |   |       |   |
| 43 |                                                                 |   |              |                                                                                                             |        |   |                                                                 |   |   |   |       |   |
| 44 | Gamma Statistics                                                |   |              |                                                                                                             |        |   |                                                                 |   |   |   |       |   |
| 45 | k hat (MLE)                                                     |   |              |                                                                                                             | 1.094  |   | k star (bias corrected MLE)                                     |   |   |   | 1.079 |   |
| 46 | Theta hat (MLE)                                                 |   |              |                                                                                                             | 82.46  |   | Theta star (bias corrected MLE)                                 |   |   |   | 83.59 |   |
| 47 | nu hat (MLE)                                                    |   |              |                                                                                                             | 385    |   | nu star (bias corrected)                                        |   |   |   | 379.8 |   |
| 48 | MLE Mean (bias corrected)                                       |   |              |                                                                                                             | 90.18  |   | MLE Sd (bias corrected)                                         |   |   |   | 86.83 |   |
| 49 |                                                                 |   |              |                                                                                                             |        |   |                                                                 |   |   |   |       |   |
| 50 | Background Statistics Assuming Gamma Distribution               |   |              |                                                                                                             |        |   |                                                                 |   |   |   |       |   |
| 51 | 95% Wilson Hilferty (WH) Approx. Gamma UPL                      |   |              |                                                                                                             | 257.9  |   | 90% Percentile                                                  |   |   |   | 203.8 |   |
| 52 | 95% Hawkins Wixley (HW) Approx. Gamma UPL                       |   |              |                                                                                                             | 272    |   | 95% Percentile                                                  |   |   |   | 263   |   |



