

SKB Environmental, Inc.

2022 Coal Combustion Residuals Annual Monitoring Report

SKB Rosemount Industrial Waste Facility
13425 Courthouse Boulevard
Rosemount, Minnesota
Permit SW-383

January 27, 2023





2022 Coal Combustion Residuals Annual Monitoring Report

SKB Rosemount Industrial Waste Facility
13425 Courthouse Boulevard
Rosemount, Minnesota
Permit SW-383

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Date: 01/26/2023 License Number: 25086

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Acronyms

BTV	Background Threshold Values
CCR	Coal Combustion Residuals
CFR	Code of Federal Regulations
COC	Chemicals of Concern
GES	Groundwater & Environmental Services, Inc.
GPS	Groundwater Protection Standards
Eurofins TA	Eurofins Test America, Inc.
MCLs	Maximum Contaminant Levels
mg/L	milligrams per liter
MDH	Minnesota Department of Health
MPCA	Minnesota Pollution Control Agency
NGVD	National Geodetic Vertical Datum
ORP	Oxidation-Reduction Potential
pCi/L	picocuries per liter
QA/QC	Quality assurance/quality control
Report	Coal Combustion Residuals Annual Monitoring Report
SKB Rosemount Landfill	SKB Rosemount Industrial Waste Facility
SSI	Statistically Significant Increase
USEPA	United States Environmental Protection Agency
USL	Upper Simultaneous Limit



1 Introduction

The *2022 Combustion Coal Residuals Annual Monitoring Report* (Report) was prepared to summarize the results of 2022 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 Rosemount Industrial Waste Facility (SKB Rosemount Landfill). The SKB Landfill operates under Minnesota Pollution Control Agency (MPCA) Site Permit Number SW-383. The SKB Rosemount Landfill is located at 13425 Courthouse Boulevard, Rosemount, and Dakota County, Minnesota (**Figure 1**).

Two groundwater sampling events were conducted at the SKB Rosemount Landfill in the spring and fall of 2022. 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 Rosemount Landfill.

1.1 Scope of Work

The following scope of work was conducted for the 2022 Coal Combustion Residuals (CCR) groundwater monitoring events:

- Conduct 2 gauging and sampling events of the site's monitoring wells.
- 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 CCR Annual Monitoring Report summarizing the groundwater sampling and statistical evaluation.

2 Site Background

2.1 Site Location and Description

SKB Rosemount Landfill was initially operated as an industrial waste containment facility. In the fall of 1999, the facility opened a Municipal Solid Waste Incinerator Ash cell (Cell 4), in the summer of 2004 the facility opened a Construction and Demolition cell (Cell 5), and in the fall 2009 the facility opened the 3M cell (Cell 3M). The site is located within a 236-acre parcel of land in Sections 19, 20, and 29, Township 115 North, Range 18 West, Dakota County, Minnesota (**Figure**



1). With reference to roadways, the facility is located between State Highway 55 and Ehlers Path East. The facility entrance is from State Highway 55.

Located in the Vermillion River watershed, the historical property prior to development, consist of rolling topography ranging in elevation from 820 feet above the National Geodetic Vertical Datum of 1929 (NGVD 29) in the southwest corner to 907 feet above NGVD 29 near the middle of the site. The site has since been altered, with the low point 800 feet above NGVD in the bottom of Cell 3A and Cell 3B to approximately 1,010 feet above NGVD at the top of Cells 3A/3D. A seasonal pond is located on the southwest corner of the property. Storm water flows either to natural depressions scattered about the site or to storm water retention areas in the southwest and north-central parts of the property. Storm water collected in these areas infiltrates into the soil. The nearest open water body is the Mississippi River located approximately 1 mile northeast of the site.

3 Monitoring Network Systems and Sampling Schedule

The CCR sampling groundwater monitoring network at the SKB Rosemount Landfill was designed based on the local and regional hydrologic conditions. Formerly, the system consisted of 28 monitoring wells. After receiving MPCA approval, seven monitoring wells were abandoned in April 2021 in accordance with Minnesota Department of Health (MDH) regulations. The monitoring well abandonments were in association with the SKB Rosemount Landfill Cell 6 expansion. Therefore, the current groundwater monitoring network system comprises 21 monitoring wells (**Figure 2**).

The monitoring wells used as data collection points have been divided into 5 groups for the purpose of this report:

- Shallow Upgradient Monitoring Points (designated U#S). The shallow upgradient monitoring points consist of monitoring wells completed in the shallow water table aquifer south (upgradient) of the compliance boundary.
- Deep Upgradient Monitoring Points (designated U#D). The deep upgradient monitoring points consist of monitoring wells completed in the Outwash/Prairie du Chien aquifer south (upgradient) of the compliance boundary.
- Shallow Downgradient Monitoring Points (designated D#S). The shallow downgradient monitoring points consist of monitoring wells completed in the shallow water table aquifer along the north (downgradient) compliance boundary.
- Deep Downgradient Monitoring Points (designated D#D). The deep downgradient monitoring points consist of monitoring wells completed in the Outwash/Prairie du Chien aquifer north (downgradient) of the compliance boundary.
- Cell Wells (designated CW#). The cell wells are monitoring wells completed in the shallow aquifer immediately downgradient of the cell sumps.

For the CCR evaluation, 2 groundwater monitoring events were conducted in 2022 on the following dates:

- March 2-3, 2022
- October 19-22, 2022



4 Groundwater Sample Methodology

During the SKB Rosemount 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 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 (Eurofins TA) of Cedar Falls, Iowa.

Groundwater samples were collected from 16 monitoring wells during the 2 sampling events in 2022 and were analyzed for parameters specified in Appendix III (spring and fall events) and Appendix IV (spring (analytes detected in fall 2021 event) and fall (full analyte list) events) per §§ 257.93 – 257.95 and are noted below:

Appendix III

General Chemistry

- Chloride (Method 9056A)
- Fluoride (Method 9056A)
- Sulfate as SO₄ (Method 9056A)
- pH (Method 4500 H+ B)
- Total Dissolved Solids (Method 2540C)

Metals (Total)

- Boron
- Calcium



Appendix IV

Metals (Total)

- Antimony
- Arsenic
- Barium
- Beryllium
- Cadmium
- Chromium
- Cobalt
- Lead
- Lithium
- Mercury
- Molybdenum
- Radium 226
- Radium 228
- Selenium
- Thallium

General Chemistry

- Fluoride (Method 9056A)

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 March 2-3 and October 19, 2022 gauging events. Groundwater elevation contour maps for both the water table and the deeper monitoring zone are presented in **Figures 3** through **6**. The groundwater flow is to the northeast across the site. The groundwater flow direction is 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 Rosemount Landfill are provided in **Table 5**. Comparing the 2022 sampling results to the BTVs (**Tables 2 and 3**) is summarized below.

Appendix III Analytes - Result Summary of BTV Exceedances

Comparing the 2022 spring and fall sampling groundwater analytical results for Appendix III analytes to the BTVs, indicate no BTVs exceedances.

Appendix IV Analytes - Result Summary of BTV Exceedances

Chromium (BTV = 0.052 milligrams per liter (mg/L))

- Downgradient monitoring well
 - D-3D (0.10 mg/L) (3/3/2022) – BTV exceedance.
 - D-3D (0.076 mg/L) (10/19/2022) – BTV exceedance confirmed.

Cobalt (BTV = 0.0015 mg/L)

- Sidegradient monitoring well
 - D-8 (0.0015 mg/L) (3/3/2022) – Had BTV exceedance in fall of 2021 and spring 2022 sampling results indicates not statistically significant.

Radium 226 (BTV = 0.479 picocuries per liter (pCi/L))

- Downgradient monitoring well
 - D-2S (<0.443 pCi/L) (3/3/2022) – Had BTV exceedance in fall of 2021 and spring 2022 sampling results indicates not statistically significant.

Due to monitoring well D-7 being dry in 2017 during CCR background sampling events, limited background groundwater analytical data for D-7 is available. Thus, a separate evaluation of monitoring well D-7 groundwater sampling results is typically generated during the annual report. However, monitoring well D-7 was dry during the sampling events conducted in 2022, and therefore, no evaluation of monitoring well D-7 data will be completed for 2022.

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 to the most recent sampling event in October 2022.

Statistical evaluation of the 2017 - 2022 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. Compounds where the data distribution does not fit the definition of background population (includes multiple outliers, is heavily skewed to the right), the BTV was calculated using Chebyshev's UPL, which allows calculation of an upper limit when the data does not fit the USL definition.

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). 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) or
- 95% upper prediction limit (UPL)

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.

The 95% UPL was selected as the proposed BTV for datasets with more than 20 observations when:

- 1) The data distribution for a COC contained multiple outliers.



2) The data set was skewed to the right.

For the above cases, the COC data sets no longer fit the definition of background population appropriate for USL calculations. In these cases, the BTV was calculated using Chebyshev’s UPL, which allows calculation of an upper limit when the data does not fit the USL definition.

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 SSI Determination

The detected concentrations for the first and second half 2022 sampling event with the respective BTV are listed below. Compliance is determined by comparing the current concentration to the calculated BTV. Chromium concentrations at D-3D was confirmed as an SSI.

Comparison of 2022 Confirmed COC Concentrations to BTVs

Monitoring Well	Analyte	First Half 2022 Conc (mg/L unless noted)	BTV Conc (mg/L unless noted)	Second Half 2022 Conc (mg/L unless noted)	USL Notes
D-3D	Chromium	0.10	0.052	0.076	Exceedance Confirmed
D-8	Cobalt	0.0015	0.0015	0.00059	Exceedance in fall of 2021 but not statistically significant
D-2S	Radium 226	ND (<0.443)	0.479	ND (<0.123)	Exceedance in fall of 2021 but not statistically significant

Notes:
 Conc – Concentration
 All values in mg/L, except Radium values in pCi/L.
Bolded concentration exceeds the respective BTV.
 ND = Not Detected

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 (USEPA) 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 levels are shown in **Table 6**.

For the sampling events conducted in 2022, no constituent in Appendix IV was detected above established GPS levels for the site (**Table 7**).

8 Report Summary

Per the 40 CFR §§ 40.257.93 – 257.95, 2 monitoring events (spring and fall) were conducted in 2022 at the SKB Rosemount Landfill. Groundwater samples were collected from the monitoring network's 16 monitoring wells (D-1D, D-1S, D-2D, D-2S, D-3D, D-3S, D-4D, D-4S, D-5D, D-5S2, D-8, D-9, U-4D, U-4S, U-5D, and U-5S). Monitoring well D-7 was dry during the 2 monitoring events, and therefore, was not sampled. Groundwater samples were analyzed for parameters specified in Appendix III (detection monitoring) and Appendix IV (assessment monitoring).

The groundwater data collected in the 2017 – 2022 sampling events were statistically tested following the concepts outlined in this report to form a background data set. Interwell USLs were developed for Boron, Calcium, Chloride, Fluoride, Sulfate as SO₄, and Total Dissolved Solids, and in 16 monitoring wells (D-1D, D-1S, D-2D, D-2S, D-3D, D-3S, D-4D, D-4S, D-5D, D-5S2, D-8, D-9, U-4D, U-4S, U-5D, and U-5S). Upper and lower threshold values were developed for pH using box plot statistics. The resulting BTVs were compared to the current concentrations for each COC and well pair.

The following analytes were reported above the calculated BTVs in 2022:

Appendix IV Analytes

- A Chromium concentration was detected above the BTV at downgradient monitoring well D-3D during the spring and fall 2022 sampling events. These concentrations were confirmed exceedances.
- A Cobalt concentration was detected above the BTV at sidegradient monitoring well D-8 during the fall 2021 sampling event. Subsequent confirmation sampling during the spring 2022 determined this exceedance was not considered statistically significant.
- A Radium 226 concentration was detected above the BTV at downgradient monitoring well D-2S during the fall 2021 sampling event. Subsequent confirmation sampling during the spring 2022 determined this exceedance was not considered statistically significant.

Groundwater concentrations from the 2022 monitoring events were compared to established GPS values. No constituents in Appendix IV were detected above established GPS values for the site.

9 Recommendations

CCR groundwater monitoring events will be conducted in 2023 by the following schedule:



Late February or Early March 2023

Conduct a groundwater sampling event of the site's monitoring well network and analyze the groundwater samples for constituents listed in Appendix III and Appendix IV (only analytes detected in the fall 2022 event).

Fall 2023

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

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 constituent listed 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. 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 establish GPS values.

Groundwater samples will be collected from monitoring well D-7 during 2023 groundwater monitoring events and analyzed for Appendix III and Appendix IV analytes (full list). Additionally, dissolved metal analysis will also be included for Appendix III and Appendix IV metals for total metal vs. dissolved metal evaluation.

A 2023 Annual Monitoring Report will be prepared and include sampling results from the 2023 CCR groundwater monitoring events and an evaluation of the analytical results as they pertained to BTVs and GPS values.



References

- 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.
- United States Geological Survey, 1967 (revised 1993). *7.5-minute quadrangle map, Inver Grove Heights*.



Figures



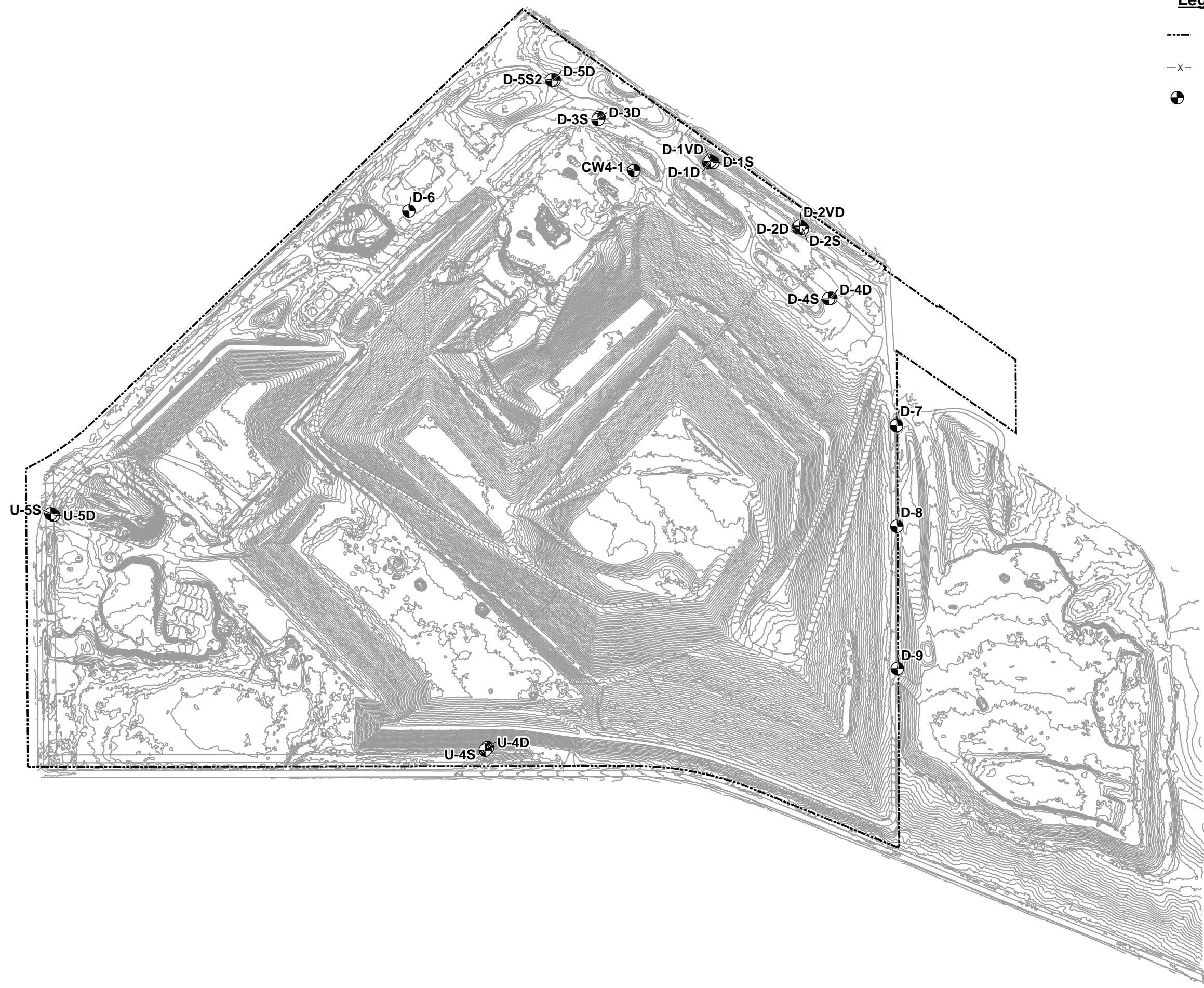
SOURCE: USGS 7.5 MINUTE SERIES
 TOPOGRAPHIC QUADRANGLE 1993
 INVER GROVE HEIGHTS, MINNESOTA
 CONTOUR INTERVAL = 10'



QUADRANGLE LOCATION

DRAFTED BY: W.G.S. (N.J.)	SITE LOCATION MAP	
CHECKED BY: JFS	SKB ENVIRONMENTAL INC. ROSEMOUNT FACILITY 13425 COURTHOUSE BOULEVARD ROSEMOUNT, MINNESOTA	
REVIEWED BY: JFS	Groundwater & Environmental Services, Inc. 1285 CORPORATE CENTER DRIVE, SUITE 120, EAGAN, MN 55121	
NORTH 	SCALE IN FEET 	DATE 1-10-14
	0 2000	FIGURE 1

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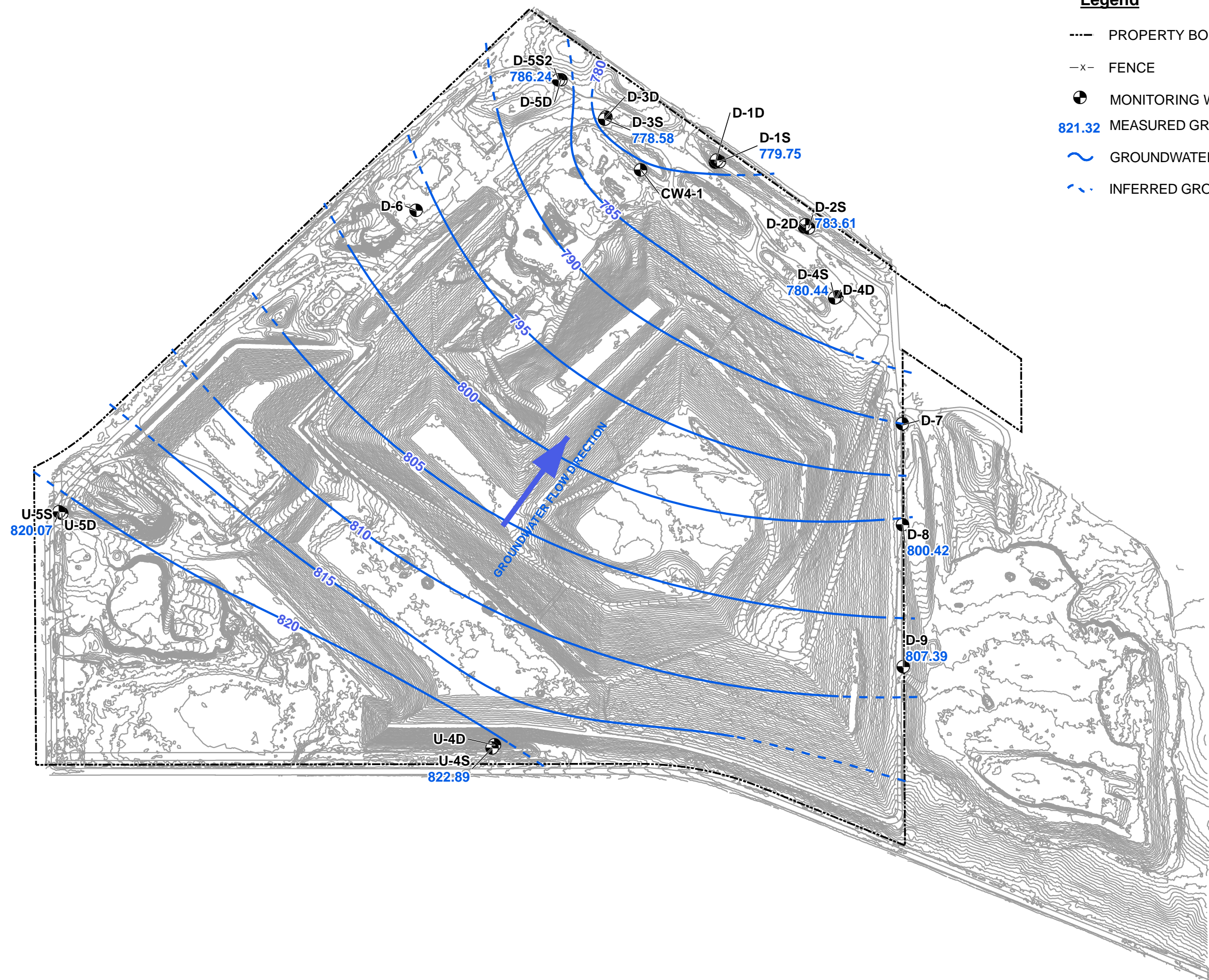
Legend

- PROPERTY BOUNDARY
- x- FENCE
- MONITORING WELL

Note:
Survey completed on 10/21/2021

Site Map		
SKB Environmental Inc. Rosemount Facility 13425 Courthouse Boulevard Rosemount, Minnesota		
Drawn GKS Designed DMC Approved JFS	 Scale In Feet (Approximate)   <small>Groundwater & Environmental Services, Inc.</small>	Date 1/4/23 Figure 2

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- Legend**
- PROPERTY BOUNDARY
 - x- FENCE
 - MONITORING WELL
 - 821.32 MEASURED GROUNDWATER ELEVATION (ft MSL)
 - ~ GROUNDWATER ELEVATION ISOCONTOUR (ft MSL)
 - - - INFERRED GROUNDWATER ELEVATION ISOCONTOUR (ft MSL)

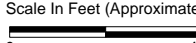
Water Table Contour Map
March 2-3, 2022

SKB Environmental Inc.
Rosemount Facility
13425 Courthouse Boulevard
Rosemount, Minnesota

Drawn GKS Designed DMC Approved NJS	Date 1/4/23 Figure 3
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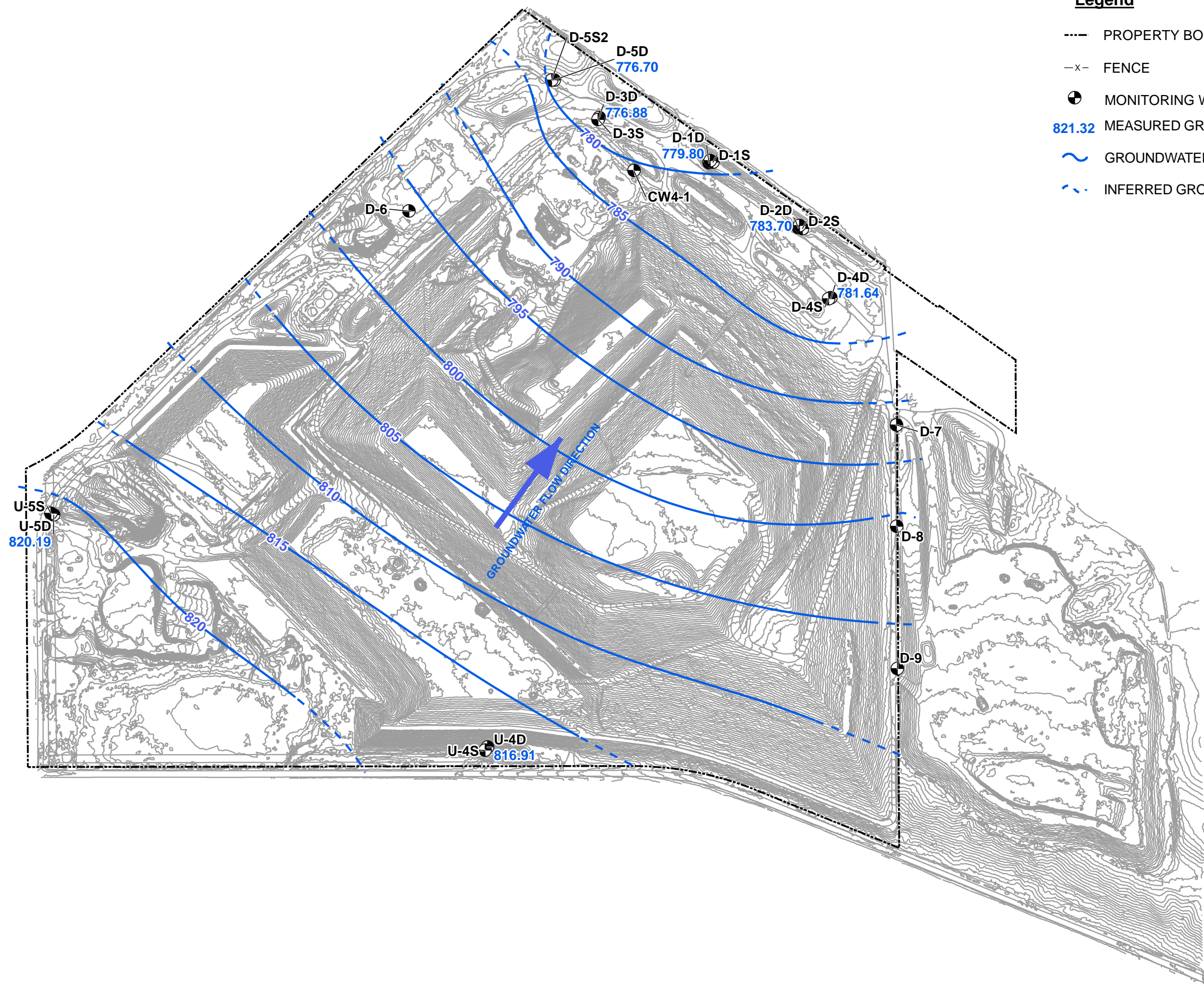


Scale In Feet (Approximate)




Groundwater & Environmental Services, Inc.

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- Legend**
- PROPERTY BOUNDARY
 - x- FENCE
 - MONITORING WELL
 - 821.32 MEASURED GROUNDWATER ELEVATION (ft MSL)
 - ~ GROUNDWATER ELEVATION ISOCONTOUR (ft MSL)
 - .-.- INFERRED GROUNDWATER ELEVATION ISOCONTOUR (ft MSL)

Potentiometric Surface Contour Map
March 2-3, 2022

SKB Environmental Inc.
Rosemount Facility
13425 Courthouse Boulevard
Rosemount, Minnesota

Drawn GKS Designed DMC Approved NJS	Date 1/4/23 Figure 4
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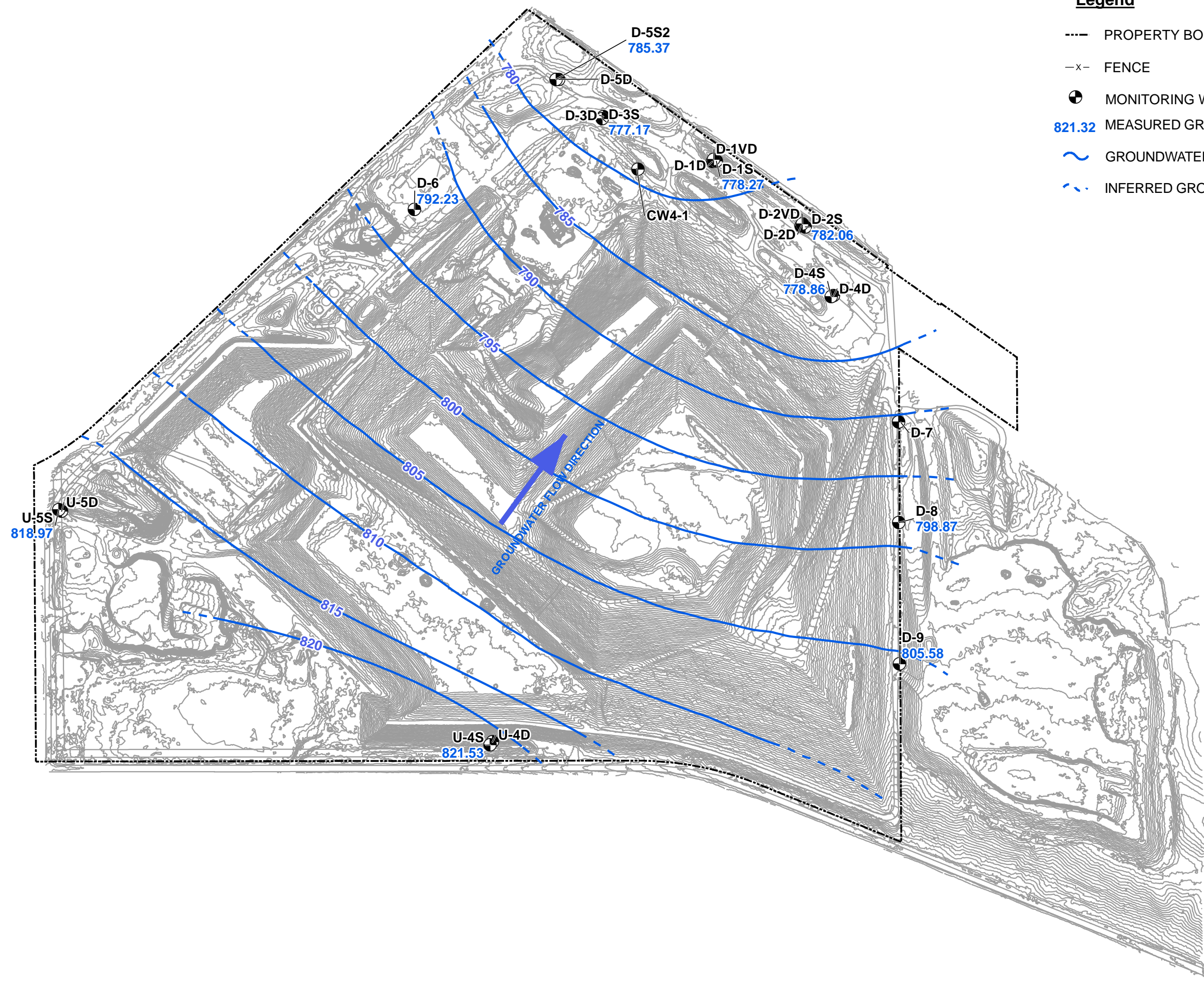


Scale In Feet (Approximate)




Groundwater & Environmental Services, Inc.

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- Legend**
- PROPERTY BOUNDARY
 - x- FENCE
 - MONITORING WELL
 - 821.32 MEASURED GROUNDWATER ELEVATION (ft MSL)
 - ~ GROUNDWATER ELEVATION ISOCONTOUR (ft MSL)
 - .-.- INFERRED GROUNDWATER ELEVATION ISOCONTOUR (ft MSL)

Water Table Contour Map
October 19, 2022

SKB Environmental Inc.
Rosemount Facility
13425 Courthouse Boulevard
Rosemount, Minnesota

Drawn GKS Designed DMC Approved NJS	Date 1/4/23 Figure 5
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Scale In Feet (Approximate)

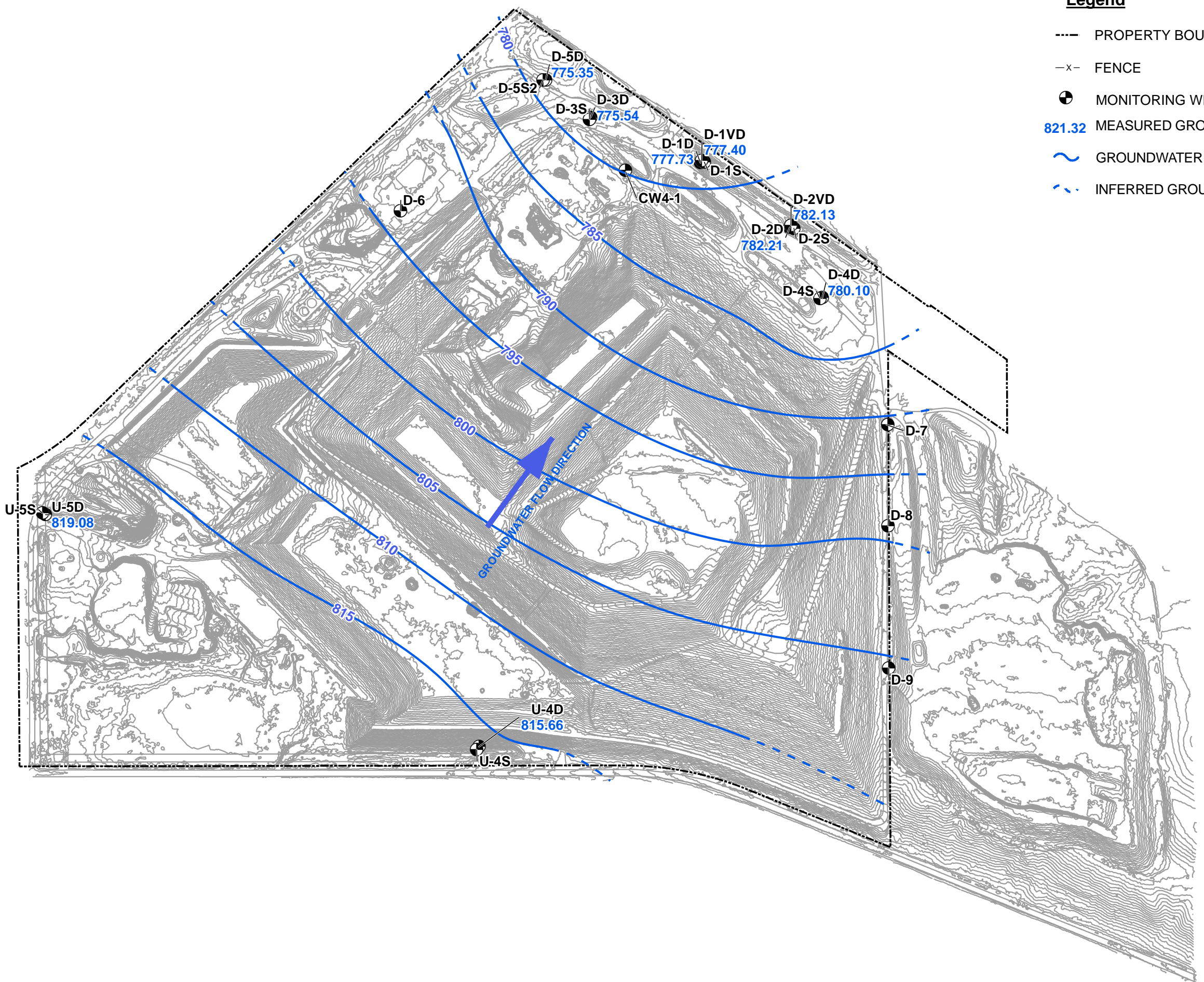



Groundwater & Environmental Services, Inc.

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Legend

- PROPERTY BOUNDARY
- x- FENCE
- MONITORING WELL
- 821.32 MEASURED GROUNDWATER ELEVATION (ft MSL)
- ~ GROUNDWATER ELEVATION ISOCONTOUR (ft MSL)
- .-.- INFERRED GROUNDWATER ELEVATION ISOCONTOUR (ft MSL)



Potentiometric Surface Contour Map October 19, 2022	
SKB Environmental Inc. Rosemount Facility 13425 Courthouse Boulevard Rosemount, Minnesota	
Drawn GKS Designed DMC Approved NJS	Date 1/4/23 Figure 6
 Scale In Feet (Approximate)   Groundwater & Environmental Services, Inc.	



Tables

Table 1
Groundwater Elevations
Downgradient Deep Wells



DATE	D-1D	D-1VD	D-2D	D-2VD	D-3D	D-4D	D-5D
03/02/2022	779.8	--	--	--	--	781.64	776.70
03/03/2022	--	--	783.70	--	776.88	--	--
10/19/2022	777.73	777.40	782.21	782.13	775.54	780.1	775.35

Table 1
Groundwater Elevations
Downgradient Shallow Wells



DATE	D-1S	D-2S	D-3S	D-4S	D-5S2	D-6	D-7	D-8	D-9
03/02/2022	779.75				786.24				
03/03/2022		783.61	778.58	780.44			DRY	800.42	807.39
10/19/2022	778.27	782.06	777.17	778.86	785.37	792.23	DRY	798.87	805.58

Table 1
Groundwater Elevations
Upgradient Deep Wells



DATE	U-4D	U-5D
03/02/2022	816.91	820.19
10/19/2022	815.66	819.08

Table 1
Groundwater Elevations
Upgradient Shallow Wells



DATE	U-4S	U-5S
03/02/2022	822.89	820.07
10/19/2022	821.53	818.97

Table 2



Groundwater Analytical Data
 Appendix III

Location	Date	Parameter	Result	Background Threshold Value (BTV)	Units	CAS #
D-1D	03/02/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
D-1D	10/20/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
D-1D	03/02/2022	Calcium	95.6	132	mg/l	7440-70-2
D-1D	10/20/2022	Calcium	83.3	132	mg/l	7440-70-2
D-1D	03/02/2022	Chloride	32	126	mg/l	16887-00-6
D-1D	10/20/2022	Chloride	27	126	mg/l	16887-00-6
D-1D	03/02/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-1D	10/20/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-1D	03/02/2022	pH	7.8	7.1 < 8.1	pH UNITS	PH
D-1D	10/20/2022	pH	7.7	7.1 < 8.1	pH UNITS	PH
D-1D	03/02/2022	Sulfate as SO4	26	67.3	mg/l	14808-79-8
D-1D	10/20/2022	Sulfate as SO4	22	67.3	mg/l	14808-79-8
D-1D	03/02/2022	Total Dissolved Solids	324	662.9	mg/l	TDS
D-1D	10/20/2022	Total Dissolved Solids	408	662.9	mg/l	TDS
D-1S	03/02/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
D-1S	10/20/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
D-1S	03/02/2022	Calcium	101	132	mg/l	7440-70-2
D-1S	10/20/2022	Calcium	89.5	132	mg/l	7440-70-2
D-1S	03/02/2022	Chloride	47	126	mg/l	16887-00-6
D-1S	10/20/2022	Chloride	41	126	mg/l	16887-00-6
D-1S	03/02/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-1S	10/20/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-1S	03/02/2022	pH	7.4	7.1 < 8.1	pH UNITS	PH
D-1S	10/20/2022	pH	7.3	7.1 < 8.1	pH UNITS	PH
D-1S	03/02/2022	Sulfate as SO4	19	67.3	mg/l	14808-79-8
D-1S	10/20/2022	Sulfate as SO4	13	67.3	mg/l	14808-79-8
D-1S	03/02/2022	Total Dissolved Solids	334	662.9	mg/l	TDS
D-1S	10/20/2022	Total Dissolved Solids	438	662.9	mg/l	TDS
D-2D	03/03/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
D-2D	10/20/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
D-2D	03/03/2022	Calcium	98.9	132	mg/l	7440-70-2
D-2D	10/20/2022	Calcium	87.3	132	mg/l	7440-70-2
D-2D	03/03/2022	Chloride	34	126	mg/l	16887-00-6
D-2D	10/20/2022	Chloride	27	126	mg/l	16887-00-6
D-2D	03/03/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-2D	10/20/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-2D	03/03/2022	pH	7.6	7.1 < 8.1	pH UNITS	PH
D-2D	10/20/2022	pH	7.5	7.1 < 8.1	pH UNITS	PH
D-2D	03/03/2022	Sulfate as SO4	23	67.3	mg/l	14808-79-8
D-2D	10/20/2022	Sulfate as SO4	21	67.3	mg/l	14808-79-8
D-2D	03/03/2022	Total Dissolved Solids	350	662.9	mg/l	TDS
D-2D	10/20/2022	Total Dissolved Solids	470	662.9	mg/l	TDS

Table 2



Groundwater Analytical Data
 Appendix III

Location	Date	Parameter	Result	Background Threshold Value (BTV)	Units	CAS #
D-2S	03/03/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
D-2S	10/20/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
D-2S	03/03/2022	Calcium	111	132	mg/l	7440-70-2
D-2S	10/20/2022	Calcium	101	132	mg/l	7440-70-2
D-2S	03/03/2022	Chloride	48	126	mg/l	16887-00-6
D-2S	10/20/2022	Chloride	43	126	mg/l	16887-00-6
D-2S	03/03/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-2S	10/20/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-2S	03/03/2022	pH	7.3	7.1 < 8.1	pH UNITS	PH
D-2S	10/20/2022	pH	7.3	7.1 < 8.1	pH UNITS	PH
D-2S	03/03/2022	Sulfate as SO4	14	67.3	mg/l	14808-79-8
D-2S	10/20/2022	Sulfate as SO4	16	67.3	mg/l	14808-79-8
D-2S	03/03/2022	Total Dissolved Solids	344	662.9	mg/l	TDS
D-2S	10/20/2022	Total Dissolved Solids	446	662.9	mg/l	TDS
D-3D	03/03/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
D-3D	10/19/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
D-3D	03/03/2022	Calcium	109	132	mg/l	7440-70-2
D-3D	10/19/2022	Calcium	90.0	132	mg/l	7440-70-2
D-3D	03/03/2022	Chloride	79	126	mg/l	16887-00-6
D-3D	10/19/2022	Chloride	59	126	mg/l	16887-00-6
D-3D	03/03/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-3D	10/19/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-3D	03/03/2022	pH	7.5	7.1 < 8.1	pH UNITS	PH
D-3D	10/19/2022	pH	7.4	7.1 < 8.1	pH UNITS	PH
D-3D	03/03/2022	Sulfate as SO4	27	67.3	mg/l	14808-79-8
D-3D	10/19/2022	Sulfate as SO4	23	67.3	mg/l	14808-79-8
D-3D	03/03/2022	Total Dissolved Solids	382	662.9	mg/l	TDS
D-3D	10/19/2022	Total Dissolved Solids	442	662.9	mg/l	TDS
D-3S	03/03/2022	Boron	0.20	0.33	mg/l	7440-42-8
D-3S	10/19/2022	Boron	0.13	0.33	mg/l	7440-42-8
D-3S	03/03/2022	Calcium	79.6	132	mg/l	7440-70-2
D-3S	10/19/2022	Calcium	75.4	132	mg/l	7440-70-2
D-3S	03/03/2022	Chloride	65	126	mg/l	16887-00-6
D-3S	10/19/2022	Chloride	49	126	mg/l	16887-00-6
D-3S	03/03/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-3S	10/19/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-3S	03/03/2022	pH	7.7	7.1 < 8.1	pH UNITS	PH
D-3S	10/19/2022	pH	7.6	7.1 < 8.1	pH UNITS	PH
D-3S	03/03/2022	Sulfate as SO4	18	67.3	mg/l	14808-79-8
D-3S	10/19/2022	Sulfate as SO4	18	67.3	mg/l	14808-79-8
D-3S	03/03/2022	Total Dissolved Solids	318	662.9	mg/l	TDS
D-3S	10/19/2022	Total Dissolved Solids	354	662.9	mg/l	TDS

Table 2



Groundwater Analytical Data
 Appendix III

Location	Date	Parameter	Result	Background Threshold Value (BTV)	Units	CAS #
D-4D	03/03/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
D-4D	10/20/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
D-4D	03/03/2022	Calcium	109	132	mg/l	7440-70-2
D-4D	10/20/2022	Calcium	99.0	132	mg/l	7440-70-2
D-4D	03/03/2022	Chloride	48	126	mg/l	16887-00-6
D-4D	10/20/2022	Chloride	44	126	mg/l	16887-00-6
D-4D	03/03/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-4D	10/20/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-4D	03/03/2022	pH	7.5	7.1 < 8.1	pH UNITS	PH
D-4D	10/20/2022	pH	7.5	7.1 < 8.1	pH UNITS	PH
D-4D	03/03/2022	Sulfate as SO4	23	67.3	mg/l	14808-79-8
D-4D	10/20/2022	Sulfate as SO4	21	67.3	mg/l	14808-79-8
D-4D	03/03/2022	Total Dissolved Solids	394	662.9	mg/l	TDS
D-4D	10/20/2022	Total Dissolved Solids	480	662.9	mg/l	TDS
D-4S	03/03/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
D-4S	10/20/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
D-4S	03/03/2022	Calcium	110	132	mg/l	7440-70-2
D-4S	10/20/2022	Calcium	105	132	mg/l	7440-70-2
D-4S	03/03/2022	Chloride	46	126	mg/l	16887-00-6
D-4S	10/20/2022	Chloride	42	126	mg/l	16887-00-6
D-4S	03/03/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-4S	10/20/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-4S	03/03/2022	pH	7.6	7.1 < 8.1	pH UNITS	PH
D-4S	10/20/2022	pH	7.4	7.1 < 8.1	pH UNITS	PH
D-4S	03/03/2022	Sulfate as SO4	23	67.3	mg/l	14808-79-8
D-4S	10/20/2022	Sulfate as SO4	21	67.3	mg/l	14808-79-8
D-4S	03/03/2022	Total Dissolved Solids	394	662.9	mg/l	TDS
D-4S	10/20/2022	Total Dissolved Solids	512	662.9	mg/l	TDS
D-5D	03/02/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
D-5D	10/19/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
D-5D	03/02/2022	Calcium	121	132	mg/l	7440-70-2
D-5D	10/19/2022	Calcium	103	132	mg/l	7440-70-2
D-5D	03/02/2022	Chloride	64	126	mg/l	16887-00-6
D-5D	10/19/2022	Chloride	65	126	mg/l	16887-00-6
D-5D	03/02/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-5D	10/19/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-5D	03/02/2022	pH	7.5	7.1 < 8.1	pH UNITS	PH
D-5D	10/19/2022	pH	7.5	7.1 < 8.1	pH UNITS	PH
D-5D	03/02/2022	Sulfate as SO4	32	67.3	mg/l	14808-79-8
D-5D	10/19/2022	Sulfate as SO4	29	67.3	mg/l	14808-79-8
D-5D	03/02/2022	Total Dissolved Solids	420	662.9	mg/l	TDS
D-5D	10/19/2022	Total Dissolved Solids	478	662.9	mg/l	TDS

Table 2



Groundwater Analytical Data
 Appendix III

Location	Date	Parameter	Result	Background Threshold Value (BTV)	Units	CAS #
D-5S2	03/02/2022	Boron	0.13	0.33	mg/l	7440-42-8
D-5S2	10/19/2022	Boron	0.10	0.33	mg/l	7440-42-8
D-5S2	03/02/2022	Calcium	98.8	132	mg/l	7440-70-2
D-5S2	10/19/2022	Calcium	101	132	mg/l	7440-70-2
D-5S2	03/02/2022	Chloride	82	126	mg/l	16887-00-6
D-5S2	10/19/2022	Chloride	76	126	mg/l	16887-00-6
D-5S2	03/02/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-5S2	10/19/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-5S2	03/02/2022	pH	7.6	7.1 < 8.1	pH UNITS	PH
D-5S2	10/19/2022	pH	7.5	7.1 < 8.1	pH UNITS	PH
D-5S2	03/02/2022	Sulfate as SO4	32	67.3	mg/l	14808-79-8
D-5S2	10/19/2022	Sulfate as SO4	40	67.3	mg/l	14808-79-8
D-5S2	03/02/2022	Total Dissolved Solids	388	662.9	mg/l	TDS
D-5S2	10/19/2022	Total Dissolved Solids	466	662.9	mg/l	TDS
D-8	03/03/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
D-8	10/20/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
D-8	03/03/2022	Calcium	132	132	mg/l	7440-70-2
D-8	10/20/2022	Calcium	117	132	mg/l	7440-70-2
D-8	03/03/2022	Chloride	36	126	mg/l	16887-00-6
D-8	10/20/2022	Chloride	31	126	mg/l	16887-00-6
D-8	03/03/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-8	10/20/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-8	03/03/2022	pH	7.7	7.1 < 8.1	pH UNITS	PH
D-8	10/20/2022	pH	7.4	7.1 < 8.1	pH UNITS	PH
D-8	03/03/2022	Sulfate as SO4	29	67.3	mg/l	14808-79-8
D-8	10/20/2022	Sulfate as SO4	26	67.3	mg/l	14808-79-8
D-8	03/03/2022	Total Dissolved Solids	426	662.9	mg/l	TDS
D-8	10/20/2022	Total Dissolved Solids	512	662.9	mg/l	TDS
D-9	03/03/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
D-9	10/20/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
D-9	03/03/2022	Calcium	119	132	mg/l	7440-70-2
D-9	10/20/2022	Calcium	100	132	mg/l	7440-70-2
D-9	03/03/2022	Chloride	37	126	mg/l	16887-00-6
D-9	10/20/2022	Chloride	36	126	mg/l	16887-00-6
D-9	03/03/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-9	10/20/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-9	03/03/2022	pH	7.4	7.1 < 8.1	pH UNITS	PH
D-9	10/20/2022	pH	7.3	7.1 < 8.1	pH UNITS	PH
D-9	03/03/2022	Sulfate as SO4	18	67.3	mg/l	14808-79-8
D-9	10/20/2022	Sulfate as SO4	12	67.3	mg/l	14808-79-8
D-9	03/03/2022	Total Dissolved Solids	434	662.9	mg/l	TDS
D-9	10/20/2022	Total Dissolved Solids	464	662.9	mg/l	TDS

Table 2



Groundwater Analytical Data
 Appendix III

Location	Date	Parameter	Result	Background Threshold Value (BTV)	Units	CAS #
U-4D	03/02/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
U-4D	10/19/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
U-4D	03/02/2022	Calcium	98.0	132	mg/l	7440-70-2
U-4D	10/19/2022	Calcium	87.8	132	mg/l	7440-70-2
U-4D	03/02/2022	Chloride	31	126	mg/l	16887-00-6
U-4D	10/19/2022	Chloride	28	126	mg/l	16887-00-6
U-4D	03/02/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
U-4D	10/19/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
U-4D	03/02/2022	pH	7.7	7.1 < 8.1	pH UNITS	PH
U-4D	10/19/2022	pH	7.6	7.1 < 8.1	pH UNITS	PH
U-4D	03/02/2022	Sulfate as SO4	24	67.3	mg/l	14808-79-8
U-4D	10/19/2022	Sulfate as SO4	22	67.3	mg/l	14808-79-8
U-4D	03/02/2022	Total Dissolved Solids	356	662.9	mg/l	TDS
U-4D	10/19/2022	Total Dissolved Solids	404	662.9	mg/l	TDS
U-4S	03/02/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
U-4S	10/19/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
U-4S	03/02/2022	Calcium	112	132	mg/l	7440-70-2
U-4S	10/19/2022	Calcium	95.0	132	mg/l	7440-70-2
U-4S	03/02/2022	Chloride	48	126	mg/l	16887-00-6
U-4S	10/19/2022	Chloride	38	126	mg/l	16887-00-6
U-4S	03/02/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
U-4S	10/19/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
U-4S	03/02/2022	pH	7.4	7.1 < 8.1	pH UNITS	PH
U-4S	10/19/2022	pH	7.3	7.1 < 8.1	pH UNITS	PH
U-4S	03/02/2022	Sulfate as SO4	22	67.3	mg/l	14808-79-8
U-4S	10/19/2022	Sulfate as SO4	20	67.3	mg/l	14808-79-8
U-4S	03/02/2022	Total Dissolved Solids	372	662.9	mg/l	TDS
U-4S	10/19/2022	Total Dissolved Solids	434	662.9	mg/l	TDS
U-5D	03/02/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
U-5D	10/19/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
U-5D	03/02/2022	Calcium	94.8	132	mg/l	7440-70-2
U-5D	10/19/2022	Calcium	87.1	132	mg/l	7440-70-2
U-5D	03/02/2022	Chloride	27	126	mg/l	16887-00-6
U-5D	10/19/2022	Chloride	23	126	mg/l	16887-00-6
U-5D	03/02/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
U-5D	10/19/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
U-5D	03/02/2022	pH	7.6	7.1 < 8.1	pH UNITS	PH
U-5D	10/19/2022	pH	7.5	7.1 < 8.1	pH UNITS	PH
U-5D	03/02/2022	Sulfate as SO4	27	67.3	mg/l	14808-79-8
U-5D	10/19/2022	Sulfate as SO4	25	67.3	mg/l	14808-79-8
U-5D	03/02/2022	Total Dissolved Solids	322	662.9	mg/l	TDS
U-5D	10/19/2022	Total Dissolved Solids	384	662.9	mg/l	TDS

Table 2
Groundwater Analytical Data
Appendix III



Location	Date	Parameter	Result	Background Threshold Value (BTV)	Units	CAS #
U-5S	03/02/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
U-5S	10/19/2022	Boron	< 0.10	0.33	mg/l	7440-42-8
U-5S	03/02/2022	Calcium	98.2	132	mg/l	7440-70-2
U-5S	10/19/2022	Calcium	86.2	132	mg/l	7440-70-2
U-5S	03/02/2022	Chloride	38	126	mg/l	16887-00-6
U-5S	10/19/2022	Chloride	36	126	mg/l	16887-00-6
U-5S	03/02/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
U-5S	10/19/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
U-5S	03/02/2022	pH	7.4	7.1 < 8.1	pH UNITS	PH
U-5S	10/19/2022	pH	7.3	7.1 < 8.1	pH UNITS	PH
U-5S	03/02/2022	Sulfate as SO4	21	67.3	mg/l	14808-79-8
U-5S	10/19/2022	Sulfate as SO4	21	67.3	mg/l	14808-79-8
U-5S	03/02/2022	Total Dissolved Solids	374	662.9	mg/l	TDS
U-5S	10/19/2022	Total Dissolved Solids	436	662.9	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 #
D-1D	10/20/2022	Antimony	< 0.0020	0.002	mg/l	7440-36-0
D-1D	10/20/2022	Arsenic	< 0.0020	0.002	mg/l	7440-38-2
D-1D	03/02/2022	Barium	0.051	0.106	mg/l	7440-39-3
D-1D	10/20/2022	Barium	0.043	0.106	mg/l	7440-39-3
D-1D	10/20/2022	Beryllium	< 0.0010	0.001	mg/l	7440-41-7
D-1D	10/20/2022	Cadmium	< 0.00010	0.0005	mg/l	7440-43-9
D-1D	03/02/2022	Chromium	0.0058	0.052	mg/l	7440-47-3
D-1D	10/20/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3
D-1D	03/02/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
D-1D	10/20/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
D-1D	10/20/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-1D	10/20/2022	Lead	0.00060	0.01	mg/l	7439-92-1
D-1D	10/20/2022	Lithium	< 0.010	0.03	mg/l	7439-93-2
D-1D	10/20/2022	Mercury	< 0.00020	0.0002	mg/l	7439-97-6
D-1D	10/20/2022	Molybdenum	< 0.0020	0.002	mg/l	7439-98-7
D-1D	03/02/2022	Radium 226	< 0.292	0.479	pci/l	13982-63-3
D-1D	10/20/2022	Radium 226	0.107	0.479	pci/l	13982-63-3
D-1D	03/02/2022	Radium 228	< 0.310	1.84	pci/l	15262-20-1
D-1D	10/20/2022	Radium 228	< 0.480	1.84	pci/l	15262-20-1
D-1D	03/02/2022	Radium-226/228	0.362	2.319	pci/l	425
D-1D	10/20/2022	Radium-226/228	0.567	2.319	pci/l	425
D-1D	10/20/2022	Selenium	< 0.0050	0.005	mg/l	7782-49-2
D-1D	10/20/2022	Thallium	0.0013	0.0018	mg/l	7440-28-0
D-1S	10/20/2022	Antimony	< 0.0020	0.002	mg/l	7440-36-0
D-1S	10/20/2022	Arsenic	< 0.0020	0.002	mg/l	7440-38-2
D-1S	03/02/2022	Barium	0.053	0.106	mg/l	7440-39-3
D-1S	10/20/2022	Barium	0.046	0.106	mg/l	7440-39-3
D-1S	10/20/2022	Beryllium	< 0.0010	0.001	mg/l	7440-41-7
D-1S	10/20/2022	Cadmium	< 0.00010	0.0005	mg/l	7440-43-9
D-1S	03/02/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3
D-1S	10/20/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3
D-1S	03/02/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
D-1S	10/20/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
D-1S	10/20/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-1S	10/20/2022	Lead	< 0.00050	0.01	mg/l	7439-92-1
D-1S	10/20/2022	Lithium	< 0.010	0.03	mg/l	7439-93-2
D-1S	10/20/2022	Mercury	< 0.00020	0.0002	mg/l	7439-97-6
D-1S	10/20/2022	Molybdenum	< 0.0020	0.002	mg/l	7439-98-7
D-1S	03/02/2022	Radium 226	< 0.211	0.479	pci/l	13982-63-3
D-1S	10/20/2022	Radium 226	< 0.107	0.479	pci/l	13982-63-3
D-1S	03/02/2022	Radium 228	< 0.357	1.84	pci/l	15262-20-1
D-1S	10/20/2022	Radium 228	< 0.467	1.84	pci/l	15262-20-1

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D-1S	03/02/2022	Radium-226/228	0.522	2.319	pci/l	425
D-1S	10/20/2022	Radium-226/228	< 0.467	2.319	pci/l	425
D-1S	10/20/2022	Selenium	< 0.0050	0.005	mg/l	7782-49-2
D-1S	10/20/2022	Thallium	< 0.0010	0.0018	mg/l	7440-28-0
D-2D	10/20/2022	Antimony	< 0.0020	0.002	mg/l	7440-36-0
D-2D	10/20/2022	Arsenic	< 0.0020	0.002	mg/l	7440-38-2
D-2D	03/03/2022	Barium	0.055	0.106	mg/l	7440-39-3
D-2D	10/20/2022	Barium	0.048	0.106	mg/l	7440-39-3
D-2D	10/20/2022	Beryllium	< 0.0010	0.001	mg/l	7440-41-7
D-2D	10/20/2022	Cadmium	< 0.00010	0.0005	mg/l	7440-43-9
D-2D	03/03/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3
D-2D	10/20/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3
D-2D	03/03/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
D-2D	10/20/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
D-2D	10/20/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-2D	10/20/2022	Lead	< 0.00050	0.01	mg/l	7439-92-1
D-2D	10/20/2022	Lithium	< 0.010	0.03	mg/l	7439-93-2
D-2D	10/20/2022	Mercury	< 0.00020	0.0002	mg/l	7439-97-6
D-2D	10/20/2022	Molybdenum	< 0.0020	0.002	mg/l	7439-98-7
D-2D	03/03/2022	Radium 226	< 0.488	0.479	pci/l	13982-63-3
D-2D	10/20/2022	Radium 226	< 0.107	0.479	pci/l	13982-63-3
D-2D	03/03/2022	Radium 228	< 0.549	1.84	pci/l	15262-20-1
D-2D	10/20/2022	Radium 228	0.611	1.84	pci/l	15262-20-1
D-2D	03/03/2022	Radium-226/228	< 0.549	2.319	pci/l	425
D-2D	10/20/2022	Radium-226/228	0.696	2.319	pci/l	425
D-2D	10/20/2022	Selenium	< 0.0050	0.005	mg/l	7782-49-2
D-2D	10/20/2022	Thallium	< 0.0010	0.0018	mg/l	7440-28-0
D-2S	10/20/2022	Antimony	< 0.0020	0.002	mg/l	7440-36-0
D-2S	10/20/2022	Arsenic	< 0.0020	0.002	mg/l	7440-38-2
D-2S	03/03/2022	Barium	0.053	0.106	mg/l	7440-39-3
D-2S	10/20/2022	Barium	0.048	0.106	mg/l	7440-39-3
D-2S	10/20/2022	Beryllium	< 0.0010	0.001	mg/l	7440-41-7
D-2S	10/20/2022	Cadmium	< 0.00010	0.0005	mg/l	7440-43-9
D-2S	03/03/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3
D-2S	10/20/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3
D-2S	03/03/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
D-2S	10/20/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
D-2S	10/20/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-2S	10/20/2022	Lead	< 0.00050	0.01	mg/l	7439-92-1
D-2S	10/20/2022	Lithium	< 0.010	0.03	mg/l	7439-93-2
D-2S	10/20/2022	Mercury	< 0.00020	0.0002	mg/l	7439-97-6
D-2S	10/20/2022	Molybdenum	< 0.0020	0.002	mg/l	7439-98-7

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D-2S	03/03/2022	Radium 226	< 0.443	0.479	pci/l	13982-63-3
D-2S	10/20/2022	Radium 226	< 0.123	0.479	pci/l	13982-63-3
D-2S	03/03/2022	Radium 228	< 0.726	1.84	pci/l	15262-20-1
D-2S	10/20/2022	Radium 228	< 0.498	1.84	pci/l	15262-20-1
D-2S	03/03/2022	Radium-226/228	< 0.726	2.319	pci/l	425
D-2S	10/20/2022	Radium-226/228	< 0.498	2.319	pci/l	425
D-2S	10/20/2022	Selenium	< 0.0050	0.005	mg/l	7782-49-2
D-2S	10/20/2022	Thallium	< 0.0010	0.0018	mg/l	7440-28-0
D-3D	10/19/2022	Antimony	< 0.0020	0.002	mg/l	7440-36-0
D-3D	10/19/2022	Arsenic	< 0.0020	0.002	mg/l	7440-38-2
D-3D	03/03/2022	Barium	0.063	0.106	mg/l	7440-39-3
D-3D	10/19/2022	Barium	0.052	0.106	mg/l	7440-39-3
D-3D	10/19/2022	Beryllium	< 0.0010	0.001	mg/l	7440-41-7
D-3D	10/19/2022	Cadmium	< 0.00010	0.0005	mg/l	7440-43-9
D-3D	03/03/2022	Chromium	0.10	0.052	mg/l	7440-47-3
D-3D	10/19/2022	Chromium	0.076	0.052	mg/l	7440-47-3
D-3D	03/03/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
D-3D	10/19/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
D-3D	10/19/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-3D	10/19/2022	Lead	< 0.00050	0.01	mg/l	7439-92-1
D-3D	10/19/2022	Lithium	< 0.010	0.03	mg/l	7439-93-2
D-3D	10/19/2022	Mercury	< 0.00020	0.0002	mg/l	7439-97-6
D-3D	10/19/2022	Molybdenum	< 0.0020	0.002	mg/l	7439-98-7
D-3D	03/03/2022	Radium 226	< 0.347	0.479	pci/l	13982-63-3
D-3D	10/19/2022	Radium 226	< 0.140	0.479	pci/l	13982-63-3
D-3D	03/03/2022	Radium 228	< 0.426	1.84	pci/l	15262-20-1
D-3D	10/19/2022	Radium 228	0.909	1.84	pci/l	15262-20-1
D-3D	03/03/2022	Radium-226/228	0.523	2.319	pci/l	425
D-3D	10/19/2022	Radium-226/228	0.902	2.319	pci/l	425
D-3D	10/19/2022	Selenium	< 0.0050	0.005	mg/l	7782-49-2
D-3D	10/19/2022	Thallium	< 0.0010	0.0018	mg/l	7440-28-0
D-3S	10/19/2022	Antimony	< 0.0020	0.002	mg/l	7440-36-0
D-3S	10/19/2022	Arsenic	< 0.0020	0.002	mg/l	7440-38-2
D-3S	03/03/2022	Barium	0.042	0.106	mg/l	7440-39-3
D-3S	10/19/2022	Barium	0.039	0.106	mg/l	7440-39-3
D-3S	10/19/2022	Beryllium	< 0.0010	0.001	mg/l	7440-41-7
D-3S	10/19/2022	Cadmium	< 0.00010	0.0005	mg/l	7440-43-9
D-3S	03/03/2022	Chromium	0.014	0.052	mg/l	7440-47-3
D-3S	10/19/2022	Chromium	0.0068	0.052	mg/l	7440-47-3
D-3S	03/03/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
D-3S	10/19/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
D-3S	10/19/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8

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D-3S	10/19/2022	Lead	< 0.00050	0.01	mg/l	7439-92-1
D-3S	10/19/2022	Lithium	< 0.010	0.03	mg/l	7439-93-2
D-3S	10/19/2022	Mercury	< 0.00020	0.0002	mg/l	7439-97-6
D-3S	10/19/2022	Molybdenum	< 0.0020	0.002	mg/l	7439-98-7
D-3S	03/03/2022	Radium 226	< 0.301	0.479	pci/l	13982-63-3
D-3S	10/19/2022	Radium 226	< 0.122	0.479	pci/l	13982-63-3
D-3S	03/03/2022	Radium 228	0.711	1.84	pci/l	15262-20-1
D-3S	10/19/2022	Radium 228	1.45	1.84	pci/l	15262-20-1
D-3S	03/03/2022	Radium-226/228	0.855	2.319	pci/l	425
D-3S	10/19/2022	Radium-226/228	1.49	2.319	pci/l	425
D-3S	10/19/2022	Selenium	< 0.0050	0.005	mg/l	7782-49-2
D-3S	10/19/2022	Thallium	< 0.0010	0.0018	mg/l	7440-28-0
D-4D	10/20/2022	Antimony	< 0.0020	0.002	mg/l	7440-36-0
D-4D	10/20/2022	Arsenic	< 0.0020	0.002	mg/l	7440-38-2
D-4D	03/03/2022	Barium	0.072	0.106	mg/l	7440-39-3
D-4D	10/20/2022	Barium	0.067	0.106	mg/l	7440-39-3
D-4D	10/20/2022	Beryllium	< 0.0010	0.001	mg/l	7440-41-7
D-4D	10/20/2022	Cadmium	< 0.00010	0.0005	mg/l	7440-43-9
D-4D	03/03/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3
D-4D	10/20/2022	Chromium	0.0075	0.052	mg/l	7440-47-3
D-4D	03/03/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
D-4D	10/20/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
D-4D	10/20/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-4D	10/20/2022	Lead	< 0.00050	0.01	mg/l	7439-92-1
D-4D	10/20/2022	Lithium	< 0.010	0.03	mg/l	7439-93-2
D-4D	10/20/2022	Mercury	< 0.00020	0.0002	mg/l	7439-97-6
D-4D	10/20/2022	Molybdenum	< 0.0020	0.002	mg/l	7439-98-7
D-4D	03/03/2022	Radium 226	< 0.237	0.479	pci/l	13982-63-3
D-4D	10/20/2022	Radium 226	< 0.107	0.479	pci/l	13982-63-3
D-4D	03/03/2022	Radium 228	< 0.316	1.84	pci/l	15262-20-1
D-4D	10/20/2022	Radium 228	< 0.489	1.84	pci/l	15262-20-1
D-4D	03/03/2022	Radium-226/228	0.347	2.319	pci/l	425
D-4D	10/20/2022	Radium-226/228	< 0.489	2.319	pci/l	425
D-4D	10/20/2022	Selenium	< 0.0050	0.005	mg/l	7782-49-2
D-4D	10/20/2022	Thallium	< 0.0010	0.0018	mg/l	7440-28-0
D-4S	10/20/2022	Antimony	< 0.0020	0.002	mg/l	7440-36-0
D-4S	10/20/2022	Arsenic	< 0.0020	0.002	mg/l	7440-38-2
D-4S	03/03/2022	Barium	0.083	0.106	mg/l	7440-39-3
D-4S	10/20/2022	Barium	0.076	0.106	mg/l	7440-39-3
D-4S	10/20/2022	Beryllium	< 0.0010	0.001	mg/l	7440-41-7
D-4S	10/20/2022	Cadmium	< 0.00010	0.0005	mg/l	7440-43-9
D-4S	03/03/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3

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D-4S	10/20/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3
D-4S	03/03/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
D-4S	10/20/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
D-4S	10/20/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-4S	10/20/2022	Lead	< 0.00050	0.01	mg/l	7439-92-1
D-4S	10/20/2022	Lithium	< 0.010	0.03	mg/l	7439-93-2
D-4S	10/20/2022	Mercury	< 0.00020	0.0002	mg/l	7439-97-6
D-4S	10/20/2022	Molybdenum	< 0.0020	0.002	mg/l	7439-98-7
D-4S	03/03/2022	Radium 226	< 0.319	0.479	pci/l	13982-63-3
D-4S	10/20/2022	Radium 226	< 0.136	0.479	pci/l	13982-63-3
D-4S	03/03/2022	Radium 228	< 0.362	1.84	pci/l	15262-20-1
D-4S	10/20/2022	Radium 228	< 0.610	1.84	pci/l	15262-20-1
D-4S	03/03/2022	Radium-226/228	< 0.362	2.319	pci/l	425
D-4S	10/20/2022	Radium-226/228	0.640	2.319	pci/l	425
D-4S	10/20/2022	Selenium	< 0.0050	0.005	mg/l	7782-49-2
D-4S	10/20/2022	Thallium	< 0.0010	0.0018	mg/l	7440-28-0
D-5D	10/19/2022	Antimony	< 0.0020	0.002	mg/l	7440-36-0
D-5D	10/19/2022	Arsenic	< 0.0020	0.002	mg/l	7440-38-2
D-5D	03/02/2022	Barium	0.064	0.106	mg/l	7440-39-3
D-5D	10/19/2022	Barium	0.056	0.106	mg/l	7440-39-3
D-5D	10/19/2022	Beryllium	< 0.0010	0.001	mg/l	7440-41-7
D-5D	10/19/2022	Cadmium	< 0.00010	0.0005	mg/l	7440-43-9
D-5D	03/02/2022	Chromium	0.0056	0.052	mg/l	7440-47-3
D-5D	10/19/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3
D-5D	03/02/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
D-5D	10/19/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
D-5D	10/19/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-5D	10/19/2022	Lead	< 0.00050	0.01	mg/l	7439-92-1
D-5D	10/19/2022	Lithium	< 0.010	0.03	mg/l	7439-93-2
D-5D	10/19/2022	Mercury	< 0.00020	0.0002	mg/l	7439-97-6
D-5D	10/19/2022	Molybdenum	< 0.0020	0.002	mg/l	7439-98-7
D-5D	03/02/2022	Radium 226	< 0.309	0.479	pci/l	13982-63-3
D-5D	10/19/2022	Radium 226	< 0.129	0.479	pci/l	13982-63-3
D-5D	03/02/2022	Radium 228	< 0.451	1.84	pci/l	15262-20-1
D-5D	10/19/2022	Radium 228	< 0.555	1.84	pci/l	15262-20-1
D-5D	03/02/2022	Radium-226/228	0.467	2.319	pci/l	425
D-5D	10/19/2022	Radium-226/228	< 0.555	2.319	pci/l	425
D-5D	10/19/2022	Selenium	< 0.0050	0.005	mg/l	7782-49-2
D-5D	10/19/2022	Thallium	< 0.0010	0.0018	mg/l	7440-28-0
D-5S2	10/19/2022	Antimony	< 0.0020	0.002	mg/l	7440-36-0
D-5S2	10/19/2022	Arsenic	< 0.0020	0.002	mg/l	7440-38-2
D-5S2	03/02/2022	Barium	0.057	0.106	mg/l	7440-39-3

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D-5S2	10/19/2022	Barium	0.057	0.106	mg/l	7440-39-3
D-5S2	10/19/2022	Beryllium	< 0.0010	0.001	mg/l	7440-41-7
D-5S2	10/19/2022	Cadmium	< 0.00010	0.0005	mg/l	7440-43-9
D-5S2	03/02/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3
D-5S2	10/19/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3
D-5S2	03/02/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
D-5S2	10/19/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
D-5S2	10/19/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-5S2	10/19/2022	Lead	< 0.00050	0.01	mg/l	7439-92-1
D-5S2	10/19/2022	Lithium	< 0.010	0.03	mg/l	7439-93-2
D-5S2	10/19/2022	Mercury	< 0.00020	0.0002	mg/l	7439-97-6
D-5S2	10/19/2022	Molybdenum	< 0.0020	0.002	mg/l	7439-98-7
D-5S2	03/02/2022	Radium 226	< 0.290	0.479	pci/l	13982-63-3
D-5S2	10/19/2022	Radium 226	< 0.107	0.479	pci/l	13982-63-3
D-5S2	03/02/2022	Radium 228	< 0.459	1.84	pci/l	15262-20-1
D-5S2	10/19/2022	Radium 228	0.631	1.84	pci/l	15262-20-1
D-5S2	03/02/2022	Radium-226/228	< 0.459	2.319	pci/l	425
D-5S2	10/19/2022	Radium-226/228	0.686	2.319	pci/l	425
D-5S2	10/19/2022	Selenium	< 0.0050	0.005	mg/l	7782-49-2
D-5S2	10/19/2022	Thallium	< 0.0010	0.0018	mg/l	7440-28-0
D-8	10/20/2022	Antimony	< 0.0020	0.002	mg/l	7440-36-0
D-8	10/20/2022	Arsenic	< 0.0020	0.002	mg/l	7440-38-2
D-8	03/03/2022	Barium	0.10	0.106	mg/l	7440-39-3
D-8	10/20/2022	Barium	0.082	0.106	mg/l	7440-39-3
D-8	10/20/2022	Beryllium	< 0.0010	0.001	mg/l	7440-41-7
D-8	10/20/2022	Cadmium	< 0.00010	0.0005	mg/l	7440-43-9
D-8	03/03/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3
D-8	10/20/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3
D-8	03/03/2022	Cobalt	0.0015	0.0015	mg/l	7440-48-4
D-8	10/20/2022	Cobalt	0.00059	0.0015	mg/l	7440-48-4
D-8	10/20/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-8	10/20/2022	Lead	< 0.00050	0.01	mg/l	7439-92-1
D-8	10/20/2022	Lithium	< 0.010	0.03	mg/l	7439-93-2
D-8	10/20/2022	Mercury	< 0.00020	0.0002	mg/l	7439-97-6
D-8	10/20/2022	Molybdenum	< 0.0020	0.002	mg/l	7439-98-7
D-8	03/03/2022	Radium 226	< 0.586	0.479	pci/l	13982-63-3
D-8	10/20/2022	Radium 226	< 0.218	0.479	pci/l	13982-63-3
D-8	03/03/2022	Radium 228	< 0.808	1.84	pci/l	15262-20-1
D-8	10/20/2022	Radium 228	< 0.675	1.84	pci/l	15262-20-1
D-8	03/03/2022	Radium-226/228	< 0.808	2.319	pci/l	425
D-8	10/20/2022	Radium-226/228	< 0.675	2.319	pci/l	425
D-8	10/20/2022	Selenium	< 0.0050	0.005	mg/l	7782-49-2

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Groundwater Analytical Data
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Location	Date	Parameter	Result	Background Threshold Value (BTV)	Units	CAS #
D-8	10/20/2022	Thallium	< 0.0010	0.0018	mg/l	7440-28-0
D-9	10/20/2022	Antimony	< 0.0020	0.002	mg/l	7440-36-0
D-9	10/20/2022	Arsenic	< 0.0020	0.002	mg/l	7440-38-2
D-9	03/03/2022	Barium	0.089	0.106	mg/l	7440-39-3
D-9	10/20/2022	Barium	0.069	0.106	mg/l	7440-39-3
D-9	10/20/2022	Beryllium	< 0.0010	0.001	mg/l	7440-41-7
D-9	10/20/2022	Cadmium	< 0.00010	0.0005	mg/l	7440-43-9
D-9	03/03/2022	Chromium	0.0058	0.052	mg/l	7440-47-3
D-9	10/20/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3
D-9	03/03/2022	Cobalt	0.0013	0.0015	mg/l	7440-48-4
D-9	10/20/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
D-9	10/20/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
D-9	10/20/2022	Lead	< 0.00050	0.01	mg/l	7439-92-1
D-9	10/20/2022	Lithium	< 0.010	0.03	mg/l	7439-93-2
D-9	10/20/2022	Mercury	< 0.00020	0.0002	mg/l	7439-97-6
D-9	10/20/2022	Molybdenum	< 0.0020	0.002	mg/l	7439-98-7
D-9	03/03/2022	Radium 226	< 0.399	0.479	pci/l	13982-63-3
D-9	10/20/2022	Radium 226	< 0.123	0.479	pci/l	13982-63-3
D-9	03/03/2022	Radium 228	< 0.657	1.84	pci/l	15262-20-1
D-9	10/20/2022	Radium 228	< 0.389	1.84	pci/l	15262-20-1
D-9	03/03/2022	Radium-226/228	0.793	2.319	pci/l	425
D-9	10/20/2022	Radium-226/228	< 0.389	2.319	pci/l	425
D-9	10/20/2022	Selenium	< 0.0050	0.005	mg/l	7782-49-2
D-9	10/20/2022	Thallium	< 0.0010	0.0018	mg/l	7440-28-0
U-4D	10/19/2022	Antimony	< 0.0020	0.002	mg/l	7440-36-0
U-4D	10/19/2022	Arsenic	< 0.0020	0.002	mg/l	7440-38-2
U-4D	03/02/2022	Barium	0.045	0.106	mg/l	7440-39-3
U-4D	10/19/2022	Barium	0.040	0.106	mg/l	7440-39-3
U-4D	10/19/2022	Beryllium	< 0.0010	0.001	mg/l	7440-41-7
U-4D	10/19/2022	Cadmium	< 0.00010	0.0005	mg/l	7440-43-9
U-4D	03/02/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3
U-4D	10/19/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3
U-4D	03/02/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
U-4D	10/19/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
U-4D	10/19/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
U-4D	10/19/2022	Lead	0.00050	0.01	mg/l	7439-92-1
U-4D	10/19/2022	Lithium	< 0.010	0.03	mg/l	7439-93-2
U-4D	10/19/2022	Mercury	< 0.00020	0.0002	mg/l	7439-97-6
U-4D	10/19/2022	Molybdenum	< 0.0020	0.002	mg/l	7439-98-7
U-4D	03/02/2022	Radium 226	< 0.253	0.479	pci/l	13982-63-3
U-4D	10/19/2022	Radium 226	< 0.144	0.479	pci/l	13982-63-3
U-4D	03/02/2022	Radium 228	< 0.385	1.84	pci/l	15262-20-1

Table 3



Groundwater Analytical Data
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Location	Date	Parameter	Result	Background Threshold Value (BTV)	Units	CAS #
U-4D	10/19/2022	Radium 228	< 0.565	1.84	pci/l	15262-20-1
U-4D	03/02/2022	Radium-226/228	< 0.385	2.319	pci/l	425
U-4D	10/19/2022	Radium-226/228	< 0.565	2.319	pci/l	425
U-4D	10/19/2022	Selenium	< 0.0050	0.005	mg/l	7782-49-2
U-4D	10/19/2022	Thallium	0.0018	0.0018	mg/l	7440-28-0
U-4S	10/19/2022	Antimony	< 0.0020	0.002	mg/l	7440-36-0
U-4S	10/19/2022	Arsenic	< 0.0020	0.002	mg/l	7440-38-2
U-4S	03/02/2022	Barium	0.046	0.106	mg/l	7440-39-3
U-4S	10/19/2022	Barium	0.040	0.106	mg/l	7440-39-3
U-4S	10/19/2022	Beryllium	< 0.0010	0.001	mg/l	7440-41-7
U-4S	10/19/2022	Cadmium	< 0.00010	0.0005	mg/l	7440-43-9
U-4S	03/02/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3
U-4S	10/19/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3
U-4S	03/02/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
U-4S	10/19/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
U-4S	10/19/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
U-4S	10/19/2022	Lead	< 0.00050	0.01	mg/l	7439-92-1
U-4S	10/19/2022	Lithium	< 0.010	0.03	mg/l	7439-93-2
U-4S	10/19/2022	Mercury	< 0.00020	0.0002	mg/l	7439-97-6
U-4S	10/19/2022	Molybdenum	< 0.0020	0.002	mg/l	7439-98-7
U-4S	03/02/2022	Radium 226	< 0.278	0.479	pci/l	13982-63-3
U-4S	10/19/2022	Radium 226	< 0.144	0.479	pci/l	13982-63-3
U-4S	03/02/2022	Radium 228	< 0.553	1.84	pci/l	15262-20-1
U-4S	10/19/2022	Radium 228	0.636	1.84	pci/l	15262-20-1
U-4S	03/02/2022	Radium-226/228	< 0.553	2.319	pci/l	425
U-4S	10/19/2022	Radium-226/228	0.758	2.319	pci/l	425
U-4S	10/19/2022	Selenium	< 0.0050	0.005	mg/l	7782-49-2
U-4S	10/19/2022	Thallium	< 0.0010	0.0018	mg/l	7440-28-0
U-5D	10/19/2022	Antimony	< 0.0020	0.002	mg/l	7440-36-0
U-5D	10/19/2022	Arsenic	< 0.0020	0.002	mg/l	7440-38-2
U-5D	03/02/2022	Barium	0.058	0.106	mg/l	7440-39-3
U-5D	10/19/2022	Barium	0.054	0.106	mg/l	7440-39-3
U-5D	10/19/2022	Beryllium	< 0.0010	0.001	mg/l	7440-41-7
U-5D	10/19/2022	Cadmium	< 0.00010	0.0005	mg/l	7440-43-9
U-5D	03/02/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3
U-5D	10/19/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3
U-5D	03/02/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
U-5D	10/19/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
U-5D	10/19/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
U-5D	10/19/2022	Lead	< 0.00050	0.01	mg/l	7439-92-1
U-5D	10/19/2022	Lithium	< 0.010	0.03	mg/l	7439-93-2
U-5D	10/19/2022	Mercury	< 0.00020	0.0002	mg/l	7439-97-6

Table 3



Groundwater Analytical Data
 Appendix IV

Location	Date	Parameter	Result	Background Threshold Value (BTV)	Units	CAS #
U-5D	10/19/2022	Molybdenum	< 0.0020	0.002	mg/l	7439-98-7
U-5D	03/02/2022	Radium 226	< 0.185	0.479	pci/l	13982-63-3
U-5D	10/19/2022	Radium 226	< 0.111	0.479	pci/l	13982-63-3
U-5D	03/02/2022	Radium 228	< 0.385	1.84	pci/l	15262-20-1
U-5D	10/19/2022	Radium 228	< 0.590	1.84	pci/l	15262-20-1
U-5D	03/02/2022	Radium-226/228	< 0.385	2.319	pci/l	425
U-5D	10/19/2022	Radium-226/228	< 0.590	2.319	pci/l	425
U-5D	10/19/2022	Selenium	< 0.0050	0.005	mg/l	7782-49-2
U-5D	10/19/2022	Thallium	< 0.0010	0.0018	mg/l	7440-28-0
U-5S	10/19/2022	Antimony	< 0.0020	0.002	mg/l	7440-36-0
U-5S	10/19/2022	Arsenic	< 0.0020	0.002	mg/l	7440-38-2
U-5S	03/02/2022	Barium	0.070	0.106	mg/l	7440-39-3
U-5S	10/19/2022	Barium	0.061	0.106	mg/l	7440-39-3
U-5S	10/19/2022	Beryllium	< 0.0010	0.001	mg/l	7440-41-7
U-5S	10/19/2022	Cadmium	< 0.00010	0.0005	mg/l	7440-43-9
U-5S	03/02/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3
U-5S	10/19/2022	Chromium	< 0.0050	0.052	mg/l	7440-47-3
U-5S	03/02/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
U-5S	10/19/2022	Cobalt	< 0.00050	0.0015	mg/l	7440-48-4
U-5S	10/19/2022	Fluoride	< 0.50	0.5	mg/l	16984-48-8
U-5S	10/19/2022	Lead	< 0.00050	0.01	mg/l	7439-92-1
U-5S	10/19/2022	Lithium	< 0.010	0.03	mg/l	7439-93-2
U-5S	10/19/2022	Mercury	< 0.00020	0.0002	mg/l	7439-97-6
U-5S	10/19/2022	Molybdenum	< 0.0020	0.002	mg/l	7439-98-7
U-5S	03/02/2022	Radium 226	< 0.429	0.479	pci/l	13982-63-3
U-5S	10/19/2022	Radium 226	< 0.116	0.479	pci/l	13982-63-3
U-5S	03/02/2022	Radium 228	< 0.733	1.84	pci/l	15262-20-1
U-5S	10/19/2022	Radium 228	< 0.440	1.84	pci/l	15262-20-1
U-5S	03/02/2022	Radium-226/228	< 0.733	2.319	pci/l	425
U-5S	10/19/2022	Radium-226/228	0.448	2.319	pci/l	425
U-5S	10/19/2022	Selenium	< 0.0050	0.005	mg/l	7782-49-2
U-5S	10/19/2022	Thallium	< 0.0010	0.0018	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	Measurement Date	Purge Rate ml/min	Purge Volume gal	Field pH	Field Specific Conductivity umhos/cm	Field Temp deg c	Dissolved Oxygen mg/l	Turbidity NTU	Eh mV
D-1D	3/2/22 3:25 PM	1000	0.1	7.16	734	10.55	10.82	2.4	178
D-1D	3/2/22 3:30 PM	1000	2.5	7.48	722	11.35	11.05	3.1	213
D-1D	3/2/22 3:35 PM	1000	5	7.48	725	11.35	11.35	3.8	213
D-1D	3/2/22 3:40 PM	1000	8	7.48	725	11.34	11.22	3.5	214
D-1D	3/2/22 3:45 PM			7.49	725	11.25	11.11	3.7	215
D-1D	10/20/22 8:15 AM	1000	0.1	7.96	729	12.31	13.69	1.6	146
D-1D	10/20/22 8:25 AM	1000	7	7.91	735	12.29	13.54	0.7	157
D-1D	10/20/22 8:35 AM	1000	14	7.91	730	12.31	12.99	0.6	161
D-1D	10/20/22 8:45 AM	1000	22	7.91	730	12.31	12.30	0.5	161
D-1D	10/20/22 8:50 AM			7.92	730	12.30	13.07	0.4	161
D-1S	3/2/22 3:20 PM	1000	0.1	7.11	785	10.79	16.74	9.9	180
D-1S	3/2/22 3:25 PM	1000	1.5	6.96	772	11.39	10.43	4.2	176
D-1S	3/2/22 3:30 PM	1000	3.0	6.96	770	11.40	10.01	3.8	174
D-1S	3/2/22 3:35 PM	1000	5.0	7.01	785	11.42	6.81	2.8	196
D-1S	3/2/22 3:40 PM			7.02	773	11.54	10.43	2.3	174
D-1S	10/20/22 8:15 AM	1000	0.1	7.65	797	7.49	13.27	4.1	150
D-1S	10/20/22 8:20 AM	1000	2	7.50	775	10.21	10.09	6.3	150
D-1S	10/20/22 8:25 AM	1000	4	7.42	740	11.99	10.93	4.2	143
D-1S	10/20/22 8:30 AM	1000	7	7.49	746	11.83	10.66	0.5	125
D-1S	10/20/22 8:35 AM			7.49	738	12.09	3.47	0.5	122
D-2D	3/3/21 10:05 AM	1000	0.1	7.41	739	9.67	7.13	3.3	183
D-2D	3/3/21 10:15 AM	1000	3	7.44	795	9.51	7.11	4.3	189
D-2D	3/3/21 10:25 AM	1000	6	7.44	794	9.62	7.15	2.6	190
D-2D	3/3/21 10:35 AM	1000	9	7.44	794	9.53	7.16	3.2	190
D-2D	3/3/21 10:40 AM			7.44	795	9.62	7.27	3.1	193
D-2D	10/20/22 9:35 AM	1000	0.1	7.72	789	10.39	10.39	0.2	163
D-2D	10/20/22 9:50 AM	1000	10	7.74	789	10.36	10.07	0.2	168
D-2D	10/20/22 10:05 AM	1000	20	7.73	789	10.36	10.10	0.2	172
D-2D	10/20/22 10:10 AM	1000	24	7.71	789	10.36	10.17	0.2	175
D-2D	10/20/22 10:15 AM			7.72	789	10.36	10.07	0.2	175
D-2S	3/3/21 10:15 AM	1000	0.1	7.42	618	8.15	10.83	73.8	164
D-2S	3/3/21 10:20 AM	1000	2	6.81	813	9.83	11.36	119	164
D-2S	3/3/21 10:25 AM	1000	4	6.98	807	9.93	10.19	82.6	165
D-2S	3/3/21 10:30 AM	1000	6	7.05	822	9.95	9.42	65.8	165
D-2S	3/3/21 10:35 AM			7.07	819	9.88	11.30	47	165
D-2S	10/20/22 9:35 AM	1000	0.1	8.02	651	11.56	13.59	1.5	160
D-2S	10/20/22 9:45 AM	1000	3	7.40	802	10.83	12.05	0.3	170
D-2S	10/20/22 9:55 AM	1000	6	7.44	798	10.82	10.03	0.3	165
D-2S	10/20/22 10:05 AM	1000	8.5	7.42	800	10.85	11.44	0.2	150
D-2S	10/20/22 10:10 AM			7.44	797	10.85	11.14	0.2	149
D-3D	3/3/21 9:05 AM	1000	0.1	7.60	891	9.16	12.24	11.9	34
D-3D	3/3/21 9:15 AM	1000	3	7.51	888	9.20	11.07	10.5	33
D-3D	3/3/21 9:25 AM	1000	6	7.49	892	9.02	11.04	11	35
D-3D	3/3/21 9:35 AM	1000	9	7.49	894	8.99	11.40	10.8	34
D-3D	3/3/21 9:40 AM			7.46	898	8.91	11.09	11.4	37
D-3D	10/19/22 3:15 PM	1000	0.1	7.53	829	11.16	14.41	1.3	13
D-3D	10/19/22 3:30 PM	1000	10	7.57	829	11.15	14.02	1.3	12
D-3D	10/19/22 3:45 PM	1000	20	7.58	828	11.15	13.47	1.4	14
D-3D	10/19/22 3:50 PM	1000	22.5	7.56	830	11.15	13.30	1.4	13
D-3D	10/19/22 3:55 PM			7.56	830	11.13	12.79	1.5	13
D-3S	3/3/21 9:05 AM	1000	0.1	7.57	732	8.77	3.32	131	70
D-3S	3/3/21 9:10 AM	1000	2	7.20	736	8.44	0.00	80.2	13
D-3S	3/3/21 9:15 AM	1000	4	7.56	741	8.27	0.00	20.1	27
D-3S	3/3/21 9:20 AM	1000	6	7.69	737	8.30	0.00	15.1	35
D-3S	3/3/21 9:25 AM			7.70	733	8.35	0.00	15.9	37

Table 4
 Well Stabilization Data



Well ID	Measurement Date	Purge Rate ml/min	Purge Volume gal	Field pH	Field Specific Conductivity umhos/cm	Field Temp deg c	Dissolved Oxygen mg/l	Turbidity NTU	Eh mV
D-3S	10/19/22 3:15 PM	1000	0.1	7.63	698	11.78	10.47	3	121
D-3S	10/19/22 3:25 PM	1000	4.5	7.56	719	11.71	2.70	0.6	50
D-3S	10/19/22 3:35 PM	1000	9	7.58	707	11.71	4.62	0.4	66
D-3S	10/19/22 3:45 PM	1000	13	7.55	713	11.69	6.80	1	84
D-3S	10/19/22 3:50 PM			7.51	714	11.69	6.58	0.4	85
D-4S	3/3/21 11:05 AM	1000	0.1	7.35	846	10.93	10.35	6.5	211
D-4S	3/3/21 11:15 AM	1000	3	7.34	845	10.97	11.02	7	213
D-4S	3/3/21 11:25 AM	1000	6	7.33	84	10.95	11.00	6.4	215
D-4S	3/3/21 11:35 AM	1000	9	7.33	843	10.93	11.09	6.3	215
D-4S	3/3/21 11:40 AM			7.32	842	10.96	10.77	4.5	2.17
D-4S	10/20/22 11:05 AM	1000	0.1	7.57	847	11.92	16.64	0.3	194
D-4S	10/20/22 11:15 AM	1000	5.5	7.63	846	11.93	12.21	0.0	194
D-4S	10/20/22 11:25 AM	1000	11	7.57	845	11.94	11.95	0.5	196
D-4S	10/20/22 11:35 AM	1000	16.5	7.62	843	11.96	11.82	7.6	197
D-4S	10/20/22 11:40 AM			7.60	843	11.96	11.25	0.4	197
D-4S	3/3/21 11:05 AM	1000	0.1	7.65	864	9.46	12.21	31.3	181
D-4S	3/3/21 11:10 AM	1000	2	7.29	865	10.53	10.83	3.2	197
D-4S	3/3/21 11:15 AM	1000	4	7.24	864	10.73	10.67	2.2	201
D-4S	3/3/21 11:20 AM	1000	6	7.34	867	10.84	9.71	1.9	205
D-4S	3/3/21 11:25 AM			7.35	862	10.89	9.51	1.6	206
D-4S	10/20/22 11:05 AM	1000	0.1	7.65	847	12.06	11.97	0.3	183
D-4S	10/20/22 11:10 AM	1000	2.5	7.57	855	12.03	10.94	0.5	187
D-4S	10/20/22 11:15 AM	1000	5	7.57	858	12.01	10.28	0.3	189
D-4S	10/20/22 11:20 AM	1000	8	7.54	858	12.00	10.97	0.3	188
D-4S	10/20/22 11:25 AM			7.51	858	12.00	10.77	0.3	189
D-5D	3/2/22 2:05 PM	1000	0.1	7.33	912	9.53	9.25	4.0	220
D-5D	3/2/22 2:10 PM	1000	3	7.31	921	9.43	10.96	4.2	221
D-5D	3/2/22 2:15 PM	1000	6	7.31	922	9.41	12.75	3.1	222
D-5D	3/2/22 2:20 PM	1000	10	7.31	922	9.40	11.71	3.4	222
D-5D	3/2/22 2:25 PM			7.29	925	9.38	11.02	2.4	223
D-5D	10/19/22 2:05 PM	1000	0.1	7.52	913	10.68	11.23	0.6	157
D-5D	10/19/22 2:15 PM	1000	7	7.57	910	10.67	11.06	6.4	159
D-5D	10/19/22 2:25 PM	1000	14	7.60	916	10.69	11.72	4.1	162
D-5D	10/19/22 2:35 PM	1000	20.5	7.55	919	10.70	10.73	0.7	163
D-5D	10/19/22 2:40 PM			7.58	915	10.66	11.47	9.1	163
D-5S2	3/2/22 2:00 PM	1000	0.1	7.72	830	8.97	22.34	8.3	182
D-5S2	3/2/22 2:05 PM	1000	2	7.36	871	10.07	13.55	13.7	196
D-5S2	3/2/22 2:10 PM	1000	4	7.44	869	10.07	12.19	8.1	215
D-5S2	3/2/22 2:15 PM	1000	6	7.34	867	10.12	9.92	2.5	215
D-5S2	3/2/22 2:20 PM			7.32	867	10.12	9.95	1.5	219
D-5S2	10/19/22 2:05 PM	1000	0.1	7.75	887	10.88	5.47	0.5	113
D-5S2	10/19/22 2:10 PM	1000	2.5	7.53	896	10.71	2.44	0	122
D-5S2	10/19/22 2:15 PM	1000	5	7.47	897	10.71	2.28	0	127
D-5S2	10/19/22 2:20 PM	1000	8	7.44	897	10.67	2.37	0	130
D-5S2	10/19/22 2:25 PM			7.44	897	10.68	2.30	0	132
D-8	3/31/21 11:45 AM	1000	4.5	7.33	972	9.93	7.37	32.3	232
D-8	3/31/21 12:05 PM	1000	8.5	7.61	962	9.84	8.02	26.4	186
D-8	3/31/21 12:10 PM			7.60	9.62	9.89	8.09	26.4	185
D-8	10/20/22 12:05 PM	1000	0.1	7.69	905	11.01	8.57	9.4	192
D-8	10/20/22 12:10 PM	1000	2.5	7.65	906	10.94	8.01	2.7	195
D-8	10/20/22 12:15 PM	1000	5	7.59	899	10.90	7.22	4.1	198
D-8	10/20/22 12:20 PM	1000	7.5	7.56	894	10.87	7.54	12.6	184
D-8	10/20/22 12:25 PM			7.53	899	10.84	7.38	12.2	175

Table 4
 Well Stabilization Data



Well ID	Measurement Date	Purge Rate ml/min	Purge Volume gal	Field pH	Field Specific Conductivity umhos/cm	Field Temp deg c	Dissolved Oxygen mg/l	Turbidity NTU	Eh mV
D-9	3/31/21 12:25 PM	1000	0.1	7.61	829	9.94	12.26	344	197
D-9	3/31/21 12:40 PM	1000	4	7.15	8.71	10.17	5.08	99.6	-78
D-9	3/31/21 12:55 PM	1000	8	7.32	928	10.51	6.97	59.3	-32
D-9	3/31/21 1:10 PM	1000	12	7.24	949	10.52	7.23	44.2	-39
D-9	3/31/21 1:15 PM			7.25	951	10.53	7.03	44.3	9
D-9	10/20/22 12:50 PM	1000	0.1	7.74	835	14.19	8.33	4.1	157
D-9	10/20/22 12:55 PM	1000	3	7.48	833	12.40	3.95	4.4	55
D-9	10/20/22 1:00 PM	1000	6	7.52	804	12.37	3.11	6	-105
D-9	10/20/22 1:05 PM	1000	10	7.50	823	12.41	4.36	5.7	-87
D-9	10/20/22 1:10 PM			7.51	82.4	12.43	4.52	5.3	-85
U-4D	3/2/22 9:55 AM	1000	0.1	6.82	667	10.28	9.06	5	178
U-4D	3/2/22 10:00 AM	1000	5	7.52	800	9.47	9.26	33.2	195
U-4D	3/2/22 10:05 AM	1000	10	7.39	799	10.77	9.12	58.1	233
U-4D	3/2/22 10:10 AM	1000	15	7.38	798	10.34	9.26	14.3	237
U-4D	3/2/22 10:15 AM	1000		7.38	798	9.25	10.07	18.4	237
U-4D	10/19/22 10:10 AM	1000	0.1	7.50	786	9.87	10.46	0.4	138
U-4D	10/19/22 10:20 AM	1000	10	7.50	786	9.88	10.52	0.3	139
U-4D	10/19/22 10:30 AM	1000	20	7.51	785	9.89	10.45	0.3	144
U-4D	10/19/22 10:40 AM	1000	33.5	7.51	785	9.89	10.36	0.3	149
U-4D	10/19/22 10:45 AM			7.51	785	9.90	10.25	0.3	150
U-4S	3/2/22 9:30 AM	1000	0.1	10.91	876	8.29	9.54	108	188
U-4S	3/2/22 9:35 AM	1000	4	7.73	882	9.51	0.45	20.6	182
U-4S	3/2/22 9:40 AM	1000	8	7.66	877	9.54	0.00	13.3	191
U-4S	3/2/22 9:45 AM	1000	12	7.58	874	9.41	0.00	15.2	201
U-4S	3/2/22 9:50 AM			7.57	872	9.44	0.00	13.5	202
U-4S	10/19/22 10:10 AM	1000	0.1	7.79	936	6.41	7.09	5.2	46
U-4S	10/19/22 10:17 AM	1000	4	7.36	828	10.20	0.96	9.1	78
U-4S	10/19/22 10:25 AM	1000	8	7.24	826	10.30	0.18	6.4	84
U-4S	10/19/22 10:32 AM	1000	12	7.20	825	10.32	0.00	1.1	84
U-4S	10/19/22 10:35 AM			7.20	825	10.31	0.00	0.8	84
U-5D	3/2/22 12:50 PM	1000	0.1	7.35	749	8.97	6.91	4.1	179
U-5D	3/2/22 1:00 PM	1000	5	7.35	749	8.97	6.98	4.3	179
U-5D	3/2/22 1:10 PM	1000	10	7.36	749	8.97	7.09	4.6	180
U-5D	3/2/22 1:15 PM	1000	15	7.36	749	8.97	6.92	4.7	181
U-5D	3/2/22 1:20 PM			7.37	749	8.98	6.88	5.3	184
U-5D	10/19/22 12:10 PM	1000	0.1	7.74	740	9.68	10.91	1	119
U-5D	10/19/22 12:20 PM	1000	10	7.74	740	9.66	9.34	1	121
U-5D	10/19/22 12:30 PM	1000	20	7.75	740	9.64	8.77	1	123
U-5D	10/19/22 12:40 PM	1000	30	7.74	740	9.64	8.73	1	123
U-5D	10/19/22 12:50 PM	1000	35	7.75	740	9.64	8.77	1	123
U-5D	10/19/22 12:55 PM			7.75	741	9.65	8.72	1	123
U-5S	3/2/22 12:50 PM	1000	0.1	7.57	835	8.03	9.23	488	198
U-5S	3/2/22 12:55 PM	1000	2	7.06	807	10.86	4.56	160	218
U-5S	3/2/22 1:00 PM	1000	4	7.14	802	10.98	4.06	61.4	224
U-5S	3/2/22 1:05 PM	1000	6	7.14	802	10.98	4.92	61.5	224
U-5S	3/2/22 1:10 PM			7.13	801	10.97	4.25	53.8	225
U-5S	10/19/22 12:10 PM	1000	0.1	7.61	781	11.10	9.01	7.8	115
U-5S	10/19/22 12:15 PM	1000	2	7.50	785	11.03	6.49	3.6	123
U-5S	10/19/22 12:20 PM	1000	4	7.44	787	11.09	5.68	1.9	131
U-5S	10/19/22 12:25 PM	1000	6.5	7.42	788	11.11	5.29	1.2	136
U-5S	10/19/22 12:30 PM			7.41	788	11.11	5.21	0.9	138

Table 5



Background Threshold Values

Appendix III to Part 257

Parameter	Background Threshold Value (BTV)	Units	CAS #
Boron	0.33	mg/l	7440-42-8
Calcium	132	mg/l	7440-70-2
Chloride	126	mg/l	16887-00-6
Fluoride	0.5	mg/l	15984-48-8
pH	7.1 < 8.1	pH UNITS	PH
Sulfate as SO ₄	67.3	mg/l	14808-79-8
Total Dissolved Solids	662.9	mg/l	TDS

Appendix IV to Part 257

Parameter	Background Threshold Value (BTV)	Units	CAS #
Antimony	0.002	mg/l	7440-36-0
Arsenic	0.002	mg/l	7440-38-2
Barium	0.106	mg/l	7440-39-3
Beryllium	0.001	mg/l	7440-41-7
Cadmium	0.0005	mg/l	7440-43-9
Chromium	0.052	mg/l	7440-47-3
Cobalt	0.0015	mg/l	7440-48-4
Fluoride	0.5	mg/l	15984-48-8
Lead	0.01	mg/l	7439-92-1
Lithium	0.03	mg/l	7439-93-2
Mercury	0.0002	mg/l	7439-97-6
Molybdenum	0.002	mg/l	7439-98-7
Radium 226	0.479	pci/l	13982-63-3
Radium 228	1.84	pci/l	15262-20-1
Total Radium 226/228	2.319	pci/l	--
Selenium	0.005	mg/l	7782-49-2
Thallium	0.0018	mg/l	7440-28-0

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

Table 6



2022 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	0.002	0.006	0.006	mg/l	7440-36-0
Arsenic	0.002	0.010	0.010	mg/l	7440-38-2
Barium	0.106	2	2	mg/l	7440-39-3
Beryllium	0.001	0.004	0.004	mg/l	7440-41-7
Cadmium	0.0005	0.005	0.005	mg/l	7440-43-9
Chromium	0.052	0.1	0.1	mg/l	7440-47-3
Cobalt	0.0015	0.006	0.006	mg/l	7440-48-4
Fluoride	0.5	4	4	mg/l	15984-48-8
Lead	0.01	0.015	0.015	mg/l	7439-92-1
Lithium	0.03	0.04	0.04	mg/l	7439-93-2
Mercury	0.0002	0.002	0.002	mg/l	7439-97-6
Molybdenum	0.002	0.1	0.1	mg/l	7439-98-7
Radium 226	0.479	--	--	pci/l	13982-63-3
Radium 228	1.84	--	--	pci/l	15262-20-1
Radium 226/228	2.319	5	5	pci/l	EDF-206
Selenium	0.005	0.05	0.05	mg/l	7782-49-2
Thallium	0.0018	0.002	0.002	mg/l	7440-28-0

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

Table 7



**Groundwater Analytical Data
 vs. Groundwater Protection Standards**

Location	Date	Parameter	Result	Groundwater Protection Standard (GPS)	Units	CAS #
D-1D	10/20/2022	Antimony	< 0.0020	0.006	mg/l	7440-36-0
D-1D	10/20/2022	Arsenic	< 0.0020	0.010	mg/l	7440-38-2
D-1D	03/02/2022	Barium	0.051	2	mg/l	7440-39-3
D-1D	10/20/2022	Barium	0.043	2	mg/l	7440-39-3
D-1D	10/20/2022	Beryllium	< 0.0010	0.004	mg/l	7440-41-7
D-1D	10/20/2022	Cadmium	< 0.00010	0.005	mg/l	7440-43-9
D-1D	03/02/2022	Chromium	0.0058	0.1	mg/l	7440-47-3
D-1D	10/20/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3
D-1D	03/02/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
D-1D	10/20/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
D-1D	10/20/2022	Fluoride	< 0.50	4	mg/l	16984-48-8
D-1D	10/20/2022	Lead	0.00060	0.015	mg/l	7439-92-1
D-1D	10/20/2022	Lithium	< 0.010	0.04	mg/l	7439-93-2
D-1D	10/20/2022	Mercury	< 0.00020	0.002	mg/l	7439-97-6
D-1D	10/20/2022	Molybdenum	< 0.0020	0.1	mg/l	7439-98-7
D-1D	03/02/2022	Radium 226	< 0.292	--	pci/l	13982-63-3
D-1D	10/20/2022	Radium 226	0.107	--	pci/l	13982-63-3
D-1D	03/02/2022	Radium 228	< 0.310	--	pci/l	15262-20-1
D-1D	10/20/2022	Radium 228	< 0.480	--	pci/l	15262-20-1
D-1D	03/02/2022	Radium-226/228	0.362	5	pci/l	425
D-1D	10/20/2022	Radium-226/228	0.567	5	pci/l	425
D-1D	10/20/2022	Selenium	< 0.0050	0.05	mg/l	7782-49-2
D-1D	10/20/2022	Thallium	0.0013	0.002	mg/l	7440-28-0
D-1S	10/20/2022	Antimony	< 0.0020	0.006	mg/l	7440-36-0
D-1S	10/20/2022	Arsenic	< 0.0020	0.010	mg/l	7440-38-2
D-1S	03/02/2022	Barium	0.053	2	mg/l	7440-39-3
D-1S	10/20/2022	Barium	0.046	2	mg/l	7440-39-3
D-1S	10/20/2022	Beryllium	< 0.0010	0.004	mg/l	7440-41-7
D-1S	10/20/2022	Cadmium	< 0.00010	0.005	mg/l	7440-43-9
D-1S	03/02/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3
D-1S	10/20/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3
D-1S	03/02/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
D-1S	10/20/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
D-1S	10/20/2022	Fluoride	< 0.50	4	mg/l	16984-48-8
D-1S	10/20/2022	Lead	< 0.00050	0.015	mg/l	7439-92-1
D-1S	10/20/2022	Lithium	< 0.010	0.04	mg/l	7439-93-2
D-1S	10/20/2022	Mercury	< 0.00020	0.002	mg/l	7439-97-6
D-1S	10/20/2022	Molybdenum	< 0.0020	0.1	mg/l	7439-98-7
D-1S	03/02/2022	Radium 226	< 0.211	--	pci/l	13982-63-3
D-1S	10/20/2022	Radium 226	< 0.107	--	pci/l	13982-63-3
D-1S	03/02/2022	Radium 228	< 0.357	--	pci/l	15262-20-1
D-1S	10/20/2022	Radium 228	< 0.467	--	pci/l	15262-20-1

Table 7



**Groundwater Analytical Data
 vs. Groundwater Protection Standards**

Location	Date	Parameter	Result	Groundwater Protection Standard (GPS)	Units	CAS #
D-1S	03/02/2022	Radium-226/228	0.522	5	pci/l	425
D-1S	10/20/2022	Radium-226/228	< 0.467	5	pci/l	425
D-1S	10/20/2022	Selenium	< 0.0050	0.05	mg/l	7782-49-2
D-1S	10/20/2022	Thallium	< 0.0010	0.002	mg/l	7440-28-0
D-2D	10/20/2022	Antimony	< 0.0020	0.006	mg/l	7440-36-0
D-2D	10/20/2022	Arsenic	< 0.0020	0.010	mg/l	7440-38-2
D-2D	03/03/2022	Barium	0.055	2	mg/l	7440-39-3
D-2D	10/20/2022	Barium	0.048	2	mg/l	7440-39-3
D-2D	10/20/2022	Beryllium	< 0.0010	0.004	mg/l	7440-41-7
D-2D	10/20/2022	Cadmium	< 0.00010	0.005	mg/l	7440-43-9
D-2D	03/03/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3
D-2D	10/20/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3
D-2D	03/03/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
D-2D	10/20/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
D-2D	10/20/2022	Fluoride	< 0.50	4	mg/l	16984-48-8
D-2D	10/20/2022	Lead	< 0.00050	0.015	mg/l	7439-92-1
D-2D	10/20/2022	Lithium	< 0.010	0.04	mg/l	7439-93-2
D-2D	10/20/2022	Mercury	< 0.00020	0.002	mg/l	7439-97-6
D-2D	10/20/2022	Molybdenum	< 0.0020	0.1	mg/l	7439-98-7
D-2D	03/03/2022	Radium 226	< 0.488	--	pci/l	13982-63-3
D-2D	10/20/2022	Radium 226	< 0.107	--	pci/l	13982-63-3
D-2D	03/03/2022	Radium 228	< 0.549	--	pci/l	15262-20-1
D-2D	10/20/2022	Radium 228	0.611	--	pci/l	15262-20-1
D-2D	03/03/2022	Radium-226/228	< 0.549	5	pci/l	425
D-2D	10/20/2022	Radium-226/228	0.696	5	pci/l	425
D-2D	10/20/2022	Selenium	< 0.0050	0.05	mg/l	7782-49-2
D-2D	10/20/2022	Thallium	< 0.0010	0.002	mg/l	7440-28-0
D-2S	10/20/2022	Antimony	< 0.0020	0.006	mg/l	7440-36-0
D-2S	10/20/2022	Arsenic	< 0.0020	0.010	mg/l	7440-38-2
D-2S	03/03/2022	Barium	0.053	2	mg/l	7440-39-3
D-2S	10/20/2022	Barium	0.048	2	mg/l	7440-39-3
D-2S	10/20/2022	Beryllium	< 0.0010	0.004	mg/l	7440-41-7
D-2S	10/20/2022	Cadmium	< 0.00010	0.005	mg/l	7440-43-9
D-2S	03/03/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3
D-2S	10/20/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3
D-2S	03/03/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
D-2S	10/20/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
D-2S	10/20/2022	Fluoride	< 0.50	4	mg/l	16984-48-8
D-2S	10/20/2022	Lead	< 0.00050	0.015	mg/l	7439-92-1
D-2S	10/20/2022	Lithium	< 0.010	0.04	mg/l	7439-93-2
D-2S	10/20/2022	Mercury	< 0.00020	0.002	mg/l	7439-97-6
D-2S	10/20/2022	Molybdenum	< 0.0020	0.1	mg/l	7439-98-7

Table 7



**Groundwater Analytical Data
 vs. Groundwater Protection Standards**

Location	Date	Parameter	Result	Groundwater Protection Standard (GPS)	Units	CAS #
D-2S	03/03/2022	Radium 226	< 0.443	--	pci/l	13982-63-3
D-2S	10/20/2022	Radium 226	< 0.123	--	pci/l	13982-63-3
D-2S	03/03/2022	Radium 228	< 0.726	--	pci/l	15262-20-1
D-2S	10/20/2022	Radium 228	< 0.498	--	pci/l	15262-20-1
D-2S	03/03/2022	Radium-226/228	< 0.726	5	pci/l	425
D-2S	10/20/2022	Radium-226/228	< 0.498	5	pci/l	425
D-2S	10/20/2022	Selenium	< 0.0050	0.05	mg/l	7782-49-2
D-2S	10/20/2022	Thallium	< 0.0010	0.002	mg/l	7440-28-0
D-3D	10/19/2022	Antimony	< 0.0020	0.006	mg/l	7440-36-0
D-3D	10/19/2022	Arsenic	< 0.0020	0.010	mg/l	7440-38-2
D-3D	03/03/2022	Barium	0.063	2	mg/l	7440-39-3
D-3D	10/19/2022	Barium	0.052	2	mg/l	7440-39-3
D-3D	10/19/2022	Beryllium	< 0.0010	0.004	mg/l	7440-41-7
D-3D	10/19/2022	Cadmium	< 0.00010	0.005	mg/l	7440-43-9
D-3D	03/03/2022	Chromium	0.10	0.1	mg/l	7440-47-3
D-3D	10/19/2022	Chromium	0.076	0.1	mg/l	7440-47-3
D-3D	03/03/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
D-3D	10/19/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
D-3D	10/19/2022	Fluoride	< 0.50	4	mg/l	16984-48-8
D-3D	10/19/2022	Lead	< 0.00050	0.015	mg/l	7439-92-1
D-3D	10/19/2022	Lithium	< 0.010	0.04	mg/l	7439-93-2
D-3D	10/19/2022	Mercury	< 0.00020	0.002	mg/l	7439-97-6
D-3D	10/19/2022	Molybdenum	< 0.0020	0.1	mg/l	7439-98-7
D-3D	03/03/2022	Radium 226	< 0.347	--	pci/l	13982-63-3
D-3D	10/19/2022	Radium 226	< 0.140	--	pci/l	13982-63-3
D-3D	03/03/2022	Radium 228	< 0.426	--	pci/l	15262-20-1
D-3D	10/19/2022	Radium 228	0.909	--	pci/l	15262-20-1
D-3D	03/03/2022	Radium-226/228	0.523	5	pci/l	425
D-3D	10/19/2022	Radium-226/228	0.902	5	pci/l	425
D-3D	10/19/2022	Selenium	< 0.0050	0.05	mg/l	7782-49-2
D-3D	10/19/2022	Thallium	< 0.0010	0.002	mg/l	7440-28-0
D-3S	10/19/2022	Antimony	< 0.0020	0.006	mg/l	7440-36-0
D-3S	10/19/2022	Arsenic	< 0.0020	0.010	mg/l	7440-38-2
D-3S	03/03/2022	Barium	0.042	2	mg/l	7440-39-3
D-3S	10/19/2022	Barium	0.039	2	mg/l	7440-39-3
D-3S	10/19/2022	Beryllium	< 0.0010	0.004	mg/l	7440-41-7
D-3S	10/19/2022	Cadmium	< 0.00010	0.005	mg/l	7440-43-9
D-3S	03/03/2022	Chromium	0.014	0.1	mg/l	7440-47-3
D-3S	10/19/2022	Chromium	0.0068	0.1	mg/l	7440-47-3
D-3S	03/03/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
D-3S	10/19/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
D-3S	10/19/2022	Fluoride	< 0.50	4	mg/l	16984-48-8

Table 7



**Groundwater Analytical Data
 vs. Groundwater Protection Standards**

Location	Date	Parameter	Result	Groundwater Protection Standard (GPS)	Units	CAS #
D-3S	10/19/2022	Lead	< 0.00050	0.015	mg/l	7439-92-1
D-3S	10/19/2022	Lithium	< 0.010	0.04	mg/l	7439-93-2
D-3S	10/19/2022	Mercury	< 0.00020	0.002	mg/l	7439-97-6
D-3S	10/19/2022	Molybdenum	< 0.0020	0.1	mg/l	7439-98-7
D-3S	03/03/2022	Radium 226	< 0.301	--	pci/l	13982-63-3
D-3S	10/19/2022	Radium 226	< 0.122	--	pci/l	13982-63-3
D-3S	03/03/2022	Radium 228	0.711	--	pci/l	15262-20-1
D-3S	10/19/2022	Radium 228	1.45	--	pci/l	15262-20-1
D-3S	03/03/2022	Radium-226/228	0.855	5	pci/l	425
D-3S	10/19/2022	Radium-226/228	1.49	5	pci/l	425
D-3S	10/19/2022	Selenium	< 0.0050	0.05	mg/l	7782-49-2
D-3S	10/19/2022	Thallium	< 0.0010	0.002	mg/l	7440-28-0
D-4D	10/20/2022	Antimony	< 0.0020	0.006	mg/l	7440-36-0
D-4D	10/20/2022	Arsenic	< 0.0020	0.010	mg/l	7440-38-2
D-4D	03/03/2022	Barium	0.072	2	mg/l	7440-39-3
D-4D	10/20/2022	Barium	0.067	2	mg/l	7440-39-3
D-4D	10/20/2022	Beryllium	< 0.0010	0.004	mg/l	7440-41-7
D-4D	10/20/2022	Cadmium	< 0.00010	0.005	mg/l	7440-43-9
D-4D	03/03/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3
D-4D	10/20/2022	Chromium	0.0075	0.1	mg/l	7440-47-3
D-4D	03/03/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
D-4D	10/20/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
D-4D	10/20/2022	Fluoride	< 0.50	4	mg/l	16984-48-8
D-4D	10/20/2022	Lead	< 0.00050	0.015	mg/l	7439-92-1
D-4D	10/20/2022	Lithium	< 0.010	0.04	mg/l	7439-93-2
D-4D	10/20/2022	Mercury	< 0.00020	0.002	mg/l	7439-97-6
D-4D	10/20/2022	Molybdenum	< 0.0020	0.1	mg/l	7439-98-7
D-4D	03/03/2022	Radium 226	< 0.237	--	pci/l	13982-63-3
D-4D	10/20/2022	Radium 226	< 0.107	--	pci/l	13982-63-3
D-4D	03/03/2022	Radium 228	< 0.316	--	pci/l	15262-20-1
D-4D	10/20/2022	Radium 228	< 0.489	--	pci/l	15262-20-1
D-4D	03/03/2022	Radium-226/228	0.347	5	pci/l	425
D-4D	10/20/2022	Radium-226/228	< 0.489	5	pci/l	425
D-4D	10/20/2022	Selenium	< 0.0050	0.05	mg/l	7782-49-2
D-4D	10/20/2022	Thallium	< 0.0010	0.002	mg/l	7440-28-0
D-4S	10/20/2022	Antimony	< 0.0020	0.006	mg/l	7440-36-0
D-4S	10/20/2022	Arsenic	< 0.0020	0.010	mg/l	7440-38-2
D-4S	03/03/2022	Barium	0.083	2	mg/l	7440-39-3
D-4S	10/20/2022	Barium	0.076	2	mg/l	7440-39-3
D-4S	10/20/2022	Beryllium	< 0.0010	0.004	mg/l	7440-41-7
D-4S	10/20/2022	Cadmium	< 0.00010	0.005	mg/l	7440-43-9
D-4S	03/03/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3

Table 7



**Groundwater Analytical Data
 vs. Groundwater Protection Standards**

Location	Date	Parameter	Result	Groundwater Protection Standard (GPS)	Units	CAS #
D-4S	10/20/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3
D-4S	03/03/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
D-4S	10/20/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
D-4S	10/20/2022	Fluoride	< 0.50	4	mg/l	16984-48-8
D-4S	10/20/2022	Lead	< 0.00050	0.015	mg/l	7439-92-1
D-4S	10/20/2022	Lithium	< 0.010	0.04	mg/l	7439-93-2
D-4S	10/20/2022	Mercury	< 0.00020	0.002	mg/l	7439-97-6
D-4S	10/20/2022	Molybdenum	< 0.0020	0.1	mg/l	7439-98-7
D-4S	03/03/2022	Radium 226	< 0.319	--	pci/l	13982-63-3
D-4S	10/20/2022	Radium 226	< 0.136	--	pci/l	13982-63-3
D-4S	03/03/2022	Radium 228	< 0.362	--	pci/l	15262-20-1
D-4S	10/20/2022	Radium 228	< 0.610	--	pci/l	15262-20-1
D-4S	03/03/2022	Radium-226/228	< 0.362	5	pci/l	425
D-4S	10/20/2022	Radium-226/228	0.640	5	pci/l	425
D-4S	10/20/2022	Selenium	< 0.0050	0.05	mg/l	7782-49-2
D-4S	10/20/2022	Thallium	< 0.0010	0.002	mg/l	7440-28-0
D-5D	10/19/2022	Antimony	< 0.0020	0.006	mg/l	7440-36-0
D-5D	10/19/2022	Arsenic	< 0.0020	0.010	mg/l	7440-38-2
D-5D	03/02/2022	Barium	0.064	2	mg/l	7440-39-3
D-5D	10/19/2022	Barium	0.056	2	mg/l	7440-39-3
D-5D	10/19/2022	Beryllium	< 0.0010	0.004	mg/l	7440-41-7
D-5D	10/19/2022	Cadmium	< 0.00010	0.005	mg/l	7440-43-9
D-5D	03/02/2022	Chromium	0.0056	0.1	mg/l	7440-47-3
D-5D	10/19/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3
D-5D	03/02/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
D-5D	10/19/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
D-5D	10/19/2022	Fluoride	< 0.50	4	mg/l	16984-48-8
D-5D	10/19/2022	Lead	< 0.00050	0.015	mg/l	7439-92-1
D-5D	10/19/2022	Lithium	< 0.010	0.04	mg/l	7439-93-2
D-5D	10/19/2022	Mercury	< 0.00020	0.002	mg/l	7439-97-6
D-5D	10/19/2022	Molybdenum	< 0.0020	0.1	mg/l	7439-98-7
D-5D	03/02/2022	Radium 226	< 0.309	--	pci/l	13982-63-3
D-5D	10/19/2022	Radium 226	< 0.129	--	pci/l	13982-63-3
D-5D	03/02/2022	Radium 228	< 0.451	--	pci/l	15262-20-1
D-5D	10/19/2022	Radium 228	< 0.555	--	pci/l	15262-20-1
D-5D	03/02/2022	Radium-226/228	0.467	5	pci/l	425
D-5D	10/19/2022	Radium-226/228	< 0.555	5	pci/l	425
D-5D	10/19/2022	Selenium	< 0.0050	0.05	mg/l	7782-49-2
D-5D	10/19/2022	Thallium	< 0.0010	0.002	mg/l	7440-28-0
D-5S2	10/19/2022	Antimony	< 0.0020	0.006	mg/l	7440-36-0
D-5S2	10/19/2022	Arsenic	< 0.0020	0.010	mg/l	7440-38-2
D-5S2	03/02/2022	Barium	0.057	2	mg/l	7440-39-3

Table 7



**Groundwater Analytical Data
 vs. Groundwater Protection Standards**

Location	Date	Parameter	Result	Groundwater Protection Standard (GPS)	Units	CAS #
D-5S2	10/19/2022	Barium	0.057	2	mg/l	7440-39-3
D-5S2	10/19/2022	Beryllium	< 0.0010	0.004	mg/l	7440-41-7
D-5S2	10/19/2022	Cadmium	< 0.00010	0.005	mg/l	7440-43-9
D-5S2	03/02/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3
D-5S2	10/19/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3
D-5S2	03/02/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
D-5S2	10/19/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
D-5S2	10/19/2022	Fluoride	< 0.50	4	mg/l	16984-48-8
D-5S2	10/19/2022	Lead	< 0.00050	0.015	mg/l	7439-92-1
D-5S2	10/19/2022	Lithium	< 0.010	0.04	mg/l	7439-93-2
D-5S2	10/19/2022	Mercury	< 0.00020	0.002	mg/l	7439-97-6
D-5S2	10/19/2022	Molybdenum	< 0.0020	0.1	mg/l	7439-98-7
D-5S2	03/02/2022	Radium 226	< 0.290	--	pci/l	13982-63-3
D-5S2	10/19/2022	Radium 226	< 0.107	--	pci/l	13982-63-3
D-5S2	03/02/2022	Radium 228	< 0.459	--	pci/l	15262-20-1
D-5S2	10/19/2022	Radium 228	0.631	--	pci/l	15262-20-1
D-5S2	03/02/2022	Radium-226/228	< 0.459	5	pci/l	425
D-5S2	10/19/2022	Radium-226/228	0.686	5	pci/l	425
D-5S2	10/19/2022	Selenium	< 0.0050	0.05	mg/l	7782-49-2
D-5S2	10/19/2022	Thallium	< 0.0010	0.002	mg/l	7440-28-0
D-8	10/20/2022	Antimony	< 0.0020	0.006	mg/l	7440-36-0
D-8	10/20/2022	Arsenic	< 0.0020	0.010	mg/l	7440-38-2
D-8	03/03/2022	Barium	0.10	2	mg/l	7440-39-3
D-8	10/20/2022	Barium	0.082	2	mg/l	7440-39-3
D-8	10/20/2022	Beryllium	< 0.0010	0.004	mg/l	7440-41-7
D-8	10/20/2022	Cadmium	< 0.00010	0.005	mg/l	7440-43-9
D-8	03/03/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3
D-8	10/20/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3
D-8	03/03/2022	Cobalt	0.0015	0.006	mg/l	7440-48-4
D-8	10/20/2022	Cobalt	0.00059	0.006	mg/l	7440-48-4
D-8	10/20/2022	Fluoride	< 0.50	4	mg/l	16984-48-8
D-8	10/20/2022	Lead	< 0.00050	0.015	mg/l	7439-92-1
D-8	10/20/2022	Lithium	< 0.010	0.04	mg/l	7439-93-2
D-8	10/20/2022	Mercury	< 0.00020	0.002	mg/l	7439-97-6
D-8	10/20/2022	Molybdenum	< 0.0020	0.1	mg/l	7439-98-7
D-8	03/03/2022	Radium 226	< 0.586	--	pci/l	13982-63-3
D-8	10/20/2022	Radium 226	< 0.218	--	pci/l	13982-63-3
D-8	03/03/2022	Radium 228	< 0.808	--	pci/l	15262-20-1
D-8	10/20/2022	Radium 228	< 0.675	--	pci/l	15262-20-1
D-8	03/03/2022	Radium-226/228	< 0.808	5	pci/l	425
D-8	10/20/2022	Radium-226/228	< 0.675	5	pci/l	425
D-8	10/20/2022	Selenium	< 0.0050	0.05	mg/l	7782-49-2

Table 7



**Groundwater Analytical Data
 vs. Groundwater Protection Standards**

Location	Date	Parameter	Result	Groundwater Protection Standard (GPS)	Units	CAS #
D-8	10/20/2022	Thallium	< 0.0010	0.002	mg/l	7440-28-0
D-9	10/20/2022	Antimony	< 0.0020	0.006	mg/l	7440-36-0
D-9	10/20/2022	Arsenic	< 0.0020	0.010	mg/l	7440-38-2
D-9	03/03/2022	Barium	0.089	2	mg/l	7440-39-3
D-9	10/20/2022	Barium	0.069	2	mg/l	7440-39-3
D-9	10/20/2022	Beryllium	< 0.0010	0.004	mg/l	7440-41-7
D-9	10/20/2022	Cadmium	< 0.00010	0.005	mg/l	7440-43-9
D-9	03/03/2022	Chromium	0.0058	0.1	mg/l	7440-47-3
D-9	10/20/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3
D-9	03/03/2022	Cobalt	0.0013	0.006	mg/l	7440-48-4
D-9	10/20/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
D-9	10/20/2022	Fluoride	< 0.50	4	mg/l	16984-48-8
D-9	10/20/2022	Lead	< 0.00050	0.015	mg/l	7439-92-1
D-9	10/20/2022	Lithium	< 0.010	0.04	mg/l	7439-93-2
D-9	10/20/2022	Mercury	< 0.00020	0.002	mg/l	7439-97-6
D-9	10/20/2022	Molybdenum	< 0.0020	0.1	mg/l	7439-98-7
D-9	03/03/2022	Radium 226	< 0.399	--	pci/l	13982-63-3
D-9	10/20/2022	Radium 226	< 0.123	--	pci/l	13982-63-3
D-9	03/03/2022	Radium 228	< 0.657	--	pci/l	15262-20-1
D-9	10/20/2022	Radium 228	< 0.389	--	pci/l	15262-20-1
D-9	03/03/2022	Radium-226/228	0.793	5	pci/l	425
D-9	10/20/2022	Radium-226/228	< 0.389	5	pci/l	425
D-9	10/20/2022	Selenium	< 0.0050	0.05	mg/l	7782-49-2
D-9	10/20/2022	Thallium	< 0.0010	0.002	mg/l	7440-28-0
U-4D	10/19/2022	Antimony	< 0.0020	0.006	mg/l	7440-36-0
U-4D	10/19/2022	Arsenic	< 0.0020	0.010	mg/l	7440-38-2
U-4D	03/02/2022	Barium	0.045	2	mg/l	7440-39-3
U-4D	10/19/2022	Barium	0.040	2	mg/l	7440-39-3
U-4D	10/19/2022	Beryllium	< 0.0010	0.004	mg/l	7440-41-7
U-4D	10/19/2022	Cadmium	< 0.00010	0.005	mg/l	7440-43-9
U-4D	03/02/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3
U-4D	10/19/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3
U-4D	03/02/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
U-4D	10/19/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
U-4D	10/19/2022	Fluoride	< 0.50	4	mg/l	16984-48-8
U-4D	10/19/2022	Lead	0.00050	0.015	mg/l	7439-92-1
U-4D	10/19/2022	Lithium	< 0.010	0.04	mg/l	7439-93-2
U-4D	10/19/2022	Mercury	< 0.00020	0.002	mg/l	7439-97-6
U-4D	10/19/2022	Molybdenum	< 0.0020	0.1	mg/l	7439-98-7
U-4D	03/02/2022	Radium 226	< 0.253	--	pci/l	13982-63-3
U-4D	10/19/2022	Radium 226	< 0.144	--	pci/l	13982-63-3
U-4D	03/02/2022	Radium 228	< 0.385	--	pci/l	15262-20-1

Table 7



**Groundwater Analytical Data
 vs. Groundwater Protection Standards**

Location	Date	Parameter	Result	Groundwater Protection Standard (GPS)	Units	CAS #
U-4D	10/19/2022	Radium 228	< 0.565	--	pci/l	15262-20-1
U-4D	03/02/2022	Radium-226/228	< 0.385	5	pci/l	425
U-4D	10/19/2022	Radium-226/228	< 0.565	5	pci/l	425
U-4D	10/19/2022	Selenium	< 0.0050	0.05	mg/l	7782-49-2
U-4D	10/19/2022	Thallium	0.0018	0.002	mg/l	7440-28-0
U-4S	10/19/2022	Antimony	< 0.0020	0.006	mg/l	7440-36-0
U-4S	10/19/2022	Arsenic	< 0.0020	0.010	mg/l	7440-38-2
U-4S	03/02/2022	Barium	0.046	2	mg/l	7440-39-3
U-4S	10/19/2022	Barium	0.040	2	mg/l	7440-39-3
U-4S	10/19/2022	Beryllium	< 0.0010	0.004	mg/l	7440-41-7
U-4S	10/19/2022	Cadmium	< 0.00010	0.005	mg/l	7440-43-9
U-4S	03/02/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3
U-4S	10/19/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3
U-4S	03/02/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
U-4S	10/19/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
U-4S	10/19/2022	Fluoride	< 0.50	4	mg/l	16984-48-8
U-4S	10/19/2022	Lead	< 0.00050	0.015	mg/l	7439-92-1
U-4S	10/19/2022	Lithium	< 0.010	0.04	mg/l	7439-93-2
U-4S	10/19/2022	Mercury	< 0.00020	0.002	mg/l	7439-97-6
U-4S	10/19/2022	Molybdenum	< 0.0020	0.1	mg/l	7439-98-7
U-4S	03/02/2022	Radium 226	< 0.278	--	pci/l	13982-63-3
U-4S	10/19/2022	Radium 226	< 0.144	--	pci/l	13982-63-3
U-4S	03/02/2022	Radium 228	< 0.553	--	pci/l	15262-20-1
U-4S	10/19/2022	Radium 228	0.636	--	pci/l	15262-20-1
U-4S	03/02/2022	Radium-226/228	< 0.553	5	pci/l	425
U-4S	10/19/2022	Radium-226/228	0.758	5	pci/l	425
U-4S	10/19/2022	Selenium	< 0.0050	0.05	mg/l	7782-49-2
U-4S	10/19/2022	Thallium	< 0.0010	0.002	mg/l	7440-28-0
U-5D	10/19/2022	Antimony	< 0.0020	0.006	mg/l	7440-36-0
U-5D	10/19/2022	Arsenic	< 0.0020	0.010	mg/l	7440-38-2
U-5D	03/02/2022	Barium	0.058	2	mg/l	7440-39-3
U-5D	10/19/2022	Barium	0.054	2	mg/l	7440-39-3
U-5D	10/19/2022	Beryllium	< 0.0010	0.004	mg/l	7440-41-7
U-5D	10/19/2022	Cadmium	< 0.00010	0.005	mg/l	7440-43-9
U-5D	03/02/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3
U-5D	10/19/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3
U-5D	03/02/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
U-5D	10/19/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
U-5D	10/19/2022	Fluoride	< 0.50	4	mg/l	16984-48-8
U-5D	10/19/2022	Lead	< 0.00050	0.015	mg/l	7439-92-1
U-5D	10/19/2022	Lithium	< 0.010	0.04	mg/l	7439-93-2
U-5D	10/19/2022	Mercury	< 0.00020	0.002	mg/l	7439-97-6

Table 7



**Groundwater Analytical Data
 vs. Groundwater Protection Standards**

Location	Date	Parameter	Result	Groundwater Protection Standard (GPS)	Units	CAS #
U-5D	10/19/2022	Molybdenum	< 0.0020	0.1	mg/l	7439-98-7
U-5D	03/02/2022	Radium 226	< 0.185	--	pci/l	13982-63-3
U-5D	10/19/2022	Radium 226	< 0.111	--	pci/l	13982-63-3
U-5D	03/02/2022	Radium 228	< 0.385	--	pci/l	15262-20-1
U-5D	10/19/2022	Radium 228	< 0.590	--	pci/l	15262-20-1
U-5D	03/02/2022	Radium-226/228	< 0.385	5	pci/l	425
U-5D	10/19/2022	Radium-226/228	< 0.590	5	pci/l	425
U-5D	10/19/2022	Selenium	< 0.0050	0.05	mg/l	7782-49-2
U-5D	10/19/2022	Thallium	< 0.0010	0.002	mg/l	7440-28-0
U-5S	10/19/2022	Antimony	< 0.0020	0.006	mg/l	7440-36-0
U-5S	10/19/2022	Arsenic	< 0.0020	0.010	mg/l	7440-38-2
U-5S	03/02/2022	Barium	0.070	2	mg/l	7440-39-3
U-5S	10/19/2022	Barium	0.061	2	mg/l	7440-39-3
U-5S	10/19/2022	Beryllium	< 0.0010	0.004	mg/l	7440-41-7
U-5S	10/19/2022	Cadmium	< 0.00010	0.005	mg/l	7440-43-9
U-5S	03/02/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3
U-5S	10/19/2022	Chromium	< 0.0050	0.1	mg/l	7440-47-3
U-5S	03/02/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
U-5S	10/19/2022	Cobalt	< 0.00050	0.006	mg/l	7440-48-4
U-5S	10/19/2022	Fluoride	< 0.50	4	mg/l	16984-48-8
U-5S	10/19/2022	Lead	< 0.00050	0.015	mg/l	7439-92-1
U-5S	10/19/2022	Lithium	< 0.010	0.04	mg/l	7439-93-2
U-5S	10/19/2022	Mercury	< 0.00020	0.002	mg/l	7439-97-6
U-5S	10/19/2022	Molybdenum	< 0.0020	0.1	mg/l	7439-98-7
U-5S	03/02/2022	Radium 226	< 0.429	--	pci/l	13982-63-3
U-5S	10/19/2022	Radium 226	< 0.116	--	pci/l	13982-63-3
U-5S	03/02/2022	Radium 228	< 0.733	--	pci/l	15262-20-1
U-5S	10/19/2022	Radium 228	< 0.440	--	pci/l	15262-20-1
U-5S	03/02/2022	Radium-226/228	< 0.733	5	pci/l	425
U-5S	10/19/2022	Radium-226/228	0.448	5	pci/l	425
U-5S	10/19/2022	Selenium	< 0.0050	0.05	mg/l	7782-49-2
U-5S	10/19/2022	Thallium	< 0.0010	0.002	mg/l	7440-28-0

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

Bold = Indicates concentration above Groundwater Protection Standards



Appendix A – Field Data Sheets

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: U-4S

Location: Rosemount, MN

Duplicate Collected: No

Sample Matrix: Groundwater

Field Blank Collected: No

Equipment Blank Collected: No

PURGE INFORMATION

Sampler(s): _____

Casing Length(ft) 34.36

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/2/22 9:30

Casing Diameter (inches): 2

Initial Water Level (feet): 9.98' ~~20.32~~

One Casing Volume (gal): 3.97 ~~2.0~~

Ground Water Elevation (ft, msl): ~~816.3~~

Total Volume Purged (gal): 18.0

Top of Casing (ft, msl) 836.62

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 9.98'

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 3/2/22 9:50

PURGE DATA

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)
9:30	1000	0.1	8.29	10.91	976	109	9.34	193
9:35	1000	4.0	9.51	7.73	892	20.6	0.48	182
9:40	1000	8.0	9.54	7.66	877	13.3	0.00	191
9:45	1000	12.0	7.41	7.58	874	15.2	0.00	201

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: U-4S

Water Level @ Sampling (ft): 9.96'

Well Collection Sequence 1 of 12

Parameters: Annual _____ Semiannual: _____

Quarterly: _____ Monthly: _____ Other: X

SAMPLE DATA:

Time & Date	Sample Rate	Temp (°C)	pH (std units)	Specific Conductance (uS - umhos/cm)	Turbidity (NTU)	Dissolved O ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>9:56</u>	VOCs: <u>K</u> Other: <u>1000</u>	<u>9.44</u>	<u>7.57</u>	<u>872</u>	<u>13.5</u>	<u>0.00</u>	<u>202</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 31°F, cloudy, 0-5 mph E

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

of Bottles Collected: 5

Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: 493021

Date: 3/2/22 By: N. Schleyer Title: Staff Env. Scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: U-4D

Location: Rosemount, MN

Duplicate Collected: No

Sample Matrix: Groundwater

Field Blank Collected: No

Equipment Blank Collected: No

PURGE INFORMATION

Sampler(s): 100

Casing Length(ft) 89.2

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/2/22

Casing Diameter (inches): 2

Initial Water Level (feet): 20.19' ~~27.29~~

One Casing Volume (gal): 11.25 ~~10.4~~

Ground Water Elevation (ft, msl): 810.03

Total Volume Purged (gal): 15.0

Top of Casing (ft, msl) 837.32

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 20.21'

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 3/2/22 10:15

PURGE DATA

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)
9:55	1000	0.1	9.06	6.82	667	5.0	10.29	179
10:00	1000	5.0	9.28	7.52	800	33.2	9.47	145
10:05	1000	10.0	9.12	7.39	799	59.1	10.77	233
10:10	1000	15.0	9.26	7.38	748	14.3	10.34	237

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: U-4D
 Water Level @ Sampling (ft): 20.21'
 Well Collection Sequence: 2 of 17
 Parameters: Annual _____ Semiannual: _____ Quarterly: _____ Monthly: _____ Other: X

SAMPLE DATA:

Time & Date	Sample Rate	Temp (°C)	pH (std units)	Specific Conductance (uS - umhos/cm)	Turbidity (NTU)	Dissolved O ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>3/12/22</u> <u>10:30</u>	VOCs: _____ Other: <u>1000</u>	<u>9.25</u>	<u>7.38</u>	<u>798</u>	<u>18.4</u>	<u>10.07</u>	<u>237</u>

YSI Serial Number: _____
 YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 30°F cloudy, 0-5 mph E
 Sampling Characteristics: Clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____ # of Bottles Collected: 5
 Well Closed and Locked: Yes No (circle) _____

Notes:

Minnesota Unique Well ID: 463714
 Date: 3/12/22 By: N. Schaefer Title: Staff env. scientist
 Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: U-5S

Location: Rosemount, MN

Duplicate Collected: Yes-Dup-1

Sample Matrix: Groundwater

Field Blank Collected: NO

Equipment Blank Collected: NO

PURGE INFORMATION

Sampler(s): N. Schlegel
Casing Length(ft): 42.5

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/2/22 12:50

Casing Diameter (inches): 2.37 2

Initial Water Level (feet): 28.22' 33.24

One Casing Volume (gal): 1.8

Ground Water Elevation (ft, msl): 814.85

Total Volume Purged (gal): 6.0

Top of Casing (ft, msl) 848.09

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 28.24

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 3/2/22 13:10

PURGE DATA

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)
12:50	1000	0.1	8.03	7.57	835	496	9.23	198
12:55	1000	2.0	10.96	7.06	807	160	4.56	218
13:00	1000	4.0	10.79	7.14	802	61.4	4.06	224
13:05	1000	6.0	10.78	7.14	802	61.5	4.92	224

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: U-5S

Water Level @ Sampling (ft): 28.24'

Well Collection Sequence 3 of 17

Parameters: Annual _____ Semiannual: _____

Quarterly: _____ Monthly: _____ Other: X

SAMPLE DATA:

Time & Date	Sample Rate	Temp (°C)	pH (std units)	Specific Conductance (uS - umhos/cm)	Turbidity (NTU)	Dissolved O ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>3/12/22</u> <u>13:10</u>	VOCs: <u>-</u> Other: <u>100</u>	<u>10.97</u>	<u>7.13</u>	<u>901</u>	<u>53.8</u>	<u>4.25</u>	<u>225</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 30°F cloudy, 5-10 mph NW

Sampling Characteristics: clean

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____

of Bottles Collected: 5

Well Closed and Locked: Yes No (circle) _____

Notes: _____

Minnesota Unique Well ID: 443049

Date: 3/12/24 By: M. Schlegel

Title: Staff env. scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: U-5D

Location: Rosemount, MN

Duplicate Collected: No

Sample Matrix: Groundwater

Field Blank Collected: ~~No~~ Yes

Equipment Blank Collected: No

PURGE INFORMATION

Sampler(s): N. Schlegel

Casing Length(ft) 101.54

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/2/22

Casing Diameter (inches): 2

Initial Water Level (feet): 29.48 35.82

One Casing Volume (gal): 11.75 10.6

Ground Water Elevation (ft, msl): 813.85

Total Volume Purged (gal): 15.0

Top of Casing (ft, msl) 849.67

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 29.50'

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 3/2/22 13:20

PURGE DATA

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)
12:50	1000	0.1	8.97	7.35	749	4.1	6.91	179
13:00	1000	5.0	8.97	7.35	749	4.3	6.98	179
13:10	1000	10.0	8.97	7.36	749	4.6	7.09	180
13:15	1000	15.0	8.97	7.36	749	4.7	6.92	181

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: U-5D

Water Level @ Sampling (ft): 29.50'

Well Collection Sequence 4 of 17

Parameters: Annual _____ Semiannual: _____

Quarterly: _____ Monthly: _____ Other: X

SAMPLE DATA:

Time & Date	Sample Rate	Temp (°C)	pH (std units)	Specific Conductance (uS - umhos/cm)	Turbidity (NTU)	Dissolved O ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>3/2/12</u> <u>13:20</u>	VOCs: <u>-</u> Other: <u>100</u>	<u>8.98</u>	<u>7.37</u>	<u>749</u>	<u>5.3</u>	<u>6.99</u>	<u>184</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 30°F, cloudy, 5-10 mph NW

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____ # of Bottles Collected: 5

Well Closed and Locked: Yes No (circle) _____

Notes: _____

Minnesota Unique Well ID: 493015

Date: 3/2/12 By: M. Scobey Title: staff env. scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-5S2

Location: Rosemount, MN

Duplicate Collected: No

Sample Matrix: Groundwater

Field Blank Collected: No

Equipment Blank Collected: No

Sampler(s): N-Schloeff

PURGE INFORMATION

Casing Length(ft) 121.81

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/2/22 14:25

Casing Diameter (inches): 2

Initial Water Level (feet): 105.35 114.09

One Casing Volume (gal): 2.68 2.0

Ground Water Elevation (ft, msl): 777.63

Total Volume Purged (gal): 6.0

Top of Casing (ft, msl) 891.72

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 105.37

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 3/2/22 14:20

PURGE DATA

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)
14:00	1000	0.1	9.97	7.72	830	8.3	22.34	192
14:05	1000	2.0	10.07	7.36	871	13.7	13.55	196
14:10	1000	4.0	10.07	7.44	869	8.1	12.19	215
14:15	1000	6.0	10.12	7.34	867	2.9	9.92	215

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-5S2

Water Level @ Sampling (ft): 105.37

Well Collection Sequence 4 of 17

Parameters: Annual _____ Semiannual: _____

Quarterly: _____ Monthly: _____ Other: X

SAMPLE DATA:

Time & Date	Sample Rate	Temp (°C)	pH (std units)	Specific Conductance (uS - umhos/cm)	Turbidity (NTU)	Dissolved O ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>3/2/21</u> <u>14:20</u>	VOCs: <u>1-</u> Other: <u>1000</u>	<u>10.12</u>	<u>7.32</u>	<u>867</u>	<u>1.5</u>	<u>9.95</u>	<u>214</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 31°F, mostly cloudy, 5-10 mph NW

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____

of Bottles Collected: 5

Well Closed and Locked: Yes No (circle) _____

Notes: _____

Minnesota Unique Well ID: 463715

Date: 3/2/21 By: Ms. Sunlosel Title: staff env. scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-5D

Location: Rosemount, MN

Duplicate Collected: No

Sample Matrix: Groundwater

Field Blank Collected: No

Equipment Blank Collected: No

PURGE INFORMATION

Sampler(s): µ-Schlogel

Casing Length(ft) 157.1

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/2/22 14:05

Casing Diameter (inches): 2

Initial Water Level (feet): 114.48 121.35

One Casing Volume (gal): 6.95 5.7

Ground Water Elevation (ft, msl): 771.85

Total Volume Purged (gal): 10

Top of Casing (ft, msl) 893.2

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 114.50'

PID (Headspace) 0.6 (PPM)

Date/Time Completed: 3/2/22 14:25

PURGE DATA

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)
14:05	1000	0.1	9.53	7.77	912	4.0	9.25	220
14:10	1000	3.0	9.43	7.31	921	4.2	10.96	221
14:15	1000	6.0	9.41	7.31	922	3.1	12.75	222
14:20	1000	10.0	9.40	7.31	922	3.4	11.71	222

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-5D

Water Level @ Sampling (ft): 114.50'

Well Collection Sequence 6 of 17

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 ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>3/2/22</u>	<u>VOCs:</u>	<u>9.38</u>	<u>7.29</u>	<u>925</u>	<u>2.4</u>	<u>11.02</u>	<u>223</u>
<u>7:4:25</u>	<u>Other: 10%:</u>						

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 31°F, mostly cloudy, 5-10 mph NW

Sampling Characteristics: clean

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____

of Bottles Collected: 5

Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: 492385

Date: 3/2/22 By: N. Schroyer

Title: Staff env. scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-1S

Location: Rosemount, MN

Duplicate Collected: No

Sample Matrix: Groundwater

Field Blank Collected: No

Equipment Blank Collected: No

PURGE INFORMATION

Sampler(s): N-Schlagel

Casing Length(ft) 135.97

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/2/22 15:20

Casing Diameter (inches): 2

Initial Water Level (feet): 120.69 ~~127.67~~

One Casing Volume (gal): 2.5 ~~1.2~~

Ground Water Elevation (ft, msl): 745.08

Total Volume Purged (gal): 5.0

Top of Casing (ft, msl) 872.75

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 120.71'

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 3/2/22 15:40

PURGE DATA

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)
15:20	1000	0.1	10.79	7.11	785	4.4	16.74	190
15:25	1000	1.5	11.39	6.96	772	4.2	10.43	176
15:30	1000	3.0	11.40	6.96	770	3.9	10.01	174
15:39	1000	5.0	11.42	7.01	785	2.8	6.81	196

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-1S

Water Level @ Sampling (ft): 120.71

Well Collection Sequence 7 of 17

Parameters: Annual _____ Semiannual: _____

Quarterly: _____ Monthly: _____ Other: X

SAMPLE DATA:

Time & Date	Sample Rate	Temp (°C)	pH (std units)	Specific Conductance (uS - umhos/cm)	Turbidity (NTU)	Dissolved O ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>3/2/22</u> <u>15:40</u>	VOCs: _____ Other: <u>100%</u>	<u>11.54</u>	<u>7.02</u>	<u>777</u>	<u>2.3</u>	<u>10.43</u>	<u>174</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 31°F, mostly cloudy, 5-10 mph wind

Sampling Characteristics: clean

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____ # of Bottles Collected: 5

Well Closed and Locked: Yes No (circle) _____

Notes: _____

Minnesota Unique Well ID: 443414

Date: 3/2/22 By: M. Schlegel Title: Staff Env. Scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-1D

Location: Rosemount, MN

Duplicate Collected: No

Sample Matrix: Groundwater

Field Blank Collected: No

Equipment Blank Collected: No

PURGE INFORMATION

Sampler(s): N-Schlagel

Casing Length(ft) 164.5

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/2/22 15:25

Casing Diameter (inches): 2

Initial Water Level (feet): 117.54' 124.03

One Casing Volume (gal): 7.62

Ground Water Elevation (ft, msl): 747.47

Total Volume Purged (gal): 8.0

Top of Casing (ft, msl) 871.5

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 117.01'

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 3/2/22 15:48

PURGE DATA

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)
15:25	1000	0.1	10.55	7.16	734	2.4	10.92	178
15:30	1000	2.5	11.35	7.48	722	3.1	11.05	213
15:35	1000	5.0	11.35	7.48	725	3.9	11.35	213
15:40	1000	8.0	11.34	7.49	725	3.5	11.22	214

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-1D

Water Level @ Sampling (ft): 117.61'

Well Collection Sequence 8 of 17

Parameters: Annual _____ Semiannual: _____

Quarterly: _____ Monthly: _____ Other: X

SAMPLE DATA:

Time & Date	Sample Rate	Temp (°C)	pH (std units)	Specific Conductance (uS - umhos/cm)	Turbidity (NTU)	Dissolved O ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>3/2/22</u> <u>15:45</u>	VOCs: _____ Other: <u>103</u>	<u>11.25</u>	<u>7.49</u>	<u>725</u>	<u>3.7</u>	<u>11.11</u>	<u>215</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 31°F, mostly cloudy, 5-10 mph NE

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

of Bottles Collected: 5

Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: _____

Date: 3/2/22 By: N. Schlegel Title: Staff env. scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-3S

Location: Rosemount, MN

Duplicate Collected: No

Sample Matrix: Groundwater

Field Blank Collected: No

Equipment Blank Collected: No

PURGE INFORMATION

Sampler(s): N-Schlagel

Casing Length(ft) 135.13

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/3/22 9:05

Casing Diameter (inches): 2

Initial Water Level (feet): 107.84' 114.87

One Casing Volume (gal): 4.45 3.0

Ground Water Elevation (ft, msl): 771.68

Total Volume Purged (gal): 6.0

Top of Casing (ft, msl) 886.55

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 107.86'

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 3/3/22 9:25

PURGE DATA

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)
9:05	1000	0.1	8.77	7.57	732	131	3.32	70
9:10	1000	2.0	8.44	7.20	736	92.2	0.30	17
9:15	1000	4.0	8.27	7.56	741	26.1	0.00	27
9:20	1000	6.0	8.30	7.69	737	15.1	0.00	35

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-3S

Water Level @ Sampling (ft): 107.96

Well Collection Sequence: 9 of 17

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 ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>8/3/22</u> <u>gile</u>	VOCs: _____ Other: <u>TOC</u>	<u>8.35</u>	<u>7.70</u>	<u>733</u>	<u>15.9</u>	<u>0.20</u>	<u>37</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 19°F, mostly cloudy, 0-5 mph W

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) # of Bottles Collected: 5

Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: 46 2920

Date: 3/3/22 By: M. Schwab Title: Staff GW Scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-3D

Location: Rosemount, MN

Duplicate Collected: No

Field Blank Collected: No

Sample Matrix: Groundwater

Equipment Blank Collected: No

Sampler(s): M. Schigel

Casing Length(ft): 155.5

PURGE INFORMATION

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/13/22 9:05

Casing Diameter (inches): 2

Initial Water Level (feet): 108.88' 115.29

One Casing Volume (gal): 7.6 5.5

Ground Water Elevation (ft, msl): 770.48

Total Volume Purged (gal): 9.0

Top of Casing (ft, msl): 885.77

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 109.90

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 3/13/22 9:40

PURGE DATA

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)
9:05	1000	0.0	9.16	7.60	891	11.9	12.24	34
9:15	1000	3.0	9.20	7.51	888	10.5	11.07	33
9:25	1000	6.0	9.02	7.49	892	11.0	11.04	35
9:35	1000	9.0	8.99	7.49	874	10.8	11.40	34

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Water Level @ Sampling (ft): 108.90

Sample Point ID: D-3D

Well Collection Sequence 10 of 17

Parameters: Annual _____ Semiannual: _____

Quarterly: _____ Monthly: _____ Other: X

SAMPLE DATA:

Time & Date	Sample Rate	Temp (°C)	pH (std units)	Specific Conductance (uS - umhos/cm)	Turbidity (NTU)	Dissolved O ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>7:40</u> <u>3/13/22</u>	VOCs: _____ Other: <u>TCM</u>	<u>8.91</u>	<u>7.46</u>	<u>898</u>	<u>11.4</u>	<u>11.09</u>	<u>37</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 14°F, mostly cloudy

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

of Bottles Collected: 5

Well Closed and Locked: Yes No (circle)

Notes:

Minnesota Unique Well ID: 49299 X

Date: 3/13/22 By: M. Schryer

Title: Staff Env. Scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-2S

Location: Rosemount, MN

Duplicate Collected: No

Sample Matrix: Groundwater

Field Blank Collected: No

Equipment Blank Collected: No

PURGE INFORMATION

Sampler(s): N. Seubgel

Casing Length(ft) 134.78

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/13/22 10:15

Casing Diameter (inches): 2

Initial Water Level (feet): 115.97' 122.87

One Casing Volume (gal): 3.0 1.5

Ground Water Elevation (ft, msl): 761.36

Total Volume Purged (gal): 6.0

Top of Casing (ft, msl) 884.23

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 115.99'

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 3/13/22 10:35

PURGE DATA

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)
10:15	1000	0.1	8.15	7.42	619	73.8	10.83	164
10:20	1000	2.0	9.83	6.91	80	119	11.36	164
10:28	1000	4.0	9.93	6.98	827	92.6	10.19	165
10:30	1000	6.0	9.95	7.05	822	65.8	9.42	165

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Water Level @ Sampling (ft): 115.99
 Parameters: Annual _____ Semiannual: _____

Sample Point ID: D-2S
 Well Collection Sequence 11 of 17
 Quarterly: _____ Monthly: _____ Other: X

SAMPLE DATA:

Time & Date	Sample Rate	Temp (°C)	pH (std units)	Specific Conductance (uS - umhos/cm)	Turbidity (NTU)	Dissolved O ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>10:35</u> <u>3/3/22</u>	VOCs: <u>-</u> Other: <u>100</u>	<u>9.98</u>	<u>7.07</u>	<u>819</u>	<u>47.0</u>	<u>11.30</u>	<u>165</u>

YSI Serial Number: _____
 YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 70° F, mostly cloudy, 2-5 mph W

 Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____ # of Bottles Collected: 5
 Well Closed and Locked: Yes No (circle) _____

Notes:

Minnesota Unique Well ID: 493013
 Date: 3/3/22 By: N. Schlayer Title: Staff Env Scientist
 Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-2D

Location: Rosemount, MN

Duplicate Collected: No

Sample Matrix: Groundwater

Field Blank Collected: No

PURGE INFORMATION

Equipment Blank Collected: No

Method of Well Purge: Dedicated Bladder Pump

Sampler(s): iv. Schlegel

Casing Length(ft) 163.98

Date/Time Initiated: 3/3/22 10:15

Dedicated Equipment: Yes No

Initial Water Level (feet): 114.82' 121.18

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 162.85

One Casing Volume (gal): 8.01 6.8

Top of Casing (ft, msl) 884.03

Total Volume Purged (gal): 9.0

PID (Background) 0.0 (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) 0.0 (PPM)

Water Level After Purge (ft): 114.84'

Date/Time Completed: 3/3/22 10:40

PURGE DATA

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)
10:05	1000	1000 0.1	9.63	7.41	739	3.3	7.13	185
10:15	1000	1000 3.0	9.51	7.44	745	4.3	7.11	189
10:25	1000	1000 6.0	9.62	7.44	744	2.6	7.15	190
10:35	1000	1000 9.0	9.53	7.44	744	3.2	7.16	190

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-2D
 Water Level @ Sampling (ft): 114.84
 Well Collection Sequence 12 of 17
 Parameters: Annual _____ Semiannual: _____ Quarterly: _____ Monthly: _____ Other: X

SAMPLE DATA:

Time & Date	Sample Rate	Temp (°C)	pH (std units)	Specific Conductance (uS - umhos/cm)	Turbidity (NTU)	Dissolved O ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>10:40 3/13/22</u>	VOCs: _____ Other: <u>1000</u>	<u>9.62</u>	<u>7.44</u>	<u>795</u>	<u>3.1</u>	<u>7.27</u>	<u>193</u>

YSI Serial Number: _____
 YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 20°F, partly cloudy, 0-5 mph N

 Sampling Characteristics: UGR2

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____ # of Bottles Collected: 5
 Well Closed and Locked: Yes No (circle) _____

Notes: _____

Minnesota Unique Well ID: _____

Date: 3/13/22 By: N. Schlapf Title: staff env scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-4S

Location: Rosemount, MN

Duplicate Collected: No

Sample Matrix: Groundwater

Field Blank Collected: No

PURGE INFORMATION

Equipment Blank Collected: No

Method of Well Purge: Dedicated Bladder Pump

Sampler(s): M-Schlage

Date/Time Initiated: 3/3/22 11:05

Casing Length(ft) 120.4

Initial Water Level (feet): 103.35 - 110.27

Dedicated Equipment: Yes

Ground Water Elevation (ft, msl): 773.43

Casing Diameter (inches): 2

Top of Casing (ft, msl) 883.7

One Casing Volume (gal): 2.78 @ 0.3

PID (Background) 0.0 (PPM)

Total Volume Purged (gal): 6.0

PID (Headspace) 0.0 (PPM)

Purged Dry?: Yes No (circle)

Water Level After Purge (ft): 102.37'

Date/Time Completed: 3/3/22 11:25

PURGE DATA

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)
11:05	1000	0.1	9.46	7.65	864	31.3	12.21	181
11:10	1000	2.0	10.53	7.24	965	3.2	10.83	197
11:15	1000	4.0	10.73	7.24	964	2.2	10.67	201
11:20	1100	6.0	10.84	7.34	967	1.9	9.71	205

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Water Level @ Sampling (ft): 103.37'

Parameters: Annual _____ Semiannual: _____

Sample Point ID: D-4S

Well Collection Sequence 13 of 17

Quarterly: _____ Monthly: _____ Other: X

SAMPLE DATA:

Time & Date	Sample Rate	Temp (°C)	pH (std units)	Specific Conductance (uS - umhos/cm)	Turbidity (NTU)	Dissolved O ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>11:25</u> <u>3/2/22</u>	VOCs: <u>-</u> Other: <u>1600</u>	<u>10.89</u>	<u>7.38</u>	<u>962</u>	<u>1.6</u>	<u>9.51</u>	<u>206</u>

YSI Serial Number: _____
 YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 22°F, pretty cloudy, 0-5 mph NE

Sampling Characteristics: Clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____ # of Bottles Collected: 5

Well Closed and Locked: Yes No (circle) _____

Notes: _____

Minnesota Unique Well ID: 462921

Date: 3/3/22 By: M. Schmitt Title: Staff Env Scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-4D

Location: Rosemount, MN

Duplicate Collected: Yes - Dup-2

Sample Matrix: Groundwater

Field Blank Collected: No

Equipment Blank Collected: No

PURGE INFORMATION

Sampler(s): N. Schlegel

Casing Length(ft): 138.7

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/3/22 11:05

Casing Diameter (inches): 2

Initial Water Level (feet): 103.57' - 110.05

One Casing Volume (gal): 5.73 - 3.5

Ground Water Elevation (ft, msl): 775.16

Total Volume Purged (gal): 9.0

Top of Casing (ft, msl): 885.21

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 103.57'

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 3/3/22 11:40

PURGE DATA

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)
11:05	1000	0.1	10.93	7.35	846	6.5	10.35	211
11:15	1000	3.0	10.97	7.34	845	7.0	11.02	213
11:25	1000	6.6	10.95	7.33	844	6.4	11.00	215
11:35	1000	9.0	10.93	7.33	843	6.3	11.05	215

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-4D

Water Level @ Sampling (ft): 103.59

Well Collection Sequence 14 of 17

Parameters: Annual _____ Semiannual: _____

Quarterly: _____ Monthly: _____ Other: X

SAMPLE DATA:

Time & Date	Sample Rate	Temp (°C)	pH (std units)	Specific Conductance (uS - umhos/cm)	Turbidity (NTU)	Dissolved O ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>3/13/22</u> <u>11:48</u>	VOCs: _____ Other: <u>1000</u>	<u>10.96</u>	<u>7.32</u>	<u>842</u>	<u>4.5</u>	<u>10.77</u>	<u>2.17</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 23°F, partly cloudy, 0-5 mph W

Sampling Characteristics: clean

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____ # of Bottles Collected: 5

Well Closed and Locked: Yes No (circle) _____

Notes: _____

Minnesota Unique Well ID: _____

Date: 3/13/22 By: N. Schlegel Title: Staff environmental scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-7

Location: Rosemount, MN

Duplicate Collected: No

Sample Matrix: Groundwater

Field Blank Collected: No

Equipment Blank Collected: No

Sampler(s): N. Scribner

Casing Length(ft): 107.4

PURGE INFORMATION

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: No

Date/Time Initiated: 3/3/22 12:08

Casing Diameter (inches): 2

Initial Water Level (feet): 101.6' Dry (top of pump) -107.2

One Casing Volume (gal): 0.95 - 0.3

Ground Water Elevation (ft, msl): -791.8

Total Volume Purged (gal): 0.1

Top of Casing (ft, msl): 899

Purged Dry?: Yes No (circle)

PID (Background): 0.0 (PPM)

Water Level After Purge (ft): Dry

PID (Headspace): 0.0 (PPM)

Date/Time Completed: 3/3/22 12:10

PURGE DATA

In sufficient water to collect sample in well

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)
12:08	1000	0.1						
	1000							
	1000							
	1000							

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Water Level @ Sampling (ft): _____

Sample Point ID: D-7

Well Collection Sequence _____ of _____

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 ₂ (mg/L)	O ₂ Reduction Potential (mV)
	VOCs:						
	Other:						

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: _____

Sampling Characteristics: _____

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____

of Bottles Collected: _____

Well Closed and Locked: Yes No (circle) _____

Notes: _____

Minnesota Unique Well ID: _____

Date: _____ By: _____ Title: _____

Company: Groundwater and Environmental Services, Inc.

NO SAMPLE
COLLECTED

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-8

Location: Rosemount, MN

Duplicate Collected: No

Sample Matrix: Groundwater

Field Blank Collected: No

Equipment Blank Collected: No

PURGE INFORMATION

Sampler(s): M. Schindler

Casing Length(ft) 130.1

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/3/22 12:35

Casing Diameter (inches): 2

Initial Water Level (feet): 107.50' 114.06 13.0

One Casing Volume (gal): 3.68 2.7

Ground Water Elevation (ft, msl): 792.16

Total Volume Purged (gal): 4.0

Top of Casing (ft, msl) 906.22

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 107.50

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 3/3/22 13:20

PURGE DATA

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)
13:05	1000	0.1	9.35	7.65	915	216	5.94	220
13:08	1000	1.5	9.24	7.40	943	193	5.91	220
13:10	1000	3.0	9.54	7.22	935	214	5.87	191
13:15	1000	4.0	9.63	7.61	932	199	5.27	173

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Water Level @ Sampling (ft): 107.50'

Parameters: Annual _____ Semiannual: _____

Sample Point ID: D-8

Well Collection Sequence 16 of 17

Quarterly: _____ Monthly: _____ Other:

SAMPLE DATA:

Time & Date	Sample Rate	Temp (°C)	pH (std units)	Specific Conductance (uS - umhos/cm)	Turbidity (NTU)	Dissolved O ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>3/3/22</u> <u>13:20</u>	VOCs: _____ Other: <u>1005</u>	<u>9.74</u>	<u>7.63</u>	<u>930</u>	<u>196</u>	<u>5.43</u>	<u>171</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 20°F, mostly cloudy, 0.5 MI

Sampling Characteristics: etc.

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

of Bottles Collected: 5

Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: _____

Date: 3/3/22 By: M. Schlegel Title: State env. scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-9

Location: Rosemount, MN

Duplicate Collected: NO

Field Blank Collected: NO

Sample Matrix: Groundwater

Equipment Blank Collected: YES

Sampler(s): M-Schloegel

Casing Length(ft): 118.5

PURGE INFORMATION

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/3/22 13:50

Casing Diameter (inches): 2

Initial Water Level (feet): 97.10 ~~104.78~~

One Casing Volume (gal): 3.49 ~~2.5~~

Ground Water Elevation (ft, msl): #VALUE!

Total Volume Purged (gal): 4.5

Top of Casing (ft, msl): ???

Purged Dry?: Yes No (circle)

PID (Background): 0.0 (PPM)

Water Level After Purge (ft): 97.12'

PID (Headspace): 0.0 (PPM)

Date/Time Completed: 3/3/22 14:10

PURGE DATA

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)
13:50	1000	0.1	8.42	7.59	747	133	11.96	201
13:55	1000	1.5	10.23	6.92	966	149	10.84	21
14:00	1000	3.0	10.46	6.89	951	137	10.45	-36
14:05	1000	4.5	10.54	7.31	927	102	9.95	-64

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-9

Water Level @ Sampling (ft): 97.12

Well Collection Sequence 17 of 17

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 ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>3/13/22</u> <u>14:26</u>	VOCs: <u>---</u> Other: <u>1000</u>	<u>10.44</u>	<u>7.38</u>	<u>935</u>	<u>95.0</u>	<u>10.12</u>	<u>-62</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 20°F, mostly cloudy, 0-5 mph NE

Sampling Characteristics: clean

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

of Bottles Collected: 5

Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: 766144

Date: 3/13/22 By: N. Schlegel Title: staff env. scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: U-4S

Location: Rosemount, 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. Schlegel

Casing Length(ft) 34.36

Date/Time Initiated: 10/14/22 10:10

Dedicated Equipment: Yes

Initial Water Level (feet): 11.34 18.29

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 814.58

One Casing Volume (gal): 3.75 2.3

Top of Casing (ft, msl) 832.87

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): 11.36

PURGE DATA

Date/Time Completed: 10/14/22 10:35

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)
10:10	1000	0.1	8.41	7.79	936	5.2	7.09	46
10:17	1000	4.0	10.20	7.36	828	9.1	0.96	78
10:25	1000	3.0	10.30	7.24	826	6.4	0.18	84
10:32	1000	12.0	10.32	7.20	825	1.1	0.00	84

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: U-4S

Water Level @ Sampling (ft): 11.36'

Well Collection Sequence 1 of 17

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 ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>10/19/22</u> <u>10:35</u>	VOCs: <u>100</u> Other: <u>000</u>	<u>10.31</u>	<u>7.20</u>	<u>825</u>	<u>0.8</u>	<u>0.00</u>	<u>84</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 32°F, sunny 0-5 mph NW

Sampling Characteristics: clean

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____

of Bottles Collected: 9 MPLA

Well Closed and Locked: Yes No (circle) _____

5 CLR

Notes:

Minnesota Unique Well ID: 49302-1

Date: 10/19/22 By: N. Schlegel

Title: staff env. scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: U-4D

Location: Rosemount, MN

Duplicate Collected: No

Sample Matrix: Groundwater

Field Blank Collected: No

PURGE INFORMATION

Equipment Blank Collected: No

Method of Well Purge: Dedicated Bladder Pump

MS/MSD Collected: No

Date/Time Initiated: 10/19/22 10:10

Sampler(s): M. Schlegel

Casing Length(ft) 89.2

Initial Water Level (feet): 21.44 24.71

Dedicated Equipment: Yes

Ground Water Elevation (ft, msl): 812.61

Casing Diameter (inches): 2

Top of Casing (ft, msl) 837.32

One Casing Volume (gal): 11.0 10.8

PID (Background) 0.0 (PPM)

Total Volume Purged (gal): 33.5

PID (Headspace) 0.0 (PPM)

Purged Dry?: Yes No (circle)

Water Level After Purge (ft): 21.45'

PURGE DATA

Date/Time Completed: 10/19/22 10:45

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)
10:10	1000	0.0	9.87	7.50	786	0.4	10.46	138
10:20	1000	10.0	9.83	7.50	796	0.3	10.52	139
10:30	1000	20.0	9.89	7.51	785	0.3	10.45	144
10:40	1000	33.5	9.89	7.51	785	0.3	10.36	144

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: U-4D

Water Level @ Sampling (ft): 21.45

Well Collection Sequence 2 of 17

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 ₂ (mg/L)	O ₂ Reduction Potential (mV)
10/17/22 10:48	VOCs: <u>100</u> Other: <u>1000</u>	9.90	7.51	705	0.3	10.25	150

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 72°F sunny, 0-5 mph NW

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

of Bottles Collected: 9 (MPLA)

Well Closed and Locked: Yes No (circle)

5 (LICR)

Notes: _____

Minnesota Unique Well ID: 463714

Date: 10/17/22 By: W. Schultz

Title: Staff env. scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: U-5S

Location: Rosemount, MN

Duplicate Collected: DUP-1

Sample Matrix: Groundwater

Field Blank Collected: Field Blank 1

Equipment Blank Collected: No

PURGE INFORMATION

MS/MSD Collected: No

Method of Well Purge: Dedicated Bladder Pump

Sampler(s): N. Schlegel

Date/Time Initiated: 10/19/22 12:10

Casing Length(ft) 42.5

Dedicated Equipment: Yes

Initial Water Level (feet): 29.32 - 31.83

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 816.26

One Casing Volume (gal): 2.15 2.0

Top of Casing (ft, msl) 848.09

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): 29.33'

PURGE DATA

Date/Time Completed: 10/19/22 12:30

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)
12:10	1000	0.1	11.10	7.61	781	7.8	9.01	115
12:15	1000	2.0	11.03	7.50	785	3.6	6.49	123
12:20	1000	4.0	11.09	7.44	787	1.9	5.68	131
12:25	1000	6.5	11.11	7.42	788	1.2	5.29	136

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: U-5S

Water Level @ Sampling (ft): 29-33'

Well Collection Sequence 3 of 17

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 ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>10/19/22</u> <u>12:30</u>	VOCs: <u>1000</u> Other: <u>1000</u>	<u>11-11</u>	<u>7.44</u>	<u>788</u>	<u>0.9</u>	<u>5.21</u>	<u>138</u>

YSI Serial Number: _____
 YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 34°F, sunny, 5-10 mph NW

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____ # of Bottles Collected: 9 (MPLA)
5 (U.R.)

Well Closed and Locked: Yes No (circle) _____

Notes:

Minnesota Unique Well ID: 493018

Date: 10/19/22 By: N-S. W. J. P. Title: Staff env. scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: U-5D

Location: Rosemount, 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): M-Schlagel

Casing Length(ft) 101.54

Date/Time Initiated: 10/19/22 12:10

Dedicated Equipment: Yes

Initial Water Level (feet): 30.59 33.59

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 816.08

One Casing Volume (gal): 11.56 11.0

Top of Casing (ft, msl) 849.67

Total Volume Purged (gal): 35.0

PID (Background) 0.0 (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) 0.0 (PPM)

Water Level After Purge (ft): 30.60

PURGE DATA

Date/Time Completed: 10/19/22 12:55

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)
12:10	1000	0.1	9.68	7.74	740	1.0	10.91	119
12:20	1000	10.6	9.66	7.74	740	1.0	9.34	121
12:30	1000	20.6	9.64	7.75	740	1.0	8.77	123
12:40	1000	30.6	9.64	7.74	740	1.0	8.73	123
12:50	1000	35.0	9.64	7.75	740	1.0	8.77	121

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Water Level @ Sampling (ft): 30-60'

Sample Point ID: U-5D

Well Collection Sequence 4 of 17

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 ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>12-38</u> <u>10/19/22</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>9.65</u>	<u>7.75</u>	<u>741</u>	<u>1.0</u>	<u>8.72</u>	<u>123</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 34°F, sunny 0-5 mph NW

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) # of Bottles Collected: 9 (MPA)
5 (UP)

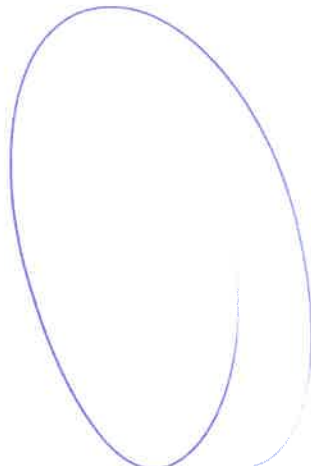
Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: 493018

Date: 10/19/22 By: N. Scola Title: Staff env. scientist

Company: Groundwater and Environmental Services, Inc.



FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-5S2

Location: Rosemount, 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): M-Envelope

Casing Length(ft) 121.81

Date/Time Initiated: 14:05 10/19/22

Dedicated Equipment: Yes

Initial Water Level (feet): 106.22 111.68

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 780.04

One Casing Volume (gal): 2.54 2.4

Top of Casing (ft, msl) 891.72

Total Volume Purged (gal): 8.0

PID (Background) 0.0 (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) 0.0 (PPM)

Water Level After Purge (ft): 106.25'

PURGE DATA

Date/Time Completed: 10/19/22 14:25

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)
14:05	1000	0.1	10.88	7.75	887	0.5	5.47	113
14:10	1000	2.5	10.71	7.53	896	0.0	2.44	122
14:15	1000	5.0	10.71	7.47	897	0.0	2.28	127
14:20	1000	8.0	10.67	7.44	897	0.0	2.37	130



FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-5S2

Water Level @ Sampling (ft): 106.25

Well Collection Sequence 5 of 17

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 ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>10-28</u> <u>10/19/22</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>10.68</u>	<u>7.44</u>	<u>897</u>	<u>0.0</u>	<u>2.30</u>	<u>132</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 40°F, partly cloudy 10-15 mph NW

Sampling Characteristics: _____

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

of Bottles Collected: 9 (MPLA)
5 (CLR)

Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: 463715

Date: 10/19/22 By: N-Schlagel Title: Staff Environmental

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-5D

Location: Rosemount, MN

Duplicate Collected: No

Sample Matrix: Groundwater

Field Blank Collected: No

PURGE INFORMATION

Equipment Blank Collected: No

Method of Well Purge: Dedicated Bladder Pump

MS/MSD Collected: No

Date/Time Initiated: 10/19/22

Sampler(s): 4, schlagel

Casing Length(ft) 157.1

Initial Water Level (feet): 115.83 ~~121.35~~

Dedicated Equipment: Yes

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 771.85

One Casing Volume (gal): 6.72 ~~5.7~~

Top of Casing (ft, msl) 893.2

Total Volume Purged (gal): 20.5

PID (Background) 0.0 (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) 0.0 (PPM)

Water Level After Purge (ft): 115.84

PURGE DATA

Date/Time Completed: 10/19/22 14:40

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)
14:05	1000	0.1	10.68	7.52	913	0.6	11.23	157
14:15	1000	7.0	10.67	7.57	910	6.4	11.06	159
14:25	1000	14.0	10.69	7.60	916	4.1	11.72	162
14:35	1000	20.5	10.70	7.55	919	0.7	10.73	163

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-5D

Water Level @ Sampling (ft): 115.84

Well Collection Sequence 6 of 17

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 ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>10/19/22</u> <u>14:40</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>10.66</u>	<u>7.58</u>	<u>915</u>	<u>9.1</u>	<u>11.47</u>	<u>163</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 40°F, partly cloudy, 10-15mph NW

Sampling Characteristics: Clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) # of Bottles Collected: ~~7 (MCA)~~
5 (LUR)

Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: 482895

Date: 10/19/22 By: N-schlygel Title: staff env scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-3S

Location: Rosemount, 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): No Schlage

Casing Length(ft) 135.13

Date/Time Initiated: 10/19/22 15:15

Dedicated Equipment: Yes

Initial Water Level (feet): 109.25 114.87

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 771.68

One Casing Volume (gal): 4.22 3.0

Top of Casing (ft, msl) 886.55

Total Volume Purged (gal): 13.0

PID (Background) 0.0 (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) 0.0 (PPM)

Water Level After Purge (ft): 109.27'

PURGE DATA

Date/Time Completed: 10/19/22 15:50

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)
15:15	1000	0.1	11.78	7.63	698	3.0	10.47	121
15:25	1000	4.5	11.71	7.58	719	0.6	2.70	50
15:35	1000	9.0	11.71	7.58	707	0.4	4.62	66
15:45	1000	13.0	11.69	7.55	713	1.0	6.80	84

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-3S

Water Level @ Sampling (ft): 109.27

Well Collection Sequence 7 of 17

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 ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>15:58</u> <u>10/19/22</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>11.69</u>	<u>7.57</u>	<u>7184</u>	<u>0.4</u>	<u>6.58</u>	<u>85</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 42°F, partly cloudy, 5-10 mph NW

Sampling Characteristics: clean

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

of Bottles Collected: 9 (MPLA)
5 (LUR)

Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: 462920

Date: 10/19/22 By: N. S. [signature] Title: staff env. scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-3D

Location: Rosemount, 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): M. Schlegel

Casing Length(ft) 155.5

Date/Time Initiated: 10/19/22 15:15

Dedicated Equipment: Yes

Initial Water Level (feet): 110.22 ~~115.29~~

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 770.48

One Casing Volume (gal): 7.38 ~~5.5~~

Top of Casing (ft, msl) 885.77

Total Volume Purged (gal): 22.5

PID (Background) 0.0 (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) 0.0 (PPM)

Water Level After Purge (ft): 110.23'

PURGE DATA

Date/Time Completed: 10/19/22 15:55

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)
15:15	1000	0.1	11.16	7.53	829	1.3	14.41	13
15:30	1000	10.6	11.15	7.57	829	1.3	14.02	12
15:45	1000	20.6	11.15	7.58	828	1.4	13.47	14
15:50	1000	22.5	11.15	7.56	830	1.4	13.30	13

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Water Level @ Sampling (ft): 110.23'
 Parameters: Annual _____ Semiannual: _____

Sample Point ID: D-3D
 Well Collection Sequence 6 of 17
 Quarterly: F Monthly: _____ Other: _____

SAMPLE DATA:

Time & Date	Sample Rate	Temp (°C)	pH (std units)	Specific Conductance (uS - umhos/cm)	Turbidity (NTU)	Dissolved O ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>15:38</u> <u>10/19/22</u>	VOCs: <u>16.2</u> Other: <u>16.2</u>	<u>11.13</u>	<u>7.56</u>	<u>830</u>	<u>1.5</u>	<u>12.79</u>	<u>13</u>

YSI Serial Number: _____
 YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 46°F pretty cloudy, 5-10 mph NW

 Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____ # of Bottles Collected: 5 (CLR)
 Well Closed and Locked: Yes No (circle) _____

Notes: _____

Minnesota Unique Well ID: 182B--

Date: 10/19/22 By: M. Sci. Lopez Title: staff env. scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-1S

Location: Rosemount, 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. Sealed

Date/Time Initiated: 10/20/22 8:15

Casing Length(ft) 135.97

Initial Water Level (feet): 122.17' 127.67

Dedicated Equipment: Yes

Ground Water Elevation (ft, msl): 745.08

Casing Diameter (inches): 2

Top of Casing (ft, msl) 872.75

One Casing Volume (gal): 2.25 1.2

PID (Background) 0.0 (PPM)

Total Volume Purged (gal): 7.0

PID (Headspace) 0.0 (PPM)

Purged Dry?: Yes No (circle)

Water Level After Purge (ft): 122.20'

PURGE DATA

Date/Time Completed: 10/20/22 8:35

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)
8:15	1000	0.1	7.49	7.65	797	4.1	13.27	150
8:20	1000	2.0	10.21	7.50	775	6.3	10.09	150
8:25	1000	4.0	11.44	7.42	740	4.2	10.93	143
8:30	1000	7.0	11.83	7.49	746	0.5	10.66	125

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Water Level @ Sampling (ft): 122.20

Parameters: Annual _____ Semiannual: _____

Sample Point ID: D-1S

Well Collection Sequence 9 of 17

Quarterly: Monthly: _____ Other: _____

SAMPLE DATA:

Time & Date	Sample Rate	Temp (°C)	pH (std units)	Specific Conductance (uS - umhos/cm)	Turbidity (NTU)	Dissolved O ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>10/20/22</u> <u>8:35</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>12.09</u>	<u>7.49</u>	<u>738</u>	<u>0.5</u>	<u>3.47</u>	<u>122</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 37°F, sunny, 0-5 mph W

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____ # of Bottles Collected: 9 (MPLA)
5 (LCR)

Well Closed and Locked: Yes No (circle) _____

Notes: _____

Minnesota Unique Well ID: 493914

Date: 10/20/22 By: N. Schigel Title: staff env-scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-1D

Location: Rosemount, MN

Duplicate Collected: NO

Sample Matrix: Groundwater

Field Blank Collected: NO

PURGE INFORMATION

Equipment Blank Collected: NO

Method of Well Purge: Dedicated Bladder Pump

MS/MSD Collected: NO

Date/Time Initiated: 10/20/22 8:15

Sampler(s): M, Schlager

Casing Length(ft): 164.5

Initial Water Level (feet): 119.66' 124.03

Dedicated Equipment: Yes

Ground Water Elevation (ft, msl): 747.47

Casing Diameter (inches): 2

Top of Casing (ft, msl): 871.5

One Casing Volume (gal): 7.36 6.2

PID (Background): 0.0 (PPM)

Total Volume Purged (gal): 22.0

PID (Headspace): 0.0 (PPM)

Purged Dry?: Yes No (circle)

Water Level After Purge (ft): 119.67'

PURGE DATA

Date/Time Completed: 10/20/22 8:50

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)
8:15	1000	0.1	12.31	7.96	729	1.6	13.69	146
8:25	1000	7.0	12.29	7.91	735	0.7	13.54	157
8:35	1000	14.0	12.31	7.91	730	0.6	12.99	161
8:45	1000	22.0	12.31	7.91	730	0.5	12.30	161

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-1DWater Level @ Sampling (ft): 119.67'Well Collection Sequence 10 of 17

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 ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>10/20/22</u> <u>8:30</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>12.30</u>	<u>7.92</u>	<u>730</u>	<u>0.4</u>	<u>13.07</u>	<u>1621</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 39°F, sunny, 0-5 mph WSampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) # of Bottles Collected: 5 (CLR)Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: 482883Date: 10/20/22 By: N. Schigel Title: staff env. scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-2S

Location: Rosemount, 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): M. Schlegel

Casing Length(ft) 134.78

Date/Time Initiated: 10/20/22

Dedicated Equipment: Yes

Initial Water Level (feet): 117.52' 122.87

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 761.36

One Casing Volume (gal): 2-01 1.5

Top of Casing (ft, msl) 884.23

Total Volume Purged (gal): 0.5

PID (Background) 0.0 (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) 0.0 (PPM)

Water Level After Purge (ft): 117.54'

PURGE DATA

Date/Time Completed: 10/20/22 10:10

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)
9:35	1000	0.1	11.56	0.02	651	1.5	13.59	160
9:45	1000	3.0	10.83	7.40	802	0.3	12.05	170
9:55	1000	6.0	10.02	7.44	798	0.3	10.00	163
10:05	1000	0.5	10.85	7.42	800	0.2	11.44	150

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-2S
 Water Level @ Sampling (ft): 117.54
 Well Collection Sequence: 11 of 17
 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 ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>10/20/22</u> <u>10:10</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>10.85</u>	<u>7.44</u>	<u>797</u>	<u>0.2</u>	<u>11.14</u>	<u>149</u>

YSI Serial Number: _____
 YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 45°F, cloudy, 0-5 mph W
 Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

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

Notes: _____
 Minnesota Unique Well ID: 493013
 Date: 10/20/22 By: Mc Schlapci Title: staff env scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-2D

Location: Rosemount, 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): M. Sublogel

Casing Length(ft) 163.98

Date/Time Initiated: 10/20/22 9:38

Dedicated Equipment: Yes

Initial Water Level (feet): 116.31' -121.18

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 762.85

One Casing Volume (gal): 7.77 6.8

Top of Casing (ft, msl) 884.03

Total Volume Purged (gal): 23.5

PID (Background) 0.0 (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) 0.0 (PPM)

Water Level After Purge (ft): 116.32'

PURGE DATA

Date/Time Completed: 10/20/22 10:15

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)
9:35	1000	0.1	10.39	7.72	789	0.2	10.39	163
9:50	1000	10.0	10.36	7.74	789	0.2	10.07	168
10:05	1000	20.0	10.36	7.73	789	0.2	10.10	172
10:10	1000	23.5	10.36	7.71	789	0.2	10.17	175

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-2D
 Water Level @ Sampling (ft): 116.32'
 Well Collection Sequence 14 of 17
 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 ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>10:15</u> <u>10/20/22</u>	VOCs: <u>1-</u> Other: <u>1000</u>	<u>10.36</u>	<u>7.72</u>	<u>789</u>	<u>0.2</u>	<u>10.07</u>	<u>175</u>

YSI Serial Number: _____
 YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 45°F, sunny, 0-5 mph W

 Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____ # of Bottles Collected: 5 CCKR
 Well Closed and Locked: Yes No (circle) _____

Notes: _____

Minnesota Unique Well ID: 492882

Date: 10/20/22 By: M. Schmitt Title: staff env. scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-4S

Location: Rosemount, 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): M-Schlager

Casing Length(ft) 120.4

Date/Time Initiated: 10/20/22 11:05

Dedicated Equipment: Yes

Initial Water Level (feet): 104.93' 110.27

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 773.43

One Casing Volume (gal): 2.52 0.3

Top of Casing (ft, msl) 883.7

Total Volume Purged (gal): 8.0

PID (Background) 0.0 (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) 0.0 (PPM)

Water Level After Purge (ft): 104.93

PURGE DATA

Date/Time Completed: 10/20/22 11:25

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)
11:05	1000	0.1	12.00	7.65	847	0.3	11.97	183
11:10	1000	2.5	12.03	7.57	855	0.5	10.94	187
11:15	1000	5.0	12.01	7.57	858	0.3	10.28	189
11:20	1000	8.0	12.00	7.54	852	0.3	10.97	188

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-4D

Location: Rosemount, 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. Schlegel

Casing Length(ft): 138.7

Date/Time Initiated: _____

Dedicated Equipment: Yes

Initial Water Level (feet): 105.11 110.05

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 725.16

One Casing Volume (gal): 5.48 3.5

Top of Casing (ft, msl) 885.21

Total Volume Purged (gal): 16.5

PID (Background) 0.0 (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) 0.0 (PPM)

Water Level After Purge (ft): 105.12'

PURGE DATA

Date/Time Completed: 10/20/22 11:40

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)
11:05	1000	0.1	11.92	7.57	847	0.3	10.04	194
11:15	1000	5.5	11.93	7.63	846	0.0	12.21	194
11:25	1000	11.0	11.94	7.57	845	0.5	11.95	196
11:35	1000	16.5	11.96	7.62	843	2.6	11.82	197

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Water Level @ Sampling (ft):

105.12'

Sample Point ID:

D-4D

Well Collection Sequence

14 of 17

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 ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>10/20/02</u> <u>11:</u>	VOCs: <u>-</u> Other: <u>1000</u>	<u>11.96</u>	<u>7.60</u>	<u>8943</u>	<u>0.4</u>	<u>11.25</u>	<u>197</u>

YSI Serial Number:

YSI Sonde Serial Number:

GENERAL INFORMATION:

Weather Conditions @ sampling:

50°F, sunny, -0.5 mph W

Sampling Characteristics:

clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes / No (circle)

of Bottles Collected:

5 (CLR)

Well Closed and Locked: Yes / No (circle)

Notes:

Minnesota Unique Well ID:

- cont lead, buried under soil

Date:

10/20/02

By:

M-Schlegel

Title:

Staff Env-Scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-7

Location: Rosemount, MN

Duplicate Collected: -

Sample Matrix: Groundwater

Field Blank Collected: -

Equipment Blank Collected: -

PURGE INFORMATION

MS/MSD Collected: -

Method of Well Purge: Dedicated Bladder Pump

Sampler(s): μ-Su-100

Casing Length(ft): 107.4

Date/Time Initiated: 10/20/22

Dedicated Equipment: Yes

Initial Water Level (feet): DRY 107.2

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 791.8

One Casing Volume (gal): -0.3

Top of Casing (ft, msl) 899

Total Volume Purged (gal): 0-0

PID (Background) - (PPM)

Purged Dry?: Yes No (circle)

PID (Headspace) - (PPM)

Water Level After Purge (ft): -

PURGE DATA

Date/Time Completed: -

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)

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-7

Water Level @ Sampling (ft): _____

Well Collection Sequence _____ of _____

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 ₂ (mg/L)	O ₂ Reduction Potential (mV)
	VOCs: _____						
	Other: _____						

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: _____

Sampling Characteristics: _____

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____

of Bottles Collected: _____

Well Closed and Locked: Yes No (circle) _____

Notes: unable to sample, well is dry

Minnesota Unique Well ID: _____

Date: _____ By: _____ Title: _____

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-8

Location: Rosemount, 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): Perched log #1

Casing Length(ft) 130.1

Date/Time Initiated: 10/20/20

Dedicated Equipment: Yes

Initial Water Level (feet): 109.05 ~~114.06~~

Casing Diameter (inches): 2

Ground Water Elevation (ft, msl): 792.16

One Casing Volume (gal): 3.43 ~~2.7~~

Top of Casing (ft, msl) 906.22

Total Volume Purged (gal): 7.5 slow recharge

PID (Background) 0.0 (PPM)

Purged Dry?: Yes ~~No~~ (circle)

PID (Headspace) 0.0 (PPM)

Water Level After Purge (ft): 126.12

PURGE DATA

Date/Time Completed: 10/20/22 12:25

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)
12:05	1000	0.1	11.01	7.69	905	9.4	8.57	192
12:10	1000	2.5	10.94	7.65	906	2.7	8.01	195
12:15	1000	5.0	10.90	7.59	899	4.1	7.22	198
12:20	1000	7.5	10.87	7.56	894	12.6	7.54	184

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-8
 Water Level @ Sampling (ft): 126.12'
 Well Collection Sequence 16 of 17
 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 ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>10/20/22</u> <u>12:28</u>	VOCs: <u>100</u> Other: <u>100</u>	<u>10.04</u>	<u>7.53</u>	<u>899</u>	<u>122</u>	<u>7.38</u>	<u>175</u>

YSI Serial Number: _____
 YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 52°F, sunny, 0-5 mph W

 Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

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

Notes: _____

Minnesota Unique Well ID: _____

Date: 10/20/22 By: N. Schlegel Title: Staff Env. Scientist

Company: Groundwater and Environmental Services, Inc.

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Sample Location: D-9

Location: Rosemount, MN

Duplicate Collected: Yes - DUP-2

Sample Matrix: Groundwater

Field Blank Collected: Yes - Field Blank 2

PURGE INFORMATION

Equipment Blank Collected: Yes

Method of Well Purge: Dedicated Bladder Pump

MS/MSD Collected: Yes

Date/Time Initiated: 10/20/22

Sampler(s): Penlog

Casing Length(ft) 118.5

Initial Water Level (feet): 98.91 ~~104.78~~

Dedicated Equipment: Yes

Ground Water Elevation (ft, msl): #VALUE!

Casing Diameter (inches): 2

Top of Casing (ft, msl) ???

One Casing Volume (gal): 3.19 ~~2.3~~

PID (Background) 0.0 (PPM)

Total Volume Purged (gal): 10.0

PID (Headspace) 0.0 (PPM)

Purged Dry?: Yes No (circle)

Water Level After Purge (ft): 98.95

PURGE DATA

Date/Time Completed: 10/20/22 13:10

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)
12:50	1000	0.1	14.19	7.74	835	4.1	8.33	157
13:55	1000	3.0	12.40	7.40	833	4.4	3.95	55
13:00	1000	6.0	12.37	7.52	804	6.0	3.11	-105
13:05	1000	10.0	12.41	7.50	823	5.7	4.36	-87

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-9

Water Level @ Sampling (ft): 98.95'

Well Collection Sequence 17 of 17

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 ₂ (mg/L)	O ₂ Reduction Potential (mV)
<u>13:10</u> <u>10/20/22</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>12.4</u>	<u>7.51</u>	<u>02.4</u>	<u>5.3</u>	<u>4.52</u>	<u>-85</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 54°F, sunny, 0-5 mph W

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes / No (circle) _____ # of Bottles Collected: 9 (MPLA)
5 (CCR)

Well Closed and Locked: Yes / No (circle) _____

Notes: _____

Minnesota Unique Well ID: 768141

Date: 10/20/22 By: K-Schlager Title: Staff Env. Scientist

Company: Groundwater and Environmental Services, Inc.

INSTRUMENT CALIBRATION DATA:

Start of day:
(Date/Time) 10/19/22 8:00

End of day:
(Date/Time) 10/20/22 17:00

YSI Model Number V-5000

YSI Serial Number 103310

Sonde Model Number V-52

Sonde Serial Number V105299X

Sampling Event		
Time:	Value:	
<u>0</u>	<u>0</u>	NTU std = <u>DI Water</u>
<u>100</u>	<u>100</u>	NTU std = <u>100</u>
<u>4.45</u>	<u>4.45</u>	uS std = <u>4.45</u> 1409
<u>4.00</u>	<u>4.00</u>	pH std = <u>4</u>
<u>7.00</u>	<u>7.00</u>	pH std = <u>7</u>
<u>10.00</u>	<u>10.00</u>	pH std = <u>10</u>

Calibration Notes:



Appendix B – Laboratory Analytical Reports

ANALYTICAL REPORT

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-226447-1

Client Project/Site: SKB Rosemount - CCR Monitoring
Sampling Event: CCR Groundwater
Revision: 1

For:

Waste Connections, Inc.
13425 Courthouse Blvd
Rosemount, Minnesota 55068

Attn: Megan Lindstrom



Authorized for release by:
4/6/2022 1:39:54 PM

Zach Bindert, Project Manager I
(319)277-2401
Zach.Bindert@et.eurofinsus.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Case Narrative

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

Job ID: 310-226447-1

Job ID: 310-226447-1

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative 310-226447-1

Comments

Revision 1: This report was revised 4/06/2022. The incorrect metals analyte list was setup for the spring event.

Receipt

The samples were received on 3/5/2022 10:15 AM. 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 -0.5° C, 0.7° C, 0.9° C, 1.3° C and 1.3° C.

HPLC/IC

Method 9056A: The following sample was diluted due to the nature of the sample matrix: D-1D - CCR (310-226447-1). Elevated reporting limits (RLs) are provided.

Method 9056A: The following samples were diluted due to the nature of the sample matrix: D-2D - CCR (310-226447-2), D-3D - CCR (310-226447-3), D-4D - CCR (310-226447-4), D-5D - CCR (310-226447-5), D-9 - CCR (310-226447-6), U-4D - CCR (310-226447-7), U-4S - CCR (310-226447-8), U-5D - CCR (310-226447-9), U-5S - CCR (310-226447-10), D-1S - CCR (310-226447-11), D-2S - CCR (310-226447-12), D-3S - CCR (310-226447-13), D-5S2 - CCR (310-226447-14), D-4S - CCR (310-226447-15), D-8 - CCR (310-226447-16), DUP-1 - CCR (310-226447-17), DUP-2 - CCR (310-226447-18), Equipment Blank - CCR (310-226447-19) and Field Blank 1 - CCR (310-226447-20). 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 analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

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

Job ID: 310-226447-2

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative 310-226447-2

Comments

No additional comments.

Receipt

The samples were received on 3/5/2022 10:15 AM. 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 -0.5° C, 0.7° C, 0.9° C, 1.3° C and 1.3° C.

RAD

Method 9315: Radium-226 batch 554322

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

D-1D - CCR (310-226447-1), D-2D - CCR (310-226447-2), D-3D - CCR (310-226447-3), D-4D - CCR (310-226447-4), D-5D - CCR (310-226447-5), D-9 - CCR (310-226447-6), U-4D - CCR (310-226447-7), U-4S - CCR (310-226447-8), U-5D - CCR (310-226447-9), U-5S - CCR (310-226447-10), D-1S - CCR (310-226447-11), D-2S - CCR (310-226447-12), D-3S - CCR (310-226447-13), D-5S2 - CCR (310-226447-14), D-4S - CCR (310-226447-15), D-8 - CCR (310-226447-16), DUP-1 - CCR (310-226447-17), DUP-2 - CCR (310-226447-18), Equipment Blank - CCR (310-226447-19), Field Blank 1 - CCR (310-226447-20), (LCS 160-554322/1-A), (LCSD

Case Narrative

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

Job ID: 310-226447-1

Job ID: 310-226447-2 (Continued)

Laboratory: Eurofins Cedar Falls (Continued)

160-554322/2-A) and (MB 160-554322/23-A)

Method 9320: Radium 228 batch 554325

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

D-1D - CCR (310-226447-1), D-2D - CCR (310-226447-2), D-3D - CCR (310-226447-3), D-4D - CCR (310-226447-4), D-5D - CCR (310-226447-5), D-9 - CCR (310-226447-6), U-4D - CCR (310-226447-7), U-4S - CCR (310-226447-8), U-5D - CCR (310-226447-9), U-5S - CCR (310-226447-10), D-1S - CCR (310-226447-11), D-2S - CCR (310-226447-12), D-3S - CCR (310-226447-13), D-5S2 - CCR (310-226447-14), D-4S - CCR (310-226447-15), D-8 - CCR (310-226447-16), DUP-1 - CCR (310-226447-17), DUP-2 - CCR (310-226447-18), Equipment Blank - CCR (310-226447-19), Field Blank 1 - CCR (310-226447-20), (LCS 160-554325/1-A), (LCSD 160-554325/2-A) and (MB 160-554325/23-A)

Method PrecSep_0: Radium-228 Prep Batch 160-554325

The following samples were prepared at a reduced aliquot due to Matrix: D-3D - CCR (310-226447-3), D-5D - CCR (310-226447-5), D-9 - CCR (310-226447-6), U-4S - CCR (310-226447-8), U-5S - CCR (310-226447-10), D-2S - CCR (310-226447-12), D-3S - CCR (310-226447-13), D-8 - CCR (310-226447-16) and DUP-1 - CCR (310-226447-17). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-554322

The following samples were prepared at a reduced aliquot due to Matrix: D-3D - CCR (310-226447-3), D-5D - CCR (310-226447-5), D-9 - CCR (310-226447-6), U-5D - CCR (310-226447-9), U-5S - CCR (310-226447-10), D-2S - CCR (310-226447-12), D-3S - CCR (310-226447-13), D-8 - CCR (310-226447-16) and DUP-1 - CCR (310-226447-17). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

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

Sample Summary

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

Job ID: 310-226447-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-226447-1	D-1D - CCR	Ground Water	03/02/22 15:45	03/05/22 10:15
310-226447-2	D-2D - CCR	Ground Water	03/03/22 10:40	03/05/22 10:15
310-226447-3	D-3D - CCR	Ground Water	03/03/22 09:40	03/05/22 10:15
310-226447-4	D-4D - CCR	Ground Water	03/03/22 11:40	03/05/22 10:15
310-226447-5	D-5D - CCR	Ground Water	03/02/22 14:25	03/05/22 10:15
310-226447-6	D-9 - CCR	Ground Water	03/03/22 14:10	03/05/22 10:15
310-226447-7	U-4D - CCR	Ground Water	03/02/22 10:15	03/05/22 10:15
310-226447-8	U-4S - CCR	Ground Water	03/02/22 09:50	03/05/22 10:15
310-226447-9	U-5D - CCR	Ground Water	03/02/22 13:20	03/05/22 10:15
310-226447-10	U-5S - CCR	Ground Water	03/02/22 13:10	03/05/22 10:15
310-226447-11	D-1S - CCR	Ground Water	03/02/22 15:40	03/05/22 10:15
310-226447-12	D-2S - CCR	Ground Water	03/03/22 10:35	03/05/22 10:15
310-226447-13	D-3S - CCR	Ground Water	03/03/22 09:25	03/05/22 10:15
310-226447-14	D-5S2 - CCR	Ground Water	03/02/22 14:20	03/05/22 10:15
310-226447-15	D-4S - CCR	Ground Water	03/03/22 11:25	03/05/22 10:15
310-226447-16	D-8 - CCR	Ground Water	03/03/22 13:20	03/05/22 10:15
310-226447-17	DUP-1 - CCR	Ground Water	03/02/22 00:00	03/05/22 10:15
310-226447-18	DUP-2 - CCR	Ground Water	03/03/22 00:00	03/05/22 10:15
310-226447-19	Equipment Blank - CCR	Water	03/03/22 14:20	03/05/22 10:15
310-226447-20	Field Blank 1 - CCR	Water	03/02/22 13:30	03/05/22 10:15



Detection Summary

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

Job ID: 310-226447-1

Client Sample ID: D-1D - CCR

Lab Sample ID: 310-226447-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	32		5.0		mg/L	5		9056A	Total/NA
Sulfate	26		5.0		mg/L	5		9056A	Total/NA
Barium	0.051		0.0020		mg/L	1		6020B	Total/NA
Calcium	95.6		0.50		mg/L	1		6020B	Total/NA
Chromium	0.0058		0.0050		mg/L	1		6020B	Total/NA
Total Dissolved Solids	324		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.8	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-2D - CCR

Lab Sample ID: 310-226447-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	34		5.0		mg/L	5		9056A	Total/NA
Sulfate	23		5.0		mg/L	5		9056A	Total/NA
Barium	0.055		0.0020		mg/L	1		6020B	Total/NA
Calcium	98.9		0.50		mg/L	1		6020B	Total/NA
Total Dissolved Solids	350		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.6	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-3D - CCR

Lab Sample ID: 310-226447-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	79		5.0		mg/L	5		9056A	Total/NA
Sulfate	27		5.0		mg/L	5		9056A	Total/NA
Barium	0.063		0.0020		mg/L	1		6020B	Total/NA
Calcium	109		0.50		mg/L	1		6020B	Total/NA
Chromium	0.10		0.0050		mg/L	1		6020B	Total/NA
Total Dissolved Solids	382		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.5	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-4D - CCR

Lab Sample ID: 310-226447-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	48		5.0		mg/L	5		9056A	Total/NA
Sulfate	23		5.0		mg/L	5		9056A	Total/NA
Barium	0.072		0.0020		mg/L	1		6020B	Total/NA
Calcium	109		0.50		mg/L	1		6020B	Total/NA
Total Dissolved Solids	394		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.5	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-5D - CCR

Lab Sample ID: 310-226447-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	64		5.0		mg/L	5		9056A	Total/NA
Sulfate	32		5.0		mg/L	5		9056A	Total/NA
Barium	0.064		0.0020		mg/L	1		6020B	Total/NA
Calcium	121		0.50		mg/L	1		6020B	Total/NA
Chromium	0.0056		0.0050		mg/L	1		6020B	Total/NA
Total Dissolved Solids	420		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.5	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

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

Job ID: 310-226447-1

Client Sample ID: D-9 - CCR

Lab Sample ID: 310-226447-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	37		5.0		mg/L	5		9056A	Total/NA
Sulfate	18		5.0		mg/L	5		9056A	Total/NA
Barium	0.089		0.0020		mg/L	1		6020B	Total/NA
Calcium	119		0.50		mg/L	1		6020B	Total/NA
Chromium	0.0058		0.0050		mg/L	1		6020B	Total/NA
Cobalt	0.0013		0.00050		mg/L	1		6020B	Total/NA
Total Dissolved Solids	434		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.4	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: U-4D - CCR

Lab Sample ID: 310-226447-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	31		5.0		mg/L	5		9056A	Total/NA
Sulfate	24		5.0		mg/L	5		9056A	Total/NA
Barium	0.045		0.0020		mg/L	1		6020B	Total/NA
Calcium	98.0		0.50		mg/L	1		6020B	Total/NA
Total Dissolved Solids	356		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.7	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: U-4S - CCR

Lab Sample ID: 310-226447-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	48		5.0		mg/L	5		9056A	Total/NA
Sulfate	22		5.0		mg/L	5		9056A	Total/NA
Barium	0.046		0.0020		mg/L	1		6020B	Total/NA
Calcium	112		0.50		mg/L	1		6020B	Total/NA
Total Dissolved Solids	372		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.4	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: U-5D - CCR

Lab Sample ID: 310-226447-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	27		5.0		mg/L	5		9056A	Total/NA
Sulfate	27		5.0		mg/L	5		9056A	Total/NA
Barium	0.058		0.0020		mg/L	1		6020B	Total/NA
Calcium	94.8		0.50		mg/L	1		6020B	Total/NA
Total Dissolved Solids	322		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.6	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: U-5S - CCR

Lab Sample ID: 310-226447-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	38		5.0		mg/L	5		9056A	Total/NA
Sulfate	21		5.0		mg/L	5		9056A	Total/NA
Barium	0.070		0.0020		mg/L	1		6020B	Total/NA
Calcium	98.2		0.50		mg/L	1		6020B	Total/NA
Total Dissolved Solids	374		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.4	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-1S - CCR

Lab Sample ID: 310-226447-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	47		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 Rosemount - CCR Monitoring

Job ID: 310-226447-1

Client Sample ID: D-1S - CCR (Continued)

Lab Sample ID: 310-226447-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	19		5.0		mg/L	5		9056A	Total/NA
Barium	0.053		0.0020		mg/L	1		6020B	Total/NA
Calcium	101		0.50		mg/L	1		6020B	Total/NA
Total Dissolved Solids	334		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.4	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-2S - CCR

Lab Sample ID: 310-226447-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	48		5.0		mg/L	5		9056A	Total/NA
Sulfate	14		5.0		mg/L	5		9056A	Total/NA
Barium	0.053		0.0020		mg/L	1		6020B	Total/NA
Calcium	111		0.50		mg/L	1		6020B	Total/NA
Total Dissolved Solids	344		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.3	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-3S - CCR

Lab Sample ID: 310-226447-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	65		5.0		mg/L	5		9056A	Total/NA
Sulfate	18		5.0		mg/L	5		9056A	Total/NA
Barium	0.042		0.0020		mg/L	1		6020B	Total/NA
Boron	0.20		0.10		mg/L	1		6020B	Total/NA
Calcium	79.6		0.50		mg/L	1		6020B	Total/NA
Chromium	0.014		0.0050		mg/L	1		6020B	Total/NA
Total Dissolved Solids	318		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.7	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-5S2 - CCR

Lab Sample ID: 310-226447-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	82		5.0		mg/L	5		9056A	Total/NA
Sulfate	32		5.0		mg/L	5		9056A	Total/NA
Barium	0.057		0.0020		mg/L	1		6020B	Total/NA
Boron	0.13		0.10		mg/L	1		6020B	Total/NA
Calcium	98.8		0.50		mg/L	1		6020B	Total/NA
Total Dissolved Solids	388		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.6	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-4S - CCR

Lab Sample ID: 310-226447-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	46		5.0		mg/L	5		9056A	Total/NA
Sulfate	23		5.0		mg/L	5		9056A	Total/NA
Barium	0.083		0.0020		mg/L	1		6020B	Total/NA
Calcium	110		0.50		mg/L	1		6020B	Total/NA
Total Dissolved Solids	394		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.6	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-8 - CCR

Lab Sample ID: 310-226447-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	36		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 Rosemount - CCR Monitoring

Job ID: 310-226447-1

Client Sample ID: D-8 - CCR (Continued)

Lab Sample ID: 310-226447-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	29		5.0		mg/L	5		9056A	Total/NA
Barium	0.10		0.0020		mg/L	1		6020B	Total/NA
Calcium	132		0.50		mg/L	1		6020B	Total/NA
Cobalt	0.0015		0.00050		mg/L	1		6020B	Total/NA
Total Dissolved Solids	426		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.7	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: DUP-1 - CCR

Lab Sample ID: 310-226447-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	37		5.0		mg/L	5		9056A	Total/NA
Sulfate	21		5.0		mg/L	5		9056A	Total/NA
Barium	0.072		0.0020		mg/L	1		6020B	Total/NA
Calcium	97.8		0.50		mg/L	1		6020B	Total/NA
Total Dissolved Solids	340		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.5	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: DUP-2 - CCR

Lab Sample ID: 310-226447-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	47		5.0		mg/L	5		9056A	Total/NA
Sulfate	23		5.0		mg/L	5		9056A	Total/NA
Barium	0.072		0.0020		mg/L	1		6020B	Total/NA
Calcium	108		0.50		mg/L	1		6020B	Total/NA
Chromium	0.0071		0.0050		mg/L	1		6020B	Total/NA
Total Dissolved Solids	368		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.6	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: Equipment Blank - CCR

Lab Sample ID: 310-226447-19

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	6.6	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: Field Blank 1 - CCR

Lab Sample ID: 310-226447-20

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	5.2	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample Results

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

Job ID: 310-226447-1

Client Sample ID: D-1D - CCR

Lab Sample ID: 310-226447-1

Date Collected: 03/02/22 15:45

Matrix: Ground Water

Date Received: 03/05/22 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	32		5.0		mg/L			03/11/22 11:12	5
Fluoride	<0.50		0.50		mg/L			03/11/22 11:12	5
Sulfate	26		5.0		mg/L			03/11/22 11:12	5

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.051		0.0020		mg/L		03/09/22 09:00	03/17/22 17:54	1
Boron	<0.10		0.10		mg/L		03/09/22 09:00	03/17/22 17:54	1
Calcium	95.6		0.50		mg/L		03/09/22 09:00	03/17/22 17:54	1
Chromium	0.0058		0.0050		mg/L		03/09/22 09:00	03/17/22 17:54	1
Cobalt	<0.00050		0.00050		mg/L		03/09/22 09:00	03/17/22 17:54	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		03/11/22 13:41	03/14/22 13:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	324		50.0		mg/L			03/07/22 16:00	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.8	HF	0.1		SU			03/05/22 11:03	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.292	U	0.170	0.170	1.00	0.292	pCi/L	03/09/22 11:42	03/31/22 08:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	97.5		40 - 110					03/09/22 11:42	03/31/22 08:26	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.310	U	0.198	0.200	1.00	0.310	pCi/L	03/09/22 12:04	03/30/22 12:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	97.5		40 - 110					03/09/22 12:04	03/30/22 12:54	1
Y Carrier	85.6		40 - 110					03/09/22 12:04	03/30/22 12:54	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.362		0.261	0.262	5.00	0.310	pCi/L		04/05/22 09:44	1

Client Sample Results

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

Job ID: 310-226447-1

Client Sample ID: D-2D - CCR

Lab Sample ID: 310-226447-2

Date Collected: 03/03/22 10:40

Matrix: Ground Water

Date Received: 03/05/22 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	34		5.0		mg/L			03/11/22 11:59	5
Fluoride	<0.50		0.50		mg/L			03/11/22 11:59	5
Sulfate	23		5.0		mg/L			03/11/22 11:59	5

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.055		0.0020		mg/L		03/09/22 09:00	03/17/22 18:22	1
Boron	<0.10		0.10		mg/L		03/09/22 09:00	03/17/22 18:22	1
Calcium	98.9		0.50		mg/L		03/09/22 09:00	03/17/22 18:22	1
Chromium	<0.0050		0.0050		mg/L		03/09/22 09:00	03/17/22 18:22	1
Cobalt	<0.00050		0.00050		mg/L		03/09/22 09:00	03/17/22 18:22	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		03/11/22 13:41	03/14/22 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	350		50.0		mg/L			03/07/22 16:00	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.6	HF	0.1		SU			03/05/22 11:05	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.488	U	0.261	0.261	1.00	0.488	pCi/L	03/09/22 11:42	03/31/22 08:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	61.6		40 - 110					03/09/22 11:42	03/31/22 08:26	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.549	U	0.306	0.306	1.00	0.549	pCi/L	03/09/22 12:04	03/30/22 12:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	61.6		40 - 110					03/09/22 12:04	03/30/22 12:55	1
Y Carrier	86.7		40 - 110					03/09/22 12:04	03/30/22 12:55	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.549	U	0.402	0.402	5.00	0.549	pCi/L		04/05/22 09:44	1

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Client Sample Results

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

Job ID: 310-226447-1

Client Sample ID: D-3D - CCR

Lab Sample ID: 310-226447-3

Date Collected: 03/03/22 09:40

Matrix: Ground Water

Date Received: 03/05/22 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	79		5.0		mg/L			03/11/22 12:15	5
Fluoride	<0.50		0.50		mg/L			03/11/22 12:15	5
Sulfate	27		5.0		mg/L			03/11/22 12:15	5

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.063		0.0020		mg/L		03/09/22 09:00	03/17/22 18:25	1
Boron	<0.10		0.10		mg/L		03/09/22 09:00	03/17/22 18:25	1
Calcium	109		0.50		mg/L		03/09/22 09:00	03/17/22 18:25	1
Chromium	0.10		0.0050		mg/L		03/09/22 09:00	03/17/22 18:25	1
Cobalt	<0.00050		0.00050		mg/L		03/09/22 09:00	03/17/22 18:25	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		03/11/22 13:41	03/14/22 13:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	382		50.0		mg/L			03/07/22 16:00	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5	HF	0.1		SU			03/05/22 11:05	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.347	U	0.227	0.228	1.00	0.347	pCi/L	03/09/22 11:42	03/31/22 08:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	98.5		40 - 110					03/09/22 11:42	03/31/22 08:27	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.426	U	0.266	0.268	1.00	0.426	pCi/L	03/09/22 12:04	03/30/22 12:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	98.5		40 - 110					03/09/22 12:04	03/30/22 12:55	1
Y Carrier	84.9		40 - 110					03/09/22 12:04	03/30/22 12:55	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.523		0.350	0.352	5.00	0.426	pCi/L		04/05/22 09:44	1

Client Sample Results

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

Job ID: 310-226447-1

Client Sample ID: D-4D - CCR

Lab Sample ID: 310-226447-4

Date Collected: 03/03/22 11:40

Matrix: Ground Water

Date Received: 03/05/22 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	48		5.0		mg/L			03/11/22 12:30	5
Fluoride	<0.50		0.50		mg/L			03/11/22 12:30	5
Sulfate	23		5.0		mg/L			03/11/22 12:30	5

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.072		0.0020		mg/L		03/09/22 09:00	03/17/22 18:28	1
Boron	<0.10		0.10		mg/L		03/09/22 09:00	03/17/22 18:28	1
Calcium	109		0.50		mg/L		03/09/22 09:00	03/17/22 18:28	1
Chromium	<0.0050		0.0050		mg/L		03/09/22 09:00	03/17/22 18:28	1
Cobalt	<0.00050		0.00050		mg/L		03/09/22 09:00	03/17/22 18:28	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		03/11/22 13:41	03/14/22 13:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	394		50.0		mg/L			03/07/22 16:00	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5	HF	0.1		SU			03/05/22 11:06	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.237	U	0.127	0.128	1.00	0.237	pCi/L	03/09/22 11:42	03/31/22 08:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	99.8		40 - 110					03/09/22 11:42	03/31/22 08:27	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.316	U	0.206	0.208	1.00	0.316	pCi/L	03/09/22 12:04	03/30/22 12:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	99.8		40 - 110					03/09/22 12:04	03/30/22 12:55	1
Y Carrier	83.4		40 - 110					03/09/22 12:04	03/30/22 12:55	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.347		0.242	0.244	5.00	0.316	pCi/L		04/05/22 09:44	1

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Client Sample Results

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

Job ID: 310-226447-1

Client Sample ID: D-5D - CCR

Lab Sample ID: 310-226447-5

Date Collected: 03/02/22 14:25

Matrix: Ground Water

Date Received: 03/05/22 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	64		5.0		mg/L			03/11/22 12:46	5
Fluoride	<0.50		0.50		mg/L			03/11/22 12:46	5
Sulfate	32		5.0		mg/L			03/11/22 12:46	5

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.064		0.0020		mg/L		03/09/22 09:00	03/17/22 18:32	1
Boron	<0.10		0.10		mg/L		03/09/22 09:00	03/17/22 18:32	1
Calcium	121		0.50		mg/L		03/09/22 09:00	03/17/22 18:32	1
Chromium	0.0056		0.0050		mg/L		03/09/22 09:00	03/17/22 18:32	1
Cobalt	<0.00050		0.00050		mg/L		03/09/22 09:00	03/17/22 18:32	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		03/11/22 13:41	03/14/22 13:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	420		50.0		mg/L			03/07/22 16:00	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5	HF	0.1		SU			03/05/22 11:06	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.309	U	0.209	0.210	1.00	0.309	pCi/L	03/09/22 11:42	03/31/22 08:27	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Barium	98.8		40 - 110	03/09/22 11:42	03/31/22 08:27	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.451	U	0.272	0.273	1.00	0.451	pCi/L	03/09/22 12:04	03/30/22 12:55	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Barium	98.8		40 - 110	03/09/22 12:04	03/30/22 12:55	1
Y Carrier	83.7		40 - 110	03/09/22 12:04	03/30/22 12:55	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.467		0.343	0.344	5.00	0.451	pCi/L		04/05/22 09:44	1

Client Sample Results

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

Job ID: 310-226447-1

Client Sample ID: D-9 - CCR

Lab Sample ID: 310-226447-6

Date Collected: 03/03/22 14:10

Matrix: Ground Water

Date Received: 03/05/22 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	37		5.0		mg/L			03/11/22 13:01	5
Fluoride	<0.50		0.50		mg/L			03/11/22 13:01	5
Sulfate	18		5.0		mg/L			03/11/22 13:01	5

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.089		0.0020		mg/L		03/09/22 09:00	03/17/22 18:35	1
Boron	<0.10		0.10		mg/L		03/09/22 09:00	03/17/22 18:35	1
Calcium	119		0.50		mg/L		03/09/22 09:00	03/17/22 18:35	1
Chromium	0.0058		0.0050		mg/L		03/09/22 09:00	03/17/22 18:35	1
Cobalt	0.0013		0.00050		mg/L		03/09/22 09:00	03/17/22 18:35	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		03/11/22 13:41	03/14/22 13:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	434		50.0		mg/L			03/07/22 16:00	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4	HF	0.1		SU			03/05/22 11:07	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.399	U	0.278	0.280	1.00	0.399	pCi/L	03/09/22 11:42	03/31/22 08:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	101		40 - 110					03/09/22 11:42	03/31/22 08:27	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.657	U	0.410	0.412	1.00	0.657	pCi/L	03/09/22 12:04	03/30/22 12:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	101		40 - 110					03/09/22 12:04	03/30/22 12:55	1
Y Carrier	85.2		40 - 110					03/09/22 12:04	03/30/22 12:55	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.793		0.495	0.498	5.00	0.657	pCi/L		04/05/22 09:44	1

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Client Sample Results

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

Job ID: 310-226447-1

Client Sample ID: U-4D - CCR

Lab Sample ID: 310-226447-7

Date Collected: 03/02/22 10:15

Matrix: Ground Water

Date Received: 03/05/22 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	31		5.0		mg/L			03/11/22 13:48	5
Fluoride	<0.50		0.50		mg/L			03/11/22 13:48	5
Sulfate	24		5.0		mg/L			03/11/22 13:48	5

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.045		0.0020		mg/L		03/09/22 09:00	03/17/22 18:38	1
Boron	<0.10		0.10		mg/L		03/09/22 09:00	03/17/22 18:38	1
Calcium	98.0		0.50		mg/L		03/09/22 09:00	03/17/22 18:38	1
Chromium	<0.0050		0.0050		mg/L		03/09/22 09:00	03/17/22 18:38	1
Cobalt	<0.00050		0.00050		mg/L		03/09/22 09:00	03/17/22 18:38	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		03/11/22 13:41	03/14/22 13:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	356		50.0		mg/L			03/07/22 16:00	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.7	HF	0.1		SU			03/05/22 11:08	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.253	U	0.135	0.135	1.00	0.253	pCi/L	03/09/22 11:42	03/31/22 08:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	92.9		40 - 110					03/09/22 11:42	03/31/22 08:27	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.385	U	0.229	0.229	1.00	0.385	pCi/L	03/09/22 12:04	03/30/22 12:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	92.9		40 - 110					03/09/22 12:04	03/30/22 12:55	1
Y Carrier	84.1		40 - 110					03/09/22 12:04	03/30/22 12:55	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.385	U	0.266	0.266	5.00	0.385	pCi/L		04/05/22 09:44	1

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Client Sample Results

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

Job ID: 310-226447-1

Client Sample ID: U-4S - CCR

Lab Sample ID: 310-226447-8

Date Collected: 03/02/22 09:50

Matrix: Ground Water

Date Received: 03/05/22 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	48		5.0		mg/L			03/11/22 14:04	5
Fluoride	<0.50		0.50		mg/L			03/11/22 14:04	5
Sulfate	22		5.0		mg/L			03/11/22 14:04	5

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.046		0.0020		mg/L		03/09/22 09:00	03/17/22 18:41	1
Boron	<0.10		0.10		mg/L		03/09/22 09:00	03/17/22 18:41	1
Calcium	112		0.50		mg/L		03/09/22 09:00	03/17/22 18:41	1
Chromium	<0.0050		0.0050		mg/L		03/09/22 09:00	03/17/22 18:41	1
Cobalt	<0.00050		0.00050		mg/L		03/09/22 09:00	03/17/22 18:41	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		03/11/22 13:41	03/14/22 13:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	372		50.0		mg/L			03/07/22 16:00	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4	HF	0.1		SU			03/05/22 11:09	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.278	U	0.158	0.158	1.00	0.278	pCi/L	03/09/22 11:42	03/31/22 08:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	99.0		40 - 110					03/09/22 11:42	03/31/22 08:29	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.553	U	0.337	0.338	1.00	0.553	pCi/L	03/09/22 12:04	03/30/22 12:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	99.0		40 - 110					03/09/22 12:04	03/30/22 12:55	1
Y Carrier	84.1		40 - 110					03/09/22 12:04	03/30/22 12:55	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.553	U	0.372	0.373	5.00	0.553	pCi/L		04/05/22 09:44	1

Client Sample Results

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

Job ID: 310-226447-1

Client Sample ID: U-5D - CCR

Lab Sample ID: 310-226447-9

Date Collected: 03/02/22 13:20

Matrix: Ground Water

Date Received: 03/05/22 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	27		5.0		mg/L			03/11/22 14:19	5
Fluoride	<0.50		0.50		mg/L			03/11/22 14:19	5
Sulfate	27		5.0		mg/L			03/11/22 14:19	5

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.058		0.0020		mg/L		03/09/22 09:00	03/17/22 18:44	1
Boron	<0.10		0.10		mg/L		03/09/22 09:00	03/17/22 18:44	1
Calcium	94.8		0.50		mg/L		03/09/22 09:00	03/17/22 18:44	1
Chromium	<0.0050		0.0050		mg/L		03/09/22 09:00	03/17/22 18:44	1
Cobalt	<0.00050		0.00050		mg/L		03/09/22 09:00	03/17/22 18:44	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		03/11/22 13:41	03/14/22 13:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	322		50.0		mg/L			03/07/22 16:00	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.6	HF	0.1		SU			03/05/22 11:11	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.185	U	0.102	0.102	1.00	0.185	pCi/L	03/09/22 11:42	03/31/22 08:29	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Barium	99.8		40 - 110	03/09/22 11:42	03/31/22 08:29	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.385	U	0.228	0.229	1.00	0.385	pCi/L	03/09/22 12:04	03/30/22 12:56	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Barium	99.8		40 - 110	03/09/22 12:04	03/30/22 12:56	1
Y Carrier	83.7		40 - 110	03/09/22 12:04	03/30/22 12:56	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.385	U	0.250	0.251	5.00	0.385	pCi/L		04/05/22 09:44	1

Client Sample Results

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

Job ID: 310-226447-1

Client Sample ID: U-5S - CCR

Lab Sample ID: 310-226447-10

Date Collected: 03/02/22 13:10

Matrix: Ground Water

Date Received: 03/05/22 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	38		5.0		mg/L			03/11/22 14:35	5
Fluoride	<0.50		0.50		mg/L			03/11/22 14:35	5
Sulfate	21		5.0		mg/L			03/11/22 14:35	5

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.070		0.0020		mg/L		03/09/22 09:00	03/17/22 18:48	1
Boron	<0.10		0.10		mg/L		03/09/22 09:00	03/17/22 18:48	1
Calcium	98.2		0.50		mg/L		03/09/22 09:00	03/17/22 18:48	1
Chromium	<0.0050		0.0050		mg/L		03/09/22 09:00	03/17/22 18:48	1
Cobalt	<0.00050		0.00050		mg/L		03/09/22 09:00	03/17/22 18:48	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		03/11/22 13:41	03/14/22 13:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	374		50.0		mg/L			03/07/22 16:00	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4	HF	0.1		SU			03/05/22 11:15	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.429	U	0.234	0.234	1.00	0.429	pCi/L	03/09/22 11:42	03/31/22 08:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	101		40 - 110					03/09/22 11:42	03/31/22 08:29	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.733	U	0.444	0.445	1.00	0.733	pCi/L	03/09/22 12:04	03/30/22 12:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	101		40 - 110					03/09/22 12:04	03/30/22 12:56	1
Y Carrier	85.2		40 - 110					03/09/22 12:04	03/30/22 12:56	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.733	U	0.502	0.503	5.00	0.733	pCi/L		04/05/22 09:44	1

Client Sample Results

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

Job ID: 310-226447-1

Client Sample ID: D-1S - CCR

Lab Sample ID: 310-226447-11

Date Collected: 03/02/22 15:40

Matrix: Ground Water

Date Received: 03/05/22 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	47		5.0		mg/L			03/11/22 14:50	5
Fluoride	<0.50		0.50		mg/L			03/11/22 14:50	5
Sulfate	19		5.0		mg/L			03/11/22 14:50	5

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.053		0.0020		mg/L		03/09/22 09:00	03/17/22 19:04	1
Boron	<0.10		0.10		mg/L		03/09/22 09:00	03/17/22 19:04	1
Calcium	101		0.50		mg/L		03/09/22 09:00	03/17/22 19:04	1
Chromium	<0.0050		0.0050		mg/L		03/09/22 09:00	03/17/22 19:04	1
Cobalt	<0.00050		0.00050		mg/L		03/09/22 09:00	03/17/22 19:04	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		03/11/22 13:41	03/14/22 13:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	334		50.0		mg/L			03/07/22 16:00	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4	HF	0.1		SU			03/05/22 11:17	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.211	U	0.150	0.151	1.00	0.211	pCi/L	03/09/22 11:42	03/31/22 08:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	101		40 - 110					03/09/22 11:42	03/31/22 08:29	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.357	U	0.230	0.232	1.00	0.357	pCi/L	03/09/22 12:04	03/30/22 12:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	101		40 - 110					03/09/22 12:04	03/30/22 12:56	1
Y Carrier	84.9		40 - 110					03/09/22 12:04	03/30/22 12:56	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.522		0.275	0.277	5.00	0.357	pCi/L		04/05/22 09:44	1

Client Sample Results

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

Job ID: 310-226447-1

Client Sample ID: D-2S - CCR

Lab Sample ID: 310-226447-12

Date Collected: 03/03/22 10:35

Matrix: Ground Water

Date Received: 03/05/22 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	48		5.0		mg/L			03/11/22 15:06	5
Fluoride	<0.50		0.50		mg/L			03/11/22 15:06	5
Sulfate	14		5.0		mg/L			03/11/22 15:06	5

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.053		0.0020		mg/L		03/09/22 09:00	03/17/22 19:10	1
Boron	<0.10		0.10		mg/L		03/09/22 09:00	03/17/22 19:10	1
Calcium	111		0.50		mg/L		03/09/22 09:00	03/17/22 19:10	1
Chromium	<0.0050		0.0050		mg/L		03/09/22 09:00	03/17/22 19:10	1
Cobalt	<0.00050		0.00050		mg/L		03/09/22 09:00	03/17/22 19:10	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		03/14/22 15:08	03/15/22 12:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	344		50.0		mg/L			03/07/22 16:00	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.3	HF	0.1		SU			03/05/22 11:18	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.443	U	0.150	0.151	1.00	0.443	pCi/L	03/09/22 11:42	03/31/22 08:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	96.3		40 - 110					03/09/22 11:42	03/31/22 08:29	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.726	U	0.431	0.432	1.00	0.726	pCi/L	03/09/22 12:04	03/30/22 12:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	96.3		40 - 110					03/09/22 12:04	03/30/22 12:56	1
Y Carrier	82.6		40 - 110					03/09/22 12:04	03/30/22 12:56	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.726	U	0.456	0.458	5.00	0.726	pCi/L		04/05/22 09:44	1

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Client Sample Results

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

Job ID: 310-226447-1

Client Sample ID: D-3S - CCR

Lab Sample ID: 310-226447-13

Date Collected: 03/03/22 09:25

Matrix: Ground Water

Date Received: 03/05/22 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	65		5.0		mg/L			03/11/22 15:22	5
Fluoride	<0.50		0.50		mg/L			03/11/22 15:22	5
Sulfate	18		5.0		mg/L			03/11/22 15:22	5

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.042		0.0020		mg/L		03/09/22 09:00	03/17/22 19:13	1
Boron	0.20		0.10		mg/L		03/09/22 09:00	03/17/22 19:13	1
Calcium	79.6		0.50		mg/L		03/09/22 09:00	03/17/22 19:13	1
Chromium	0.014		0.0050		mg/L		03/09/22 09:00	03/17/22 19:13	1
Cobalt	<0.00050		0.00050		mg/L		03/09/22 09:00	03/17/22 19:13	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		03/14/22 15:08	03/15/22 12:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	318		50.0		mg/L			03/07/22 16:00	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.7	HF	0.1		SU			03/05/22 11:20	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.301	U	0.183	0.183	1.00	0.301	pCi/L	03/09/22 11:42	03/31/22 08:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	84.5		40 - 110					03/09/22 11:42	03/31/22 08:29	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.711		0.367	0.373	1.00	0.538	pCi/L	03/09/22 12:04	03/30/22 12:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	84.5		40 - 110					03/09/22 12:04	03/30/22 12:56	1
Y Carrier	83.4		40 - 110					03/09/22 12:04	03/30/22 12:56	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.855		0.410	0.415	5.00	0.538	pCi/L		04/05/22 09:44	1

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Client Sample Results

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

Job ID: 310-226447-1

Client Sample ID: D-5S2 - CCR

Lab Sample ID: 310-226447-14

Date Collected: 03/02/22 14:20

Matrix: Ground Water

Date Received: 03/05/22 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	82		5.0		mg/L			03/11/22 15:37	5
Fluoride	<0.50		0.50		mg/L			03/11/22 15:37	5
Sulfate	32		5.0		mg/L			03/11/22 15:37	5

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.057		0.0020		mg/L		03/09/22 09:00	03/17/22 19:17	1
Boron	0.13		0.10		mg/L		03/09/22 09:00	03/17/22 19:17	1
Calcium	98.8		0.50		mg/L		03/09/22 09:00	03/17/22 19:17	1
Chromium	<0.0050		0.0050		mg/L		03/09/22 09:00	03/17/22 19:17	1
Cobalt	<0.00050		0.00050		mg/L		03/09/22 09:00	03/17/22 19:17	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		03/14/22 15:08	03/15/22 12:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	388		50.0		mg/L			03/07/22 16:00	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.6	HF	0.1		SU			03/05/22 11:21	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.290	U	0.129	0.129	1.00	0.290	pCi/L	03/09/22 11:42	03/31/22 10:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	75.4		40 - 110					03/09/22 11:42	03/31/22 10:22	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.459	U	0.295	0.298	1.00	0.459	pCi/L	03/09/22 12:04	03/30/22 12:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	75.4		40 - 110					03/09/22 12:04	03/30/22 12:56	1
Y Carrier	86.4		40 - 110					03/09/22 12:04	03/30/22 12:56	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.459	U	0.322	0.325	5.00	0.459	pCi/L		04/05/22 09:44	1

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Client Sample Results

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

Job ID: 310-226447-1

Client Sample ID: D-4S - CCR

Lab Sample ID: 310-226447-15

Date Collected: 03/03/22 11:25

Matrix: Ground Water

Date Received: 03/05/22 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	46		5.0		mg/L			03/11/22 15:53	5
Fluoride	<0.50		0.50		mg/L			03/11/22 15:53	5
Sulfate	23		5.0		mg/L			03/11/22 15:53	5

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.083		0.0020		mg/L		03/09/22 09:00	03/17/22 19:20	1
Boron	<0.10		0.10		mg/L		03/09/22 09:00	03/17/22 19:20	1
Calcium	110		0.50		mg/L		03/09/22 09:00	03/17/22 19:20	1
Chromium	<0.0050		0.0050		mg/L		03/09/22 09:00	03/17/22 19:20	1
Cobalt	<0.00050		0.00050		mg/L		03/09/22 09:00	03/17/22 19:20	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		03/14/22 15:08	03/15/22 12:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	394		50.0		mg/L			03/07/22 16:00	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.6	HF	0.1		SU			03/05/22 11:22	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.319	U	0.146	0.146	1.00	0.319	pCi/L	03/09/22 11:42	03/31/22 10:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	96.3		40 - 110					03/09/22 11:42	03/31/22 10:22	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.362	U	0.208	0.208	1.00	0.362	pCi/L	03/09/22 12:04	03/30/22 12:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	96.3		40 - 110					03/09/22 12:04	03/30/22 12:56	1
Y Carrier	86.4		40 - 110					03/09/22 12:04	03/30/22 12:56	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.362	U	0.254	0.254	5.00	0.362	pCi/L		04/05/22 09:44	1

Client Sample Results

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

Job ID: 310-226447-1

Client Sample ID: D-8 - CCR

Lab Sample ID: 310-226447-16

Date Collected: 03/03/22 13:20

Matrix: Ground Water

Date Received: 03/05/22 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	36		5.0		mg/L			03/11/22 16:08	5
Fluoride	<0.50		0.50		mg/L			03/11/22 16:08	5
Sulfate	29		5.0		mg/L			03/11/22 16:08	5

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.10		0.0020		mg/L		03/09/22 09:00	03/17/22 19:23	1
Boron	<0.10		0.10		mg/L		03/09/22 09:00	03/17/22 19:23	1
Calcium	132		0.50		mg/L		03/09/22 09:00	03/17/22 19:23	1
Chromium	<0.0050		0.0050		mg/L		03/09/22 09:00	03/17/22 19:23	1
Cobalt	0.0015		0.00050		mg/L		03/09/22 09:00	03/17/22 19:23	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		03/14/22 15:08	03/15/22 12:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	426		50.0		mg/L			03/07/22 16:00	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.7	HF	0.1		SU			03/05/22 11:24	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.586	U	0.291	0.291	1.00	0.586	pCi/L	03/09/22 11:42	03/31/22 10:23	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Barium	91.9		40 - 110	03/09/22 11:42	03/31/22 10:23	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.808	U	0.482	0.483	1.00	0.808	pCi/L	03/09/22 12:04	03/30/22 12:56	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Barium	91.9		40 - 110	03/09/22 12:04	03/30/22 12:56	1
Y Carrier	88.2		40 - 110	03/09/22 12:04	03/30/22 12:56	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.808	U	0.563	0.564	5.00	0.808	pCi/L		04/05/22 09:44	1

Client Sample Results

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

Job ID: 310-226447-1

Client Sample ID: DUP-1 - CCR

Lab Sample ID: 310-226447-17

Date Collected: 03/02/22 00:00

Matrix: Ground Water

Date Received: 03/05/22 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	37		5.0		mg/L			03/11/22 16:55	5
Fluoride	<0.50		0.50		mg/L			03/11/22 16:55	5
Sulfate	21		5.0		mg/L			03/11/22 16:55	5

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.072		0.0020		mg/L		03/09/22 09:00	03/17/22 19:26	1
Boron	<0.10		0.10		mg/L		03/09/22 09:00	03/17/22 19:26	1
Calcium	97.8		0.50		mg/L		03/09/22 09:00	03/17/22 19:26	1
Chromium	<0.0050		0.0050		mg/L		03/09/22 09:00	03/17/22 19:26	1
Cobalt	<0.00050		0.00050		mg/L		03/09/22 09:00	03/17/22 19:26	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		03/14/22 15:08	03/15/22 13:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	340		50.0		mg/L			03/07/22 16:00	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5	HF	0.1		SU			03/05/22 11:25	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.645	U	0.325	0.325	1.00	0.645	pCi/L	03/09/22 11:42	03/31/22 10:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	96.3		40 - 110					03/09/22 11:42	03/31/22 10:23	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.10		0.494	0.505	1.00	0.711	pCi/L	03/09/22 12:04	03/30/22 12:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	96.3		40 - 110					03/09/22 12:04	03/30/22 12:59	1
Y Carrier	89.0		40 - 110					03/09/22 12:04	03/30/22 12:59	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.06		0.591	0.601	5.00	0.711	pCi/L		04/05/22 09:44	1

Client Sample Results

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

Job ID: 310-226447-1

Client Sample ID: DUP-2 - CCR

Lab Sample ID: 310-226447-18

Date Collected: 03/03/22 00:00

Matrix: Ground Water

Date Received: 03/05/22 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	47		5.0		mg/L			03/11/22 17:11	5
Fluoride	<0.50		0.50		mg/L			03/11/22 17:11	5
Sulfate	23		5.0		mg/L			03/11/22 17:11	5

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.072		0.0020		mg/L		03/09/22 09:00	03/17/22 19:29	1
Boron	<0.10		0.10		mg/L		03/09/22 09:00	03/17/22 19:29	1
Calcium	108		0.50		mg/L		03/09/22 09:00	03/17/22 19:29	1
Chromium	0.0071		0.0050		mg/L		03/09/22 09:00	03/17/22 19:29	1
Cobalt	<0.00050		0.00050		mg/L		03/09/22 09:00	03/17/22 19:29	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		03/14/22 15:08	03/15/22 13:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	368		50.0		mg/L			03/07/22 16:00	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.6	HF	0.1		SU			03/05/22 11:26	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.258	U	0.158	0.159	1.00	0.258	pCi/L	03/09/22 11:42	03/31/22 10:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	96.6		40 - 110					03/09/22 11:42	03/31/22 10:23	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.510		0.267	0.272	1.00	0.400	pCi/L	03/09/22 12:04	03/30/22 12:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	96.6		40 - 110					03/09/22 12:04	03/30/22 12:59	1
Y Carrier	88.6		40 - 110					03/09/22 12:04	03/30/22 12:59	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.643		0.310	0.315	5.00	0.400	pCi/L		04/05/22 09:44	1

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Client Sample Results

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

Job ID: 310-226447-1

Client Sample ID: Equipment Blank - CCR

Lab Sample ID: 310-226447-19

Date Collected: 03/03/22 14:20

Matrix: Water

Date Received: 03/05/22 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.0		5.0		mg/L			03/11/22 17:26	5
Fluoride	<0.50		0.50		mg/L			03/11/22 17:26	5
Sulfate	<5.0		5.0		mg/L			03/11/22 17:26	5

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	<0.0020		0.0020		mg/L		03/09/22 09:00	03/17/22 19:33	1
Boron	<0.10		0.10		mg/L		03/09/22 09:00	03/17/22 19:33	1
Calcium	<0.50		0.50		mg/L		03/09/22 09:00	03/17/22 19:33	1
Chromium	<0.0050		0.0050		mg/L		03/09/22 09:00	03/17/22 19:33	1
Cobalt	<0.00050		0.00050		mg/L		03/09/22 09:00	03/17/22 19:33	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		03/14/22 15:08	03/15/22 13:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<50.0		50.0		mg/L			03/08/22 15:06	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.6	HF	0.1		SU			03/05/22 11:28	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.238	U	0.110	0.110	1.00	0.238	pCi/L	03/09/22 11:42	03/31/22 10:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	95.6		40 - 110					03/09/22 11:42	03/31/22 10:24	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.370	U	0.228	0.229	1.00	0.370	pCi/L	03/09/22 12:04	03/30/22 12:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	95.6		40 - 110					03/09/22 12:04	03/30/22 12:59	1
Y Carrier	88.6		40 - 110					03/09/22 12:04	03/30/22 12:59	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.370	U	0.253	0.254	5.00	0.370	pCi/L		04/05/22 09:44	1

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Client Sample Results

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

Job ID: 310-226447-1

Client Sample ID: Field Blank 1 - CCR

Lab Sample ID: 310-226447-20

Date Collected: 03/02/22 13:30

Matrix: Water

Date Received: 03/05/22 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.0		5.0		mg/L			03/11/22 17:42	5
Fluoride	<0.50		0.50		mg/L			03/11/22 17:42	5
Sulfate	<5.0		5.0		mg/L			03/11/22 17:42	5

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	<0.0020		0.0020		mg/L		03/10/22 09:00	03/17/22 21:47	1
Boron	<0.10		0.10		mg/L		03/10/22 09:00	03/17/22 21:47	1
Calcium	<0.50		0.50		mg/L		03/10/22 09:00	03/17/22 21:47	1
Chromium	<0.0050		0.0050		mg/L		03/10/22 09:00	03/17/22 21:47	1
Cobalt	<0.00050		0.00050		mg/L		03/10/22 09:00	03/17/22 21:47	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		03/14/22 15:08	03/15/22 13:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<50.0		50.0		mg/L			03/08/22 15:06	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.2	HF	0.1		SU			03/05/22 11:31	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.234	U	0.0932	0.0933	1.00	0.234	pCi/L	03/09/22 11:42	03/31/22 10:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	95.3		40 - 110					03/09/22 11:42	03/31/22 10:24	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.517		0.238	0.243	1.00	0.341	pCi/L	03/09/22 12:04	03/30/22 12:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	95.3		40 - 110					03/09/22 12:04	03/30/22 12:59	1
Y Carrier	89.0		40 - 110					03/09/22 12:04	03/30/22 12:59	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.458		0.256	0.260	5.00	0.341	pCi/L		04/05/22 09:44	1

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Definitions/Glossary

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

Job ID: 310-226447-1

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.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

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 Rosemount - CCR Monitoring

Job ID: 310-226447-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-346788/3
Matrix: Water
Analysis Batch: 346788

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			03/11/22 10:41	1
Fluoride	<0.10		0.10		mg/L			03/11/22 10:41	1
Sulfate	<1.0		1.0		mg/L			03/11/22 10:41	1

Lab Sample ID: LCS 310-346788/4
Matrix: Water
Analysis Batch: 346788

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	9.97		mg/L		100	90 - 110
Fluoride	2.00	1.90		mg/L		95	90 - 110
Sulfate	10.0	10.1		mg/L		101	90 - 110

Lab Sample ID: 310-226447-1 MS
Matrix: Ground Water
Analysis Batch: 346788

Client Sample ID: D-1D - CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	32		25.0	55.5		mg/L		96	80 - 120
Fluoride	<0.50		5.00	4.84		mg/L		97	80 - 120
Sulfate	26		25.0	49.4		mg/L		96	80 - 120

Lab Sample ID: 310-226447-1 MSD
Matrix: Ground Water
Analysis Batch: 346788

Client Sample ID: D-1D - 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	32		25.0	54.9		mg/L		93	80 - 120	1	15
Fluoride	<0.50		5.00	4.78		mg/L		96	80 - 120	1	15
Sulfate	26		25.0	49.3		mg/L		95	80 - 120	0	15

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-345943/1-A
Matrix: Water
Analysis Batch: 346978

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 345943

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	<0.0020		0.0020		mg/L		03/09/22 09:00	03/17/22 17:48	1
Boron	<0.10		0.10		mg/L		03/09/22 09:00	03/17/22 17:48	1
Calcium	<0.50		0.50		mg/L		03/09/22 09:00	03/17/22 17:48	1
Chromium	<0.0050		0.0050		mg/L		03/09/22 09:00	03/17/22 17:48	1
Cobalt	<0.00050		0.00050		mg/L		03/09/22 09:00	03/17/22 17:48	1

Lab Sample ID: LCS 310-345943/2-A
Matrix: Water
Analysis Batch: 346978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 345943

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Barium	0.100	0.105		mg/L		105	80 - 120

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QC Sample Results

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

Job ID: 310-226447-1

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

Lab Sample ID: LCS 310-345943/2-A
Matrix: Water
Analysis Batch: 346978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 345943

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.200	0.199		mg/L		100	80 - 120
Calcium	2.00	2.08		mg/L		104	80 - 120
Chromium	0.100	0.102		mg/L		102	80 - 120
Cobalt	0.100	0.106		mg/L		106	80 - 120

Lab Sample ID: 310-226447-1 MS
Matrix: Ground Water
Analysis Batch: 346978

Client Sample ID: D-1D - CCR
Prep Type: Total/NA
Prep Batch: 345943

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Barium	0.051		0.100	0.158		mg/L		108	75 - 125
Boron	<0.10		0.200	0.235		mg/L		117	75 - 125
Calcium	95.6		2.00	95.09	4	mg/L		-27	75 - 125
Chromium	0.0058		0.100	0.110		mg/L		104	75 - 125
Cobalt	<0.00050		0.100	0.108		mg/L		108	75 - 125

Lab Sample ID: 310-226447-1 MSD
Matrix: Ground Water
Analysis Batch: 346978

Client Sample ID: D-1D - CCR
Prep Type: Total/NA
Prep Batch: 345943

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Barium	0.051		0.100	0.153		mg/L		102	75 - 125	3	20
Boron	<0.10		0.200	0.231		mg/L		115	75 - 125	2	20
Calcium	95.6		2.00	92.77	4	mg/L		-143	75 - 125	2	20
Chromium	0.0058		0.100	0.106		mg/L		100	75 - 125	4	20
Cobalt	<0.00050		0.100	0.102		mg/L		102	75 - 125	6	20

Lab Sample ID: 310-226447-11 DU
Matrix: Ground Water
Analysis Batch: 346978

Client Sample ID: D-1S - CCR
Prep Type: Total/NA
Prep Batch: 345943

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Barium	0.053		0.0528		mg/L		0	20
Boron	<0.10		<0.10		mg/L		NC	20
Calcium	101		99.82		mg/L		1	20
Chromium	<0.0050		<0.0050		mg/L		NC	20
Cobalt	<0.00050		<0.00050		mg/L		NC	20

Lab Sample ID: MB 310-345946/1-A
Matrix: Water
Analysis Batch: 346978

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 345946

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	<0.0020		0.0020		mg/L		03/10/22 09:00	03/17/22 21:40	1
Boron	<0.10		0.10		mg/L		03/10/22 09:00	03/17/22 21:40	1
Calcium	<0.50		0.50		mg/L		03/10/22 09:00	03/17/22 21:40	1
Chromium	<0.0050		0.0050		mg/L		03/10/22 09:00	03/17/22 21:40	1
Cobalt	<0.00050		0.00050		mg/L		03/10/22 09:00	03/17/22 21:40	1

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QC Sample Results

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

Job ID: 310-226447-1

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

Lab Sample ID: LCS 310-345946/2-A
Matrix: Water
Analysis Batch: 346978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 345946

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	
Barium	0.100	0.104		mg/L		104	80 - 120	
Boron	0.200	0.196		mg/L		98	80 - 120	
Calcium	2.00	2.04		mg/L		102	80 - 120	
Chromium	0.100	0.0996		mg/L		100	80 - 120	
Cobalt	0.100	0.102		mg/L		102	80 - 120	

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-346363/1-A
Matrix: Water
Analysis Batch: 346562

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 346363

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	<0.00020		0.00020		mg/L		03/11/22 13:41	03/14/22 12:51	1

Lab Sample ID: LCS 310-346363/2-A
Matrix: Water
Analysis Batch: 346562

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 346363

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	
Mercury	0.00167	0.00153		mg/L		92	80 - 120	

Lab Sample ID: MB 310-346543/1-A
Matrix: Water
Analysis Batch: 346699

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 346543

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	<0.00020		0.00020		mg/L		03/14/22 15:08	03/15/22 12:34	1

Lab Sample ID: LCS 310-346543/2-A
Matrix: Water
Analysis Batch: 346699

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 346543

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	
Mercury	0.00167	0.00162		mg/L		97	80 - 120	

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

Lab Sample ID: MB 310-345782/1
Matrix: Water
Analysis Batch: 345782

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

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Total Dissolved Solids	<50.0		50.0		mg/L			03/07/22 16:00	1

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QC Sample Results

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

Job ID: 310-226447-1

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

Lab Sample ID: LCS 310-345782/2
Matrix: Water
Analysis Batch: 345782

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	918.0		mg/L		92	90 - 110

Lab Sample ID: 310-226447-10 DU
Matrix: Ground Water
Analysis Batch: 345782

Client Sample ID: U-5S - CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	374		332.0		mg/L		12	20

Lab Sample ID: MB 310-345924/1
Matrix: Water
Analysis Batch: 345924

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			03/08/22 15:06	1

Lab Sample ID: LCS 310-345924/2
Matrix: Water
Analysis Batch: 345924

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	928.0		mg/L		93	90 - 110

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-345672/1
Matrix: Water
Analysis Batch: 345672

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		101	98 - 102

Lab Sample ID: LCS 310-345672/27
Matrix: Water
Analysis Batch: 345672

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		101	98 - 102

Lab Sample ID: 310-226447-1 DU
Matrix: Ground Water
Analysis Batch: 345672

Client Sample ID: D-1D - CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.8	HF	7.8		SU		0.1	20

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QC Sample Results

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

Job ID: 310-226447-1

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

Lab Sample ID: 310-226447-10 DU
Matrix: Ground Water
Analysis Batch: 345672

Client Sample ID: U-5S - CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.4	HF	7.4		SU		1	20

Lab Sample ID: 310-226447-19 DU
Matrix: Water
Analysis Batch: 345672

Client Sample ID: Equipment Blank - CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.6	HF	6.6		SU		0.3	20

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-554322/23-A
Matrix: Water
Analysis Batch: 558072

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 554322

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.195	U	0.0954	0.0955	1.00	0.195	pCi/L	03/09/22 11:42	03/31/22 10:24	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	100		40 - 110					03/09/22 11:42	03/31/22 10:24	1

Lab Sample ID: LCS 160-554322/1-A
Matrix: Water
Analysis Batch: 558072

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 554322

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	11.3	9.098		1.14	1.00	0.240	pCi/L	80	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Barium	97.5		40 - 110						

Lab Sample ID: LCSD 160-554322/2-A
Matrix: Water
Analysis Batch: 558072

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 554322

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-226	11.3	9.429		1.18	1.00	0.324	pCi/L	83	75 - 125	0.14	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits								
Barium	98.0		40 - 110								

QC Sample Results

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

Job ID: 310-226447-1

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-554325/23-A
Matrix: Water
Analysis Batch: 557860

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 554325

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac	
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)							
Radium-228	<0.307	U	0.165	0.165	1.00	0.307	pCi/L	03/09/22 12:04	03/30/22 12:59	1	
Carrier	MB %Yield	MB Qualifier	Limits				Prepared		Analyzed		Dil Fac
Barium	100		40 - 110				03/09/22 12:04		03/30/22 12:59		1
Y Carrier	89.0		40 - 110				03/09/22 12:04		03/30/22 12:59		1

Lab Sample ID: LCS 160-554325/1-A
Matrix: Water
Analysis Batch: 558028

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 554325

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-228	8.75	8.098		0.967	1.00	0.352	pCi/L	93	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Barium	97.5		40 - 110						
Y Carrier	84.1		40 - 110						

Lab Sample ID: LCSD 160-554325/2-A
Matrix: Water
Analysis Batch: 558028

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 554325

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER
				Uncert. (2σ+/-)							Limit
Radium-228	8.75	8.321		0.981	1.00	0.316	pCi/L	95	75 - 125	0.11	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits								
Barium	98.0		40 - 110								
Y Carrier	84.9		40 - 110								

QC Association Summary

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

Job ID: 310-226447-1

HPLC/IC

Analysis Batch: 346788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-226447-1	D-1D - CCR	Total/NA	Ground Water	9056A	
310-226447-2	D-2D - CCR	Total/NA	Ground Water	9056A	
310-226447-3	D-3D - CCR	Total/NA	Ground Water	9056A	
310-226447-4	D-4D - CCR	Total/NA	Ground Water	9056A	
310-226447-5	D-5D - CCR	Total/NA	Ground Water	9056A	
310-226447-6	D-9 - CCR	Total/NA	Ground Water	9056A	
310-226447-7	U-4D - CCR	Total/NA	Ground Water	9056A	
310-226447-8	U-4S - CCR	Total/NA	Ground Water	9056A	
310-226447-9	U-5D - CCR	Total/NA	Ground Water	9056A	
310-226447-10	U-5S - CCR	Total/NA	Ground Water	9056A	
310-226447-11	D-1S - CCR	Total/NA	Ground Water	9056A	
310-226447-12	D-2S - CCR	Total/NA	Ground Water	9056A	
310-226447-13	D-3S - CCR	Total/NA	Ground Water	9056A	
310-226447-14	D-5S2 - CCR	Total/NA	Ground Water	9056A	
310-226447-15	D-4S - CCR	Total/NA	Ground Water	9056A	
310-226447-16	D-8 - CCR	Total/NA	Ground Water	9056A	
310-226447-17	DUP-1 - CCR	Total/NA	Ground Water	9056A	
310-226447-18	DUP-2 - CCR	Total/NA	Ground Water	9056A	
310-226447-19	Equipment Blank - CCR	Total/NA	Water	9056A	
310-226447-20	Field Blank 1 - CCR	Total/NA	Water	9056A	
MB 310-346788/3	Method Blank	Total/NA	Water	9056A	
LCS 310-346788/4	Lab Control Sample	Total/NA	Water	9056A	
310-226447-1 MS	D-1D - CCR	Total/NA	Ground Water	9056A	
310-226447-1 MSD	D-1D - CCR	Total/NA	Ground Water	9056A	

Metals

Prep Batch: 345943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-226447-1	D-1D - CCR	Total/NA	Ground Water	3005A	
310-226447-2	D-2D - CCR	Total/NA	Ground Water	3005A	
310-226447-3	D-3D - CCR	Total/NA	Ground Water	3005A	
310-226447-4	D-4D - CCR	Total/NA	Ground Water	3005A	
310-226447-5	D-5D - CCR	Total/NA	Ground Water	3005A	
310-226447-6	D-9 - CCR	Total/NA	Ground Water	3005A	
310-226447-7	U-4D - CCR	Total/NA	Ground Water	3005A	
310-226447-8	U-4S - CCR	Total/NA	Ground Water	3005A	
310-226447-9	U-5D - CCR	Total/NA	Ground Water	3005A	
310-226447-10	U-5S - CCR	Total/NA	Ground Water	3005A	
310-226447-11	D-1S - CCR	Total/NA	Ground Water	3005A	
310-226447-12	D-2S - CCR	Total/NA	Ground Water	3005A	
310-226447-13	D-3S - CCR	Total/NA	Ground Water	3005A	
310-226447-14	D-5S2 - CCR	Total/NA	Ground Water	3005A	
310-226447-15	D-4S - CCR	Total/NA	Ground Water	3005A	
310-226447-16	D-8 - CCR	Total/NA	Ground Water	3005A	
310-226447-17	DUP-1 - CCR	Total/NA	Ground Water	3005A	
310-226447-18	DUP-2 - CCR	Total/NA	Ground Water	3005A	
310-226447-19	Equipment Blank - CCR	Total/NA	Water	3005A	
MB 310-345943/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-345943/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-226447-1 MS	D-1D - CCR	Total/NA	Ground Water	3005A	

Eurofins Cedar Falls

QC Association Summary

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

Job ID: 310-226447-1

Metals (Continued)

Prep Batch: 345943 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-226447-1 MSD	D-1D - CCR	Total/NA	Ground Water	3005A	
310-226447-11 DU	D-1S - CCR	Total/NA	Ground Water	3005A	

Prep Batch: 345946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-226447-20	Field Blank 1 - CCR	Total/NA	Water	3005A	
MB 310-345946/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-345946/2-A	Lab Control Sample	Total/NA	Water	3005A	

Prep Batch: 346363

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-226447-1	D-1D - CCR	Total/NA	Ground Water	7470A	
310-226447-2	D-2D - CCR	Total/NA	Ground Water	7470A	
310-226447-3	D-3D - CCR	Total/NA	Ground Water	7470A	
310-226447-4	D-4D - CCR	Total/NA	Ground Water	7470A	
310-226447-5	D-5D - CCR	Total/NA	Ground Water	7470A	
310-226447-6	D-9 - CCR	Total/NA	Ground Water	7470A	
310-226447-7	U-4D - CCR	Total/NA	Ground Water	7470A	
310-226447-8	U-4S - CCR	Total/NA	Ground Water	7470A	
310-226447-9	U-5D - CCR	Total/NA	Ground Water	7470A	
310-226447-10	U-5S - CCR	Total/NA	Ground Water	7470A	
310-226447-11	D-1S - CCR	Total/NA	Ground Water	7470A	
MB 310-346363/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-346363/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 346543

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-226447-12	D-2S - CCR	Total/NA	Ground Water	7470A	
310-226447-13	D-3S - CCR	Total/NA	Ground Water	7470A	
310-226447-14	D-5S2 - CCR	Total/NA	Ground Water	7470A	
310-226447-15	D-4S - CCR	Total/NA	Ground Water	7470A	
310-226447-16	D-8 - CCR	Total/NA	Ground Water	7470A	
310-226447-17	DUP-1 - CCR	Total/NA	Ground Water	7470A	
310-226447-18	DUP-2 - CCR	Total/NA	Ground Water	7470A	
310-226447-19	Equipment Blank - CCR	Total/NA	Water	7470A	
310-226447-20	Field Blank 1 - CCR	Total/NA	Water	7470A	
MB 310-346543/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-346543/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 346562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-226447-1	D-1D - CCR	Total/NA	Ground Water	7470A	346363
310-226447-2	D-2D - CCR	Total/NA	Ground Water	7470A	346363
310-226447-3	D-3D - CCR	Total/NA	Ground Water	7470A	346363
310-226447-4	D-4D - CCR	Total/NA	Ground Water	7470A	346363
310-226447-5	D-5D - CCR	Total/NA	Ground Water	7470A	346363
310-226447-6	D-9 - CCR	Total/NA	Ground Water	7470A	346363
310-226447-7	U-4D - CCR	Total/NA	Ground Water	7470A	346363
310-226447-8	U-4S - CCR	Total/NA	Ground Water	7470A	346363
310-226447-9	U-5D - CCR	Total/NA	Ground Water	7470A	346363
310-226447-10	U-5S - CCR	Total/NA	Ground Water	7470A	346363

Eurofins Cedar Falls

QC Association Summary

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

Job ID: 310-226447-1

Metals (Continued)

Analysis Batch: 346562 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-226447-11	D-1S - CCR	Total/NA	Ground Water	7470A	346363
MB 310-346363/1-A	Method Blank	Total/NA	Water	7470A	346363
LCS 310-346363/2-A	Lab Control Sample	Total/NA	Water	7470A	346363

Analysis Batch: 346699

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-226447-12	D-2S - CCR	Total/NA	Ground Water	7470A	346543
310-226447-13	D-3S - CCR	Total/NA	Ground Water	7470A	346543
310-226447-14	D-5S2 - CCR	Total/NA	Ground Water	7470A	346543
310-226447-15	D-4S - CCR	Total/NA	Ground Water	7470A	346543
310-226447-16	D-8 - CCR	Total/NA	Ground Water	7470A	346543
310-226447-17	DUP-1 - CCR	Total/NA	Ground Water	7470A	346543
310-226447-18	DUP-2 - CCR	Total/NA	Ground Water	7470A	346543
310-226447-19	Equipment Blank - CCR	Total/NA	Water	7470A	346543
310-226447-20	Field Blank 1 - CCR	Total/NA	Water	7470A	346543
MB 310-346543/1-A	Method Blank	Total/NA	Water	7470A	346543
LCS 310-346543/2-A	Lab Control Sample	Total/NA	Water	7470A	346543

Analysis Batch: 346978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-226447-1	D-1D - CCR	Total/NA	Ground Water	6020B	345943
310-226447-2	D-2D - CCR	Total/NA	Ground Water	6020B	345943
310-226447-3	D-3D - CCR	Total/NA	Ground Water	6020B	345943
310-226447-4	D-4D - CCR	Total/NA	Ground Water	6020B	345943
310-226447-5	D-5D - CCR	Total/NA	Ground Water	6020B	345943
310-226447-6	D-9 - CCR	Total/NA	Ground Water	6020B	345943
310-226447-7	U-4D - CCR	Total/NA	Ground Water	6020B	345943
310-226447-8	U-4S - CCR	Total/NA	Ground Water	6020B	345943
310-226447-9	U-5D - CCR	Total/NA	Ground Water	6020B	345943
310-226447-10	U-5S - CCR	Total/NA	Ground Water	6020B	345943
310-226447-11	D-1S - CCR	Total/NA	Ground Water	6020B	345943
310-226447-12	D-2S - CCR	Total/NA	Ground Water	6020B	345943
310-226447-13	D-3S - CCR	Total/NA	Ground Water	6020B	345943
310-226447-14	D-5S2 - CCR	Total/NA	Ground Water	6020B	345943
310-226447-15	D-4S - CCR	Total/NA	Ground Water	6020B	345943
310-226447-16	D-8 - CCR	Total/NA	Ground Water	6020B	345943
310-226447-17	DUP-1 - CCR	Total/NA	Ground Water	6020B	345943
310-226447-18	DUP-2 - CCR	Total/NA	Ground Water	6020B	345943
310-226447-19	Equipment Blank - CCR	Total/NA	Water	6020B	345943
310-226447-20	Field Blank 1 - CCR	Total/NA	Water	6020B	345946
MB 310-345943/1-A	Method Blank	Total/NA	Water	6020B	345943
MB 310-345946/1-A	Method Blank	Total/NA	Water	6020B	345946
LCS 310-345943/2-A	Lab Control Sample	Total/NA	Water	6020B	345943
LCS 310-345946/2-A	Lab Control Sample	Total/NA	Water	6020B	345946
310-226447-1 MS	D-1D - CCR	Total/NA	Ground Water	6020B	345943
310-226447-1 MSD	D-1D - CCR	Total/NA	Ground Water	6020B	345943
310-226447-11 DU	D-1S - CCR	Total/NA	Ground Water	6020B	345943

QC Association Summary

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

Job ID: 310-226447-1

General Chemistry

Analysis Batch: 345672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-226447-1	D-1D - CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-226447-2	D-2D - CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-226447-3	D-3D - CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-226447-4	D-4D - CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-226447-5	D-5D - CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-226447-6	D-9 - CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-226447-7	U-4D - CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-226447-8	U-4S - CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-226447-9	U-5D - CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-226447-10	U-5S - CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-226447-11	D-1S - CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-226447-12	D-2S - CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-226447-13	D-3S - CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-226447-14	D-5S2 - CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-226447-15	D-4S - CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-226447-16	D-8 - CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-226447-17	DUP-1 - CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-226447-18	DUP-2 - CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-226447-19	Equipment Blank - CCR	Total/NA	Water	SM 4500 H+ B	
310-226447-20	Field Blank 1 - CCR	Total/NA	Water	SM 4500 H+ B	
LCS 310-345672/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCS 310-345672/27	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-226447-1 DU	D-1D - CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-226447-10 DU	U-5S - CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-226447-19 DU	Equipment Blank - CCR	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 345782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-226447-1	D-1D - CCR	Total/NA	Ground Water	SM 2540C	
310-226447-2	D-2D - CCR	Total/NA	Ground Water	SM 2540C	
310-226447-3	D-3D - CCR	Total/NA	Ground Water	SM 2540C	
310-226447-4	D-4D - CCR	Total/NA	Ground Water	SM 2540C	
310-226447-5	D-5D - CCR	Total/NA	Ground Water	SM 2540C	
310-226447-6	D-9 - CCR	Total/NA	Ground Water	SM 2540C	
310-226447-7	U-4D - CCR	Total/NA	Ground Water	SM 2540C	
310-226447-8	U-4S - CCR	Total/NA	Ground Water	SM 2540C	
310-226447-9	U-5D - CCR	Total/NA	Ground Water	SM 2540C	
310-226447-10	U-5S - CCR	Total/NA	Ground Water	SM 2540C	
310-226447-11	D-1S - CCR	Total/NA	Ground Water	SM 2540C	
310-226447-12	D-2S - CCR	Total/NA	Ground Water	SM 2540C	
310-226447-13	D-3S - CCR	Total/NA	Ground Water	SM 2540C	
310-226447-14	D-5S2 - CCR	Total/NA	Ground Water	SM 2540C	
310-226447-15	D-4S - CCR	Total/NA	Ground Water	SM 2540C	
310-226447-16	D-8 - CCR	Total/NA	Ground Water	SM 2540C	
310-226447-17	DUP-1 - CCR	Total/NA	Ground Water	SM 2540C	
310-226447-18	DUP-2 - CCR	Total/NA	Ground Water	SM 2540C	
MB 310-345782/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-345782/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-226447-10 DU	U-5S - CCR	Total/NA	Ground Water	SM 2540C	

Eurofins Cedar Falls

QC Association Summary

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

Job ID: 310-226447-1

General Chemistry

Analysis Batch: 345924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-226447-19	Equipment Blank - CCR	Total/NA	Water	SM 2540C	
310-226447-20	Field Blank 1 - CCR	Total/NA	Water	SM 2540C	
MB 310-345924/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-345924/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Rad

Prep Batch: 554322

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-226447-1	D-1D - CCR	Total/NA	Ground Water	PrecSep-21	
310-226447-2	D-2D - CCR	Total/NA	Ground Water	PrecSep-21	
310-226447-3	D-3D - CCR	Total/NA	Ground Water	PrecSep-21	
310-226447-4	D-4D - CCR	Total/NA	Ground Water	PrecSep-21	
310-226447-5	D-5D - CCR	Total/NA	Ground Water	PrecSep-21	
310-226447-6	D-9 - CCR	Total/NA	Ground Water	PrecSep-21	
310-226447-7	U-4D - CCR	Total/NA	Ground Water	PrecSep-21	
310-226447-8	U-4S - CCR	Total/NA	Ground Water	PrecSep-21	
310-226447-9	U-5D - CCR	Total/NA	Ground Water	PrecSep-21	
310-226447-10	U-5S - CCR	Total/NA	Ground Water	PrecSep-21	
310-226447-11	D-1S - CCR	Total/NA	Ground Water	PrecSep-21	
310-226447-12	D-2S - CCR	Total/NA	Ground Water	PrecSep-21	
310-226447-13	D-3S - CCR	Total/NA	Ground Water	PrecSep-21	
310-226447-14	D-5S2 - CCR	Total/NA	Ground Water	PrecSep-21	
310-226447-15	D-4S - CCR	Total/NA	Ground Water	PrecSep-21	
310-226447-16	D-8 - CCR	Total/NA	Ground Water	PrecSep-21	
310-226447-17	DUP-1 - CCR	Total/NA	Ground Water	PrecSep-21	
310-226447-18	DUP-2 - CCR	Total/NA	Ground Water	PrecSep-21	
310-226447-19	Equipment Blank - CCR	Total/NA	Water	PrecSep-21	
310-226447-20	Field Blank 1 - CCR	Total/NA	Water	PrecSep-21	
MB 160-554322/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-554322/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-554322/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 554325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-226447-1	D-1D - CCR	Total/NA	Ground Water	PrecSep_0	
310-226447-2	D-2D - CCR	Total/NA	Ground Water	PrecSep_0	
310-226447-3	D-3D - CCR	Total/NA	Ground Water	PrecSep_0	
310-226447-4	D-4D - CCR	Total/NA	Ground Water	PrecSep_0	
310-226447-5	D-5D - CCR	Total/NA	Ground Water	PrecSep_0	
310-226447-6	D-9 - CCR	Total/NA	Ground Water	PrecSep_0	
310-226447-7	U-4D - CCR	Total/NA	Ground Water	PrecSep_0	
310-226447-8	U-4S - CCR	Total/NA	Ground Water	PrecSep_0	
310-226447-9	U-5D - CCR	Total/NA	Ground Water	PrecSep_0	
310-226447-10	U-5S - CCR	Total/NA	Ground Water	PrecSep_0	
310-226447-11	D-1S - CCR	Total/NA	Ground Water	PrecSep_0	
310-226447-12	D-2S - CCR	Total/NA	Ground Water	PrecSep_0	
310-226447-13	D-3S - CCR	Total/NA	Ground Water	PrecSep_0	
310-226447-14	D-5S2 - CCR	Total/NA	Ground Water	PrecSep_0	
310-226447-15	D-4S - CCR	Total/NA	Ground Water	PrecSep_0	
310-226447-16	D-8 - CCR	Total/NA	Ground Water	PrecSep_0	

Eurofins Cedar Falls

QC Association Summary

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

Job ID: 310-226447-1

Rad (Continued)

Prep Batch: 554325 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-226447-17	DUP-1 - CCR	Total/NA	Ground Water	PrecSep_0	
310-226447-18	DUP-2 - CCR	Total/NA	Ground Water	PrecSep_0	
310-226447-19	Equipment Blank - CCR	Total/NA	Water	PrecSep_0	
310-226447-20	Field Blank 1 - CCR	Total/NA	Water	PrecSep_0	
MB 160-554325/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-554325/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-554325/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

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Lab Chronicle

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

Job ID: 310-226447-1

Client Sample ID: D-1D - CCR

Date Collected: 03/02/22 15:45

Date Received: 03/05/22 10:15

Lab Sample ID: 310-226447-1

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	346788	03/11/22 11:12	JNR	TAL CF
Total/NA	Prep	3005A			345943	03/09/22 09:00	JNR	TAL CF
Total/NA	Analysis	6020B		1	346978	03/17/22 17:54	SAP	TAL CF
Total/NA	Prep	7470A			346363	03/11/22 13:41	EAM	TAL CF
Total/NA	Analysis	7470A		1	346562	03/14/22 13:23	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	345782	03/07/22 16:00	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	345672	03/05/22 11:03	ARG	TAL CF
Total/NA	Prep	PrecSep-21			554322	03/09/22 11:42	BMP	TAL SL
Total/NA	Analysis	9315		1	558072	03/31/22 08:26	CLP	TAL SL
Total/NA	Prep	PrecSep_0			554325	03/09/22 12:04	BMP	TAL SL
Total/NA	Analysis	9320		1	558028	03/30/22 12:54	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	558533	04/05/22 09:44	CAH	TAL SL

Client Sample ID: D-2D - CCR

Date Collected: 03/03/22 10:40

Date Received: 03/05/22 10:15

Lab Sample ID: 310-226447-2

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	346788	03/11/22 11:59	JNR	TAL CF
Total/NA	Prep	3005A			345943	03/09/22 09:00	JNR	TAL CF
Total/NA	Analysis	6020B		1	346978	03/17/22 18:22	SAP	TAL CF
Total/NA	Prep	7470A			346363	03/11/22 13:41	EAM	TAL CF
Total/NA	Analysis	7470A		1	346562	03/14/22 13:25	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	345782	03/07/22 16:00	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	345672	03/05/22 11:05	ARG	TAL CF
Total/NA	Prep	PrecSep-21			554322	03/09/22 11:42	BMP	TAL SL
Total/NA	Analysis	9315		1	558072	03/31/22 08:26	CLP	TAL SL
Total/NA	Prep	PrecSep_0			554325	03/09/22 12:04	BMP	TAL SL
Total/NA	Analysis	9320		1	558028	03/30/22 12:55	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	558533	04/05/22 09:44	CAH	TAL SL

Client Sample ID: D-3D - CCR

Date Collected: 03/03/22 09:40

Date Received: 03/05/22 10:15

Lab Sample ID: 310-226447-3

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	346788	03/11/22 12:15	JNR	TAL CF
Total/NA	Prep	3005A			345943	03/09/22 09:00	JNR	TAL CF
Total/NA	Analysis	6020B		1	346978	03/17/22 18:25	SAP	TAL CF
Total/NA	Prep	7470A			346363	03/11/22 13:41	EAM	TAL CF
Total/NA	Analysis	7470A		1	346562	03/14/22 13:27	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	345782	03/07/22 16:00	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	345672	03/05/22 11:05	ARG	TAL CF

Lab Chronicle

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

Job ID: 310-226447-1

Client Sample ID: D-3D - CCR

Lab Sample ID: 310-226447-3

Date Collected: 03/03/22 09:40

Matrix: Ground Water

Date Received: 03/05/22 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			554322	03/09/22 11:42	BMP	TAL SL
Total/NA	Analysis	9315		1	558072	03/31/22 08:27	CLP	TAL SL
Total/NA	Prep	PrecSep_0			554325	03/09/22 12:04	BMP	TAL SL
Total/NA	Analysis	9320		1	558028	03/30/22 12:55	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	558533	04/05/22 09:44	CAH	TAL SL

Client Sample ID: D-4D - CCR

Lab Sample ID: 310-226447-4

Date Collected: 03/03/22 11:40

Matrix: Ground Water

Date Received: 03/05/22 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	346788	03/11/22 12:30	JNR	TAL CF
Total/NA	Prep	3005A			345943	03/09/22 09:00	JNR	TAL CF
Total/NA	Analysis	6020B		1	346978	03/17/22 18:28	SAP	TAL CF
Total/NA	Prep	7470A			346363	03/11/22 13:41	EAM	TAL CF
Total/NA	Analysis	7470A		1	346562	03/14/22 13:30	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	345782	03/07/22 16:00	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	345672	03/05/22 11:06	ARG	TAL CF
Total/NA	Prep	PrecSep-21			554322	03/09/22 11:42	BMP	TAL SL
Total/NA	Analysis	9315		1	558072	03/31/22 08:27	CLP	TAL SL
Total/NA	Prep	PrecSep_0			554325	03/09/22 12:04	BMP	TAL SL
Total/NA	Analysis	9320		1	558028	03/30/22 12:55	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	558533	04/05/22 09:44	CAH	TAL SL

Client Sample ID: D-5D - CCR

Lab Sample ID: 310-226447-5

Date Collected: 03/02/22 14:25

Matrix: Ground Water

Date Received: 03/05/22 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	346788	03/11/22 12:46	JNR	TAL CF
Total/NA	Prep	3005A			345943	03/09/22 09:00	JNR	TAL CF
Total/NA	Analysis	6020B		1	346978	03/17/22 18:32	SAP	TAL CF
Total/NA	Prep	7470A			346363	03/11/22 13:41	EAM	TAL CF
Total/NA	Analysis	7470A		1	346562	03/14/22 13:32	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	345782	03/07/22 16:00	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	345672	03/05/22 11:06	ARG	TAL CF
Total/NA	Prep	PrecSep-21			554322	03/09/22 11:42	BMP	TAL SL
Total/NA	Analysis	9315		1	558072	03/31/22 08:27	CLP	TAL SL
Total/NA	Prep	PrecSep_0			554325	03/09/22 12:04	BMP	TAL SL
Total/NA	Analysis	9320		1	558028	03/30/22 12:55	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	558533	04/05/22 09:44	CAH	TAL SL

Lab Chronicle

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

Job ID: 310-226447-1

Client Sample ID: D-9 - CCR

Date Collected: 03/03/22 14:10

Date Received: 03/05/22 10:15

Lab Sample ID: 310-226447-6

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	346788	03/11/22 13:01	JNR	TAL CF
Total/NA	Prep	3005A			345943	03/09/22 09:00	JNR	TAL CF
Total/NA	Analysis	6020B		1	346978	03/17/22 18:35	SAP	TAL CF
Total/NA	Prep	7470A			346363	03/11/22 13:41	EAM	TAL CF
Total/NA	Analysis	7470A		1	346562	03/14/22 13:38	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	345782	03/07/22 16:00	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	345672	03/05/22 11:07	ARG	TAL CF
Total/NA	Prep	PrecSep-21			554322	03/09/22 11:42	BMP	TAL SL
Total/NA	Analysis	9315		1	558072	03/31/22 08:27	CLP	TAL SL
Total/NA	Prep	PrecSep_0			554325	03/09/22 12:04	BMP	TAL SL
Total/NA	Analysis	9320		1	558028	03/30/22 12:55	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	558533	04/05/22 09:44	CAH	TAL SL

Client Sample ID: U-4D - CCR

Date Collected: 03/02/22 10:15

Date Received: 03/05/22 10:15

Lab Sample ID: 310-226447-7

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	346788	03/11/22 13:48	JNR	TAL CF
Total/NA	Prep	3005A			345943	03/09/22 09:00	JNR	TAL CF
Total/NA	Analysis	6020B		1	346978	03/17/22 18:38	SAP	TAL CF
Total/NA	Prep	7470A			346363	03/11/22 13:41	EAM	TAL CF
Total/NA	Analysis	7470A		1	346562	03/14/22 13:40	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	345782	03/07/22 16:00	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	345672	03/05/22 11:08	ARG	TAL CF
Total/NA	Prep	PrecSep-21			554322	03/09/22 11:42	BMP	TAL SL
Total/NA	Analysis	9315		1	558072	03/31/22 08:27	CLP	TAL SL
Total/NA	Prep	PrecSep_0			554325	03/09/22 12:04	BMP	TAL SL
Total/NA	Analysis	9320		1	558028	03/30/22 12:55	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	558533	04/05/22 09:44	CAH	TAL SL

Client Sample ID: U-4S - CCR

Date Collected: 03/02/22 09:50

Date Received: 03/05/22 10:15

Lab Sample ID: 310-226447-8

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	346788	03/11/22 14:04	JNR	TAL CF
Total/NA	Prep	3005A			345943	03/09/22 09:00	JNR	TAL CF
Total/NA	Analysis	6020B		1	346978	03/17/22 18:41	SAP	TAL CF
Total/NA	Prep	7470A			346363	03/11/22 13:41	EAM	TAL CF
Total/NA	Analysis	7470A		1	346562	03/14/22 13:43	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	345782	03/07/22 16:00	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	345672	03/05/22 11:09	ARG	TAL CF

Eurofins Cedar Falls

Lab Chronicle

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

Job ID: 310-226447-1

Client Sample ID: U-4S - CCR

Date Collected: 03/02/22 09:50

Date Received: 03/05/22 10:15

Lab Sample ID: 310-226447-8

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			554322	03/09/22 11:42	BMP	TAL SL
Total/NA	Analysis	9315		1	558072	03/31/22 08:29	CLP	TAL SL
Total/NA	Prep	PrecSep_0			554325	03/09/22 12:04	BMP	TAL SL
Total/NA	Analysis	9320		1	558028	03/30/22 12:55	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	558533	04/05/22 09:44	CAH	TAL SL

Client Sample ID: U-5D - CCR

Date Collected: 03/02/22 13:20

Date Received: 03/05/22 10:15

Lab Sample ID: 310-226447-9

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	346788	03/11/22 14:19	JNR	TAL CF
Total/NA	Prep	3005A			345943	03/09/22 09:00	JNR	TAL CF
Total/NA	Analysis	6020B		1	346978	03/17/22 18:44	SAP	TAL CF
Total/NA	Prep	7470A			346363	03/11/22 13:41	EAM	TAL CF
Total/NA	Analysis	7470A		1	346562	03/14/22 13:45	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	345782	03/07/22 16:00	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	345672	03/05/22 11:11	ARG	TAL CF
Total/NA	Prep	PrecSep-21			554322	03/09/22 11:42	BMP	TAL SL
Total/NA	Analysis	9315		1	558072	03/31/22 08:29	CLP	TAL SL
Total/NA	Prep	PrecSep_0			554325	03/09/22 12:04	BMP	TAL SL
Total/NA	Analysis	9320		1	558028	03/30/22 12:56	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	558533	04/05/22 09:44	CAH	TAL SL

Client Sample ID: U-5S - CCR

Date Collected: 03/02/22 13:10

Date Received: 03/05/22 10:15

Lab Sample ID: 310-226447-10

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	346788	03/11/22 14:35	JNR	TAL CF
Total/NA	Prep	3005A			345943	03/09/22 09:00	JNR	TAL CF
Total/NA	Analysis	6020B		1	346978	03/17/22 18:48	SAP	TAL CF
Total/NA	Prep	7470A			346363	03/11/22 13:41	EAM	TAL CF
Total/NA	Analysis	7470A		1	346562	03/14/22 13:47	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	345782	03/07/22 16:00	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	345672	03/05/22 11:15	ARG	TAL CF
Total/NA	Prep	PrecSep-21			554322	03/09/22 11:42	BMP	TAL SL
Total/NA	Analysis	9315		1	558072	03/31/22 08:29	CLP	TAL SL
Total/NA	Prep	PrecSep_0			554325	03/09/22 12:04	BMP	TAL SL
Total/NA	Analysis	9320		1	558028	03/30/22 12:56	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	558533	04/05/22 09:44	CAH	TAL SL

Lab Chronicle

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

Job ID: 310-226447-1

Client Sample ID: D-1S - CCR

Date Collected: 03/02/22 15:40

Date Received: 03/05/22 10:15

Lab Sample ID: 310-226447-11

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	346788	03/11/22 14:50	JNR	TAL CF
Total/NA	Prep	3005A			345943	03/09/22 09:00	JNR	TAL CF
Total/NA	Analysis	6020B		1	346978	03/17/22 19:04	SAP	TAL CF
Total/NA	Prep	7470A			346363	03/11/22 13:41	EAM	TAL CF
Total/NA	Analysis	7470A		1	346562	03/14/22 13:49	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	345782	03/07/22 16:00	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	345672	03/05/22 11:17	ARG	TAL CF
Total/NA	Prep	PrecSep-21			554322	03/09/22 11:42	BMP	TAL SL
Total/NA	Analysis	9315		1	558072	03/31/22 08:29	CLP	TAL SL
Total/NA	Prep	PrecSep_0			554325	03/09/22 12:04	BMP	TAL SL
Total/NA	Analysis	9320		1	558028	03/30/22 12:56	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	558533	04/05/22 09:44	CAH	TAL SL

Client Sample ID: D-2S - CCR

Date Collected: 03/03/22 10:35

Date Received: 03/05/22 10:15

Lab Sample ID: 310-226447-12

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	346788	03/11/22 15:06	JNR	TAL CF
Total/NA	Prep	3005A			345943	03/09/22 09:00	JNR	TAL CF
Total/NA	Analysis	6020B		1	346978	03/17/22 19:10	SAP	TAL CF
Total/NA	Prep	7470A			346543	03/14/22 15:08	EAM	TAL CF
Total/NA	Analysis	7470A		1	346699	03/15/22 12:47	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	345782	03/07/22 16:00	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	345672	03/05/22 11:18	ARG	TAL CF
Total/NA	Prep	PrecSep-21			554322	03/09/22 11:42	BMP	TAL SL
Total/NA	Analysis	9315		1	558072	03/31/22 08:29	CLP	TAL SL
Total/NA	Prep	PrecSep_0			554325	03/09/22 12:04	BMP	TAL SL
Total/NA	Analysis	9320		1	558028	03/30/22 12:56	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	558533	04/05/22 09:44	CAH	TAL SL

Client Sample ID: D-3S - CCR

Date Collected: 03/03/22 09:25

Date Received: 03/05/22 10:15

Lab Sample ID: 310-226447-13

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	346788	03/11/22 15:22	JNR	TAL CF
Total/NA	Prep	3005A			345943	03/09/22 09:00	JNR	TAL CF
Total/NA	Analysis	6020B		1	346978	03/17/22 19:13	SAP	TAL CF
Total/NA	Prep	7470A			346543	03/14/22 15:08	EAM	TAL CF
Total/NA	Analysis	7470A		1	346699	03/15/22 12:49	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	345782	03/07/22 16:00	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	345672	03/05/22 11:20	ARG	TAL CF

Lab Chronicle

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

Job ID: 310-226447-1

Client Sample ID: D-3S - CCR

Lab Sample ID: 310-226447-13

Date Collected: 03/03/22 09:25

Matrix: Ground Water

Date Received: 03/05/22 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			554322	03/09/22 11:42	BMP	TAL SL
Total/NA	Analysis	9315		1	558072	03/31/22 08:29	CLP	TAL SL
Total/NA	Prep	PrecSep_0			554325	03/09/22 12:04	BMP	TAL SL
Total/NA	Analysis	9320		1	558028	03/30/22 12:56	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	558533	04/05/22 09:44	CAH	TAL SL

Client Sample ID: D-5S2 - CCR

Lab Sample ID: 310-226447-14

Date Collected: 03/02/22 14:20

Matrix: Ground Water

Date Received: 03/05/22 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	346788	03/11/22 15:37	JNR	TAL CF
Total/NA	Prep	3005A			345943	03/09/22 09:00	JNR	TAL CF
Total/NA	Analysis	6020B		1	346978	03/17/22 19:17	SAP	TAL CF
Total/NA	Prep	7470A			346543	03/14/22 15:08	EAM	TAL CF
Total/NA	Analysis	7470A		1	346699	03/15/22 12:55	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	345782	03/07/22 16:00	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	345672	03/05/22 11:21	ARG	TAL CF
Total/NA	Prep	PrecSep-21			554322	03/09/22 11:42	BMP	TAL SL
Total/NA	Analysis	9315		1	558072	03/31/22 10:22	CLP	TAL SL
Total/NA	Prep	PrecSep_0			554325	03/09/22 12:04	BMP	TAL SL
Total/NA	Analysis	9320		1	558028	03/30/22 12:56	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	558533	04/05/22 09:44	CAH	TAL SL

Client Sample ID: D-4S - CCR

Lab Sample ID: 310-226447-15

Date Collected: 03/03/22 11:25

Matrix: Ground Water

Date Received: 03/05/22 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	346788	03/11/22 15:53	JNR	TAL CF
Total/NA	Prep	3005A			345943	03/09/22 09:00	JNR	TAL CF
Total/NA	Analysis	6020B		1	346978	03/17/22 19:20	SAP	TAL CF
Total/NA	Prep	7470A			346543	03/14/22 15:08	EAM	TAL CF
Total/NA	Analysis	7470A		1	346699	03/15/22 12:57	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	345782	03/07/22 16:00	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	345672	03/05/22 11:22	ARG	TAL CF
Total/NA	Prep	PrecSep-21			554322	03/09/22 11:42	BMP	TAL SL
Total/NA	Analysis	9315		1	558072	03/31/22 10:22	CLP	TAL SL
Total/NA	Prep	PrecSep_0			554325	03/09/22 12:04	BMP	TAL SL
Total/NA	Analysis	9320		1	558028	03/30/22 12:56	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	558533	04/05/22 09:44	CAH	TAL SL

Lab Chronicle

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

Job ID: 310-226447-1

Client Sample ID: D-8 - CCR

Lab Sample ID: 310-226447-16

Date Collected: 03/03/22 13:20

Matrix: Ground Water

Date Received: 03/05/22 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	346788	03/11/22 16:08	JNR	TAL CF
Total/NA	Prep	3005A			345943	03/09/22 09:00	JNR	TAL CF
Total/NA	Analysis	6020B		1	346978	03/17/22 19:23	SAP	TAL CF
Total/NA	Prep	7470A			346543	03/14/22 15:08	EAM	TAL CF
Total/NA	Analysis	7470A		1	346699	03/15/22 12:59	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	345782	03/07/22 16:00	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	345672	03/05/22 11:24	ARG	TAL CF
Total/NA	Prep	PrecSep-21			554322	03/09/22 11:42	BMP	TAL SL
Total/NA	Analysis	9315		1	558072	03/31/22 10:23	CLP	TAL SL
Total/NA	Prep	PrecSep_0			554325	03/09/22 12:04	BMP	TAL SL
Total/NA	Analysis	9320		1	558028	03/30/22 12:56	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	558533	04/05/22 09:44	CAH	TAL SL

Client Sample ID: DUP-1 - CCR

Lab Sample ID: 310-226447-17

Date Collected: 03/02/22 00:00

Matrix: Ground Water

Date Received: 03/05/22 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	346788	03/11/22 16:55	JNR	TAL CF
Total/NA	Prep	3005A			345943	03/09/22 09:00	JNR	TAL CF
Total/NA	Analysis	6020B		1	346978	03/17/22 19:26	SAP	TAL CF
Total/NA	Prep	7470A			346543	03/14/22 15:08	EAM	TAL CF
Total/NA	Analysis	7470A		1	346699	03/15/22 13:02	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	345782	03/07/22 16:00	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	345672	03/05/22 11:25	ARG	TAL CF
Total/NA	Prep	PrecSep-21			554322	03/09/22 11:42	BMP	TAL SL
Total/NA	Analysis	9315		1	558072	03/31/22 10:23	CLP	TAL SL
Total/NA	Prep	PrecSep_0			554325	03/09/22 12:04	BMP	TAL SL
Total/NA	Analysis	9320		1	557860	03/30/22 12:59	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	558533	04/05/22 09:44	CAH	TAL SL

Client Sample ID: DUP-2 - CCR

Lab Sample ID: 310-226447-18

Date Collected: 03/03/22 00:00

Matrix: Ground Water

Date Received: 03/05/22 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	346788	03/11/22 17:11	JNR	TAL CF
Total/NA	Prep	3005A			345943	03/09/22 09:00	JNR	TAL CF
Total/NA	Analysis	6020B		1	346978	03/17/22 19:29	SAP	TAL CF
Total/NA	Prep	7470A			346543	03/14/22 15:08	EAM	TAL CF
Total/NA	Analysis	7470A		1	346699	03/15/22 13:04	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	345782	03/07/22 16:00	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	345672	03/05/22 11:26	ARG	TAL CF

Eurofins Cedar Falls

Lab Chronicle

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

Job ID: 310-226447-1

Client Sample ID: DUP-2 - CCR

Lab Sample ID: 310-226447-18

Date Collected: 03/03/22 00:00

Matrix: Ground Water

Date Received: 03/05/22 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			554322	03/09/22 11:42	BMP	TAL SL
Total/NA	Analysis	9315		1	558072	03/31/22 10:23	CLP	TAL SL
Total/NA	Prep	PrecSep_0			554325	03/09/22 12:04	BMP	TAL SL
Total/NA	Analysis	9320		1	557860	03/30/22 12:59	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	558533	04/05/22 09:44	CAH	TAL SL

Client Sample ID: Equipment Blank - CCR

Lab Sample ID: 310-226447-19

Date Collected: 03/03/22 14:20

Matrix: Water

Date Received: 03/05/22 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	346788	03/11/22 17:26	JNR	TAL CF
Total/NA	Prep	3005A			345943	03/09/22 09:00	JNR	TAL CF
Total/NA	Analysis	6020B		1	346978	03/17/22 19:33	SAP	TAL CF
Total/NA	Prep	7470A			346543	03/14/22 15:08	EAM	TAL CF
Total/NA	Analysis	7470A		1	346699	03/15/22 13:06	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	345924	03/08/22 15:06	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	345672	03/05/22 11:28	ARG	TAL CF
Total/NA	Prep	PrecSep-21			554322	03/09/22 11:42	BMP	TAL SL
Total/NA	Analysis	9315		1	558072	03/31/22 10:24	CLP	TAL SL
Total/NA	Prep	PrecSep_0			554325	03/09/22 12:04	BMP	TAL SL
Total/NA	Analysis	9320		1	557860	03/30/22 12:59	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	558533	04/05/22 09:44	CAH	TAL SL

Client Sample ID: Field Blank 1 - CCR

Lab Sample ID: 310-226447-20

Date Collected: 03/02/22 13:30

Matrix: Water

Date Received: 03/05/22 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	346788	03/11/22 17:42	JNR	TAL CF
Total/NA	Prep	3005A			345946	03/10/22 09:00	JNR	TAL CF
Total/NA	Analysis	6020B		1	346978	03/17/22 21:47	SAP	TAL CF
Total/NA	Prep	7470A			346543	03/14/22 15:08	EAM	TAL CF
Total/NA	Analysis	7470A		1	346699	03/15/22 13:08	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	345924	03/08/22 15:06	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	345672	03/05/22 11:31	ARG	TAL CF
Total/NA	Prep	PrecSep-21			554322	03/09/22 11:42	BMP	TAL SL
Total/NA	Analysis	9315		1	558072	03/31/22 10:24	CLP	TAL SL
Total/NA	Prep	PrecSep_0			554325	03/09/22 12:04	BMP	TAL SL
Total/NA	Analysis	9320		1	557860	03/30/22 12:59	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	558533	04/05/22 09:44	CAH	TAL SL

Lab Chronicle

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

Job ID: 310-226447-1

Laboratory References:

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

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

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Accreditation/Certification Summary

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

Job ID: 310-226447-1

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	12-31-22

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	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-05-22
ANAB	Dept. of Energy	L2305.01	04-05-22
ANAB	ISO/IEC 17025	L2305	04-05-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	07-01-22
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-23
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	NELAP	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

Method Summary

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

Job ID: 310-226447-1

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

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

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



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310-226447 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Ground Water & Environmental Services Inc</u>			
City/State:	<small>CITY</small> <u>Eagan</u>	<small>STATE</small> <u>MN</u>	Project: <u>SAB Rosmount CCR Monitoring</u>
Receipt Information			
Date/Time Received:	<small>DATE</small> <u>3/15/22</u>	<small>TIME</small> <u>1015</u>	Received By: <u>LR</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: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input 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 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? ↓	
Temperature Record			
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>W</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>-0.5</u>	Corrected Temp (°C): <u>-0.5</u>		
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
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			
Additional Comments			



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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Ground Water & Environmental Services Inc</u>			
City/State:	CITY <u>Eagan</u>	STATE <u>MN</u>	Project: <u>SKB Resmount CCR Monitoring</u>
Receipt Information			
Date/Time Received:	DATE <u>3/5/22</u>	TIME <u>1015</u>	Received By: <u>LR</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: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input 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 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? ↓	
Temperature Record			
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>1</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>0.9</u>	Corrected Temp (°C):	<u>0.9</u>
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
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			
Additional Comments			





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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Ground Water & Environmental Services Inc</u>			
City/State:	CITY <u>Eagan</u>	STATE <u>MN</u>	Project: <u>SKB Rosmount CCR Monitoring</u>
Receipt Information			
Date/Time Received:	DATE <u>3/5/22</u>	TIME <u>1015</u>	Received By: <u>WR</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: _____			
Condition of Cooler/Containers			
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 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 type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
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>N</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>0.7</u>	Corrected Temp (°C): <u>0.7</u>		
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
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			
Additional Comments			



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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Ground Water & Environmental Services Inc</u>			
City/State:	CITY <u>Eagan</u>	STATE <u>MN</u>	Project: <u>SKB Rosmount CCR Monitoring</u>
Receipt Information			
Date/Time Received:	DATE <u>3/5/22</u>	TIME <u>10:5</u>	Received By: <u>LR</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: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If yes: Cooler ID:</i>			
Multiple Coolers? <input type="checkbox"/> Yes <input type="checkbox"/> No <i>If yes: Cooler # <u>4</u> of <u>5</u></i>			
Cooler Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</i>			
Sample Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No</i>			
Trip Blank Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes: Which VOA samples are in cooler? ↓</i>			
Temperature Record			
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>N</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):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) <i>If yes: Is there evidence that the chilling process began?</i> <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			
Additional Comments			



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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Ground Water & Environmental Services Inc</u>			
City/State:	CITY <u>Eagan</u>	STATE <u>MN</u>	Project: <u>SKB Resmount CCR Monitoring</u>
Receipt Information			
Date/Time Received:	DATE <u>3/5/22</u>	TIME <u>1015</u>	Received By: <u>LR</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: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input 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 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? ↓	
Temperature Record			
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>1</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):			
Exceptions Noted			
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			
Additional Comments			

Client Information		Sampler: <i>N-Sun 10/21</i>		Lab PM: Bindert, Zach T		Carrier Tracking No(s): 310-88363-19638.1								
Client Contact: Jim Simonet		Phone: <i>651-792-6063</i>		E-Mail: Zach.Bindert@Eurofinsnet.com		Page: Page 1 of 2								
Company: Groundwater & Environmental Services Inc		PWSID:		Analysis Requested		Job #: 3502287401870								
Address: 1301 Corporate Center Drive Suite 190		Due Date Requested:		Perform MS/MSD (Yes or No)		Preservation Codes:								
City: Eagan		TAT Requested (days): <i>Standard</i>		Field Filtered Sample (Yes or No)		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:								
State, Zip: MN, 55121-1562		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		9316 Ra228 - Standard Target List		M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecylhydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)								
PO #: Purchase Order not required		WO #: Purchase Order not required		9320 Ra228 - Standard Target List		Total Number of containers: <input checked="" type="checkbox"/>								
Email: jsimonet@gesonline.com		Project #: 31013948		9066A_ORGFM_28D - Chloride, Fluoride, Sulfate		Special Instructions/Note:								
Project Name: SKB Rosemount - CCR Monitoring		SSOW#:		9320 Ra228 - GFFC - Local Method										
Site: Minnesota				9316 Ra228 - Standard Target List										
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Household, Swab, On-surface, In-tissue, A-Alt)	Preservation Code	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9316 Ra228 - Standard Target List	9320 Ra228 - Standard Target List	9066A_ORGFM_28D - Chloride, Fluoride, Sulfate	9320 Ra228 - GFFC - Local Method	TDS - 2640C, Calcd, pH - SM4500_H+	Total Number of containers	Special Instructions/Note
D-1D CCR	3/2/22	15:45	6	Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X	X	X	X	5	
D-2D CCR	3/3/22	10:40	6	Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X	X	X	X	5	
D-3D CCR	3/3/22	9:40	6	Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X	X	X	X	5	
D-4D CCR	3/3/22	11:40	6	Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X	X	X	X	5	
D-5D CCR	3/2/22	14:25	6	Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X	X	X	X	5	
D-9 CCR	3/3/22	14:10	6	Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X	X	X	X	5	
U-4D CCR	3/2/22	10:15	6	Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X	X	X	X	5	
U-4S CCR	3/2/22	9:50	6	Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X	X	X	X	5	
U-5D CCR	3/2/22	13:20	6	Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X	X	X	X	5	
U-5S CCR	3/2/22	13:10	6	Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X	X	X	X	5	
D-1S CCR	3/2/22	15:40	0	Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X	X	X	X	5	
Possible Hazard Identification														
<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>Michelle Edgell</i> Date: 3/4/22 Time: 9:30														
Relinquished by: <i>Barb Sutton</i> Date: 3/4/22 Time: 17:00														
Relinquished by: <i>Barb Sutton</i> Date: 3/5/22 Time: 10:15														
Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No														
Custody Seal No.:														
Cooler Temperature(s) °C and Other Remarks:														
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)														
<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months														
Special Instructions/QC Requirements														
Method of Shipment:														
Company: <i>GES</i> Date/Time: <i>3/4/22 9:30</i>														
Company: <i>Eurofins</i> Date/Time: <i>3/4/22 17:00</i>														
Company: <i>Eurofins</i> Date/Time: <i>3/5/22 10:15</i>														



Chain of Custody Record

Client Information		Sampler: <i>N. Schubert</i>		Lab PM: Bindert, Zach T		Camera Tracking No(s): 310-68363-19638 2			
Client Contact: Jim Simonet		Phone: <i>651-792-6048</i>		E-Mail: Zach.Bindert@Eurofins.com		Page: Page 2 of 2			
Company: Groundwater & Environmental Services Inc		Address: 1301 Corporate Center Drive Suite 190		City: Eagan		State of Origin: MN			
State, Zip: MN, 55121-1562		Phone:		Due Date Requested:		Job #: 350228740/870			
Email: jsimonet@gesonline.com		TAT Requested (days): <i>Standard</i>		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Preservation Codes:			
Project Name: SKB Rosemount - CCR Monitoring		Purchase Order not required		PO #: <i>13013948</i>		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)			
Site: Minnesota		WO #:		Project #:		Other:			
				SSOW#:					
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=tissue, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Analysis Requested	Total Number of Containers	Special Instructions/Note:
D-2S CCR	<i>3/3/22</i>	<i>10:35</i>	<i>G</i>	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	936_Ra226 - Standard Target List 930_Ra228 - Standard Target List 9066A_ORGM_28D - Chloride, Fluoride, Sulfate CCR Metals (Ba,B,Ca,Cr,Co) - 6020B TDS - 2640C, Calcd, pH - SM4600_H+	<i>5</i>	
D-3S CCR	<i>3/3/22</i>	<i>9:25</i>	<i>G</i>	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<i>5</i>	
D-5S2 CCR	<i>3/2/22</i>	<i>14:20</i>	<i>G</i>	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<i>5</i>	
D-4S CCR	<i>3/3/22</i>	<i>11:20</i>	<i>G</i>	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<i>5</i>	
D-8 CCR	<i>3/3/22</i>	<i>13:20</i>	<i>G</i>	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<i>5</i>	
DUP-1 CCR	<i>3/2/22</i>	<i>-</i>	<i>G</i>	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<i>5</i>	
DUP-2 CCR	<i>3/3/22</i>	<i>-</i>	<i>G</i>	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<i>5</i>	
Equipment Blank CCR	<i>3/3/22</i>	<i>14:20</i>	<i>G</i>	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<i>5</i>	
Field Blank 1 CCR	<i>3/2/22</i>	<i>13:30</i>	<i>G</i>	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<i>5</i>	
<p>Possible Hazard Identification</p> <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)									
<p>Empty Kit Relinquished by:</p> Date/Time: _____ Date: _____ Relinquished by: <i>Michelle Rumpf</i> Company: _____ Relinquished by: <i>Dark Rutter</i> Company: <i>Eurofins</i> Relinquished by: _____ Date/Time: <i>3/4/22 17:00</i> Company: _____ Date/Time: <i>3/4/22 9:30</i> Company: <i>Eurofins</i>									
<p>Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Custody Seal No.: _____ Cooler Temperature(s) °C and Other Remarks: _____ Received by: <i>Dark Rutter</i> Date/Time: <i>3/4/22 9:30</i> Company: <i>Eurofins</i> Received by: <i>DR</i> Date/Time: <i>3/4/22 08:15</i> Company: _____ Method of Shipment: _____ Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements: _____ </p>									



Eurofins Cedar Falls
 3019 Venture Way
 Cedar Falls, IA 50613
 Phone (319) 277-2401 Phone (319) 277-2425

Eurofins Minneapolis SC
 213

Chain of Custody Record



Environment Testing
 America

Client Information
 Client Contact: *Jim Simonet*
 Company: *Groundwater & Environmental Services Inc*
 Address: *1301 Corporate Center Drive Suite 180*
 City: *Esagan*
 State, Zip: *MN, 55121-1562*
 Phone: *651-792-6018*
 Email: *jsimonet@gesonline.com*
 Project Name: *SKB Rosemount - CCR Monitoring*
 Site: *Minnesota*

Lab Pk: *Blindert, Zach T*
E-Mail: *Zach.Blindert@Eurofins.com*

Carrier Tracking No(): *310-88383-19636.2*
State of Origin: *MN*

Job #: *3502287/40/870*

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=other)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform NIOSH (Yes or No)	8316 RA228 - Standard Target List	R1228RA228, GPPC - Local Method	9320 RA228 - Standard Target List	9066A_ORGFM_28D - Chloride, Fluoride, Sulfate	CCR Metals (Ba, Bi, Ca, Cr, Co) - 6020B	TDS - 2540C, Coloid, pH - SM4500, H+	Total Number of Containers	Special Instructions/Note:
D-2S CCR	3/3/22	10:35	G	Water		X	X	X	X	X	X	X	X	5	
D-3S CCR	3/3/22	9:25	G	Water		X	X	X	X	X	X	X	X	5	Appendix III Full list
D-5S2 CCR	3/2/22	14:20	G	Water		X	X	X	X	X	X	X	X	5	Appendix III Short list
D-4S CCR	3/5/22	11:25	G	Water		X	X	X	X	X	X	X	X	5	- boronium
D-8 CCR	3/3/22	13:20	G	Water		X	X	X	X	X	X	X	X	5	- Chromium
DUP-1 CCR	3/2/22	-	G	Water		X	X	X	X	X	X	X	X	5	- cobalt
DUP-2 CCR	3/5/22	-	G	Water		X	X	X	X	X	X	X	X	5	- Radium 226/228
Equipment Blank CCR	3/3/22	14:20	G	Water		X	X	X	X	X	X	X	X	5	
Field Blank 1 CCR	3/2/22	13:30	G	Water		X	X	X	X	X	X	X	X	5	

Preservation Codes:
 A - HCl
 B - NaOH
 C - Zn Acetate
 D - Nitric Acid
 E - NaHSO4
 F - MeOH
 G - Amchlor
 H - Ascorbic Acid
 I - Ice
 J - DI Water
 K - EDTA
 L - EDA
 Other:

Special Instructions/Note:
 NS
 3/18/22

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/QC Requirements:

Relinquished by: *Michael Gump* Date: *3/4/22* Time: *9:30* Company: *Eurofins*
Relinquished by: *Derek Rutter* Date: *3/4/22* Time: *17:00* Company: *Eurofins*

Custody Seals Intact: Yes No
 Custody Seal No: _____
 Cooler Temperature(s) °C and Other Remarks:



Chain of Custody Record

Lab P#: 11-264-1002
 Blindert, Zach T
 E-Mail: Zach.Bindert@Eurofins.com
 State of Origin: MN
 Carrier Tracking No(s):
 Lab P#: 657-792-6063
 PWSID:
 Client Information
 Jim Simonet
 Company: Groundwater & Environmental Services Inc
 Address: 1301 Corporate Center Drive Suite 190
 City: Eagan
 State, Zip: MN, 55121-1562
 Phone:
 Email: jsimonet@ggesonline.com
 Project Name: SKB Rosemount - CCR Monitoring
 Site: Minnesota
 Due Date Requested:
 TAT Requested (days): *3*
 Compliance Project: Yes No
 PO #:
 Purchase Order not required
 WO #:
 Project #: 31013948
 SSOW#:
 Sample Identification

Sample	Sample Date	Sample Time	Sample Type (C=Camp, G=Grab)	Matrix (Invertebrate, Benthic, O-macroin, Invertebrate, A=H)	Preservation Code:	Field Filtered Sample (Yes or No)	PatForm MSMSD (Yes or No)	9316 Ra228 - Standard Target List	Ra228Ra228 GPPC - Local Method	9320 Ra228 - Standard Target List	9056A_COPM_280 - Chloride, Fluoride, Sulfate	CCR Metals (Ba,Ca,Cr,Cd)	TDS - 2540C_Calcd, pH - SM4500_H+
D-1D CCR	3/2/22	15:45	6	Water				X	X	X	X	X	X
D-2D CCR	3/3/22	10:40	6	Water				X	X	X	X	X	X
D-3D CCR	3/3/22	9:40	6	Water				X	X	X	X	X	X
D-4D CCR	3/3/22	11:40	6	Water				X	X	X	X	X	X
D-5D CCR	3/2/22	14:25	6	Water				X	X	X	X	X	X
D-9 CCR	3/3/22	14:10	6	Water				X	X	X	X	X	X
U-4D CCR	3/2/22	10:15	6	Water				X	X	X	X	X	X
U-4S CCR	3/2/22	9:50	6	Water				X	X	X	X	X	X
U-5D CCR	3/2/22	13:20	6	Water				X	X	X	X	X	X
U-5S CCR	3/2/22	15:10	6	Water				X	X	X	X	X	X
D-1S CCR	3/2/22	15:40	6	Water				X	X	X	X	X	X

Special Instructions/Note:
 Appendix III full list
 Appendix III short list - boron
 - Chromium
 - Cobalt
 - Radium 226/228

Preservation Codes:
 A- HCL
 B- NaOH
 C- Zn Acetate
 D- Nitric Acid
 E- NaHSO4
 F- MeOH
 G- Amchlor
 H- Ascorbic Acid
 I- Ice
 J- DI Water
 K- EDTA
 L- EDA
 Other:

Analysis Requested
 Total Number of containers: 5
 Special Instructions/Note:
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months
 Special Instructions/QC Requirements:

Empty Kit Relinquished by:
 Relinquished by: *Mark Butler*
 Date/Time: 3/4/22 9:30
 Company: BES
 Relinquished by: *Mark Butler*
 Date/Time: 3/4/22 17:00
 Company: Euro Fns
 Relinquished by:
 Date/Time:
 Company:
 Custody Seals Intact: Yes No
 Custody Seal No.:



Login Sample Receipt Checklist

Client: Waste Connections, Inc.

Job Number: 310-226447-1

Login Number: 226447

List Number: 1

Creator: Kizer, Preston V

List Source: Eurofins Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.		
The cooler's custody seal, if present, is intact.		
Sample custody seals, if present, are 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 containers received 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		
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").		
Multiphasic samples are not present.		
Samples do not require splitting or compositing.		
Residual Chlorine Checked.		

Tracer/Carrier Summary

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

Job ID: 310-226447-1

Method: 9315 - Radium-226 (GFPC)

Matrix: Ground Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits)	
		Ba (40-110)	
310-226447-1	D-1D - CCR	97.5	
310-226447-2	D-2D - CCR	61.6	
310-226447-3	D-3D - CCR	98.5	
310-226447-4	D-4D - CCR	99.8	
310-226447-5	D-5D - CCR	98.8	
310-226447-6	D-9 - CCR	101	
310-226447-7	U-4D - CCR	92.9	
310-226447-8	U-4S - CCR	99.0	
310-226447-9	U-5D - CCR	99.8	
310-226447-10	U-5S - CCR	101	
310-226447-11	D-1S - CCR	101	
310-226447-12	D-2S - CCR	96.3	
310-226447-13	D-3S - CCR	84.5	
310-226447-14	D-5S2 - CCR	75.4	
310-226447-15	D-4S - CCR	96.3	
310-226447-16	D-8 - CCR	91.9	
310-226447-17	DUP-1 - CCR	96.3	
310-226447-18	DUP-2 - CCR	96.6	

Tracer/Carrier Legend
 Ba = Barium

Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits)	
		Ba (40-110)	
310-226447-19	Equipment Blank - CCR	95.6	
310-226447-20	Field Blank 1 - CCR	95.3	
LCS 160-554322/1-A	Lab Control Sample	97.5	
LCSD 160-554322/2-A	Lab Control Sample Dup	98.0	
MB 160-554322/23-A	Method Blank	100	

Tracer/Carrier Legend
 Ba = Barium

Method: 9320 - Radium-228 (GFPC)

Matrix: Ground Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits)	
		Ba (40-110)	Y (40-110)
310-226447-1	D-1D - CCR	97.5	85.6
310-226447-2	D-2D - CCR	61.6	86.7
310-226447-3	D-3D - CCR	98.5	84.9
310-226447-4	D-4D - CCR	99.8	83.4
310-226447-5	D-5D - CCR	98.8	83.7
310-226447-6	D-9 - CCR	101	85.2
310-226447-7	U-4D - CCR	92.9	84.1
310-226447-8	U-4S - CCR	99.0	84.1

Eurofins Cedar Falls

Tracer/Carrier Summary

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

Job ID: 310-226447-1

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

Matrix: Ground Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
310-226447-9	U-5D - CCR	99.8	83.7
310-226447-10	U-5S - CCR	101	85.2
310-226447-11	D-1S - CCR	101	84.9
310-226447-12	D-2S - CCR	96.3	82.6
310-226447-13	D-3S - CCR	84.5	83.4
310-226447-14	D-5S2 - CCR	75.4	86.4
310-226447-15	D-4S - CCR	96.3	86.4
310-226447-16	D-8 - CCR	91.9	88.2
310-226447-17	DUP-1 - CCR	96.3	89.0
310-226447-18	DUP-2 - CCR	96.6	88.6

Tracer/Carrier Legend

Ba = Barium
Y = Y Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
310-226447-19	Equipment Blank - CCR	95.6	88.6
310-226447-20	Field Blank 1 - CCR	95.3	89.0
LCS 160-554325/1-A	Lab Control Sample	97.5	84.1
LCSD 160-554325/2-A	Lab Control Sample Dup	98.0	84.9
MB 160-554325/23-A	Method Blank	100	89.0

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 Rosemount - CCR Monitoring (FALL)
CCR Groundwater (FALL)

JOB NUMBER

310-242959-1

Eurofins Cedar Falls

Job Notes

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of Eurofins Environment Testing North Central, LLC and its client. All questions regarding this report should be directed to the Eurofins Environment Testing North Central, LLC Project Manager who has signed this report.

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Authorization



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Authorized for release by
Zach Bindert, Project Manager I
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Case Narrative

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Job ID: 310-242959-1

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative 310-242959-1

Comments

No additional comments.

Receipt

The samples were received on 10/21/2022 2:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 8 coolers at receipt time were -1.1° C, -0.8° C, -0.6° C, -0.5° C, -0.3° C, -0.1° C, 0.0° C and 2.1° C

HPLC/IC

Method 9056A: The following samples were diluted due to the nature of the sample matrix: D-4D CCR (310-242959-4), D-5D CCR (310-242959-5), D-9 CCR (310-242959-6), U-4D CCR (310-242959-7), U-4S CCR (310-242959-8), U-5D CCR (310-242959-9), U-5S CCR (310-242959-10), D-1S CCR (310-242959-11), D-2S CCR (310-242959-12), D-3S CCR (310-242959-13), D-5S2 CCR (310-242959-14), D-4S CCR (310-242959-15), D-8 CCR (310-242959-16), DUP-1 CCR (310-242959-17) and DUP-2 CCR (310-242959-18). 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 analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

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

Job ID: 310-242959-2

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative 310-242959-2

Comments

No additional comments.

Receipt

The samples were received on 10/21/2022 2:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 8 coolers at receipt time were -1.1° C, -0.8° C, -0.6° C, -0.5° C, -0.3° C, -0.1° C, 0.0° C and 2.1° C.

Receipt Exceptions

The reference method requires samples to be preserved to a pH of <2. The following samples were received with insufficient preservation at a pH of >2: WGGM-2022-GW-03530-L0027 (160-47631-1), PHASE H-LEACHATE-S-20221020-01 (240-175113-1), P3-LEACHATE-S-20221020-01 (240-175113-2), P3-24-GW1-S-20221020-01 (240-175113-3), P3-6-GW1-S-20221020-01 (240-175113-4), P5-10-GW1-S-20221020-01 (240-175113-5), P3-DISCHARGE-S-20221020-01 (240-175113-6), DUP-001-P3-DISCHARGE-S-20221020-01 (240-175113-7), I1-10-GW1-S-20221020-01 (240-175113-8), I2-10-GW1-S-20221020-01 (240-175113-9), P6-DISCHARGE-S-20221020-01 (240-175113-10), P2-STACKERPADRUNOFF-S-20221020-01 (240-175113-11), D-1D CCR (310-242959-1), D-2D CCR (310-242959-2), D-3D CCR (310-242959-3), D-4D CCR (310-242959-4), D-5D CCR (310-242959-5), D-9 CCR (310-242959-6), D-9 CCR (310-242959-6[MS]), D-9 CCR (310-242959-6[MSD]), U-4D CCR (310-242959-7), U-4S CCR (310-242959-8), U-5D CCR (310-242959-9), U-5S CCR (310-242959-10), D-1S CCR (310-242959-11), D-2S CCR (310-242959-12), D-3S CCR (310-242959-13), D-5S2 CCR (310-242959-14), D-4S CCR (310-242959-15), D-8 CCR (310-242959-16), DUP-1 CCR (310-242959-17), DUP-2 CCR (310-242959-18), Equipment Blank CCR (310-242959-19) and Field Blank 1 CCR (310-242959-20). The samples were preserved to the appropriate pH in the laboratory.

Case Narrative

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Job ID: 310-242959-2 (Continued)

Laboratory: Eurofins Cedar Falls (Continued)

RAD

Method 9315: Radium-226 batch 587618

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date

D-1D CCR (310-242959-1), D-2D CCR (310-242959-2), D-3D CCR (310-242959-3), D-4D CCR (310-242959-4), D-5D CCR (310-242959-5), D-9 CCR (310-242959-6), D-9 CCR (310-242959-6[MS]), D-9 CCR (310-242959-6[MSD]), U-4D CCR (310-242959-7), U-4S CCR (310-242959-8), U-5D CCR (310-242959-9), U-5S CCR (310-242959-10), D-1S CCR (310-242959-11), D-2S CCR (310-242959-12), D-3S CCR (310-242959-13), D-5S2 CCR (310-242959-14), D-4S CCR (310-242959-15), D-8 CCR (310-242959-16), DUP-1 CCR (310-242959-17), DUP-2 CCR (310-242959-18), Equipment Blank CCR (310-242959-19), Field Blank 1 CCR (310-242959-20), (LCS 160-587618/2-A) and (MB 160-587618/1-A)

Method 9320: Ra228 587621

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date

D-1D CCR (310-242959-1), D-2D CCR (310-242959-2), D-3D CCR (310-242959-3), D-4D CCR (310-242959-4), D-5D CCR (310-242959-5), D-9 CCR (310-242959-6), D-9 CCR (310-242959-6[MS]), D-9 CCR (310-242959-6[MSD]), U-4D CCR (310-242959-7), U-4S CCR (310-242959-8), U-5D CCR (310-242959-9), U-5S CCR (310-242959-10), D-1S CCR (310-242959-11), D-2S CCR (310-242959-12), D-3S CCR (310-242959-13), D-5S2 CCR (310-242959-14), D-4S CCR (310-242959-15), D-8 CCR (310-242959-16), DUP-1 CCR (310-242959-17), DUP-2 CCR (310-242959-18), Equipment Blank CCR (310-242959-19), Field Blank 1 CCR (310-242959-20), (LCS 160-587621/2-A) and (MB 160-587621/1-A)

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

Sample Summary

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-242959-1	D-1D CCR	Ground Water	10/20/22 08:50	10/21/22 14:50
310-242959-2	D-2D CCR	Ground Water	10/20/22 10:15	10/21/22 14:50
310-242959-3	D-3D CCR	Ground Water	10/19/22 15:55	10/21/22 14:50
310-242959-4	D-4D CCR	Ground Water	10/20/22 11:40	10/21/22 14:50
310-242959-5	D-5D CCR	Ground Water	10/19/22 14:40	10/21/22 14:50
310-242959-6	D-9 CCR	Ground Water	10/20/22 13:10	10/21/22 14:50
310-242959-7	U-4D CCR	Ground Water	10/19/22 10:35	10/21/22 14:50
310-242959-8	U-4S CCR	Ground Water	10/19/22 10:45	10/21/22 14:50
310-242959-9	U-5D CCR	Ground Water	10/19/22 12:55	10/21/22 14:50
310-242959-10	U-5S CCR	Ground Water	10/19/22 12:30	10/21/22 14:50
310-242959-11	D-1S CCR	Ground Water	10/20/22 08:35	10/21/22 14:50
310-242959-12	D-2S CCR	Ground Water	10/20/22 10:10	10/21/22 14:50
310-242959-13	D-3S CCR	Ground Water	10/19/22 15:50	10/21/22 14:50
310-242959-14	D-5S2 CCR	Ground Water	10/19/22 14:25	10/21/22 14:50
310-242959-15	D-4S CCR	Ground Water	10/20/22 11:25	10/21/22 14:50
310-242959-16	D-8 CCR	Ground Water	10/20/22 12:22	10/21/22 14:50
310-242959-17	DUP-1 CCR	Ground Water	10/19/22 00:00	10/21/22 14:50
310-242959-18	DUP-2 CCR	Ground Water	10/20/22 00:00	10/21/22 14:50
310-242959-19	Equipment Blank CCR	Water	10/20/22 14:15	10/21/22 14:50
310-242959-20	Field Blank 1 CCR	Water	10/19/22 13:30	10/21/22 14:50



Detection Summary

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-1D CCR

Lab Sample ID: 310-242959-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	27		5.0		mg/L	5		9056A	Total/NA
Sulfate	22		5.0		mg/L	5		9056A	Total/NA
Barium	0.043		0.0020		mg/L	1		6020B	Total/NA
Calcium	83.3		0.50		mg/L	1		6020B	Total/NA
Lead	0.00060		0.00050		mg/L	1		6020B	Total/NA
Thallium	0.0013		0.0010		mg/L	1		6020B	Total/NA
Total Dissolved Solids	408		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.7	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-2D CCR

Lab Sample ID: 310-242959-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	27		5.0		mg/L	5		9056A	Total/NA
Sulfate	21		5.0		mg/L	5		9056A	Total/NA
Barium	0.048		0.0020		mg/L	1		6020B	Total/NA
Calcium	87.3		0.50		mg/L	1		6020B	Total/NA
Total Dissolved Solids	470		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.5	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-3D CCR

Lab Sample ID: 310-242959-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	59		5.0		mg/L	5		9056A	Total/NA
Sulfate	23		5.0		mg/L	5		9056A	Total/NA
Barium	0.052		0.0020		mg/L	1		6020B	Total/NA
Calcium	90.0		0.50		mg/L	1		6020B	Total/NA
Chromium	0.076		0.0050		mg/L	1		6020B	Total/NA
Total Dissolved Solids	442		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.4	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-4D CCR

Lab Sample ID: 310-242959-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	44		5.0		mg/L	5		9056A	Total/NA
Sulfate	21		5.0		mg/L	5		9056A	Total/NA
Barium	0.067		0.0020		mg/L	1		6020B	Total/NA
Calcium	99.0		0.50		mg/L	1		6020B	Total/NA
Chromium	0.0075		0.0050		mg/L	1		6020B	Total/NA
Total Dissolved Solids	480		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.5	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-5D CCR

Lab Sample ID: 310-242959-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	65		5.0		mg/L	5		9056A	Total/NA
Sulfate	29		5.0		mg/L	5		9056A	Total/NA
Barium	0.056		0.0020		mg/L	1		6020B	Total/NA
Calcium	103		0.50		mg/L	1		6020B	Total/NA
Total Dissolved Solids	478		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.5	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-9 CCR

Lab Sample ID: 310-242959-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	36		5.0		mg/L	5		9056A	Total/NA
Sulfate	12		5.0		mg/L	5		9056A	Total/NA
Barium	0.069		0.0020		mg/L	1		6020B	Total/NA
Calcium	100		0.50		mg/L	1		6020B	Total/NA
Total Dissolved Solids	464		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.3	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: U-4D CCR

Lab Sample ID: 310-242959-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	28		5.0		mg/L	5		9056A	Total/NA
Sulfate	22		5.0		mg/L	5		9056A	Total/NA
Barium	0.040		0.0020		mg/L	1		6020B	Total/NA
Calcium	87.8		0.50		mg/L	1		6020B	Total/NA
Lead	0.00050		0.00050		mg/L	1		6020B	Total/NA
Thallium	0.0018		0.0010		mg/L	1		6020B	Total/NA
Total Dissolved Solids	404		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.6	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: U-4S CCR

Lab Sample ID: 310-242959-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	38		5.0		mg/L	5		9056A	Total/NA
Sulfate	20		5.0		mg/L	5		9056A	Total/NA
Barium	0.040		0.0020		mg/L	1		6020B	Total/NA
Calcium	95.0		0.50		mg/L	1		6020B	Total/NA
Total Dissolved Solids	434		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.3	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: U-5D CCR

Lab Sample ID: 310-242959-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	23		5.0		mg/L	5		9056A	Total/NA
Sulfate	25		5.0		mg/L	5		9056A	Total/NA
Barium	0.054		0.0020		mg/L	1		6020B	Total/NA
Calcium	87.1		0.50		mg/L	1		6020B	Total/NA
Total Dissolved Solids	384		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.5	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: U-5S CCR

Lab Sample ID: 310-242959-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	36		5.0		mg/L	5		9056A	Total/NA
Sulfate	21		5.0		mg/L	5		9056A	Total/NA
Barium	0.061		0.0020		mg/L	1		6020B	Total/NA
Calcium	86.2		0.50		mg/L	1		6020B	Total/NA
Total Dissolved Solids	436		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.3	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-1S CCR

Lab Sample ID: 310-242959-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	41		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 Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-1S CCR (Continued)

Lab Sample ID: 310-242959-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	13		5.0		mg/L	5		9056A	Total/NA
Barium	0.046		0.0020		mg/L	1		6020B	Total/NA
Calcium	89.5		0.50		mg/L	1		6020B	Total/NA
Total Dissolved Solids	438		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.3	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-2S CCR

Lab Sample ID: 310-242959-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	43		5.0		mg/L	5		9056A	Total/NA
Sulfate	16		5.0		mg/L	5		9056A	Total/NA
Barium	0.048		0.0020		mg/L	1		6020B	Total/NA
Calcium	101		0.50		mg/L	1		6020B	Total/NA
Total Dissolved Solids	446		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.3	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-3S CCR

Lab Sample ID: 310-242959-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	49		5.0		mg/L	5		9056A	Total/NA
Sulfate	18		5.0		mg/L	5		9056A	Total/NA
Barium	0.039		0.0020		mg/L	1		6020B	Total/NA
Boron	0.13		0.10		mg/L	1		6020B	Total/NA
Calcium	75.4		0.50		mg/L	1		6020B	Total/NA
Chromium	0.0068		0.0050		mg/L	1		6020B	Total/NA
Total Dissolved Solids	354		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.6	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-5S2 CCR

Lab Sample ID: 310-242959-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	76		5.0		mg/L	5		9056A	Total/NA
Sulfate	40		5.0		mg/L	5		9056A	Total/NA
Barium	0.057		0.0020		mg/L	1		6020B	Total/NA
Boron	0.10		0.10		mg/L	1		6020B	Total/NA
Calcium	101		0.50		mg/L	1		6020B	Total/NA
Total Dissolved Solids	466		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.5	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-4S CCR

Lab Sample ID: 310-242959-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	42		5.0		mg/L	5		9056A	Total/NA
Sulfate	21		5.0		mg/L	5		9056A	Total/NA
Barium	0.076		0.0020		mg/L	1		6020B	Total/NA
Calcium	105		0.50		mg/L	1		6020B	Total/NA
Total Dissolved Solids	512		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.4	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-8 CCR

Lab Sample ID: 310-242959-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	31		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 Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-8 CCR (Continued)

Lab Sample ID: 310-242959-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	26		5.0		mg/L	5		9056A	Total/NA
Barium	0.082		0.0020		mg/L	1		6020B	Total/NA
Calcium	117		0.50		mg/L	1		6020B	Total/NA
Cobalt	0.00059		0.00050		mg/L	1		6020B	Total/NA
Total Dissolved Solids	512		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.4	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: DUP-1 CCR

Lab Sample ID: 310-242959-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	34		5.0		mg/L	5		9056A	Total/NA
Sulfate	20		5.0		mg/L	5		9056A	Total/NA
Barium	0.064		0.0020		mg/L	1		6020B	Total/NA
Calcium	93.3		0.50		mg/L	1		6020B	Total/NA
Total Dissolved Solids	434		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.3	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: DUP-2 CCR

Lab Sample ID: 310-242959-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	35		5.0		mg/L	5		9056A	Total/NA
Sulfate	12		5.0		mg/L	5		9056A	Total/NA
Barium	0.074		0.0020		mg/L	1		6020B	Total/NA
Calcium	108		0.50		mg/L	1		6020B	Total/NA
Total Dissolved Solids	360		50.0		mg/L	1		SM 2540C	Total/NA
pH	7.3	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: Equipment Blank CCR

Lab Sample ID: 310-242959-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	2.4		0.50		mg/L	1		6020B	Total/NA
pH	7.0	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: Field Blank 1 CCR

Lab Sample ID: 310-242959-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	5.0	HF	0.1		SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-1D CCR

Lab Sample ID: 310-242959-1

Date Collected: 10/20/22 08:50

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	27		5.0		mg/L			11/03/22 23:30	5
Fluoride	<0.50		0.50		mg/L			11/03/22 23:30	5
Sulfate	22		5.0		mg/L			11/03/22 23:30	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		10/25/22 09:00	11/01/22 22:03	1
Arsenic	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 22:03	1
Barium	0.043		0.0020		mg/L		10/25/22 09:00	11/01/22 22:03	1
Beryllium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 22:03	1
Boron	<0.10		0.10		mg/L		10/25/22 09:00	11/01/22 22:03	1
Cadmium	<0.00010		0.00010		mg/L		10/25/22 09:00	11/02/22 16:07	1
Calcium	83.3		0.50		mg/L		10/25/22 09:00	11/01/22 22:03	1
Chromium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 22:03	1
Cobalt	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 22:03	1
Lead	0.00060		0.00050		mg/L		10/25/22 09:00	11/01/22 22:03	1
Lithium	<0.010		0.010		mg/L		10/25/22 09:00	11/01/22 22:03	1
Molybdenum	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 22:03	1
Selenium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 22:03	1
Thallium	0.0013		0.0010		mg/L		10/25/22 09:00	11/01/22 22:03	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/24/22 13:03	10/25/22 15:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	408		50.0		mg/L			10/24/22 17:44	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.7	HF	0.1		SU			10/22/22 10:52	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.107		0.0756	0.0762	1.00	0.103	pCi/L	10/28/22 08:21	11/22/22 18:02	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	97.8		40 - 110					10/28/22 08:21	11/22/22 18:02	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.480	U	0.321	0.324	1.00	0.480	pCi/L	10/28/22 08:39	11/16/22 11:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	97.8		40 - 110					10/28/22 08:39	11/16/22 11:54	1
Y Carrier	83.4		40 - 110					10/28/22 08:39	11/16/22 11:54	1

Eurofins Cedar Falls

Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-1D CCR

Lab Sample ID: 310-242959-1

Date Collected: 10/20/22 08:50

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.567		0.330	0.333	5.00	0.480	pCi/L		11/23/22 11:55	1

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Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-2D CCR

Lab Sample ID: 310-242959-2

Date Collected: 10/20/22 10:15

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	27		5.0		mg/L			11/04/22 00:15	5
Fluoride	<0.50		0.50		mg/L			11/04/22 00:15	5
Sulfate	21		5.0		mg/L			11/04/22 00:15	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		10/25/22 09:00	11/01/22 22:06	1
Arsenic	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 22:06	1
Barium	0.048		0.0020		mg/L		10/25/22 09:00	11/01/22 22:06	1
Beryllium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 22:06	1
Boron	<0.10		0.10		mg/L		10/25/22 09:00	11/01/22 22:06	1
Cadmium	<0.00010		0.00010		mg/L		10/25/22 09:00	11/02/22 16:10	1
Calcium	87.3		0.50		mg/L		10/25/22 09:00	11/01/22 22:06	1
Chromium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 22:06	1
Cobalt	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 22:06	1
Lead	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 22:06	1
Lithium	<0.010		0.010		mg/L		10/25/22 09:00	11/01/22 22:06	1
Molybdenum	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 22:06	1
Selenium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 22:06	1
Thallium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 22:06	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/24/22 13:03	10/25/22 15:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	470		50.0		mg/L			10/24/22 17:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.5	HF	0.1		SU			10/22/22 10:53	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.107	U	0.0726	0.0730	1.00	0.107	pCi/L	10/28/22 08:21	11/22/22 18:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	98.0		40 - 110					10/28/22 08:21	11/22/22 18:03	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.611		0.388	0.392	1.00	0.580	pCi/L	10/28/22 08:39	11/16/22 11:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	98.0		40 - 110					10/28/22 08:39	11/16/22 11:55	1
Y Carrier	84.1		40 - 110					10/28/22 08:39	11/16/22 11:55	1

Eurofins Cedar Falls

Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-2D CCR

Lab Sample ID: 310-242959-2

Date Collected: 10/20/22 10:15

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.696		0.395	0.399	5.00	0.580	pCi/L		11/23/22 11:55	1

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Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-3D CCR

Lab Sample ID: 310-242959-3

Date Collected: 10/19/22 15:55

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	59		5.0		mg/L			11/04/22 00:30	5
Fluoride	<0.50		0.50		mg/L			11/04/22 00:30	5
Sulfate	23		5.0		mg/L			11/04/22 00:30	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		10/25/22 09:00	11/01/22 22:09	1
Arsenic	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 22:09	1
Barium	0.052		0.0020		mg/L		10/25/22 09:00	11/01/22 22:09	1
Beryllium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 22:09	1
Boron	<0.10		0.10		mg/L		10/25/22 09:00	11/01/22 22:09	1
Cadmium	<0.00010		0.00010		mg/L		10/25/22 09:00	11/02/22 16:14	1
Calcium	90.0		0.50		mg/L		10/25/22 09:00	11/01/22 22:09	1
Chromium	0.076		0.0050		mg/L		10/25/22 09:00	11/01/22 22:09	1
Cobalt	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 22:09	1
Lead	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 22:09	1
Lithium	<0.010		0.010		mg/L		10/25/22 09:00	11/01/22 22:09	1
Molybdenum	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 22:09	1
Selenium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 22:09	1
Thallium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 22:09	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/24/22 13:03	10/25/22 15:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	442		50.0		mg/L			10/24/22 17:04	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.4	HF	0.1		SU			10/22/22 10:54	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.140	U	0.0667	0.0667	1.00	0.140	pCi/L	10/28/22 08:21	11/22/22 18:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	83.3		40 - 110					10/28/22 08:21	11/22/22 18:03	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.909		0.498	0.505	1.00	0.732	pCi/L	10/28/22 08:39	11/16/22 11:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	83.3		40 - 110					10/28/22 08:39	11/16/22 11:55	1
Y Carrier	84.5		40 - 110					10/28/22 08:39	11/16/22 11:55	1

Eurofins Cedar Falls

Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-3D CCR

Lab Sample ID: 310-242959-3

Date Collected: 10/19/22 15:55

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.902		0.502	0.509	5.00	0.732	pCi/L		11/23/22 11:55	1

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Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-4D CCR

Lab Sample ID: 310-242959-4

Date Collected: 10/20/22 11:40

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	44		5.0		mg/L			11/02/22 20:45	5
Fluoride	<0.50		0.50		mg/L			11/02/22 20:45	5
Sulfate	21		5.0		mg/L			11/02/22 20:45	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		10/25/22 09:00	11/01/22 22:12	1
Arsenic	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 22:12	1
Barium	0.067		0.0020		mg/L		10/25/22 09:00	11/01/22 22:12	1
Beryllium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 22:12	1
Boron	<0.10		0.10		mg/L		10/25/22 09:00	11/01/22 22:12	1
Cadmium	<0.00010		0.00010		mg/L		10/25/22 09:00	11/02/22 16:17	1
Calcium	99.0		0.50		mg/L		10/25/22 09:00	11/01/22 22:12	1
Chromium	0.0075		0.0050		mg/L		10/25/22 09:00	11/01/22 22:12	1
Cobalt	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 22:12	1
Lead	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 22:12	1
Lithium	<0.010		0.010		mg/L		10/25/22 09:00	11/01/22 22:12	1
Molybdenum	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 22:12	1
Selenium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 22:12	1
Thallium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 22:12	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/24/22 13:03	10/25/22 15:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	480		50.0		mg/L			10/24/22 17:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.5	HF	0.1		SU			10/22/22 10:55	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-226	<0.107	U	0.0639	0.0640	1.00	0.107	pCi/L	10/28/22 08:21	11/22/22 18:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	92.2		40 - 110					10/28/22 08:21	11/22/22 18:03	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-228	<0.489	U	0.312	0.314	1.00	0.489	pCi/L	10/28/22 08:39	11/16/22 11:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	92.2		40 - 110					10/28/22 08:39	11/16/22 11:56	1
Y Carrier	83.4		40 - 110					10/28/22 08:39	11/16/22 11:56	1

Eurofins Cedar Falls

Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-4D CCR

Lab Sample ID: 310-242959-4

Date Collected: 10/20/22 11:40

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.489	U	0.318	0.320	5.00	0.489	pCi/L		11/23/22 11:55	1

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Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-5D CCR

Lab Sample ID: 310-242959-5

Date Collected: 10/19/22 14:40

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	65		5.0		mg/L			11/02/22 20:59	5
Fluoride	<0.50		0.50		mg/L			11/02/22 20:59	5
Sulfate	29		5.0		mg/L			11/02/22 20:59	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		10/25/22 09:00	11/01/22 22:15	1
Arsenic	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 22:15	1
Barium	0.056		0.0020		mg/L		10/25/22 09:00	11/01/22 22:15	1
Beryllium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 22:15	1
Boron	<0.10		0.10		mg/L		10/25/22 09:00	11/01/22 22:15	1
Cadmium	<0.00010		0.00010		mg/L		10/25/22 09:00	11/02/22 16:21	1
Calcium	103		0.50		mg/L		10/25/22 09:00	11/01/22 22:15	1
Chromium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 22:15	1
Cobalt	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 22:15	1
Lead	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 22:15	1
Lithium	<0.010		0.010		mg/L		10/25/22 09:00	11/01/22 22:15	1
Molybdenum	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 22:15	1
Selenium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 22:15	1
Thallium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 22:15	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/24/22 13:03	10/25/22 15:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	478		50.0		mg/L			10/24/22 17:04	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.5	HF	0.1		SU			10/22/22 10:56	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-226	<0.129	U	0.0722	0.0722	1.00	0.129	pCi/L	10/28/22 08:21	11/22/22 17:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	95.3		40 - 110					10/28/22 08:21	11/22/22 17:58	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-228	<0.555	U	0.351	0.352	1.00	0.555	pCi/L	10/28/22 08:39	11/16/22 11:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	95.3		40 - 110					10/28/22 08:39	11/16/22 11:56	1
Y Carrier	80.4		40 - 110					10/28/22 08:39	11/16/22 11:56	1

Eurofins Cedar Falls

Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-5D CCR

Lab Sample ID: 310-242959-5

Date Collected: 10/19/22 14:40

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.555	U	0.358	0.359	5.00	0.555	pCi/L		11/23/22 11:55	1

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Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-9 CCR

Lab Sample ID: 310-242959-6

Date Collected: 10/20/22 13:10

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	36		5.0		mg/L			11/02/22 21:13	5
Fluoride	<0.50		0.50		mg/L			11/02/22 21:13	5
Sulfate	12		5.0		mg/L			11/02/22 21:13	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		10/25/22 09:00	11/01/22 22:40	1
Arsenic	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 22:40	1
Barium	0.069		0.0020		mg/L		10/25/22 09:00	11/01/22 22:40	1
Beryllium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 22:40	1
Boron	<0.10		0.10		mg/L		10/25/22 09:00	11/01/22 22:40	1
Cadmium	<0.00010		0.00010		mg/L		10/25/22 09:00	11/02/22 16:25	1
Calcium	100		0.50		mg/L		10/25/22 09:00	11/01/22 22:40	1
Chromium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 22:40	1
Cobalt	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 22:40	1
Lead	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 22:40	1
Lithium	<0.010		0.010		mg/L		10/25/22 09:00	11/01/22 22:40	1
Molybdenum	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 22:40	1
Selenium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 22:40	1
Thallium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 22:40	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/24/22 13:03	10/25/22 16:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	464		50.0		mg/L			10/24/22 17:44	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.3	HF	0.1		SU			10/22/22 10:50	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.123	U	0.0654	0.0654	1.00	0.123	pCi/L	10/28/22 08:21	11/22/22 17:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	93.4		40 - 110					10/28/22 08:21	11/22/22 17:58	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.389	U	0.213	0.213	1.00	0.389	pCi/L	10/28/22 08:39	11/16/22 11:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	93.4		40 - 110					10/28/22 08:39	11/16/22 11:57	1
Y Carrier	82.2		40 - 110					10/28/22 08:39	11/16/22 11:57	1

Eurofins Cedar Falls

Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-9 CCR

Lab Sample ID: 310-242959-6

Date Collected: 10/20/22 13:10

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Combined Radium 226 + 228	<0.389	U	0.223	0.223	5.00	0.389	pCi/L		11/23/22 11:55	1

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Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: U-4D CCR

Lab Sample ID: 310-242959-7

Date Collected: 10/19/22 10:35

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	28		5.0		mg/L			11/02/22 21:57	5
Fluoride	<0.50		0.50		mg/L			11/02/22 21:57	5
Sulfate	22		5.0		mg/L			11/02/22 21:57	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		10/25/22 09:00	11/01/22 22:56	1
Arsenic	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 22:56	1
Barium	0.040		0.0020		mg/L		10/25/22 09:00	11/01/22 22:56	1
Beryllium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 22:56	1
Boron	<0.10		0.10		mg/L		10/25/22 09:00	11/01/22 22:56	1
Cadmium	<0.00010		0.00010		mg/L		10/25/22 09:00	11/02/22 17:35	1
Calcium	87.8		0.50		mg/L		10/25/22 09:00	11/01/22 22:56	1
Chromium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 22:56	1
Cobalt	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 22:56	1
Lead	0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 22:56	1
Lithium	<0.010		0.010		mg/L		10/25/22 09:00	11/01/22 22:56	1
Molybdenum	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 22:56	1
Selenium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 22:56	1
Thallium	0.0018		0.0010		mg/L		10/25/22 09:00	11/01/22 22:56	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/24/22 13:03	10/25/22 16:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	404		50.0		mg/L			10/24/22 17:04	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.6	HF	0.1		SU			10/22/22 10:57	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.144	U	0.0878	0.0881	1.00	0.144	pCi/L	10/28/22 08:21	11/22/22 17:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	91.7		40 - 110					10/28/22 08:21	11/22/22 17:58	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.565	U	0.328	0.328	1.00	0.565	pCi/L	10/28/22 08:39	11/16/22 11:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	91.7		40 - 110					10/28/22 08:39	11/16/22 11:57	1
Y Carrier	81.9		40 - 110					10/28/22 08:39	11/16/22 11:57	1

Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: U-4D CCR

Lab Sample ID: 310-242959-7

Date Collected: 10/19/22 10:35

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Combined Radium 226 + 228	<0.565	U	0.340	0.340	5.00	0.565	pCi/L		11/23/22 11:55	1

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Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: U-4S CCR

Lab Sample ID: 310-242959-8

Date Collected: 10/19/22 10:45

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	38		5.0		mg/L			11/02/22 22:12	5
Fluoride	<0.50		0.50		mg/L			11/02/22 22:12	5
Sulfate	20		5.0		mg/L			11/02/22 22:12	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		10/25/22 09:00	11/01/22 22:59	1
Arsenic	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 22:59	1
Barium	0.040		0.0020		mg/L		10/25/22 09:00	11/01/22 22:59	1
Beryllium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 22:59	1
Boron	<0.10		0.10		mg/L		10/25/22 09:00	11/01/22 22:59	1
Cadmium	<0.00010		0.00010		mg/L		10/25/22 09:00	11/02/22 17:38	1
Calcium	95.0		0.50		mg/L		10/25/22 09:00	11/01/22 22:59	1
Chromium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 22:59	1
Cobalt	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 22:59	1
Lead	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 22:59	1
Lithium	<0.010		0.010		mg/L		10/25/22 09:00	11/01/22 22:59	1
Molybdenum	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 22:59	1
Selenium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 22:59	1
Thallium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 22:59	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/24/22 13:03	10/25/22 16:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	434		50.0		mg/L			10/24/22 17:04	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.3	HF	0.1		SU			10/22/22 10:58	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-226	<0.144	U	0.0962	0.0968	1.00	0.144	pCi/L	10/28/22 08:21	11/22/22 17:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	95.3		40 - 110					10/28/22 08:21	11/22/22 17:59	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-228	0.636		0.383	0.388	1.00	0.566	pCi/L	10/28/22 08:39	11/16/22 11:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	95.3		40 - 110					10/28/22 08:39	11/16/22 11:57	1
Y Carrier	83.4		40 - 110					10/28/22 08:39	11/16/22 11:57	1

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Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: U-4S CCR

Lab Sample ID: 310-242959-8

Date Collected: 10/19/22 10:45

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.758		0.395	0.400	5.00	0.566	pCi/L		11/23/22 11:55	1

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Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: U-5D CCR

Lab Sample ID: 310-242959-9

Date Collected: 10/19/22 12:55

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23		5.0		mg/L			11/02/22 22:27	5
Fluoride	<0.50		0.50		mg/L			11/02/22 22:27	5
Sulfate	25		5.0		mg/L			11/02/22 22:27	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		10/25/22 09:00	11/01/22 23:02	1
Arsenic	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 23:02	1
Barium	0.054		0.0020		mg/L		10/25/22 09:00	11/01/22 23:02	1
Beryllium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 23:02	1
Boron	<0.10		0.10		mg/L		10/25/22 09:00	11/01/22 23:02	1
Cadmium	<0.00010		0.00010		mg/L		10/25/22 09:00	11/02/22 17:42	1
Calcium	87.1		0.50		mg/L		10/25/22 09:00	11/01/22 23:02	1
Chromium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 23:02	1
Cobalt	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 23:02	1
Lead	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 23:02	1
Lithium	<0.010		0.010		mg/L		10/25/22 09:00	11/01/22 23:02	1
Molybdenum	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 23:02	1
Selenium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 23:02	1
Thallium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 23:02	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/24/22 13:03	10/25/22 16:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	384		50.0		mg/L			10/24/22 17:04	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.5	HF	0.1		SU			10/22/22 10:59	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.111	U	0.0655	0.0656	1.00	0.111	pCi/L	10/28/22 08:21	11/22/22 17:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	90.9		40 - 110					10/28/22 08:21	11/22/22 17:59	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.590	U	0.362	0.364	1.00	0.590	pCi/L	10/28/22 08:39	11/16/22 11:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	90.9		40 - 110					10/28/22 08:39	11/16/22 11:57	1
Y Carrier	81.5		40 - 110					10/28/22 08:39	11/16/22 11:57	1

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Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: U-5D CCR

Lab Sample ID: 310-242959-9

Date Collected: 10/19/22 12:55

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.590	U	0.368	0.370	5.00	0.590	pCi/L		11/23/22 11:55	1

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Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: U-5S CCR

Lab Sample ID: 310-242959-10

Date Collected: 10/19/22 12:30

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	36		5.0		mg/L			11/02/22 22:42	5
Fluoride	<0.50		0.50		mg/L			11/02/22 22:42	5
Sulfate	21		5.0		mg/L			11/02/22 22:42	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		10/25/22 09:00	11/01/22 23:05	1
Arsenic	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 23:05	1
Barium	0.061		0.0020		mg/L		10/25/22 09:00	11/01/22 23:05	1
Beryllium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 23:05	1
Boron	<0.10		0.10		mg/L		10/25/22 09:00	11/01/22 23:05	1
Cadmium	<0.00010		0.00010		mg/L		10/25/22 09:00	11/02/22 17:45	1
Calcium	86.2		0.50		mg/L		10/25/22 09:00	11/01/22 23:05	1
Chromium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 23:05	1
Cobalt	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 23:05	1
Lead	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 23:05	1
Lithium	<0.010		0.010		mg/L		10/25/22 09:00	11/01/22 23:05	1
Molybdenum	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 23:05	1
Selenium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 23:05	1
Thallium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 23:05	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/24/22 13:03	10/25/22 16:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	436		50.0		mg/L			10/24/22 17:04	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.3	HF	0.1		SU			10/22/22 11:22	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.116	U	0.0788	0.0793	1.00	0.116	pCi/L	10/28/22 08:21	11/22/22 17:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	94.1		40 - 110					10/28/22 08:21	11/22/22 17:59	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.440	U	0.288	0.290	1.00	0.440	pCi/L	10/28/22 08:39	11/16/22 11:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	94.1		40 - 110					10/28/22 08:39	11/16/22 11:57	1
Y Carrier	81.5		40 - 110					10/28/22 08:39	11/16/22 11:57	1

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Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: U-5S CCR

Lab Sample ID: 310-242959-10

Date Collected: 10/19/22 12:30

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.448		0.299	0.301	5.00	0.440	pCi/L		11/23/22 11:55	1

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Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-1S CCR

Lab Sample ID: 310-242959-11

Date Collected: 10/20/22 08:35

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	41		5.0		mg/L			11/02/22 22:57	5
Fluoride	<0.50		0.50		mg/L			11/02/22 22:57	5
Sulfate	13		5.0		mg/L			11/02/22 22:57	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		10/25/22 09:00	11/01/22 23:08	1
Arsenic	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 23:08	1
Barium	0.046		0.0020		mg/L		10/25/22 09:00	11/01/22 23:08	1
Beryllium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 23:08	1
Boron	<0.10		0.10		mg/L		10/25/22 09:00	11/01/22 23:08	1
Cadmium	<0.00010		0.00010		mg/L		10/25/22 09:00	11/02/22 17:49	1
Calcium	89.5		0.50		mg/L		10/25/22 09:00	11/01/22 23:08	1
Chromium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 23:08	1
Cobalt	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 23:08	1
Lead	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 23:08	1
Lithium	<0.010		0.010		mg/L		10/25/22 09:00	11/01/22 23:08	1
Molybdenum	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 23:08	1
Selenium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 23:08	1
Thallium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 23:08	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/24/22 13:03	10/25/22 16:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	438		50.0		mg/L			10/24/22 17:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.3	HF	0.1		SU			10/22/22 11:03	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.107	U	0.0616	0.0617	1.00	0.107	pCi/L	10/28/22 08:21	11/22/22 17:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	92.6		40 - 110					10/28/22 08:21	11/22/22 17:59	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.467	U	0.251	0.251	1.00	0.467	pCi/L	10/28/22 08:39	11/16/22 11:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	92.6		40 - 110					10/28/22 08:39	11/16/22 11:57	1
Y Carrier	82.6		40 - 110					10/28/22 08:39	11/16/22 11:57	1

Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-1S CCR

Lab Sample ID: 310-242959-11

Date Collected: 10/20/22 08:35

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.467	U	0.258	0.258	5.00	0.467	pCi/L		11/23/22 11:55	1

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Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-2S CCR

Lab Sample ID: 310-242959-12

Date Collected: 10/20/22 10:10

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	43		5.0		mg/L			11/02/22 23:41	5
Fluoride	<0.50		0.50		mg/L			11/02/22 23:41	5
Sulfate	16		5.0		mg/L			11/02/22 23:41	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		10/25/22 09:00	11/01/22 23:36	1
Arsenic	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 23:36	1
Barium	0.048		0.0020		mg/L		10/25/22 09:00	11/01/22 23:36	1
Beryllium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 23:36	1
Boron	<0.10		0.10		mg/L		10/25/22 09:00	11/01/22 23:36	1
Cadmium	<0.00010		0.00010		mg/L		10/25/22 09:00	11/01/22 23:36	1
Calcium	101		0.50		mg/L		10/25/22 09:00	11/01/22 23:36	1
Chromium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 23:36	1
Cobalt	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 23:36	1
Lead	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 23:36	1
Lithium	<0.010		0.010		mg/L		10/25/22 09:00	11/01/22 23:36	1
Molybdenum	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 23:36	1
Selenium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 23:36	1
Thallium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 23:36	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/24/22 13:03	10/25/22 16:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	446		50.0		mg/L			10/24/22 17:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.3	HF	0.1		SU			10/22/22 11:09	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-226	<0.123	U	0.0538	0.0539	1.00	0.123	pCi/L	10/28/22 08:21	11/22/22 17:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	91.4		40 - 110					10/28/22 08:21	11/22/22 17:59	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-228	<0.498	U	0.320	0.321	1.00	0.498	pCi/L	10/28/22 08:39	11/16/22 11:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	91.4		40 - 110					10/28/22 08:39	11/16/22 11:58	1
Y Carrier	84.5		40 - 110					10/28/22 08:39	11/16/22 11:58	1

Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-2S CCR

Lab Sample ID: 310-242959-12

Date Collected: 10/20/22 10:10

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.498	U	0.324	0.325	5.00	0.498	pCi/L		11/23/22 11:55	1

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Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-3S CCR

Lab Sample ID: 310-242959-13

Date Collected: 10/19/22 15:50

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	49		5.0		mg/L			11/02/22 23:56	5
Fluoride	<0.50		0.50		mg/L			11/02/22 23:56	5
Sulfate	18		5.0		mg/L			11/02/22 23:56	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		10/25/22 09:00	11/01/22 23:39	1
Arsenic	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 23:39	1
Barium	0.039		0.0020		mg/L		10/25/22 09:00	11/01/22 23:39	1
Beryllium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 23:39	1
Boron	0.13		0.10		mg/L		10/25/22 09:00	11/01/22 23:39	1
Cadmium	<0.00010		0.00010		mg/L		10/25/22 09:00	11/01/22 23:39	1
Calcium	75.4		0.50		mg/L		10/25/22 09:00	11/01/22 23:39	1
Chromium	0.0068		0.0050		mg/L		10/25/22 09:00	11/01/22 23:39	1
Cobalt	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 23:39	1
Lead	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 23:39	1
Lithium	<0.010		0.010		mg/L		10/25/22 09:00	11/01/22 23:39	1
Molybdenum	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 23:39	1
Selenium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 23:39	1
Thallium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 23:39	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/24/22 13:03	10/25/22 16:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	354		50.0		mg/L			10/24/22 17:04	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.6	HF	0.1		SU			10/22/22 11:10	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.122	U	0.0690	0.0691	1.00	0.122	pCi/L	10/28/22 08:21	11/22/22 18:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	93.4		40 - 110					10/28/22 08:21	11/22/22 18:00	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.45		0.435	0.455	1.00	0.493	pCi/L	10/28/22 08:39	11/16/22 11:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	93.4		40 - 110					10/28/22 08:39	11/16/22 11:59	1
Y Carrier	86.0		40 - 110					10/28/22 08:39	11/16/22 11:59	1

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Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-3S CCR

Lab Sample ID: 310-242959-13

Date Collected: 10/19/22 15:50

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.49		0.440	0.460	5.00	0.493	pCi/L		11/23/22 11:55	1

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Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-5S2 CCR

Lab Sample ID: 310-242959-14

Date Collected: 10/19/22 14:25

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	76		5.0		mg/L			11/03/22 00:11	5
Fluoride	<0.50		0.50		mg/L			11/03/22 00:11	5
Sulfate	40		5.0		mg/L			11/03/22 00:11	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		10/25/22 09:00	11/01/22 23:42	1
Arsenic	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 23:42	1
Barium	0.057		0.0020		mg/L		10/25/22 09:00	11/01/22 23:42	1
Beryllium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 23:42	1
Boron	0.10		0.10		mg/L		10/25/22 09:00	11/01/22 23:42	1
Cadmium	<0.00010		0.00010		mg/L		10/25/22 09:00	11/01/22 23:42	1
Calcium	101		0.50		mg/L		10/25/22 09:00	11/01/22 23:42	1
Chromium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 23:42	1
Cobalt	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 23:42	1
Lead	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 23:42	1
Lithium	<0.010		0.010		mg/L		10/25/22 09:00	11/01/22 23:42	1
Molybdenum	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 23:42	1
Selenium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 23:42	1
Thallium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 23:42	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/24/22 13:03	10/25/22 16:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	466		50.0		mg/L			10/24/22 17:04	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.5	HF	0.1		SU			10/22/22 11:11	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-226	<0.107	U	0.0656	0.0658	1.00	0.107	pCi/L	10/28/22 08:21	11/22/22 17:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	95.3		40 - 110					10/28/22 08:21	11/22/22 17:59	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-228	0.631		0.321	0.326	1.00	0.431	pCi/L	10/28/22 08:39	11/16/22 11:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	95.3		40 - 110					10/28/22 08:39	11/16/22 11:59	1
Y Carrier	86.0		40 - 110					10/28/22 08:39	11/16/22 11:59	1

Eurofins Cedar Falls

Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-5S2 CCR

Lab Sample ID: 310-242959-14

Date Collected: 10/19/22 14:25

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.686		0.328	0.333	5.00	0.431	pCi/L		11/23/22 11:55	1

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Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-4S CCR

Lab Sample ID: 310-242959-15

Date Collected: 10/20/22 11:25

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	42		5.0		mg/L			11/03/22 00:26	5
Fluoride	<0.50		0.50		mg/L			11/03/22 00:26	5
Sulfate	21		5.0		mg/L			11/03/22 00:26	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		10/25/22 09:00	11/01/22 23:46	1
Arsenic	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 23:46	1
Barium	0.076		0.0020		mg/L		10/25/22 09:00	11/01/22 23:46	1
Beryllium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 23:46	1
Boron	<0.10		0.10		mg/L		10/25/22 09:00	11/01/22 23:46	1
Cadmium	<0.00010		0.00010		mg/L		10/25/22 09:00	11/01/22 23:46	1
Calcium	105		0.50		mg/L		10/25/22 09:00	11/01/22 23:46	1
Chromium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 23:46	1
Cobalt	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 23:46	1
Lead	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 23:46	1
Lithium	<0.010		0.010		mg/L		10/25/22 09:00	11/01/22 23:46	1
Molybdenum	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 23:46	1
Selenium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 23:46	1
Thallium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 23:46	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/24/22 13:03	10/25/22 16:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	512		50.0		mg/L			10/24/22 17:44	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.4	HF	0.1		SU			10/22/22 11:12	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-226	<0.136	U	0.0919	0.0925	1.00	0.136	pCi/L	10/28/22 08:21	11/22/22 17:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	88.0		40 - 110					10/28/22 08:21	11/22/22 17:59	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-228	<0.610	U	0.397	0.399	1.00	0.610	pCi/L	10/28/22 08:39	11/16/22 11:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	88.0		40 - 110					10/28/22 08:39	11/16/22 11:59	1
Y Carrier	80.0		40 - 110					10/28/22 08:39	11/16/22 11:59	1

Eurofins Cedar Falls

Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-4S CCR

Lab Sample ID: 310-242959-15

Date Collected: 10/20/22 11:25

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.640		0.407	0.410	5.00	0.610	pCi/L		11/23/22 11:55	1

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Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-8 CCR

Lab Sample ID: 310-242959-16

Date Collected: 10/20/22 12:22

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	31		5.0		mg/L			11/03/22 00:41	5
Fluoride	<0.50		0.50		mg/L			11/03/22 00:41	5
Sulfate	26		5.0		mg/L			11/03/22 00:41	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		10/25/22 09:00	11/01/22 23:49	1
Arsenic	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 23:49	1
Barium	0.082		0.0020		mg/L		10/25/22 09:00	11/01/22 23:49	1
Beryllium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 23:49	1
Boron	<0.10		0.10		mg/L		10/25/22 09:00	11/01/22 23:49	1
Cadmium	<0.00010		0.00010		mg/L		10/25/22 09:00	11/01/22 23:49	1
Calcium	117		0.50		mg/L		10/25/22 09:00	11/01/22 23:49	1
Chromium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 23:49	1
Cobalt	0.00059		0.00050		mg/L		10/25/22 09:00	11/01/22 23:49	1
Lead	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 23:49	1
Lithium	<0.010		0.010		mg/L		10/25/22 09:00	11/01/22 23:49	1
Molybdenum	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 23:49	1
Selenium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 23:49	1
Thallium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 23:49	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/24/22 13:03	10/25/22 16:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	512		50.0		mg/L			10/24/22 17:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.4	HF	0.1		SU			10/22/22 11:13	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-226	<0.218	U	0.129	0.129	1.00	0.218	pCi/L	10/28/22 08:21	11/22/22 17:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	94.1		40 - 110					10/28/22 08:21	11/22/22 17:59	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-228	<0.675	U	0.435	0.438	1.00	0.675	pCi/L	10/28/22 08:39	11/16/22 12:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	94.1		40 - 110					10/28/22 08:39	11/16/22 12:00	1
Y Carrier	83.0		40 - 110					10/28/22 08:39	11/16/22 12:00	1

Eurofins Cedar Falls

Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-8 CCR

Lab Sample ID: 310-242959-16

Date Collected: 10/20/22 12:22

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Combined Radium 226 + 228	<0.675	U	0.454	0.457	5.00	0.675	pCi/L		11/23/22 11:55	1

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Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: DUP-1 CCR

Lab Sample ID: 310-242959-17

Date Collected: 10/19/22 00:00

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	34		5.0		mg/L			11/03/22 00:56	5
Fluoride	<0.50		0.50		mg/L			11/03/22 00:56	5
Sulfate	20		5.0		mg/L			11/03/22 00:56	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		10/25/22 09:00	11/01/22 23:52	1
Arsenic	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 23:52	1
Barium	0.064		0.0020		mg/L		10/25/22 09:00	11/01/22 23:52	1
Beryllium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 23:52	1
Boron	<0.10		0.10		mg/L		10/25/22 09:00	11/01/22 23:52	1
Cadmium	<0.00010		0.00010		mg/L		10/25/22 09:00	11/01/22 23:52	1
Calcium	93.3		0.50		mg/L		10/25/22 09:00	11/01/22 23:52	1
Chromium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 23:52	1
Cobalt	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 23:52	1
Lead	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 23:52	1
Lithium	<0.010		0.010		mg/L		10/25/22 09:00	11/01/22 23:52	1
Molybdenum	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 23:52	1
Selenium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 23:52	1
Thallium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 23:52	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/24/22 13:03	10/25/22 16:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	434		50.0		mg/L			10/24/22 17:04	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.3	HF	0.1		SU			10/22/22 11:23	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.133	U	0.0887	0.0893	1.00	0.133	pCi/L	10/28/22 08:21	11/22/22 18:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	98.0		40 - 110					10/28/22 08:21	11/22/22 18:01	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.84		0.465	0.495	1.00	0.487	pCi/L	10/28/22 08:39	11/16/22 12:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	98.0		40 - 110					10/28/22 08:39	11/16/22 12:00	1
Y Carrier	84.5		40 - 110					10/28/22 08:39	11/16/22 12:00	1

Eurofins Cedar Falls

Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: DUP-1 CCR

Lab Sample ID: 310-242959-17

Date Collected: 10/19/22 00:00

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.95		0.473	0.503	5.00	0.487	pCi/L		11/23/22 11:55	1

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Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: DUP-2 CCR

Lab Sample ID: 310-242959-18

Date Collected: 10/20/22 00:00

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	35		5.0		mg/L			11/03/22 01:11	5
Fluoride	<0.50		0.50		mg/L			11/03/22 01:11	5
Sulfate	12		5.0		mg/L			11/03/22 01:11	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		10/25/22 09:00	11/01/22 23:55	1
Arsenic	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 23:55	1
Barium	0.074		0.0020		mg/L		10/25/22 09:00	11/01/22 23:55	1
Beryllium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 23:55	1
Boron	<0.10		0.10		mg/L		10/25/22 09:00	11/01/22 23:55	1
Cadmium	<0.00010		0.00010		mg/L		10/25/22 09:00	11/01/22 23:55	1
Calcium	108		0.50		mg/L		10/25/22 09:00	11/01/22 23:55	1
Chromium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 23:55	1
Cobalt	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 23:55	1
Lead	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 23:55	1
Lithium	<0.010		0.010		mg/L		10/25/22 09:00	11/01/22 23:55	1
Molybdenum	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 23:55	1
Selenium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 23:55	1
Thallium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 23:55	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/24/22 14:46	10/25/22 16:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	360		50.0		mg/L			10/24/22 17:44	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.3	HF	0.1		SU			10/22/22 11:14	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.134	U	0.0769	0.0770	1.00	0.134	pCi/L	10/28/22 08:21	11/22/22 18:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	91.2		40 - 110					10/28/22 08:21	11/22/22 18:01	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.30		0.415	0.432	1.00	0.465	pCi/L	10/28/22 08:39	11/16/22 12:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	91.2		40 - 110					10/28/22 08:39	11/16/22 12:00	1
Y Carrier	84.9		40 - 110					10/28/22 08:39	11/16/22 12:00	1

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Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: DUP-2 CCR

Lab Sample ID: 310-242959-18

Date Collected: 10/20/22 00:00

Matrix: Ground Water

Date Received: 10/21/22 14:50

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.35		0.422	0.439	5.00	0.465	pCi/L		11/23/22 11:55	1

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Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: Equipment Blank CCR

Lab Sample ID: 310-242959-19

Date Collected: 10/20/22 14:15

Matrix: Water

Date Received: 10/21/22 14:50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			11/03/22 01:25	1
Fluoride	<0.10		0.10		mg/L			11/03/22 01:25	1
Sulfate	<1.0		1.0		mg/L			11/03/22 01:25	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		10/25/22 09:00	11/01/22 23:58	1
Arsenic	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 23:58	1
Barium	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 23:58	1
Beryllium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 23:58	1
Boron	<0.10		0.10		mg/L		10/25/22 09:00	11/01/22 23:58	1
Cadmium	<0.00010		0.00010		mg/L		10/25/22 09:00	11/01/22 23:58	1
Calcium	2.4		0.50		mg/L		10/25/22 09:00	11/01/22 23:58	1
Chromium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 23:58	1
Cobalt	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 23:58	1
Lead	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 23:58	1
Lithium	<0.010		0.010		mg/L		10/25/22 09:00	11/01/22 23:58	1
Molybdenum	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 23:58	1
Selenium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 23:58	1
Thallium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 23:58	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/24/22 14:46	10/25/22 16:43	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			10/24/22 17:44	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.0	HF	0.1		SU			10/22/22 11:18	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.117	U	0.0644	0.0645	1.00	0.117	pCi/L	10/28/22 08:21	11/22/22 18:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	94.9		40 - 110					10/28/22 08:21	11/22/22 18:01	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.646		0.321	0.327	1.00	0.430	pCi/L	10/28/22 08:39	11/16/22 12:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	94.9		40 - 110					10/28/22 08:39	11/16/22 12:00	1
Y Carrier	86.7		40 - 110					10/28/22 08:39	11/16/22 12:00	1

Eurofins Cedar Falls

Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: Equipment Blank CCR

Lab Sample ID: 310-242959-19

Date Collected: 10/20/22 14:15

Matrix: Water

Date Received: 10/21/22 14:50

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.676		0.327	0.333	5.00	0.430	pCi/L		11/23/22 11:55	1

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Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: Field Blank 1 CCR

Lab Sample ID: 310-242959-20

Date Collected: 10/19/22 13:30

Matrix: Water

Date Received: 10/21/22 14:50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			11/03/22 01:40	1
Fluoride	<0.10		0.10		mg/L			11/03/22 01:40	1
Sulfate	<1.0		1.0		mg/L			11/03/22 01:40	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		10/25/22 09:00	11/02/22 00:01	1
Arsenic	<0.0020		0.0020		mg/L		10/25/22 09:00	11/02/22 00:01	1
Barium	<0.0020		0.0020		mg/L		10/25/22 09:00	11/02/22 00:01	1
Beryllium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/02/22 00:01	1
Boron	<0.10		0.10		mg/L		10/25/22 09:00	11/02/22 00:01	1
Cadmium	<0.00010		0.00010		mg/L		10/25/22 09:00	11/02/22 00:01	1
Calcium	<0.50		0.50		mg/L		10/25/22 09:00	11/02/22 00:01	1
Chromium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/02/22 00:01	1
Cobalt	<0.00050		0.00050		mg/L		10/25/22 09:00	11/02/22 00:01	1
Lead	<0.00050		0.00050		mg/L		10/25/22 09:00	11/02/22 00:01	1
Lithium	<0.010		0.010		mg/L		10/25/22 09:00	11/02/22 00:01	1
Molybdenum	<0.0020		0.0020		mg/L		10/25/22 09:00	11/02/22 00:01	1
Selenium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/02/22 00:01	1
Thallium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/02/22 00:01	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/24/22 14:46	10/25/22 16:45	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			10/24/22 17:04	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	5.0	HF	0.1		SU			10/22/22 11:31	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	<0.131	U	0.0671	0.0671	1.00	0.131	pCi/L	10/28/22 08:21	11/22/22 18:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	93.9		40 - 110					10/28/22 08:21	11/22/22 18:01	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	<0.497	U	0.330	0.333	1.00	0.497	pCi/L	10/28/22 08:39	11/16/22 12:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	93.9		40 - 110					10/28/22 08:39	11/16/22 12:00	1
Y Carrier	87.9		40 - 110					10/28/22 08:39	11/16/22 12:00	1

Eurofins Cedar Falls

Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: Field Blank 1 CCR

Lab Sample ID: 310-242959-20

Date Collected: 10/19/22 13:30

Matrix: Water

Date Received: 10/21/22 14:50

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	<0.497	U	0.337	0.340	5.00	0.497	pCi/L		11/23/22 11:55	1

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Definitions/Glossary

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

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	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

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 Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-370817/3
Matrix: Water
Analysis Batch: 370817

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			11/02/22 19:06	1
Fluoride	<0.10		0.10		mg/L			11/02/22 19:06	1
Sulfate	<1.0		1.0		mg/L			11/02/22 19:06	1

Lab Sample ID: LCS 310-370817/4
Matrix: Water
Analysis Batch: 370817

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	9.56		mg/L		96	90 - 110
Fluoride	2.00	1.97		mg/L		98	90 - 110
Sulfate	10.0	9.67		mg/L		97	90 - 110

Lab Sample ID: 310-242959-6 MS
Matrix: Ground Water
Analysis Batch: 370817

Client Sample ID: D-9 CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	36		25.0	61.5		mg/L		100	80 - 120
Fluoride	<0.50		5.00	4.84		mg/L		97	80 - 120
Sulfate	12		25.0	35.7		mg/L		93	80 - 120

Lab Sample ID: 310-242959-6 MSD
Matrix: Ground Water
Analysis Batch: 370817

Client Sample ID: D-9 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	36		25.0	61.4		mg/L		100	80 - 120	0	15
Fluoride	<0.50		5.00	4.83		mg/L		97	80 - 120	0	15
Sulfate	12		25.0	35.5		mg/L		92	80 - 120	1	15

Lab Sample ID: MB 310-370962/3
Matrix: Water
Analysis Batch: 370962

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			11/03/22 10:00	1
Fluoride	<0.10		0.10		mg/L			11/03/22 10:00	1
Sulfate	<1.0		1.0		mg/L			11/03/22 10:00	1

Lab Sample ID: LCS 310-370962/4
Matrix: Water
Analysis Batch: 370962

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	9.75		mg/L		98	90 - 110
Fluoride	2.00	2.03		mg/L		102	90 - 110
Sulfate	10.0	9.93		mg/L		99	90 - 110

QC Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-369601/1-A
Matrix: Water
Analysis Batch: 370596

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 369601

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 21:57	1
Arsenic	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 21:57	1
Barium	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 21:57	1
Beryllium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 21:57	1
Boron	<0.10		0.10		mg/L		10/25/22 09:00	11/01/22 21:57	1
Calcium	<0.50		0.50		mg/L		10/25/22 09:00	11/01/22 21:57	1
Chromium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 21:57	1
Cobalt	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 21:57	1
Lead	<0.00050		0.00050		mg/L		10/25/22 09:00	11/01/22 21:57	1
Lithium	<0.010		0.010		mg/L		10/25/22 09:00	11/01/22 21:57	1
Molybdenum	<0.0020		0.0020		mg/L		10/25/22 09:00	11/01/22 21:57	1
Selenium	<0.0050		0.0050		mg/L		10/25/22 09:00	11/01/22 21:57	1
Thallium	<0.0010		0.0010		mg/L		10/25/22 09:00	11/01/22 21:57	1

Lab Sample ID: MB 310-369601/1-A
Matrix: Water
Analysis Batch: 370750

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 369601

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.00010		0.00010		mg/L		10/25/22 09:00	11/02/22 15:58	1

Lab Sample ID: LCS 310-369601/2-A
Matrix: Water
Analysis Batch: 370596

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 369601

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.223		mg/L		111	80 - 120
Arsenic	0.200	0.177		mg/L		89	80 - 120
Barium	0.100	0.0930		mg/L		93	80 - 120
Beryllium	0.100	0.0895		mg/L		90	80 - 120
Boron	0.200	0.185		mg/L		92	80 - 120
Calcium	2.00	1.82		mg/L		91	80 - 120
Chromium	0.100	0.0862		mg/L		86	80 - 120
Cobalt	0.100	0.0912		mg/L		91	80 - 120
Lead	0.200	0.196		mg/L		98	80 - 120
Lithium	0.200	0.184		mg/L		92	80 - 120
Molybdenum	0.200	0.193		mg/L		96	80 - 120
Selenium	0.400	0.347		mg/L		87	80 - 120
Thallium	0.200	0.159		mg/L		80	80 - 120

Lab Sample ID: LCS 310-369601/2-A
Matrix: Water
Analysis Batch: 370750

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 369601

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	0.100	0.0934		mg/L		93	80 - 120

QC Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

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

Lab Sample ID: 310-242959-6 MS
Matrix: Ground Water
Analysis Batch: 370596

Client Sample ID: D-9 CCR
Prep Type: Total/NA
Prep Batch: 369601

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
Antimony	ND	^	0.200	0.235		mg/L		118		75 - 125
Arsenic	ND		0.200	0.190		mg/L		95		75 - 125
Barium	0.067		0.100	0.174		mg/L		107		75 - 125
Beryllium	ND		0.100	0.0957		mg/L		96		75 - 125
Boron	0.20	B F1 ** ^+ ^2	0.200	0.222	F1	mg/L		13		75 - 125
Calcium	101		2.00	107.2	4	mg/L		307		75 - 125
Chromium	ND		0.100	0.0887		mg/L		89		75 - 125
Cobalt	ND		0.100	0.0957		mg/L		95		75 - 125
Lead	ND		0.200	0.199		mg/L		100		75 - 125
Lithium	ND		0.200	0.198		mg/L		97		75 - 125
Molybdenum	ND		0.200	0.203		mg/L		102		75 - 125
Selenium	ND		0.400	0.381		mg/L		95		75 - 125
Thallium	ND	^ F1	0.200	0.148	F1	mg/L		74		75 - 125

Lab Sample ID: 310-242959-6 MS
Matrix: Ground Water
Analysis Batch: 370740

Client Sample ID: D-9 CCR
Prep Type: Total/NA
Prep Batch: 369601

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
Cadmium	<0.00010		0.100	0.0917		mg/L		92		75 - 125

Lab Sample ID: 310-242959-6 MSD
Matrix: Ground Water
Analysis Batch: 370596

Client Sample ID: D-9 CCR
Prep Type: Total/NA
Prep Batch: 369601

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Antimony	ND	^	0.200	0.235		mg/L		118		75 - 125	0	20
Arsenic	ND		0.200	0.190		mg/L		95		75 - 125	0	20
Barium	0.067		0.100	0.177		mg/L		111		75 - 125	2	20
Beryllium	ND		0.100	0.0975		mg/L		98		75 - 125	2	20
Boron	0.20	B F1 ** ^+ ^2	0.200	0.225	F1	mg/L		14		75 - 125	1	20
Calcium	101		2.00	106.3	4	mg/L		263		75 - 125	1	20
Chromium	ND		0.100	0.0882		mg/L		88		75 - 125	1	20
Cobalt	ND		0.100	0.0922		mg/L		92		75 - 125	4	20
Lead	ND		0.200	0.200		mg/L		100		75 - 125	0	20
Lithium	ND		0.200	0.199		mg/L		97		75 - 125	0	20
Molybdenum	ND		0.200	0.203		mg/L		101		75 - 125	0	20
Selenium	ND		0.400	0.381		mg/L		95		75 - 125	0	20
Thallium	ND	^ F1	0.200	0.150		mg/L		75		75 - 125	1	20

Lab Sample ID: 310-242959-6 MSD
Matrix: Ground Water
Analysis Batch: 370740

Client Sample ID: D-9 CCR
Prep Type: Total/NA
Prep Batch: 369601

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Cadmium	<0.00010		0.100	0.0939		mg/L		94		75 - 125	2	20

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QC Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

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

Lab Sample ID: 310-242959-11 DU
Matrix: Ground Water
Analysis Batch: 370596

Client Sample ID: D-1S CCR
Prep Type: Total/NA
Prep Batch: 369601

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Antimony	<0.0020		<0.0020		mg/L		NC	20
Arsenic	<0.0020		<0.0020		mg/L		NC	20
Barium	0.046		0.0463		mg/L		1	20
Beryllium	<0.0010		<0.0010		mg/L		NC	20
Boron	<0.10		<0.10		mg/L		NC	20
Cadmium	ND ^		<0.00010		mg/L		NC	20
Calcium	89.5		91.18		mg/L		2	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

Lab Sample ID: 310-242959-11 DU
Matrix: Ground Water
Analysis Batch: 370740

Client Sample ID: D-1S CCR
Prep Type: Total/NA
Prep Batch: 369601

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Cadmium	<0.00010		<0.00010		mg/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-369584/1-A
Matrix: Water
Analysis Batch: 369783

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 369584

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	<0.00020		0.00020		mg/L		10/24/22 14:03	10/25/22 15:36	1

Lab Sample ID: LCS 310-369584/2-A
Matrix: Water
Analysis Batch: 369783

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 369584

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits

Lab Sample ID: 310-242959-6 MS
Matrix: Ground Water
Analysis Batch: 369783

Client Sample ID: D-9 CCR
Prep Type: Total/NA
Prep Batch: 369584

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
Mercury	<0.00020		0.00167	0.00159		mg/L		95	80 - 120

QC Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

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

Lab Sample ID: 310-242959-6 MSD
Matrix: Ground Water
Analysis Batch: 369783

Client Sample ID: D-9 CCR
Prep Type: Total/NA
Prep Batch: 369584

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.00020		0.00167	0.00156		mg/L		94	80 - 120	2	20

Lab Sample ID: MB 310-369605/1-A
Matrix: Water
Analysis Batch: 369783

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 369605

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/24/22 14:46	10/25/22 16:36	1

Lab Sample ID: LCS 310-369605/2-A
Matrix: Water
Analysis Batch: 369783

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 369605

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.00147		mg/L		88	80 - 120

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

Lab Sample ID: MB 310-369625/1
Matrix: Water
Analysis Batch: 369625

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			10/24/22 17:04	1

Lab Sample ID: LCS 310-369625/2
Matrix: Water
Analysis Batch: 369625

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	972.0		mg/L		97	90 - 110

Lab Sample ID: 310-242959-13 DU
Matrix: Ground Water
Analysis Batch: 369625

Client Sample ID: D-3S CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	354		394.0		mg/L		11	20

Lab Sample ID: MB 310-369626/1
Matrix: Water
Analysis Batch: 369626

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			10/24/22 17:44	1

QC Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

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

Lab Sample ID: LCS 310-369626/2
Matrix: Water
Analysis Batch: 369626

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	978.0		mg/L		98	90 - 110

Lab Sample ID: 310-242959-6 DU
Matrix: Ground Water
Analysis Batch: 369626

Client Sample ID: D-9 CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	464		486.0		mg/L		5	20

Lab Sample ID: 310-242959-18 DU
Matrix: Ground Water
Analysis Batch: 369626

Client Sample ID: DUP-2 CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	360		420.0		mg/L		15	20

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-369497/1
Matrix: Water
Analysis Batch: 369497

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 310-369497/29
Matrix: Water
Analysis Batch: 369497

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: 310-242959-6 DU
Matrix: Ground Water
Analysis Batch: 369497

Client Sample ID: D-9 CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.3	HF	7.3		SU		0.1	20

Lab Sample ID: 310-242959-20 DU
Matrix: Water
Analysis Batch: 369497

Client Sample ID: Field Blank 1 CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	5.0	HF	4.9		SU		0.6	20

QC Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-587618/1-A
Matrix: Water
Analysis Batch: 590931

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 587618

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	<0.122	U	0.0620	0.0620	1.00	0.122	pCi/L	10/28/22 08:21	11/22/22 18:02	1
Carrier	MB		Limits					Prepared	Analyzed	Dil Fac
Barium	%Yield	Qualifier	40 - 110					10/28/22 08:21	11/22/22 18:02	1
	87.5									

Lab Sample ID: LCS 160-587618/2-A
Matrix: Water
Analysis Batch: 590931

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 587618

Analyte	LCS		Spike	LCS	Total	RL	MDC	Unit	%Rec	%Rec Limits
	Result	Qual	Added	Result	Uncert. (2σ+/-)					
Radium-226			11.3	9.781	1.04	1.00	0.0884	pCi/L	86	75 - 125
Carrier	LCS		Limits							
Barium	%Yield	Qualifier	40 - 110							
	99.5									

Lab Sample ID: 310-242959-6 MS
Matrix: Ground Water
Analysis Batch: 590932

Client Sample ID: D-9 CCR
Prep Type: Total/NA
Prep Batch: 587618

Analyte	Sample		Spike	MS	MS	Total	RL	MDC	Unit	%Rec	%Rec Limits
	Result	Qual	Added	Result	Qual	Uncert. (2σ+/-)					
Radium-226	<0.123	U	11.3	9.294		0.998	1.00	0.128	pCi/L	82	60 - 140
Carrier	MS		Limits								
Barium	%Yield	Qualifier	40 - 110								
	99.8										

Lab Sample ID: 310-242959-6 MSD
Matrix: Ground Water
Analysis Batch: 590932

Client Sample ID: D-9 CCR
Prep Type: Total/NA
Prep Batch: 587618

Analyte	Sample		Spike	MSD	MSD	Total	RL	MDC	Unit	%Rec	%Rec Limits	RER	Limit
	Result	Qual	Added	Result	Qual	Uncert. (2σ+/-)							
Radium-226	<0.123	U	11.3	9.045		0.989	1.00	0.146	pCi/L	80	60 - 140	0.13	1
Carrier	MSD		Limits										
Barium	%Yield	Qualifier	40 - 110										
	92.9												

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-587621/1-A
Matrix: Water
Analysis Batch: 590347

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 587621

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.6162		0.373	0.378	1.00	0.541	pCi/L	10/28/22 08:39	11/16/22 11:54	1

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QC Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

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

Carrier	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Yield	Qualifier				
Barium	87.5		40 - 110	10/28/22 08:39	11/16/22 11:54	1
Y Carrier	83.0		40 - 110	10/28/22 08:39	11/16/22 11:54	1

Lab Sample ID: LCS 160-587621/2-A
 Matrix: Water
 Analysis Batch: 590347

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 587621

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits

Carrier	LCS LCS		Limits
	%Yield	Qualifier	
Barium	99.5		40 - 110
Y Carrier	84.5		40 - 110

Lab Sample ID: 310-242959-6 MS
 Matrix: Ground Water
 Analysis Batch: 590349

Client Sample ID: D-9 CCR
 Prep Type: Total/NA
 Prep Batch: 587621

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits

Carrier	MS MS		Limits
	%Yield	Qualifier	
Barium	99.8		40 - 110
Y Carrier	80.0		40 - 110

Lab Sample ID: 310-242959-6 MSD
 Matrix: Ground Water
 Analysis Batch: 590349

Client Sample ID: D-9 CCR
 Prep Type: Total/NA
 Prep Batch: 587621

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit

Carrier	MSD MSD		Limits
	%Yield	Qualifier	
Barium	92.9		40 - 110
Y Carrier	81.5		40 - 110

QC Association Summary

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

HPLC/IC

Analysis Batch: 370817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242959-4	D-4D CCR	Total/NA	Ground Water	9056A	
310-242959-5	D-5D CCR	Total/NA	Ground Water	9056A	
310-242959-6	D-9 CCR	Total/NA	Ground Water	9056A	
310-242959-7	U-4D CCR	Total/NA	Ground Water	9056A	
310-242959-8	U-4S CCR	Total/NA	Ground Water	9056A	
310-242959-9	U-5D CCR	Total/NA	Ground Water	9056A	
310-242959-10	U-5S CCR	Total/NA	Ground Water	9056A	
310-242959-11	D-1S CCR	Total/NA	Ground Water	9056A	
310-242959-12	D-2S CCR	Total/NA	Ground Water	9056A	
310-242959-13	D-3S CCR	Total/NA	Ground Water	9056A	
310-242959-14	D-5S2 CCR	Total/NA	Ground Water	9056A	
310-242959-15	D-4S CCR	Total/NA	Ground Water	9056A	
310-242959-16	D-8 CCR	Total/NA	Ground Water	9056A	
310-242959-17	DUP-1 CCR	Total/NA	Ground Water	9056A	
310-242959-18	DUP-2 CCR	Total/NA	Ground Water	9056A	
310-242959-19	Equipment Blank CCR	Total/NA	Water	9056A	
310-242959-20	Field Blank 1 CCR	Total/NA	Water	9056A	
MB 310-370817/3	Method Blank	Total/NA	Water	9056A	
LCS 310-370817/4	Lab Control Sample	Total/NA	Water	9056A	
310-242959-6 MS	D-9 CCR	Total/NA	Ground Water	9056A	
310-242959-6 MSD	D-9 CCR	Total/NA	Ground Water	9056A	

Analysis Batch: 370962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242959-1	D-1D CCR	Total/NA	Ground Water	9056A	
310-242959-2	D-2D CCR	Total/NA	Ground Water	9056A	
310-242959-3	D-3D CCR	Total/NA	Ground Water	9056A	
MB 310-370962/3	Method Blank	Total/NA	Water	9056A	
LCS 310-370962/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 369584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242959-1	D-1D CCR	Total/NA	Ground Water	7470A	
310-242959-2	D-2D CCR	Total/NA	Ground Water	7470A	
310-242959-3	D-3D CCR	Total/NA	Ground Water	7470A	
310-242959-4	D-4D CCR	Total/NA	Ground Water	7470A	
310-242959-5	D-5D CCR	Total/NA	Ground Water	7470A	
310-242959-6	D-9 CCR	Total/NA	Ground Water	7470A	
310-242959-7	U-4D CCR	Total/NA	Ground Water	7470A	
310-242959-8	U-4S CCR	Total/NA	Ground Water	7470A	
310-242959-9	U-5D CCR	Total/NA	Ground Water	7470A	
310-242959-10	U-5S CCR	Total/NA	Ground Water	7470A	
310-242959-11	D-1S CCR	Total/NA	Ground Water	7470A	
310-242959-12	D-2S CCR	Total/NA	Ground Water	7470A	
310-242959-13	D-3S CCR	Total/NA	Ground Water	7470A	
310-242959-14	D-5S2 CCR	Total/NA	Ground Water	7470A	
310-242959-15	D-4S CCR	Total/NA	Ground Water	7470A	
310-242959-16	D-8 CCR	Total/NA	Ground Water	7470A	
310-242959-17	DUP-1 CCR	Total/NA	Ground Water	7470A	

Eurofins Cedar Falls

QC Association Summary

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Metals (Continued)

Prep Batch: 369584 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-369584/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-369584/2-A	Lab Control Sample	Total/NA	Water	7470A	
310-242959-6 MS	D-9 CCR	Total/NA	Ground Water	7470A	
310-242959-6 MSD	D-9 CCR	Total/NA	Ground Water	7470A	

Prep Batch: 369601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242959-1	D-1D CCR	Total/NA	Ground Water	3005A	
310-242959-2	D-2D CCR	Total/NA	Ground Water	3005A	
310-242959-3	D-3D CCR	Total/NA	Ground Water	3005A	
310-242959-4	D-4D CCR	Total/NA	Ground Water	3005A	
310-242959-5	D-5D CCR	Total/NA	Ground Water	3005A	
310-242959-6	D-9 CCR	Total/NA	Ground Water	3005A	
310-242959-7	U-4D CCR	Total/NA	Ground Water	3005A	
310-242959-8	U-4S CCR	Total/NA	Ground Water	3005A	
310-242959-9	U-5D CCR	Total/NA	Ground Water	3005A	
310-242959-10	U-5S CCR	Total/NA	Ground Water	3005A	
310-242959-11	D-1S CCR	Total/NA	Ground Water	3005A	
310-242959-12	D-2S CCR	Total/NA	Ground Water	3005A	
310-242959-13	D-3S CCR	Total/NA	Ground Water	3005A	
310-242959-14	D-5S2 CCR	Total/NA	Ground Water	3005A	
310-242959-15	D-4S CCR	Total/NA	Ground Water	3005A	
310-242959-16	D-8 CCR	Total/NA	Ground Water	3005A	
310-242959-17	DUP-1 CCR	Total/NA	Ground Water	3005A	
310-242959-18	DUP-2 CCR	Total/NA	Ground Water	3005A	
310-242959-19	Equipment Blank CCR	Total/NA	Water	3005A	
310-242959-20	Field Blank 1 CCR	Total/NA	Water	3005A	
MB 310-369601/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-369601/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-242959-6 MS	D-9 CCR	Total/NA	Ground Water	3005A	
310-242959-6 MSD	D-9 CCR	Total/NA	Ground Water	3005A	
310-242959-11 DU	D-1S CCR	Total/NA	Ground Water	3005A	

Prep Batch: 369605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242959-18	DUP-2 CCR	Total/NA	Ground Water	7470A	
310-242959-19	Equipment Blank CCR	Total/NA	Water	7470A	
310-242959-20	Field Blank 1 CCR	Total/NA	Water	7470A	
MB 310-369605/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-369605/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 369783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242959-1	D-1D CCR	Total/NA	Ground Water	7470A	369584
310-242959-2	D-2D CCR	Total/NA	Ground Water	7470A	369584
310-242959-3	D-3D CCR	Total/NA	Ground Water	7470A	369584
310-242959-4	D-4D CCR	Total/NA	Ground Water	7470A	369584
310-242959-5	D-5D CCR	Total/NA	Ground Water	7470A	369584
310-242959-6	D-9 CCR	Total/NA	Ground Water	7470A	369584
310-242959-7	U-4D CCR	Total/NA	Ground Water	7470A	369584
310-242959-8	U-4S CCR	Total/NA	Ground Water	7470A	369584

Eurofins Cedar Falls

QC Association Summary

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Metals (Continued)

Analysis Batch: 369783 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242959-9	U-5D CCR	Total/NA	Ground Water	7470A	369584
310-242959-10	U-5S CCR	Total/NA	Ground Water	7470A	369584
310-242959-11	D-1S CCR	Total/NA	Ground Water	7470A	369584
310-242959-12	D-2S CCR	Total/NA	Ground Water	7470A	369584
310-242959-13	D-3S CCR	Total/NA	Ground Water	7470A	369584
310-242959-14	D-5S2 CCR	Total/NA	Ground Water	7470A	369584
310-242959-15	D-4S CCR	Total/NA	Ground Water	7470A	369584
310-242959-16	D-8 CCR	Total/NA	Ground Water	7470A	369584
310-242959-17	DUP-1 CCR	Total/NA	Ground Water	7470A	369584
310-242959-18	DUP-2 CCR	Total/NA	Ground Water	7470A	369605
310-242959-19	Equipment Blank CCR	Total/NA	Water	7470A	369605
310-242959-20	Field Blank 1 CCR	Total/NA	Water	7470A	369605
MB 310-369584/1-A	Method Blank	Total/NA	Water	7470A	369584
MB 310-369605/1-A	Method Blank	Total/NA	Water	7470A	369605
LCS 310-369584/2-A	Lab Control Sample	Total/NA	Water	7470A	369584
LCS 310-369605/2-A	Lab Control Sample	Total/NA	Water	7470A	369605
310-242959-6 MS	D-9 CCR	Total/NA	Ground Water	7470A	369584
310-242959-6 MSD	D-9 CCR	Total/NA	Ground Water	7470A	369584

Analysis Batch: 370596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242959-1	D-1D CCR	Total/NA	Ground Water	6020B	369601
310-242959-2	D-2D CCR	Total/NA	Ground Water	6020B	369601
310-242959-3	D-3D CCR	Total/NA	Ground Water	6020B	369601
310-242959-4	D-4D CCR	Total/NA	Ground Water	6020B	369601
310-242959-5	D-5D CCR	Total/NA	Ground Water	6020B	369601
310-242959-6	D-9 CCR	Total/NA	Ground Water	6020B	369601
310-242959-7	U-4D CCR	Total/NA	Ground Water	6020B	369601
310-242959-8	U-4S CCR	Total/NA	Ground Water	6020B	369601
310-242959-9	U-5D CCR	Total/NA	Ground Water	6020B	369601
310-242959-10	U-5S CCR	Total/NA	Ground Water	6020B	369601
310-242959-11	D-1S CCR	Total/NA	Ground Water	6020B	369601
310-242959-12	D-2S CCR	Total/NA	Ground Water	6020B	369601
310-242959-13	D-3S CCR	Total/NA	Ground Water	6020B	369601
310-242959-14	D-5S2 CCR	Total/NA	Ground Water	6020B	369601
310-242959-15	D-4S CCR	Total/NA	Ground Water	6020B	369601
310-242959-16	D-8 CCR	Total/NA	Ground Water	6020B	369601
310-242959-17	DUP-1 CCR	Total/NA	Ground Water	6020B	369601
310-242959-18	DUP-2 CCR	Total/NA	Ground Water	6020B	369601
310-242959-19	Equipment Blank CCR	Total/NA	Water	6020B	369601
310-242959-20	Field Blank 1 CCR	Total/NA	Water	6020B	369601
MB 310-369601/1-A	Method Blank	Total/NA	Water	6020B	369601
LCS 310-369601/2-A	Lab Control Sample	Total/NA	Water	6020B	369601
310-242959-6 MS	D-9 CCR	Total/NA	Ground Water	6020B	369601
310-242959-6 MSD	D-9 CCR	Total/NA	Ground Water	6020B	369601
310-242959-11 DU	D-1S CCR	Total/NA	Ground Water	6020B	369601

Analysis Batch: 370740

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242959-7	U-4D CCR	Total/NA	Ground Water	6020B	369601
310-242959-8	U-4S CCR	Total/NA	Ground Water	6020B	369601

Eurofins Cedar Falls

QC Association Summary

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Metals (Continued)

Analysis Batch: 370740 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242959-9	U-5D CCR	Total/NA	Ground Water	6020B	369601
310-242959-10	U-5S CCR	Total/NA	Ground Water	6020B	369601
310-242959-11	D-1S CCR	Total/NA	Ground Water	6020B	369601
310-242959-6 MS	D-9 CCR	Total/NA	Ground Water	6020B	369601
310-242959-6 MSD	D-9 CCR	Total/NA	Ground Water	6020B	369601
310-242959-11 DU	D-1S CCR	Total/NA	Ground Water	6020B	369601

Analysis Batch: 370750

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242959-1	D-1D CCR	Total/NA	Ground Water	6020B	369601
310-242959-2	D-2D CCR	Total/NA	Ground Water	6020B	369601
310-242959-3	D-3D CCR	Total/NA	Ground Water	6020B	369601
310-242959-4	D-4D CCR	Total/NA	Ground Water	6020B	369601
310-242959-5	D-5D CCR	Total/NA	Ground Water	6020B	369601
310-242959-6	D-9 CCR	Total/NA	Ground Water	6020B	369601
MB 310-369601/1-A	Method Blank	Total/NA	Water	6020B	369601
LCS 310-369601/2-A	Lab Control Sample	Total/NA	Water	6020B	369601

General Chemistry

Analysis Batch: 369497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242959-1	D-1D CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-242959-2	D-2D CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-242959-3	D-3D CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-242959-4	D-4D CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-242959-5	D-5D CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-242959-6	D-9 CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-242959-7	U-4D CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-242959-8	U-4S CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-242959-9	U-5D CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-242959-10	U-5S CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-242959-11	D-1S CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-242959-12	D-2S CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-242959-13	D-3S CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-242959-14	D-5S2 CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-242959-15	D-4S CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-242959-16	D-8 CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-242959-17	DUP-1 CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-242959-18	DUP-2 CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-242959-19	Equipment Blank CCR	Total/NA	Water	SM 4500 H+ B	
310-242959-20	Field Blank 1 CCR	Total/NA	Water	SM 4500 H+ B	
LCS 310-369497/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCS 310-369497/29	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-242959-6 DU	D-9 CCR	Total/NA	Ground Water	SM 4500 H+ B	
310-242959-20 DU	Field Blank 1 CCR	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 369625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242959-3	D-3D CCR	Total/NA	Ground Water	SM 2540C	
310-242959-5	D-5D CCR	Total/NA	Ground Water	SM 2540C	

Eurofins Cedar Falls

QC Association Summary

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

General Chemistry (Continued)

Analysis Batch: 369625 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242959-7	U-4D CCR	Total/NA	Ground Water	SM 2540C	
310-242959-8	U-4S CCR	Total/NA	Ground Water	SM 2540C	
310-242959-9	U-5D CCR	Total/NA	Ground Water	SM 2540C	
310-242959-10	U-5S CCR	Total/NA	Ground Water	SM 2540C	
310-242959-13	D-3S CCR	Total/NA	Ground Water	SM 2540C	
310-242959-14	D-5S2 CCR	Total/NA	Ground Water	SM 2540C	
310-242959-17	DUP-1 CCR	Total/NA	Ground Water	SM 2540C	
310-242959-20	Field Blank 1 CCR	Total/NA	Water	SM 2540C	
MB 310-369625/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-369625/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-242959-13 DU	D-3S CCR	Total/NA	Ground Water	SM 2540C	

Analysis Batch: 369626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242959-1	D-1D CCR	Total/NA	Ground Water	SM 2540C	
310-242959-2	D-2D CCR	Total/NA	Ground Water	SM 2540C	
310-242959-4	D-4D CCR	Total/NA	Ground Water	SM 2540C	
310-242959-6	D-9 CCR	Total/NA	Ground Water	SM 2540C	
310-242959-11	D-1S CCR	Total/NA	Ground Water	SM 2540C	
310-242959-12	D-2S CCR	Total/NA	Ground Water	SM 2540C	
310-242959-15	D-4S CCR	Total/NA	Ground Water	SM 2540C	
310-242959-16	D-8 CCR	Total/NA	Ground Water	SM 2540C	
310-242959-18	DUP-2 CCR	Total/NA	Ground Water	SM 2540C	
310-242959-19	Equipment Blank CCR	Total/NA	Water	SM 2540C	
MB 310-369626/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-369626/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-242959-6 DU	D-9 CCR	Total/NA	Ground Water	SM 2540C	
310-242959-18 DU	DUP-2 CCR	Total/NA	Ground Water	SM 2540C	

Rad

Prep Batch: 587618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242959-1	D-1D CCR	Total/NA	Ground Water	PrecSep-21	
310-242959-2	D-2D CCR	Total/NA	Ground Water	PrecSep-21	
310-242959-3	D-3D CCR	Total/NA	Ground Water	PrecSep-21	
310-242959-4	D-4D CCR	Total/NA	Ground Water	PrecSep-21	
310-242959-5	D-5D CCR	Total/NA	Ground Water	PrecSep-21	
310-242959-6	D-9 CCR	Total/NA	Ground Water	PrecSep-21	
310-242959-7	U-4D CCR	Total/NA	Ground Water	PrecSep-21	
310-242959-8	U-4S CCR	Total/NA	Ground Water	PrecSep-21	
310-242959-9	U-5D CCR	Total/NA	Ground Water	PrecSep-21	
310-242959-10	U-5S CCR	Total/NA	Ground Water	PrecSep-21	
310-242959-11	D-1S CCR	Total/NA	Ground Water	PrecSep-21	
310-242959-12	D-2S CCR	Total/NA	Ground Water	PrecSep-21	
310-242959-13	D-3S CCR	Total/NA	Ground Water	PrecSep-21	
310-242959-14	D-5S2 CCR	Total/NA	Ground Water	PrecSep-21	
310-242959-15	D-4S CCR	Total/NA	Ground Water	PrecSep-21	
310-242959-16	D-8 CCR	Total/NA	Ground Water	PrecSep-21	
310-242959-17	DUP-1 CCR	Total/NA	Ground Water	PrecSep-21	
310-242959-18	DUP-2 CCR	Total/NA	Ground Water	PrecSep-21	

Eurofins Cedar Falls

QC Association Summary

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Rad (Continued)

Prep Batch: 587618 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242959-19	Equipment Blank CCR	Total/NA	Water	PrecSep-21	
310-242959-20	Field Blank 1 CCR	Total/NA	Water	PrecSep-21	
MB 160-587618/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-587618/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
310-242959-6 MS	D-9 CCR	Total/NA	Ground Water	PrecSep-21	
310-242959-6 MSD	D-9 CCR	Total/NA	Ground Water	PrecSep-21	

Prep Batch: 587621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242959-1	D-1D CCR	Total/NA	Ground Water	PrecSep_0	
310-242959-2	D-2D CCR	Total/NA	Ground Water	PrecSep_0	
310-242959-3	D-3D CCR	Total/NA	Ground Water	PrecSep_0	
310-242959-4	D-4D CCR	Total/NA	Ground Water	PrecSep_0	
310-242959-5	D-5D CCR	Total/NA	Ground Water	PrecSep_0	
310-242959-6	D-9 CCR	Total/NA	Ground Water	PrecSep_0	
310-242959-7	U-4D CCR	Total/NA	Ground Water	PrecSep_0	
310-242959-8	U-4S CCR	Total/NA	Ground Water	PrecSep_0	
310-242959-9	U-5D CCR	Total/NA	Ground Water	PrecSep_0	
310-242959-10	U-5S CCR	Total/NA	Ground Water	PrecSep_0	
310-242959-11	D-1S CCR	Total/NA	Ground Water	PrecSep_0	
310-242959-12	D-2S CCR	Total/NA	Ground Water	PrecSep_0	
310-242959-13	D-3S CCR	Total/NA	Ground Water	PrecSep_0	
310-242959-14	D-5S2 CCR	Total/NA	Ground Water	PrecSep_0	
310-242959-15	D-4S CCR	Total/NA	Ground Water	PrecSep_0	
310-242959-16	D-8 CCR	Total/NA	Ground Water	PrecSep_0	
310-242959-17	DUP-1 CCR	Total/NA	Ground Water	PrecSep_0	
310-242959-18	DUP-2 CCR	Total/NA	Ground Water	PrecSep_0	
310-242959-19	Equipment Blank CCR	Total/NA	Water	PrecSep_0	
310-242959-20	Field Blank 1 CCR	Total/NA	Water	PrecSep_0	
MB 160-587621/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-587621/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
310-242959-6 MS	D-9 CCR	Total/NA	Ground Water	PrecSep_0	
310-242959-6 MSD	D-9 CCR	Total/NA	Ground Water	PrecSep_0	

Lab Chronicle

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-1D CCR

Date Collected: 10/20/22 08:50

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-1

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370962	DHM5	EET CF	11/03/22 23:30
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370750	A6US	EET CF	11/02/22 16:07
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370596	A6US	EET CF	11/01/22 22:03
Total/NA	Prep	7470A			369584	XXW3	EET CF	10/24/22 13:03
Total/NA	Analysis	7470A		1	369783	XXW3	EET CF	10/25/22 15:47
Total/NA	Analysis	SM 2540C		1	369626	ENB7	EET CF	10/24/22 17:44
Total/NA	Analysis	SM 4500 H+ B		1	369497	ENB7	EET CF	10/22/22 10:52
Total/NA	Prep	PrecSep-21			587618	BMP	EET SL	10/28/22 08:21
Total/NA	Analysis	9315		1	590931	FLC	EET SL	11/22/22 18:02
Total/NA	Prep	PrecSep_0			587621	BMP	EET SL	10/28/22 08:39
Total/NA	Analysis	9320		1	590347	SCB	EET SL	11/16/22 11:54
Total/NA	Analysis	Ra226_Ra228		1	591167	CAH	EET SL	11/23/22 11:55

Client Sample ID: D-2D CCR

Date Collected: 10/20/22 10:15

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-2

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370962	DHM5	EET CF	11/04/22 00:15
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370750	A6US	EET CF	11/02/22 16:10
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370596	A6US	EET CF	11/01/22 22:06
Total/NA	Prep	7470A			369584	XXW3	EET CF	10/24/22 13:03
Total/NA	Analysis	7470A		1	369783	XXW3	EET CF	10/25/22 15:49
Total/NA	Analysis	SM 2540C		1	369626	ENB7	EET CF	10/24/22 17:44
Total/NA	Analysis	SM 4500 H+ B		1	369497	ENB7	EET CF	10/22/22 10:53
Total/NA	Prep	PrecSep-21			587618	BMP	EET SL	10/28/22 08:21
Total/NA	Analysis	9315		1	590931	FLC	EET SL	11/22/22 18:03
Total/NA	Prep	PrecSep_0			587621	BMP	EET SL	10/28/22 08:39
Total/NA	Analysis	9320		1	590347	SCB	EET SL	11/16/22 11:55
Total/NA	Analysis	Ra226_Ra228		1	591167	CAH	EET SL	11/23/22 11:55

Client Sample ID: D-3D CCR

Date Collected: 10/19/22 15:55

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-3

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370962	DHM5	EET CF	11/04/22 00:30
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370750	A6US	EET CF	11/02/22 16:14

Lab Chronicle

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-3D CCR

Date Collected: 10/19/22 15:55

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-3

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370596	A6US	EET CF	11/01/22 22:09
Total/NA	Prep	7470A			369584	XXW3	EET CF	10/24/22 13:03
Total/NA	Analysis	7470A		1	369783	XXW3	EET CF	10/25/22 15:51
Total/NA	Analysis	SM 2540C		1	369625	ENB7	EET CF	10/24/22 17:04
Total/NA	Analysis	SM 4500 H+ B		1	369497	ENB7	EET CF	10/22/22 10:54
Total/NA	Prep	PrecSep-21			587618	BMP	EET SL	10/28/22 08:21
Total/NA	Analysis	9315		1	590931	FLC	EET SL	11/22/22 18:03
Total/NA	Prep	PrecSep_0			587621	BMP	EET SL	10/28/22 08:39
Total/NA	Analysis	9320		1	590347	SCB	EET SL	11/16/22 11:55
Total/NA	Analysis	Ra226_Ra228		1	591167	CAH	EET SL	11/23/22 11:55

Client Sample ID: D-4D CCR

Date Collected: 10/20/22 11:40

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-4

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370817	J7CK	EET CF	11/02/22 20:45
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370750	A6US	EET CF	11/02/22 16:17
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370596	A6US	EET CF	11/01/22 22:12
Total/NA	Prep	7470A			369584	XXW3	EET CF	10/24/22 13:03
Total/NA	Analysis	7470A		1	369783	XXW3	EET CF	10/25/22 15:53
Total/NA	Analysis	SM 2540C		1	369626	ENB7	EET CF	10/24/22 17:44
Total/NA	Analysis	SM 4500 H+ B		1	369497	ENB7	EET CF	10/22/22 10:55
Total/NA	Prep	PrecSep-21			587618	BMP	EET SL	10/28/22 08:21
Total/NA	Analysis	9315		1	590931	FLC	EET SL	11/22/22 18:03
Total/NA	Prep	PrecSep_0			587621	BMP	EET SL	10/28/22 08:39
Total/NA	Analysis	9320		1	590349	JCB	EET SL	11/16/22 11:56
Total/NA	Analysis	Ra226_Ra228		1	591167	CAH	EET SL	11/23/22 11:55

Client Sample ID: D-5D CCR

Date Collected: 10/19/22 14:40

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-5

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370817	J7CK	EET CF	11/02/22 20:59
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370750	A6US	EET CF	11/02/22 16:21
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370596	A6US	EET CF	11/01/22 22:15
Total/NA	Prep	7470A			369584	XXW3	EET CF	10/24/22 13:03
Total/NA	Analysis	7470A		1	369783	XXW3	EET CF	10/25/22 15:55

Eurofins Cedar Falls

Lab Chronicle

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-5D CCR

Date Collected: 10/19/22 14:40

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-5

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 2540C		1	369625	ENB7	EET CF	10/24/22 17:04
Total/NA	Analysis	SM 4500 H+ B		1	369497	ENB7	EET CF	10/22/22 10:56
Total/NA	Prep	PrecSep-21			587618	BMP	EET SL	10/28/22 08:21
Total/NA	Analysis	9315		1	590932	FLC	EET SL	11/22/22 17:58
Total/NA	Prep	PrecSep_0			587621	BMP	EET SL	10/28/22 08:39
Total/NA	Analysis	9320		1	590349	JCB	EET SL	11/16/22 11:56
Total/NA	Analysis	Ra226_Ra228		1	591167	CAH	EET SL	11/23/22 11:55

Client Sample ID: D-9 CCR

Date Collected: 10/20/22 13:10

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-6

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370817	J7CK	EET CF	11/02/22 21:13
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370750	A6US	EET CF	11/02/22 16:25
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370596	A6US	EET CF	11/01/22 22:40
Total/NA	Prep	7470A			369584	XXW3	EET CF	10/24/22 13:03
Total/NA	Analysis	7470A		1	369783	XXW3	EET CF	10/25/22 16:02
Total/NA	Analysis	SM 2540C		1	369626	ENB7	EET CF	10/24/22 17:44
Total/NA	Analysis	SM 4500 H+ B		1	369497	ENB7	EET CF	10/22/22 10:50
Total/NA	Prep	PrecSep-21			587618	BMP	EET SL	10/28/22 08:21
Total/NA	Analysis	9315		1	590932	FLC	EET SL	11/22/22 17:58
Total/NA	Prep	PrecSep_0			587621	BMP	EET SL	10/28/22 08:39
Total/NA	Analysis	9320		1	590349	JCB	EET SL	11/16/22 11:57
Total/NA	Analysis	Ra226_Ra228		1	591167	CAH	EET SL	11/23/22 11:55

Client Sample ID: U-4D CCR

Date Collected: 10/19/22 10:35

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-7

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370817	J7CK	EET CF	11/02/22 21:57
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370740	A6US	EET CF	11/02/22 17:35
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370596	A6US	EET CF	11/01/22 22:56
Total/NA	Prep	7470A			369584	XXW3	EET CF	10/24/22 13:03
Total/NA	Analysis	7470A		1	369783	XXW3	EET CF	10/25/22 16:08
Total/NA	Analysis	SM 2540C		1	369625	ENB7	EET CF	10/24/22 17:04
Total/NA	Analysis	SM 4500 H+ B		1	369497	ENB7	EET CF	10/22/22 10:57
Total/NA	Prep	PrecSep-21			587618	BMP	EET SL	10/28/22 08:21
Total/NA	Analysis	9315		1	590932	FLC	EET SL	11/22/22 17:58

Eurofins Cedar Falls

Lab Chronicle

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: U-4D CCR

Date Collected: 10/19/22 10:35

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-7

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep_0			587621	BMP	EET SL	10/28/22 08:39
Total/NA	Analysis	9320		1	590349	JCB	EET SL	11/16/22 11:57
Total/NA	Analysis	Ra226_Ra228		1	591167	CAH	EET SL	11/23/22 11:55

Client Sample ID: U-4S CCR

Date Collected: 10/19/22 10:45

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-8

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370817	J7CK	EET CF	11/02/22 22:12
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370740	A6US	EET CF	11/02/22 17:38
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370596	A6US	EET CF	11/01/22 22:59
Total/NA	Prep	7470A			369584	XXW3	EET CF	10/24/22 13:03
Total/NA	Analysis	7470A		1	369783	XXW3	EET CF	10/25/22 16:10
Total/NA	Analysis	SM 2540C		1	369625	ENB7	EET CF	10/24/22 17:04
Total/NA	Analysis	SM 4500 H+ B		1	369497	ENB7	EET CF	10/22/22 10:58
Total/NA	Prep	PrecSep-21			587618	BMP	EET SL	10/28/22 08:21
Total/NA	Analysis	9315		1	590932	FLC	EET SL	11/22/22 17:59
Total/NA	Prep	PrecSep_0			587621	BMP	EET SL	10/28/22 08:39
Total/NA	Analysis	9320		1	590349	JCB	EET SL	11/16/22 11:57
Total/NA	Analysis	Ra226_Ra228		1	591167	CAH	EET SL	11/23/22 11:55

Client Sample ID: U-5D CCR

Date Collected: 10/19/22 12:55

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-9

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370817	J7CK	EET CF	11/02/22 22:27
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370740	A6US	EET CF	11/02/22 17:42
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370596	A6US	EET CF	11/01/22 23:02
Total/NA	Prep	7470A			369584	XXW3	EET CF	10/24/22 13:03
Total/NA	Analysis	7470A		1	369783	XXW3	EET CF	10/25/22 16:13
Total/NA	Analysis	SM 2540C		1	369625	ENB7	EET CF	10/24/22 17:04
Total/NA	Analysis	SM 4500 H+ B		1	369497	ENB7	EET CF	10/22/22 10:59
Total/NA	Prep	PrecSep-21			587618	BMP	EET SL	10/28/22 08:21
Total/NA	Analysis	9315		1	590932	FLC	EET SL	11/22/22 17:59
Total/NA	Prep	PrecSep_0			587621	BMP	EET SL	10/28/22 08:39
Total/NA	Analysis	9320		1	590349	JCB	EET SL	11/16/22 11:57
Total/NA	Analysis	Ra226_Ra228		1	591167	CAH	EET SL	11/23/22 11:55

Lab Chronicle

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: U-5S CCR

Date Collected: 10/19/22 12:30

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-10

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370817	J7CK	EET CF	11/02/22 22:42
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370740	A6US	EET CF	11/02/22 17:45
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370596	A6US	EET CF	11/01/22 23:05
Total/NA	Prep	7470A			369584	XXW3	EET CF	10/24/22 13:03
Total/NA	Analysis	7470A		1	369783	XXW3	EET CF	10/25/22 16:15
Total/NA	Analysis	SM 2540C		1	369625	ENB7	EET CF	10/24/22 17:04
Total/NA	Analysis	SM 4500 H+ B		1	369497	ENB7	EET CF	10/22/22 11:22
Total/NA	Prep	PrecSep-21			587618	BMP	EET SL	10/28/22 08:21
Total/NA	Analysis	9315		1	590932	FLC	EET SL	11/22/22 17:59
Total/NA	Prep	PrecSep_0			587621	BMP	EET SL	10/28/22 08:39
Total/NA	Analysis	9320		1	590349	JCB	EET SL	11/16/22 11:57
Total/NA	Analysis	Ra226_Ra228		1	591167	CAH	EET SL	11/23/22 11:55

Client Sample ID: D-1S CCR

Date Collected: 10/20/22 08:35

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-11

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370817	J7CK	EET CF	11/02/22 22:57
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370740	A6US	EET CF	11/02/22 17:49
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370596	A6US	EET CF	11/01/22 23:08
Total/NA	Prep	7470A			369584	XXW3	EET CF	10/24/22 13:03
Total/NA	Analysis	7470A		1	369783	XXW3	EET CF	10/25/22 16:17
Total/NA	Analysis	SM 2540C		1	369626	ENB7	EET CF	10/24/22 17:44
Total/NA	Analysis	SM 4500 H+ B		1	369497	ENB7	EET CF	10/22/22 11:03
Total/NA	Prep	PrecSep-21			587618	BMP	EET SL	10/28/22 08:21
Total/NA	Analysis	9315		1	590932	FLC	EET SL	11/22/22 17:59
Total/NA	Prep	PrecSep_0			587621	BMP	EET SL	10/28/22 08:39
Total/NA	Analysis	9320		1	590349	JCB	EET SL	11/16/22 11:57
Total/NA	Analysis	Ra226_Ra228		1	591167	CAH	EET SL	11/23/22 11:55

Client Sample ID: D-2S CCR

Date Collected: 10/20/22 10:10

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-12

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370817	J7CK	EET CF	11/02/22 23:41
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370596	A6US	EET CF	11/01/22 23:36

Lab Chronicle

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-2S CCR

Date Collected: 10/20/22 10:10

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-12

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			369584	XXW3	EET CF	10/24/22 13:03
Total/NA	Analysis	7470A		1	369783	XXW3	EET CF	10/25/22 16:19
Total/NA	Analysis	SM 2540C		1	369626	ENB7	EET CF	10/24/22 17:44
Total/NA	Analysis	SM 4500 H+ B		1	369497	ENB7	EET CF	10/22/22 11:09
Total/NA	Prep	PrecSep-21			587618	BMP	EET SL	10/28/22 08:21
Total/NA	Analysis	9315		1	590932	FLC	EET SL	11/22/22 17:59
Total/NA	Prep	PrecSep_0			587621	BMP	EET SL	10/28/22 08:39
Total/NA	Analysis	9320		1	590349	JCB	EET SL	11/16/22 11:58
Total/NA	Analysis	Ra226_Ra228		1	591167	CAH	EET SL	11/23/22 11:55

Client Sample ID: D-3S CCR

Date Collected: 10/19/22 15:50

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-13

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370817	J7CK	EET CF	11/02/22 23:56
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370596	A6US	EET CF	11/01/22 23:39
Total/NA	Prep	7470A			369584	XXW3	EET CF	10/24/22 13:03
Total/NA	Analysis	7470A		1	369783	XXW3	EET CF	10/25/22 16:21
Total/NA	Analysis	SM 2540C		1	369625	ENB7	EET CF	10/24/22 17:04
Total/NA	Analysis	SM 4500 H+ B		1	369497	ENB7	EET CF	10/22/22 11:10
Total/NA	Prep	PrecSep-21			587618	BMP	EET SL	10/28/22 08:21
Total/NA	Analysis	9315		1	590932	FLC	EET SL	11/22/22 18:00
Total/NA	Prep	PrecSep_0			587621	BMP	EET SL	10/28/22 08:39
Total/NA	Analysis	9320		1	590348	SCB	EET SL	11/16/22 11:59
Total/NA	Analysis	Ra226_Ra228		1	591167	CAH	EET SL	11/23/22 11:55

Client Sample ID: D-5S2 CCR

Date Collected: 10/19/22 14:25

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-14

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370817	J7CK	EET CF	11/03/22 00:11
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370596	A6US	EET CF	11/01/22 23:42
Total/NA	Prep	7470A			369584	XXW3	EET CF	10/24/22 13:03
Total/NA	Analysis	7470A		1	369783	XXW3	EET CF	10/25/22 16:28
Total/NA	Analysis	SM 2540C		1	369625	ENB7	EET CF	10/24/22 17:04
Total/NA	Analysis	SM 4500 H+ B		1	369497	ENB7	EET CF	10/22/22 11:11
Total/NA	Prep	PrecSep-21			587618	BMP	EET SL	10/28/22 08:21
Total/NA	Analysis	9315		1	590932	FLC	EET SL	11/22/22 17:59
Total/NA	Prep	PrecSep_0			587621	BMP	EET SL	10/28/22 08:39
Total/NA	Analysis	9320		1	590348	SCB	EET SL	11/16/22 11:59

Eurofins Cedar Falls

Lab Chronicle

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: D-5S2 CCR

Date Collected: 10/19/22 14:25

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-14

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Ra226_Ra228		1	591167	CAH	EET SL	11/23/22 11:55

Client Sample ID: D-4S CCR

Date Collected: 10/20/22 11:25

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-15

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370817	J7CK	EET CF	11/03/22 00:26
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370596	A6US	EET CF	11/01/22 23:46
Total/NA	Prep	7470A			369584	XXW3	EET CF	10/24/22 13:03
Total/NA	Analysis	7470A		1	369783	XXW3	EET CF	10/25/22 16:30
Total/NA	Analysis	SM 2540C		1	369626	ENB7	EET CF	10/24/22 17:44
Total/NA	Analysis	SM 4500 H+ B		1	369497	ENB7	EET CF	10/22/22 11:12
Total/NA	Prep	PrecSep-21			587618	BMP	EET SL	10/28/22 08:21
Total/NA	Analysis	9315		1	590932	FLC	EET SL	11/22/22 17:59
Total/NA	Prep	PrecSep_0			587621	BMP	EET SL	10/28/22 08:39
Total/NA	Analysis	9320		1	590348	SCB	EET SL	11/16/22 11:59
Total/NA	Analysis	Ra226_Ra228		1	591167	CAH	EET SL	11/23/22 11:55

Client Sample ID: D-8 CCR

Date Collected: 10/20/22 12:22

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-16

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370817	J7CK	EET CF	11/03/22 00:41
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370596	A6US	EET CF	11/01/22 23:49
Total/NA	Prep	7470A			369584	XXW3	EET CF	10/24/22 13:03
Total/NA	Analysis	7470A		1	369783	XXW3	EET CF	10/25/22 16:32
Total/NA	Analysis	SM 2540C		1	369626	ENB7	EET CF	10/24/22 17:44
Total/NA	Analysis	SM 4500 H+ B		1	369497	ENB7	EET CF	10/22/22 11:13
Total/NA	Prep	PrecSep-21			587618	BMP	EET SL	10/28/22 08:21
Total/NA	Analysis	9315		1	590932	FLC	EET SL	11/22/22 17:59
Total/NA	Prep	PrecSep_0			587621	BMP	EET SL	10/28/22 08:39
Total/NA	Analysis	9320		1	590348	SCB	EET SL	11/16/22 12:00
Total/NA	Analysis	Ra226_Ra228		1	591167	CAH	EET SL	11/23/22 11:55

Client Sample ID: DUP-1 CCR

Date Collected: 10/19/22 00:00

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-17

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370817	J7CK	EET CF	11/03/22 00:56

Lab Chronicle

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: DUP-1 CCR

Date Collected: 10/19/22 00:00

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-17

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370596	A6US	EET CF	11/01/22 23:52
Total/NA	Prep	7470A			369584	XXW3	EET CF	10/24/22 13:03
Total/NA	Analysis	7470A		1	369783	XXW3	EET CF	10/25/22 16:34
Total/NA	Analysis	SM 2540C		1	369625	ENB7	EET CF	10/24/22 17:04
Total/NA	Analysis	SM 4500 H+ B		1	369497	ENB7	EET CF	10/22/22 11:23
Total/NA	Prep	PrecSep-21			587618	BMP	EET SL	10/28/22 08:21
Total/NA	Analysis	9315		1	590945	FLC	EET SL	11/22/22 18:01
Total/NA	Prep	PrecSep_0			587621	BMP	EET SL	10/28/22 08:39
Total/NA	Analysis	9320		1	590348	SCB	EET SL	11/16/22 12:00
Total/NA	Analysis	Ra226_Ra228		1	591167	CAH	EET SL	11/23/22 11:55

Client Sample ID: DUP-2 CCR

Date Collected: 10/20/22 00:00

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-18

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370817	J7CK	EET CF	11/03/22 01:11
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370596	A6US	EET CF	11/01/22 23:55
Total/NA	Prep	7470A			369605	XXW3	EET CF	10/24/22 14:46
Total/NA	Analysis	7470A		1	369783	XXW3	EET CF	10/25/22 16:40
Total/NA	Analysis	SM 2540C		1	369626	ENB7	EET CF	10/24/22 17:44
Total/NA	Analysis	SM 4500 H+ B		1	369497	ENB7	EET CF	10/22/22 11:14
Total/NA	Prep	PrecSep-21			587618	BMP	EET SL	10/28/22 08:21
Total/NA	Analysis	9315		1	590945	FLC	EET SL	11/22/22 18:01
Total/NA	Prep	PrecSep_0			587621	BMP	EET SL	10/28/22 08:39
Total/NA	Analysis	9320		1	590348	SCB	EET SL	11/16/22 12:00
Total/NA	Analysis	Ra226_Ra228		1	591167	CAH	EET SL	11/23/22 11:55

Client Sample ID: Equipment Blank CCR

Date Collected: 10/20/22 14:15

Date Received: 10/21/22 14:50

Lab Sample ID: 310-242959-19

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		1	370817	J7CK	EET CF	11/03/22 01:25
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370596	A6US	EET CF	11/01/22 23:58
Total/NA	Prep	7470A			369605	XXW3	EET CF	10/24/22 14:46
Total/NA	Analysis	7470A		1	369783	XXW3	EET CF	10/25/22 16:43
Total/NA	Analysis	SM 2540C		1	369626	ENB7	EET CF	10/24/22 17:44
Total/NA	Analysis	SM 4500 H+ B		1	369497	ENB7	EET CF	10/22/22 11:18
Total/NA	Prep	PrecSep-21			587618	BMP	EET SL	10/28/22 08:21
Total/NA	Analysis	9315		1	590945	FLC	EET SL	11/22/22 18:01

Lab Chronicle

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Client Sample ID: Equipment Blank CCR

Lab Sample ID: 310-242959-19

Date Collected: 10/20/22 14:15

Matrix: Water

Date Received: 10/21/22 14:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep_0			587621	BMP	EET SL	10/28/22 08:39
Total/NA	Analysis	9320		1	590348	SCB	EET SL	11/16/22 12:00
Total/NA	Analysis	Ra226_Ra228		1	591167	CAH	EET SL	11/23/22 11:55

Client Sample ID: Field Blank 1 CCR

Lab Sample ID: 310-242959-20

Date Collected: 10/19/22 13:30

Matrix: Water

Date Received: 10/21/22 14:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		1	370817	J7CK	EET CF	11/03/22 01:40
Total/NA	Prep	3005A			369601	QTZ5	EET CF	10/25/22 09:00
Total/NA	Analysis	6020B		1	370596	A6US	EET CF	11/02/22 00:01
Total/NA	Prep	7470A			369605	XXW3	EET CF	10/24/22 14:46
Total/NA	Analysis	7470A		1	369783	XXW3	EET CF	10/25/22 16:45
Total/NA	Analysis	SM 2540C		1	369625	ENB7	EET CF	10/24/22 17:04
Total/NA	Analysis	SM 4500 H+ B		1	369497	ENB7	EET CF	10/22/22 11:31
Total/NA	Prep	PrecSep-21			587618	BMP	EET SL	10/28/22 08:21
Total/NA	Analysis	9315		1	590945	FLC	EET SL	11/22/22 18:01
Total/NA	Prep	PrecSep_0			587621	BMP	EET SL	10/28/22 08:39
Total/NA	Analysis	9320		1	590348	SCB	EET SL	11/16/22 12:00
Total/NA	Analysis	Ra226_Ra228		1	591167	CAH	EET SL	11/23/22 11:55

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 Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

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	12-31-22

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	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-23
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-23
MI - RadChem Recognition	State	9005	06-30-23
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-23
New Jersey	NELAP	MO002	06-30-23
New York	NELAP	11616	04-01-23
North Dakota	State	R-207	06-30-23
NRC	NRC	24-24817-01	12-31-22
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-23
Texas	NELAP	T104704193	07-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-24
Washington	State	C592	08-30-23
West Virginia DEP	State	381	12-31-22

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

Method Summary

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

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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310-242959 Chain of Custody

Cooler/Sample Receipt and Temperature

Client Information			
Client: <u>GW+ Environmental</u>			
City/State:	CITY	STATE	Project:
		<u>MN</u>	
Receipt Information			
Date/Time Received:	DATE	TIME	Received By:
	<u>10/22/22</u>	<u>0700</u>	<u>N</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: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: <u>1 8</u>	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>8</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? ↓	
Temperature Record			
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>T</u>	Correction Factor (°C): <u>+0.0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>-0.8</u>	Corrected Temp (°C): <u>-0.8</u>	
• Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
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			
Additional Comments			
<u>rcvd lab courier a few hours 10/22/22</u>			



Environment Testing
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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Groundwater + Environment</u>			
City/State:	CITY	STATE	Project:
Receipt Information			
Date/Time Received:	DATE <u>10/22/22</u>	TIME <u>0700</u>	Received By: <u>N</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: _____			
Condition of Cooler/Containers			
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>2</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? ↓	
Temperature Record			
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>T</u>		Correction Factor (°C): <u>10.0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>0.0</u>		Corrected Temp (°C): <u>0.0</u>	
Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
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			
Additional Comments			
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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Groundwater + Environmentals</u>			
City/State:	CITY	STATE	Project:
Receipt Information			
Date/Time Received:	DATE <u>10/21/22</u>	TIME <u>0700</u>	Received By: <u>N</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: _____			
Condition of Cooler/Containers			
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 of 8</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? ↓	
Temperature Record			
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>T</u>	Correction Factor (°C): <u>10.0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>-1.1</u>	Corrected Temp (°C): <u>-1.1</u>	
• Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
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			
Additional Comments			
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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Groundwater + Environment</u>			
City/State:	<small>CITY</small>	<small>STATE</small>	Project:
Receipt Information			
Date/Time Received:	<small>DATE</small> <u>10/21/22</u>	<small>TIME</small> <u>0700</u>	Received By: <u>NV</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: _____			
Condition of Cooler/Containers			
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>8</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? ↓	
Temperature Record			
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>T</u>	Correction Factor (°C): <u>10.0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>-0.5</u>	Corrected Temp (°C): <u>-0.5</u>	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
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			
Additional Comments			
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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Groundwater + Environment</u>			
City/State:	<small>CITY</small>	<small>STATE</small>	Project:
Receipt Information			
Date/Time Received:	<small>DATE</small> <u>10/21/22</u>	<small>TIME</small> <u>0700</u>	Received By: <u>N</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: _____			
Condition of Cooler/Containers			
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 checked="" type="checkbox"/> No	If yes: Cooler # <u>5</u> of <u>8</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? ↓	
Temperature Record			
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>T</u>	Correction Factor (°C): <u>to 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):	
• Sample Container Temperature			
Container(s) used:	<small>CONTAINER 1</small> <u>PL 250 NT</u>	<small>CONTAINER 2</small>	
Uncorrected Temp (°C):	<u>-0.3</u>		
Corrected Temp (°C):	<u>-0.3</u>		
Exceptions Noted			
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			
Additional Comments			
<u>rcvd lab courier after hours 10/21/22</u>			



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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Groundwater + Environment</u>			
City/State:	CITY	STATE	Project:
Receipt Information			
Date/Time Received:	DATE <u>10/21/22</u>	TIME <u>0700</u>	Received By: <u>IV</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: _____			
Condition of Cooler/Containers			
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>6</u> of <u>8</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? ↓	
Temperature Record			
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>T</u>	Correction Factor (°C): <u>10.0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>-0.1</u>	Corrected Temp (°C): <u>-0.1</u>	
• Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
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			
Additional Comments			
<u>rcvd lab courier after hours 10/21/22</u>			



Environment Testing
America

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Groundwater + Environmental</u>			
City/State:	<small>CITY</small>	<small>STATE</small>	Project:
Receipt Information			
Date/Time Received:	<small>DATE</small>	<small>TIME</small>	Received By:
	<u>10/22/22</u>	<u>0700</u>	<u>[Signature]</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: _____			
Condition of Cooler/Containers			
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>7</u> of <u>9</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? ↓	
Temperature Record			
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>T</u>		Correction Factor (°C): <u>+0.0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>-0.6</u>		Corrected Temp (°C): <u>-0.6</u>	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
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			
Additional Comments			
<u>rcvd lab courier after hours 10/21/22</u>			





Environment Testing
America

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>GES</u>			
City/State:	CITY	STATE	Project:
Receipt Information			
Date/Time Received:	DATE <u>10/22/22</u>	TIME <u>7:00</u>	Received By: <u>AM</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: _____			
Condition of Cooler/Containers			
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>8</u> of <u>8</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? ↓	
Temperature Record			
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>R</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):		Corrected Temp (°C):	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u> <u>250 mL plastic</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):	<u>2.1</u>		
Corrected Temp (°C):	<u>2.1</u>		
Exceptions Noted			
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			
Additional Comments			
<u>Rec'd lab courier after hours 10/21/22</u>			



Chain of Custody Record

Client Information		Sampler		Lab PM		Carrier Tracking No(s)		COC No.	
Nicholas Schlager		N. Schlager		Bindert, Zach T		310-68363-19638.1		310-68363-19638.1	
Groundwater & Environmental Services Inc		657-792-6888		E-Mail: Zach.Bindert@Eurofins.com		State of Origin: MN		Page: Page 1 of 2	
1301 Corporate Center Drive Suite 190		PWSID:		Analysis Requested		Job #:		3502287/40/870	
City: Egan		TAT Requested (days): 5-7-2022		Perform MS/MSD (Yes or No)		Preservation Codes		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 X - EDTA Y - other (specify) Z - other (specify) Other:	
State, Zip: MN, 55121-1562		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Field Filtered Sample (Yes or No)		Total Number of Containers		Special Instructions/Note:	
Phone:		Purchase Order not required		Matrix		PLEASE LOGIN USING SITES AND EVENTS			
Email: nschlager@gesonline.com		WO #:		Sample Type (C=Comp, G=Grab)					
Project Name: SKB Rosemount - CCR Monitoring (FALL)		Project #: 31013948		Sample Time					
Site: Minnesota		SSOW#:		Sample Date					
Sample Identification	D-1D CCR	8:10	6	Water	10/21/22	X	X	X	5
	D-2D CCR	10:5	6	Water	10/21/22	X	X	X	5
	D-3D CCR	15:5	6	Water	10/19/22	X	X	X	5
	D-4D CCR	11:40	6	Water	10/24/22	X	X	X	5
	D-5D CCR	14:40	6	Water	10/19/22	X	X	X	5
	D-9 CCR	12:10	6	Water	6/20/22	X	X	X	5
	U-4D CCR	10:35	6	Water	10/19/22	X	X	X	5
	U-4S CCR	10:45	6	Water	10/19/22	X	X	X	5
	U-5D CCR	12:55	6	Water	10/19/22	X	X	X	5
	U-5S CCR	12:50	6	Water	10/19/22	X	X	X	5
	D-1S CCR	8:35	6	Water	10/24/22	X	X	X	5
Possible Hazard Identification <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)									
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months									
Special Instructions/QC Requirements:									
Empty Kit Relinquished by: _____ Date: _____									
Relinquished by: _____ Date/Time: 10/21/22 8:00 Company: _____									
Relinquished by: _____ Date/Time: 10/21/22 0800 Company: _____									
Relinquished by: _____ Date/Time: 10/22/22 0700 Company: _____									
Custody Seals Intact: _____ Custody Seal No: _____									
Cooler Temperature(s) °C and Other Remarks: _____									



Client Information		Lab PM: Bindert, Zach T		Carrier Tracking No(s): 310-68363-19638.2	
Client Contact: Nicholas Schlagel		E-Mail: Zach.Bindert@Eurofins.com		Page: Page 2 of 2	
Company: Groundwater & Environmental Services Inc		PWSID:		Job #: 3502287/40/870	
Address: 1301 Corporate Center Drive Suite 190		Due Date Requested:		Preservation Codes:	
City: Eagan		TAT Requested (days): <i>Handwritten</i>		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - EDTA Y - EDA Z - other (specify) Other:	
State Zip: MN, 55121-1562		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		Analysis Requested:	
Phone:		Purchase Order not required		9316_Ra226 - Standard Target List	
Email: nschlagel@gesonline.com		WO #:		Ra226Ra228_GFP - Local Method	
Project Name: SKB Rosenount - CCR Monitoring (FALL)		Project #: 31013948		9320_Ra228 - Standard Target List	
Site: Minnesota		SSOW#:		9066A_ORGM_28D - Chloride, Fluoride, Sulfate	
				TDS - 2540C_Calcd, pH - SM4500_H+	
				Total Number of Containers	
				Special Instructions/Note: PLEASE LOGIN USING SITES AND EVENTS	

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, B=BI-Tissue, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9316_Ra226 - Standard Target List	Ra226Ra228_GFP - Local Method	9320_Ra228 - Standard Target List	9066A_ORGM_28D - Chloride, Fluoride, Sulfate	CCR Metals (Ba, B, Ca, Cr, Co) - 60208	TDS - 2540C_Calcd, pH - SM4500_H+
D-2S CCR	10/26/22	16:10	6	Water	X	X	X	X	X	X	X	X
D-3S CCR	10/19/22	15:52	6	Water	X	X	X	X	X	X	X	X
D-5S2 CCR	10/19/22	14:25	6	Water	X	X	X	X	X	X	X	X
D-4S CCR	10/20/22	11:25	6	Water	X	X	X	X	X	X	X	X
D-8 CCR	10/20/22	12:25	6	Water	X	X	X	X	X	X	X	X
D-7-GGR	-	-	-	Water	X	X	X	X	X	X	X	X
DUP-1 CCR	10/19/22	-	6	Water	X	X	X	X	X	X	X	X
DUP-2 CCR	10/20/22	-	6	Water	X	X	X	X	X	X	X	X
Equipment Blank CCR	10/20/22	14:25	6	Water	X	X	X	X	X	X	X	X
Field Blank 1 CCR	10/19/22	13:00	6	Water	X	X	X	X	X	X	X	X

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological
 Deliverable Requested I, II, III, IV Other (specify)

Empty Kit Relinquished by _____ Date: _____
Relinquished by _____ Date: 10-21-22 0800 Company: Eurofins
Relinquished by _____ Date: 10-21-22 1700 Company: Eurofins
Relinquished by _____ Date: 10/22/22 0700 Company: Eurofins

Custody Seals Intact: Yes No
Custody Seal No

Special Instructions/QC Requirements:
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months
 Method of Shipment: _____
 Received by: _____ Date/Time: 10-21-22 0800 Company: Eurofins
 Recycled by: _____ Date/Time: _____ Company: _____
 Received by: _____ Date/Time: 10/22/22 0700 Company: Eurofins
 Cooler Temperature(s) °C and Other Remarks: _____



Login Sample Receipt Checklist

Client: Waste Connections, Inc.

Job Number: 310-242959-1

SDG Number:

Login Number: 242959

List Number: 1

Creator: Homolar, Dana J

List Source: Eurofins Cedar Falls

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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Tracer/Carrier Summary

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

Method: 9315 - Radium-226 (GFPC)

Matrix: Ground Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	
310-242959-1	D-1D CCR	97.8	
310-242959-2	D-2D CCR	98.0	
310-242959-3	D-3D CCR	83.3	
310-242959-4	D-4D CCR	92.2	
310-242959-5	D-5D CCR	95.3	
310-242959-6	D-9 CCR	93.4	
310-242959-6 MS	D-9 CCR	99.8	
310-242959-6 MSD	D-9 CCR	92.9	
310-242959-7	U-4D CCR	91.7	
310-242959-8	U-4S CCR	95.3	
310-242959-9	U-5D CCR	90.9	
310-242959-10	U-5S CCR	94.1	
310-242959-11	D-1S CCR	92.6	
310-242959-12	D-2S CCR	91.4	
310-242959-13	D-3S CCR	93.4	
310-242959-14	D-5S2 CCR	95.3	
310-242959-15	D-4S CCR	88.0	
310-242959-16	D-8 CCR	94.1	
310-242959-17	DUP-1 CCR	98.0	
310-242959-18	DUP-2 CCR	91.2	

Tracer/Carrier Legend
Ba = Barium

Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	
310-242959-19	Equipment Blank CCR	94.9	
310-242959-20	Field Blank 1 CCR	93.9	
LCS 160-587618/2-A	Lab Control Sample	99.5	
MB 160-587618/1-A	Method Blank	87.5	

Tracer/Carrier Legend
Ba = Barium

Method: 9320 - Radium-228 (GFPC)

Matrix: Ground Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
310-242959-1	D-1D CCR	97.8	83.4
310-242959-2	D-2D CCR	98.0	84.1
310-242959-3	D-3D CCR	83.3	84.5
310-242959-4	D-4D CCR	92.2	83.4
310-242959-5	D-5D CCR	95.3	80.4
310-242959-6	D-9 CCR	93.4	82.2
310-242959-6 MS	D-9 CCR	99.8	80.0

Eurofins Cedar Falls

Tracer/Carrier Summary

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR Monitoring (FALL)

Job ID: 310-242959-1

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

Matrix: Ground Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits)	
		Ba (40-110)	Y (40-110)
310-242959-6 MSD	D-9 CCR	92.9	81.5
310-242959-7	U-4D CCR	91.7	81.9
310-242959-8	U-4S CCR	95.3	83.4
310-242959-9	U-5D CCR	90.9	81.5
310-242959-10	U-5S CCR	94.1	81.5
310-242959-11	D-1S CCR	92.6	82.6
310-242959-12	D-2S CCR	91.4	84.5
310-242959-13	D-3S CCR	93.4	86.0
310-242959-14	D-5S2 CCR	95.3	86.0
310-242959-15	D-4S CCR	88.0	80.0
310-242959-16	D-8 CCR	94.1	83.0
310-242959-17	DUP-1 CCR	98.0	84.5
310-242959-18	DUP-2 CCR	91.2	84.9

Tracer/Carrier Legend
 Ba = Barium
 Y = Y Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits)	
		Ba (40-110)	Y (40-110)
310-242959-19	Equipment Blank CCR	94.9	86.7
310-242959-20	Field Blank 1 CCR	93.9	87.9
LCS 160-587621/2-A	Lab Control Sample	99.5	84.5
MB 160-587621/1-A	Method Blank	87.5	83.0

Tracer/Carrier Legend
 Ba = Barium
 Y = Y Carrier



Appendix C – Statistical Evaluation Data

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 5.112/21/2022 11:24:09 AM								
4	From File		\\svrrmt101-vm2\Minn-01\Projects\SKB Environmental\Rosemount Facility\Statistics\Input files\Rosemount com								
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	Antimony										
12											
13	General Statistics										
14	Total Number of Observations			209		Number of Distinct Observations			2		
15							Number of Missing Observations			215	
16	Minimum			0.001		First Quartile			0.001		
17	Second Largest			0.002		Median			0.001		
18	Maximum			0.002		Third Quartile			0.001		
19	Mean			0.00117		SD			3.7850E-4		
20	Coefficient of Variation			0.323		Skewness			1.749		
21	Mean of logged Data			-6.788		SD of logged Data			0.262		
22											
23	Critical Values for Background Threshold Values (BTVs)										
24	Tolerance Factor K (For UTL)			1.831		d2max (for USL)			3.446		
25											
26	Normal GOF Test										
27	Shapiro Wilk Test Statistic			0.445		Normal GOF Test					
28	5% Shapiro Wilk P Value			0		Data Not Normal at 5% Significance Level					
29	Lilliefors Test Statistic			0.503		Lilliefors GOF Test					
30	5% Lilliefors Critical Value			0.0617		Data Not Normal at 5% Significance Level					
31	Data Not Normal at 5% Significance Level										
32											
33	Background Statistics Assuming Normal Distribution										
34	95% UTL with 95% Coverage			0.00187		90% Percentile (z)			0.00166		
35	95% UPL (t)			0.0018		95% Percentile (z)			0.00179		
36	95% USL			0.00248		99% Percentile (z)			0.00205		
37											
38	Gamma GOF Test										
39	A-D Test Statistic			59.23		Anderson-Darling Gamma GOF Test					
40	5% A-D Critical Value			0.751		Data Not Gamma Distributed at 5% Significance Level					
41	K-S Test Statistic			0.505		Kolmogorov-Smirnov Gamma GOF Test					
42	5% K-S Critical Value			0.0625		Data Not Gamma Distributed at 5% Significance Level					
43	Data Not Gamma Distributed at 5% Significance Level										
44											
45	Gamma Statistics										
46	k hat (MLE)			12.81		k star (bias corrected MLE)			12.63		
47	Theta hat (MLE)			9.1489E-5		Theta star (bias corrected MLE)			9.2798E-5		
48	nu hat (MLE)			5356		nu star (bias corrected)			5280		
49	MLE Mean (bias corrected)			0.00117		MLE Sd (bias corrected)			3.2982E-4		
50											
51	Background Statistics Assuming Gamma Distribution										
52	95% Wilson Hilferty (WH) Approx. Gamma UPL			0.00176		90% Percentile			0.00161		
53	95% Hawkins Wixley (HW) Approx. Gamma UPL			0.00176		95% Percentile			0.00176		
54	95% WH Approx. Gamma UTL with 95% Coverage			0.00184		99% Percentile			0.00207		
55	95% HW Approx. Gamma UTL with 95% Coverage			0.00183							

A	B	C	D	E	F	G	H	I	J	K	L
56	95% WH USL				0.00265	95% HW USL				0.00268	
57											
58	Lognormal GOF Test										
59	Shapiro Wilk Test Statistic				0.445	Shapiro Wilk Lognormal GOF Test					
60	5% Shapiro Wilk P Value				0	Data Not Lognormal at 5% Significance Level					
61	Lilliefors Test Statistic				0.503	Lilliefors Lognormal GOF Test					
62	5% Lilliefors Critical Value				0.0617	Data Not Lognormal at 5% Significance Level					
63	Data Not Lognormal at 5% Significance Level										
64											
65	Background Statistics assuming Lognormal Distribution										
66	95% UTL with 95% Coverage		0.00182					90% Percentile (z)		0.00158	
67	95% UPL (t)		0.00174					95% Percentile (z)		0.00173	
68	95% USL		0.00278					99% Percentile (z)		0.00207	
69											
70	Nonparametric Distribution Free Background Statistics										
71	Data do not follow a Discernible Distribution (0.05)										
72											
73	Nonparametric Upper Limits for Background Threshold Values										
74	Order of Statistic, r		203					95% UTL with 95% Coverage		0.002	
75	Approx, f used to compute achieved CC		1.526	Approximate Actual Confidence Coefficient achieved by UTL				0.902			
76				Approximate Sample Size needed to achieve specified CC				234			
77	95% Percentile Bootstrap UTL with 95% Coverage		N/A	95% BCA Bootstrap UTL with 95% Coverage				N/A			
78	95% UPL		0.002					90% Percentile		0.002	
79	90% Chebyshev UPL		0.00231					95% Percentile		0.002	
80	95% Chebyshev UPL		0.00283					99% Percentile		0.002	
81	95% USL		0.002								
82											
83	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.										
84	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers										
85	and consists of observations collected from clean unimpacted locations.										
86	The use of USL tends to provide a balance between false positives and false negatives provided the data										
87	represents a background data set and when many onsite observations need to be compared with the BTV.										
88											
89	Arsenic										
90											
91	General Statistics										
92	Total Number of Observations			209				Number of Distinct Observations		3	
93								Number of Missing Observations		215	
94	Minimum			0.001				First Quartile		0.001	
95	Second Largest			0.002				Median		0.001	
96	Maximum			0.002				Third Quartile		0.001	
97	Mean			0.00117				SD		3.7864E-4	
98	Coefficient of Variation			0.322				Skewness		1.733	
99	Mean of logged Data			-6.787				SD of logged Data		0.263	
100											
101	Critical Values for Background Threshold Values (BTVs)										
102	Tolerance Factor K (For UTL)			1.831				d2max (for USL)		3.446	
103											
104	Normal GOF Test										
105	Shapiro Wilk Test Statistic				0.451	Normal GOF Test					
106	5% Shapiro Wilk P Value				0	Data Not Normal at 5% Significance Level					
107	Lilliefors Test Statistic				0.5	Lilliefors GOF Test					
108	5% Lilliefors Critical Value				0.0617	Data Not Normal at 5% Significance Level					
109	Data Not Normal at 5% Significance Level										
110											

A	B	C	D	E	F	G	H	I	J	K	L	
111	Background Statistics Assuming Normal Distribution											
112	95% UTL with 95% Coverage		0.00187								90% Percentile (z)	0.00166
113	95% UPL (t)		0.0018								95% Percentile (z)	0.0018
114	95% USL		0.00248								99% Percentile (z)	0.00206
115												
116	Gamma GOF Test											
117	A-D Test Statistic		58.34								Anderson-Darling Gamma GOF Test	
118	5% A-D Critical Value		0.751								Data Not Gamma Distributed at 5% Significance Level	
119	K-S Test Statistic		0.502								Kolmogorov-Smirnov Gamma GOF Test	
120	5% K-S Critical Value		0.0625								Data Not Gamma Distributed at 5% Significance Level	
121	Data Not Gamma Distributed at 5% Significance Level											
122												
123	Gamma Statistics											
124	k hat (MLE)		12.81								k star (bias corrected MLE)	12.63
125	Theta hat (MLE)		9.1687E-5								Theta star (bias corrected MLE)	9.2999E-5
126	nu hat (MLE)		5353								nu star (bias corrected)	5277
127	MLE Mean (bias corrected)		0.00117								MLE Sd (bias corrected)	3.3045E-4
128												
129	Background Statistics Assuming Gamma Distribution											
130	95% Wilson Hilferty (WH) Approx. Gamma UPL		0.00176								90% Percentile	0.00161
131	95% Hawkins Wixley (HW) Approx. Gamma UPL		0.00176								95% Percentile	0.00177
132	95% WH Approx. Gamma UTL with 95% Coverage		0.00184								99% Percentile	0.00208
133	95% HW Approx. Gamma UTL with 95% Coverage		0.00184									
134	95% WH USL		0.00265								95% HW USL	0.00268
135												
136	Lognormal GOF Test											
137	Shapiro Wilk Test Statistic		0.452								Shapiro Wilk Lognormal GOF Test	
138	5% Shapiro Wilk P Value		0								Data Not Lognormal at 5% Significance Level	
139	Lilliefors Test Statistic		0.5								Lilliefors Lognormal GOF Test	
140	5% Lilliefors Critical Value		0.0617								Data Not Lognormal at 5% Significance Level	
141	Data Not Lognormal at 5% Significance Level											
142												
143	Background Statistics assuming Lognormal Distribution											
144	95% UTL with 95% Coverage		0.00183								90% Percentile (z)	0.00158
145	95% UPL (t)		0.00174								95% Percentile (z)	0.00174
146	95% USL		0.00279								99% Percentile (z)	0.00208
147												
148	Nonparametric Distribution Free Background Statistics											
149	Data do not follow a Discernible Distribution (0.05)											
150												
151	Nonparametric Upper Limits for Background Threshold Values											
152	Order of Statistic, r		203								95% UTL with 95% Coverage	0.002
153	Approx, f used to compute achieved CC		1.526								Approximate Actual Confidence Coefficient achieved by UTL	0.902
154								Approximate Sample Size needed to achieve specified CC				234
155	95% Percentile Bootstrap UTL with 95% Coverage		N/A								95% BCA Bootstrap UTL with 95% Coverage	N/A
156	95% UPL		0.002								90% Percentile	0.002
157	90% Chebyshev UPL		0.00231								95% Percentile	0.002
158	95% Chebyshev UPL		0.00283								99% Percentile	0.002
159	95% USL		0.002									
160												
161	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.											
162	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers											
163	and consists of observations collected from clean unimpacted locations.											
164	The use of USL tends to provide a balance between false positives and false negatives provided the data											
165	represents a background data set and when many onsite observations need to be compared with the BTV.											

A	B	C	D	E	F	G	H	I	J	K	L	
166												
167	Barium											
168												
169	General Statistics											
170	Total Number of Observations				224	Number of Distinct Observations				49		
171						Number of Missing Observations				200		
172	Minimum				0.032	First Quartile				0.05		
173	Second Largest				0.089	Median				0.055		
174	Maximum				0.097	Third Quartile				0.0633		
175	Mean				0.0569	SD				0.0107		
176	Coefficient of Variation				0.188	Skewness				0.703		
177	Mean of logged Data				-2.883	SD of logged Data				0.184		
178												
179	Critical Values for Background Threshold Values (BTVs)											
180	Tolerance Factor K (For UTL)				1.824	d2max (for USL)				3.467		
181												
182	Normal GOF Test											
183	Shapiro Wilk Test Statistic				0.962	Normal GOF Test						
184	5% Shapiro Wilk P Value				2.0128E-4	Data Not Normal at 5% Significance Level						
185	Lilliefors Test Statistic				0.101	Lilliefors GOF Test						
186	5% Lilliefors Critical Value				0.0596	Data Not Normal at 5% Significance Level						
187	Data Not Normal at 5% Significance Level											
188												
189	Background Statistics Assuming Normal Distribution											
190	95% UTL with 95% Coverage			0.0765	90% Percentile (z)			0.0707				
191	95% UPL (t)			0.0747	95% Percentile (z)			0.0746				
192	95% USL			0.0941	99% Percentile (z)			0.0819				
193												
194	Gamma GOF Test											
195	A-D Test Statistic				1.109	Anderson-Darling Gamma GOF Test						
196	5% A-D Critical Value				0.751	Data Not Gamma Distributed at 5% Significance Level						
197	K-S Test Statistic				0.0797	Kolmogorov-Smirnov Gamma GOF Test						
198	5% K-S Critical Value				0.0607	Data Not Gamma Distributed at 5% Significance Level						
199	Data Not Gamma Distributed at 5% Significance Level											
200												
201	Gamma Statistics											
202	k hat (MLE)				29.46	k star (bias corrected MLE)				29.07		
203	Theta hat (MLE)				0.00193	Theta star (bias corrected MLE)				0.00196		
204	nu hat (MLE)				13197	nu star (bias corrected)				13022		
205	MLE Mean (bias corrected)				0.0569	MLE Sd (bias corrected)				0.0106		
206												
207	Background Statistics Assuming Gamma Distribution											
208	95% Wilson Hilferty (WH) Approx. Gamma UPL				0.0754	90% Percentile				0.0708		
209	95% Hawkins Wixley (HW) Approx. Gamma UPL				0.0755	95% Percentile				0.0754		
210	95% WH Approx. Gamma UTL with 95% Coverage			0.0776	99% Percentile			0.0844				
211	95% HW Approx. Gamma UTL with 95% Coverage			0.0777								
212	95% WH USL			0.101	95% HW USL			0.102				
213												
214	Lognormal GOF Test											
215	Shapiro Wilk Test Statistic				0.985	Shapiro Wilk Lognormal GOF Test						
216	5% Shapiro Wilk P Value				0.667	Data appear Lognormal at 5% Significance Level						
217	Lilliefors Test Statistic				0.0686	Lilliefors Lognormal GOF Test						
218	5% Lilliefors Critical Value				0.0596	Data Not Lognormal at 5% Significance Level						
219	Data appear Approximate Lognormal at 5% Significance Level											
220												

A	B	C	D	E	G	H	I	J	K	L	
221	Background Statistics assuming Lognormal Distribution										
222	95% UTL with 95% Coverage		0.0784							90% Percentile (z)	0.0709
223	95% UPL (t)		0.076							95% Percentile (z)	0.0758
224	95% USL		0.106							99% Percentile (z)	0.086
225											
226	Nonparametric Distribution Free Background Statistics										
227	Data appear Approximate Lognormal at 5% Significance Level										
228											
229	Nonparametric Upper Limits for Background Threshold Values										
230	Order of Statistic, r		217							95% UTL with 95% Coverage	0.08
231	Approx, f used to compute achieved CC		1.428	Approximate Actual Confidence Coefficient achieved by UTL						0.876	
232				Approximate Sample Size needed to achieve specified CC						260	
233	95% Percentile Bootstrap UTL with 95% Coverage		0.08	95% BCA Bootstrap UTL with 95% Coverage						0.08	
234	95% UPL		0.076							90% Percentile	0.0717
235	90% Chebyshev UPL		0.0892							95% Percentile	0.0759
236	95% Chebyshev UPL		0.104							99% Percentile	0.0873
237	95% USL		0.097								
238											
239	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.										
240	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers										
241	and consists of observations collected from clean unimpacted locations.										
242	The use of USL tends to provide a balance between false positives and false negatives provided the data										
243	represents a background data set and when many onsite observations need to be compared with the BTV.										
244											
245	Beryllium										
246											
247	General Statistics										
248	Total Number of Observations		209	Number of Distinct Observations						2	
249				Number of Missing Observations						215	
250	Minimum		7.0000E-4	First Quartile						7.0000E-4	
251	Second Largest		0.001	Median						7.0000E-4	
252	Maximum		0.001	Third Quartile						7.0000E-4	
253	Mean		7.5167E-4	SD						1.1355E-4	
254	Coefficient of Variation		0.151	Skewness						1.749	
255	Mean of logged Data		-7.203	SD of logged Data						0.135	
256											
257	Critical Values for Background Threshold Values (BTVs)										
258	Tolerance Factor K (For UTL)		1.831	d2max (for USL)						3.446	
259											
260	Normal GOF Test										
261	Shapiro Wilk Test Statistic		0.445	Normal GOF Test							
262	5% Shapiro Wilk P Value		0	Data Not Normal at 5% Significance Level							
263	Lilliefors Test Statistic		0.503	Lilliefors GOF Test							
264	5% Lilliefors Critical Value		0.0617	Data Not Normal at 5% Significance Level							
265	Data Not Normal at 5% Significance Level										
266											
267	Background Statistics Assuming Normal Distribution										
268	95% UTL with 95% Coverage		9.5962E-4	90% Percentile (z)						8.9720E-4	
269	95% UPL (t)		9.3973E-4	95% Percentile (z)						9.3845E-4	
270	95% USL		0.00114	99% Percentile (z)						0.00102	
271											
272	Gamma GOF Test										
273	A-D Test Statistic		59.14	Anderson-Darling Gamma GOF Test							
274	5% A-D Critical Value		0.75	Data Not Gamma Distributed at 5% Significance Level							
275	K-S Test Statistic		0.504	Kolmogorov-Smirnov Gamma GOF Test							

A	B	C	D	E	F	G	H	I	J	K	L	
276	5% K-S Critical Value			0.0624	Data Not Gamma Distributed at 5% Significance Level							
277	Data Not Gamma Distributed at 5% Significance Level											
278												
279	Gamma Statistics											
280	k hat (MLE)			51.26	k star (bias corrected MLE)			50.52				
281	Theta hat (MLE)			1.4665E-5	Theta star (bias corrected MLE)			1.4877E-5				
282	nu hat (MLE)			21426	nu star (bias corrected)			21119				
283	MLE Mean (bias corrected)			7.5167E-4	MLE Sd (bias corrected)			1.0575E-4				
284												
285	Background Statistics Assuming Gamma Distribution											
286	95% Wilson Hilferty (WH) Approx. Gamma UPL			9.3395E-4	90% Percentile			8.8998E-4				
287	95% Hawkins Wixley (HW) Approx. Gamma UPL			9.3319E-4	95% Percentile			9.3366E-4				
288	95% WH Approx. Gamma UTL with 95% Coverage			9.5541E-4	99% Percentile			0.00102				
289	95% HW Approx. Gamma UTL with 95% Coverage			9.5485E-4								
290	95% WH USL			0.00117	95% HW USL			0.00117				
291												
292	Lognormal GOF Test											
293	Shapiro Wilk Test Statistic			0.445	Shapiro Wilk Lognormal GOF Test							
294	5% Shapiro Wilk P Value			0	Data Not Lognormal at 5% Significance Level							
295	Lilliefors Test Statistic			0.503	Lilliefors Lognormal GOF Test							
296	5% Lilliefors Critical Value			0.0617	Data Not Lognormal at 5% Significance Level							
297	Data Not Lognormal at 5% Significance Level											
298												
299	Background Statistics assuming Lognormal Distribution											
300	95% UTL with 95% Coverage			9.5312E-4	90% Percentile (z)			8.8495E-4				
301	95% UPL (t)			9.3085E-4	95% Percentile (z)			9.2943E-4				
302	95% USL			0.00119	99% Percentile (z)			0.00102				
303												
304	Nonparametric Distribution Free Background Statistics											
305	Data do not follow a Discernible Distribution (0.05)											
306												
307	Nonparametric Upper Limits for Background Threshold Values											
308	Order of Statistic, r			203	95% UTL with 95% Coverage			0.001				
309	Approx, f used to compute achieved CC			1.526	Approximate Actual Confidence Coefficient achieved by UTL			0.902				
310					Approximate Sample Size needed to achieve specified CC			234				
311	95% Percentile Bootstrap UTL with 95% Coverage			N/A	95% BCA Bootstrap UTL with 95% Coverage			N/A				
312	95% UPL			0.001	90% Percentile			0.001				
313	90% Chebyshev UPL			0.00109	95% Percentile			0.001				
314	95% Chebyshev UPL			0.00125	99% Percentile			0.001				
315	95% USL			0.001								
316												
317	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.											
318	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers											
319	and consists of observations collected from clean unimpacted locations.											
320	The use of USL tends to provide a balance between false positives and false negatives provided the data											
321	represents a background data set and when many onsite observations need to be compared with the BTV.											
322												
323	Boron											
324												
325	General Statistics											
326	Total Number of Observations			285	Number of Distinct Observations			49				
327					Number of Missing Observations			139				
328	Minimum			0.02	First Quartile			0.02				
329	Second Largest			0.31	Median			0.021				
330	Maximum			0.33	Third Quartile			0.049				

A	B	C	D	E	F	G	H	I	J	K	L
331	Mean			0.0438						SD	0.0472
332	Coefficient of Variation			1.078						Skewness	3.145
333	Mean of logged Data			-3.442						SD of logged Data	0.695
334											
335	Critical Values for Background Threshold Values (BTVs)										
336	Tolerance Factor K (For UTL)			1.803						d2max (for USL)	3.538
337											
338	Normal GOF Test										
339	Shapiro Wilk Test Statistic			0.57						Normal GOF Test	
340	5% Shapiro Wilk P Value			0					Data Not Normal at 5% Significance Level		
341	Lilliefors Test Statistic			0.307					Lilliefors GOF Test		
342	5% Lilliefors Critical Value			0.0529					Data Not Normal at 5% Significance Level		
343	Data Not Normal at 5% Significance Level										
344											
345	Background Statistics Assuming Normal Distribution										
346	95% UTL with 95% Coverage		0.129						90% Percentile (z)		0.104
347	95% UPL (t)		0.122						95% Percentile (z)		0.122
348	95% USL		0.211						99% Percentile (z)		0.154
349											
350	Gamma GOF Test										
351	A-D Test Statistic			38.44					Anderson-Darling Gamma GOF Test		
352	5% A-D Critical Value			0.769				Data Not Gamma Distributed at 5% Significance Level			
353	K-S Test Statistic			0.296				Kolmogorov-Smirnov Gamma GOF Test			
354	5% K-S Critical Value			0.0547				Data Not Gamma Distributed at 5% Significance Level			
355	Data Not Gamma Distributed at 5% Significance Level										
356											
357	Gamma Statistics										
358	k hat (MLE)		1.739					k star (bias corrected MLE)		1.723	
359	Theta hat (MLE)		0.0252					Theta star (bias corrected MLE)		0.0254	
360	nu hat (MLE)		990.9					nu star (bias corrected)		981.8	
361	MLE Mean (bias corrected)		0.0438					MLE Sd (bias corrected)		0.0334	
362											
363	Background Statistics Assuming Gamma Distribution										
364	95% Wilson Hilferty (WH) Approx. Gamma UPL		0.106					90% Percentile		0.0883	
365	95% Hawkins Wixley (HW) Approx. Gamma UPL		0.105					95% Percentile		0.109	
366	95% WH Approx. Gamma UTL with 95% Coverage		0.115					99% Percentile		0.155	
367	95% HW Approx. Gamma UTL with 95% Coverage		0.114								
368	95% WH USL		0.262					95% HW USL		0.279	
369											
370	Lognormal GOF Test										
371	Shapiro Wilk Test Statistic			0.699					Shapiro Wilk Lognormal GOF Test		
372	5% Shapiro Wilk P Value			0				Data Not Lognormal at 5% Significance Level			
373	Lilliefors Test Statistic			0.286				Lilliefors Lognormal GOF Test			
374	5% Lilliefors Critical Value			0.0529				Data Not Lognormal at 5% Significance Level			
375	Data Not Lognormal at 5% Significance Level										
376											
377	Background Statistics assuming Lognormal Distribution										
378	95% UTL with 95% Coverage		0.112					90% Percentile (z)		0.078	
379	95% UPL (t)		0.101					95% Percentile (z)		0.1	
380	95% USL		0.375					99% Percentile (z)		0.161	
381											
382	Nonparametric Distribution Free Background Statistics										
383	Data do not follow a Discernible Distribution (0.05)										
384											
385	Nonparametric Upper Limits for Background Threshold Values										

A	B	C	D	E	F	G	H	I	J	K	L
386	Order of Statistic, r				276	95% UTL with 95% Coverage				0.15	
387	Approx, f used to compute achieved CC				1.453	Approximate Actual Confidence Coefficient achieved by UTL				0.908	
388						Approximate Sample Size needed to achieve specified CC				311	
389	95% Percentile Bootstrap UTL with 95% Coverage				0.15	95% BCA Bootstrap UTL with 95% Coverage				0.1	
390	95% UPL				0.121	90% Percentile				0.1	
391	90% Chebyshev UPL				0.186	95% Percentile				0.1	
392	95% Chebyshev UPL				0.25	99% Percentile				0.243	
393	95% USL				0.33						
394											
395	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.										
396	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers										
397	and consists of observations collected from clean unimpacted locations.										
398	The use of USL tends to provide a balance between false positives and false negatives provided the data										
399	represents a background data set and when many onsite observations need to be compared with the BTV.										
400											
401	Cadmium										
402											
403	General Statistics										
404	Total Number of Observations				209	Number of Distinct Observations				2	
405						Number of Missing Observations				215	
406	Minimum				1.0000E-4	First Quartile				5.0000E-4	
407	Second Largest				5.0000E-4	Median				5.0000E-4	
408	Maximum				5.0000E-4	Third Quartile				5.0000E-4	
409	Mean				4.3110E-4	SD				1.5140E-4	
410	Coefficient of Variation				0.351	Skewness				-1.749	
411	Mean of logged Data				-7.878	SD of logged Data				0.609	
412											
413	Critical Values for Background Threshold Values (BTVs)										
414	Tolerance Factor K (For UTL)				1.831	d2max (for USL)				3.446	
415											
416	Normal GOF Test										
417	Shapiro Wilk Test Statistic				0.445	Normal GOF Test					
418	5% Shapiro Wilk P Value				0	Data Not Normal at 5% Significance Level					
419	Lilliefors Test Statistic				0.503	Lilliefors GOF Test					
420	5% Lilliefors Critical Value				0.0617	Data Not Normal at 5% Significance Level					
421	Data Not Normal at 5% Significance Level										
422											
423	Background Statistics Assuming Normal Distribution										
424	95% UTL with 95% Coverage				7.0836E-4	90% Percentile (z)				6.2513E-4	
425	95% UPL (t)				6.8185E-4	95% Percentile (z)				6.8013E-4	
426	95% USL				9.5279E-4	99% Percentile (z)				7.8331E-4	
427											
428	Gamma GOF Test										
429	A-D Test Statistic				59.74	Anderson-Darling Gamma GOF Test					
430	5% A-D Critical Value				0.757	Data Not Gamma Distributed at 5% Significance Level					
431	K-S Test Statistic				0.509	Kolmogorov-Smirnov Gamma GOF Test					
432	5% K-S Critical Value				0.0629	Data Not Gamma Distributed at 5% Significance Level					
433	Data Not Gamma Distributed at 5% Significance Level										
434											
435	Gamma Statistics										
436	k hat (MLE)				4.036	k star (bias corrected MLE)				3.982	
437	Theta hat (MLE)				1.0680E-4	Theta star (bias corrected MLE)				1.0827E-4	
438	nu hat (MLE)				1687	nu star (bias corrected)				1664	
439	MLE Mean (bias corrected)				4.3110E-4	MLE Sd (bias corrected)				2.1605E-4	
440											

A	B	C	D	E	F	G	H	I	J	K	L
441	Background Statistics Assuming Gamma Distribution										
442	95% Wilson Hilferty (WH) Approx. Gamma UPL			8.3993E-4				90% Percentile		7.2069E-4	
443	95% Hawkins Wixley (HW) Approx. Gamma UPL			8.7631E-4				95% Percentile		8.3667E-4	
444	95% WH Approx. Gamma UTL with 95% Coverage			8.9963E-4				99% Percentile		0.00108	
445	95% HW Approx. Gamma UTL with 95% Coverage			9.4515E-4							
446	95% WH USL			0.00159				95% HW USL		0.00179	
447											
448	Lognormal GOF Test										
449	Shapiro Wilk Test Statistic			0.445				Shapiro Wilk Lognormal GOF Test			
450	5% Shapiro Wilk P Value			0				Data Not Lognormal at 5% Significance Level			
451	Lilliefors Test Statistic			0.503				Lilliefors Lognormal GOF Test			
452	5% Lilliefors Critical Value			0.0617				Data Not Lognormal at 5% Significance Level			
453	Data Not Lognormal at 5% Significance Level										
454											
455	Background Statistics assuming Lognormal Distribution										
456	95% UTL with 95% Coverage			0.00116				90% Percentile (z)		8.2722E-4	
457	95% UPL (t)			0.00104				95% Percentile (z)		0.00103	
458	95% USL			0.00309				99% Percentile (z)		0.00156	
459											
460	Nonparametric Distribution Free Background Statistics										
461	Data do not follow a Discernible Distribution (0.05)										
462											
463	Nonparametric Upper Limits for Background Threshold Values										
464	Order of Statistic, r			203				95% UTL with 95% Coverage		5.0000E-4	
465	Approx, f used to compute achieved CC			1.526				Approximate Actual Confidence Coefficient achieved by UTL		0.902	
466								Approximate Sample Size needed to achieve specified CC		234	
467	95% Percentile Bootstrap UTL with 95% Coverage			N/A				95% BCA Bootstrap UTL with 95% Coverage		N/A	
468	95% UPL			5.0000E-4				90% Percentile		5.0000E-4	
469	90% Chebyshev UPL			8.8639E-4				95% Percentile		5.0000E-4	
470	95% Chebyshev UPL			0.00109				99% Percentile		5.0000E-4	
471	95% USL			5.0000E-4							
472											
473	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.										
474	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers										
475	and consists of observations collected from clean unimpacted locations.										
476	The use of USL tends to provide a balance between false positives and false negatives provided the data										
477	represents a background data set and when many onsite observations need to be compared with the BTV.										
478											
479	Chromium										
480											
481	General Statistics										
482	Total Number of Observations			184				Number of Distinct Observations		30	
483								Number of Missing Observations		240	
484	Minimum			0.004				First Quartile		0.004	
485	Second Largest			0.049				Median		0.004	
486	Maximum			0.052				Third Quartile		0.005	
487	Mean			0.00604				SD		0.00715	
488	Coefficient of Variation			1.184				Skewness		4.931	
489	Mean of logged Data			-5.318				SD of logged Data		0.484	
490											
491	Critical Values for Background Threshold Values (BTVs)										
492	Tolerance Factor K (For UTL)			1.844				d2max (for USL)		3.407	
493											
494	Normal GOF Test										
495	Shapiro Wilk Test Statistic			0.322				Normal GOF Test			

A	B	C	D	E	F	G	H	I	J	K	L	
496	5% Shapiro Wilk P Value				0	Data Not Normal at 5% Significance Level						
497	Lilliefors Test Statistic				0.4	Lilliefors GOF Test						
498	5% Lilliefors Critical Value				0.0657	Data Not Normal at 5% Significance Level						
499	Data Not Normal at 5% Significance Level											
500												
501	Background Statistics Assuming Normal Distribution											
502	95% UTL with 95% Coverage				0.0192	90% Percentile (z)				0.0152		
503	95% UPL (t)				0.0179	95% Percentile (z)				0.0178		
504	95% USL				0.0304	99% Percentile (z)				0.0227		
505												
506	Gamma GOF Test											
507	A-D Test Statistic				42.22	Anderson-Darling Gamma GOF Test						
508	5% A-D Critical Value				0.763	Data Not Gamma Distributed at 5% Significance Level						
509	K-S Test Statistic				0.374	Kolmogorov-Smirnov Gamma GOF Test						
510	5% K-S Critical Value				0.0684	Data Not Gamma Distributed at 5% Significance Level						
511	Data Not Gamma Distributed at 5% Significance Level											
512												
513	Gamma Statistics											
514	k hat (MLE)				2.549	k star (bias corrected MLE)				2.511		
515	Theta hat (MLE)				0.00237	Theta star (bias corrected MLE)				0.00241		
516	nu hat (MLE)				938	nu star (bias corrected)				924		
517	MLE Mean (bias corrected)				0.00604	MLE Sd (bias corrected)				0.00381		
518												
519	Background Statistics Assuming Gamma Distribution											
520	95% Wilson Hilferty (WH) Approx. Gamma UPL				0.0128	90% Percentile				0.0112		
521	95% Hawkins Wixley (HW) Approx. Gamma UPL				0.0123	95% Percentile				0.0134		
522	95% WH Approx. Gamma UTL with 95% Coverage				0.014	99% Percentile				0.0182		
523	95% HW Approx. Gamma UTL with 95% Coverage				0.0134							
524	95% WH USL				0.0267	95% HW USL				0.0263		
525												
526	Lognormal GOF Test											
527	Shapiro Wilk Test Statistic				0.478	Shapiro Wilk Lognormal GOF Test						
528	5% Shapiro Wilk P Value				0	Data Not Lognormal at 5% Significance Level						
529	Lilliefors Test Statistic				0.337	Lilliefors Lognormal GOF Test						
530	5% Lilliefors Critical Value				0.0657	Data Not Lognormal at 5% Significance Level						
531	Data Not Lognormal at 5% Significance Level											
532												
533	Background Statistics assuming Lognormal Distribution											
534	95% UTL with 95% Coverage				0.012	90% Percentile (z)				0.00912		
535	95% UPL (t)				0.0109	95% Percentile (z)				0.0109		
536	95% USL				0.0255	99% Percentile (z)				0.0151		
537												
538	Nonparametric Distribution Free Background Statistics											
539	Data do not follow a Discernible Distribution (0.05)											
540												
541	Nonparametric Upper Limits for Background Threshold Values											
542	Order of Statistic, r				179	95% UTL with 95% Coverage				0.028		
543	Approx, f used to compute achieved CC				1.57	Approximate Actual Confidence Coefficient achieved by UTL				0.902		
544						Approximate Sample Size needed to achieve specified CC				208		
545	95% Percentile Bootstrap UTL with 95% Coverage				0.0274	95% BCA Bootstrap UTL with 95% Coverage				0.024		
546	95% UPL				0.0163	90% Percentile				0.0068		
547	90% Chebyshev UPL				0.0276	95% Percentile				0.014		
548	95% Chebyshev UPL				0.0373	99% Percentile				0.049		
549	95% USL				0.052							
550												

A	B	C	D	E	F	G	H	I	J	K	L	
551	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.											
552	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers											
553	and consists of observations collected from clean unimpacted locations.											
554	The use of USL tends to provide a balance between false positives and false negatives provided the data											
555	represents a background data set and when many onsite observations need to be compared with the BTV.											
556												
557	Calcium											
558												
559	General Statistics											
560	Total Number of Observations			287	Number of Distinct Observations			143				
561					Number of Missing Observations			137				
562	Minimum			65.1	First Quartile			91.1				
563	Second Largest			132	Median			98.2				
564	Maximum			132	Third Quartile			104				
565	Mean			98.67	SD			11.4				
566	Coefficient of Variation			0.116	Skewness			0.295				
567	Mean of logged Data			4.585	SD of logged Data			0.116				
568												
569	Critical Values for Background Threshold Values (BTVs)											
570	Tolerance Factor K (For UTL)			1.802	d2max (for USL)			3.54				
571												
572	Normal GOF Test											
573	Shapiro Wilk Test Statistic			0.97	Normal GOF Test							
574	5% Shapiro Wilk P Value			0.00253	Data Not Normal at 5% Significance Level							
575	Lilliefors Test Statistic			0.0797	Lilliefors GOF Test							
576	5% Lilliefors Critical Value			0.0527	Data Not Normal at 5% Significance Level							
577	Data Not Normal at 5% Significance Level											
578												
579	Background Statistics Assuming Normal Distribution											
580	95% UTL with 95% Coverage		119.2	90% Percentile (z)		113.3						
581	95% UPL (t)		117.5	95% Percentile (z)		117.4						
582	95% USL		139	99% Percentile (z)		125.2						
583												
584	Gamma GOF Test											
585	A-D Test Statistic			1.453	Anderson-Darling Gamma GOF Test							
586	5% A-D Critical Value			0.752	Data Not Gamma Distributed at 5% Significance Level							
587	K-S Test Statistic			0.0686	Kolmogorov-Smirnov Gamma GOF Test							
588	5% K-S Critical Value			0.0534	Data Not Gamma Distributed at 5% Significance Level							
589	Data Not Gamma Distributed at 5% Significance Level											
590												
591	Gamma Statistics											
592	k hat (MLE)			75.18	k star (bias corrected MLE)			74.39				
593	Theta hat (MLE)			1.312	Theta star (bias corrected MLE)			1.326				
594	nu hat (MLE)			43152	nu star (bias corrected)			42702				
595	MLE Mean (bias corrected)			98.67	MLE Sd (bias corrected)			11.44				
596												
597	Background Statistics Assuming Gamma Distribution											
598	95% Wilson Hilferty (WH) Approx. Gamma UPL		118.2	90% Percentile		113.6						
599	95% Hawkins Wixley (HW) Approx. Gamma UPL		118.4	95% Percentile		118.2						
600	95% WH Approx. Gamma UTL with 95% Coverage		120.2	99% Percentile		127.2						
601	95% HW Approx. Gamma UTL with 95% Coverage		120.3									
602	95% WH USL		144.2	95% HW USL		145						
603												
604	Lognormal GOF Test											
605	Shapiro Wilk Test Statistic			0.973	Shapiro Wilk Lognormal GOF Test							

A	B	C	D	E	F	G	H	I	J	K	L
606	5% Shapiro Wilk P Value			0.0114	Data Not Lognormal at 5% Significance Level						
607	Lilliefors Test Statistic			0.0643	Lilliefors Lognormal GOF Test						
608	5% Lilliefors Critical Value			0.0527	Data Not Lognormal at 5% Significance Level						
609	Data Not Lognormal at 5% Significance Level										
610											
611	Background Statistics assuming Lognormal Distribution										
612	95% UTL with 95% Coverage			120.8				90% Percentile (z)		113.7	
613	95% UPL (t)			118.7				95% Percentile (z)		118.6	
614	95% USL			147.8				99% Percentile (z)		128.4	
615											
616	Nonparametric Distribution Free Background Statistics										
617	Data do not follow a Discernible Distribution (0.05)										
618											
619	Nonparametric Upper Limits for Background Threshold Values										
620	Order of Statistic, r			278				95% UTL with 95% Coverage		121	
621	Approx, f used to compute achieved CC			1.463	Approximate Actual Confidence Coefficient achieved by UTL			0.912			
622					Approximate Sample Size needed to achieve specified CC			311			
623	95% Percentile Bootstrap UTL with 95% Coverage			121	95% BCA Bootstrap UTL with 95% Coverage			121			
624	95% UPL			120				90% Percentile		115	
625	90% Chebyshev UPL			132.9				95% Percentile		120	
626	95% Chebyshev UPL			148.5				99% Percentile		128.4	
627	95% USL			132							
628											
629	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.										
630	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers										
631	and consists of observations collected from clean unimpacted locations.										
632	The use of USL tends to provide a balance between false positives and false negatives provided the data										
633	represents a background data set and when many onsite observations need to be compared with the BTV.										
634											
635	Chloride										
636											
637	General Statistics										
638	Total Number of Observations			410				Number of Distinct Observations		257	
639								Number of Missing Observations		14	
640	Minimum			16.1				First Quartile		33.03	
641	Second Largest			125				Median		41.65	
642	Maximum			126				Third Quartile		48.68	
643	Mean			44.02				SD		16.7	
644	Coefficient of Variation			0.379				Skewness		1.992	
645	Mean of logged Data			3.726				SD of logged Data		0.333	
646											
647	Critical Values for Background Threshold Values (BTVs)										
648	Tolerance Factor K (For UTL)			1.775				d2max (for USL)		3.641	
649											
650	Normal GOF Test										
651	Shapiro Wilk Test Statistic			0.834	Normal GOF Test						
652	5% Shapiro Wilk P Value			0	Data Not Normal at 5% Significance Level						
653	Lilliefors Test Statistic			0.177	Lilliefors GOF Test						
654	5% Lilliefors Critical Value			0.0441	Data Not Normal at 5% Significance Level						
655	Data Not Normal at 5% Significance Level										
656											
657	Background Statistics Assuming Normal Distribution										
658	95% UTL with 95% Coverage			73.66				90% Percentile (z)		65.42	
659	95% UPL (t)			71.58				95% Percentile (z)		71.48	
660	95% USL			104.8				99% Percentile (z)		82.86	

A	B	C	D	E	F	G	H	I	J	K	L
661											
662	Gamma GOF Test										
663	A-D Test Statistic			5.952		Anderson-Darling Gamma GOF Test					
664	5% A-D Critical Value			0.755		Data Not Gamma Distributed at 5% Significance Level					
665	K-S Test Statistic			0.127		Kolmogorov-Smirnov Gamma GOF Test					
666	5% K-S Critical Value			0.0447		Data Not Gamma Distributed at 5% Significance Level					
667	Data Not Gamma Distributed at 5% Significance Level										
668											
669	Gamma Statistics										
670	k hat (MLE)			8.7		k star (bias corrected MLE)			8.638		
671	Theta hat (MLE)			5.06		Theta star (bias corrected MLE)			5.096		
672	nu hat (MLE)			7134		nu star (bias corrected)			7084		
673	MLE Mean (bias corrected)			44.02		MLE Sd (bias corrected)			14.98		
674											
675	Background Statistics Assuming Gamma Distribution										
676	95% Wilson Hilferty (WH) Approx. Gamma UPL			71.1		90% Percentile			63.98		
677	95% Hawkins Wixley (HW) Approx. Gamma UPL			71.23		95% Percentile			71.2		
678	95% WH Approx. Gamma UTL with 95% Coverage			73.69		99% Percentile			86.12		
679	95% HW Approx. Gamma UTL with 95% Coverage			73.91							
680	95% WH USL			120.3		95% HW USL			123.9		
681											
682	Lognormal GOF Test										
683	Shapiro Wilk Test Statistic			0.962		Shapiro Wilk Lognormal GOF Test					
684	5% Shapiro Wilk P Value			1.2399E-8		Data Not Lognormal at 5% Significance Level					
685	Lilliefors Test Statistic			0.106		Lilliefors Lognormal GOF Test					
686	5% Lilliefors Critical Value			0.0441		Data Not Lognormal at 5% Significance Level					
687	Data Not Lognormal at 5% Significance Level										
688											
689	Background Statistics assuming Lognormal Distribution										
690	95% UTL with 95% Coverage			74.99		90% Percentile (z)			63.62		
691	95% UPL (t)			71.94		95% Percentile (z)			71.8		
692	95% USL			139.6		99% Percentile (z)			90.1		
693											
694	Nonparametric Distribution Free Background Statistics										
695	Data do not follow a Discernible Distribution (0.05)										
696											
697	Nonparametric Upper Limits for Background Threshold Values										
698	Order of Statistic, r			396		95% UTL with 95% Coverage			82.8		
699	Approx, f used to compute achieved CC			1.389		Approximate Actual Confidence Coefficient achieved by UTL			0.919		
700						Approximate Sample Size needed to achieve specified CC			434		
701	95% Percentile Bootstrap UTL with 95% Coverage			83.19		95% BCA Bootstrap UTL with 95% Coverage			82.67		
702	95% UPL			77.13		90% Percentile			64.02		
703	90% Chebyshev UPL			94.17		95% Percentile			75.51		
704	95% Chebyshev UPL			116.9		99% Percentile			112.6		
705	95% USL			126							
706											
707	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.										
708	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers										
709	and consists of observations collected from clean unimpacted locations.										
710	The use of USL tends to provide a balance between false positives and false negatives provided the data										
711	represents a background data set and when many onsite observations need to be compared with the BTV.										
712											
713	Cobalt										
714											
715	General Statistics										

A	B	C	D	E	F	G	H	I	J	K	L
716	Total Number of Observations				225	Number of Distinct Observations				25	
717						Number of Missing Observations				199	
718	Minimum			3.0000E-4	First Quartile			3.0000E-4			
719	Second Largest			0.0013	Median			3.0000E-4			
720	Maximum			0.0015	Third Quartile			3.5000E-4			
721	Mean			3.6747E-4	SD			1.5409E-4			
722	Coefficient of Variation			0.419	Skewness			4.084			
723	Mean of logged Data			-7.96	SD of logged Data			0.286			
724											
725	Critical Values for Background Threshold Values (BTVs)										
726	Tolerance Factor K (For UTL)			1.824	d2max (for USL)			3.468			
727											
728	Normal GOF Test										
729	Shapiro Wilk Test Statistic			0.499	Normal GOF Test						
730	5% Shapiro Wilk P Value			0	Data Not Normal at 5% Significance Level						
731	Lilliefors Test Statistic			0.358	Lilliefors GOF Test						
732	5% Lilliefors Critical Value			0.0595	Data Not Normal at 5% Significance Level						
733	Data Not Normal at 5% Significance Level										
734											
735	Background Statistics Assuming Normal Distribution										
736	95% UTL with	95% Coverage	6.4853E-4	90% Percentile (z)			5.6494E-4				
737	95% UPL (t)		6.2254E-4	95% Percentile (z)			6.2092E-4				
738	95% USL		9.0184E-4	99% Percentile (z)			7.2593E-4				
739											
740	Gamma GOF Test										
741	A-D Test Statistic			38.94	Anderson-Darling Gamma GOF Test						
742	5% A-D Critical Value			0.752	Data Not Gamma Distributed at 5% Significance Level						
743	K-S Test Statistic			0.384	Kolmogorov-Smirnov Gamma GOF Test						
744	5% K-S Critical Value			0.0607	Data Not Gamma Distributed at 5% Significance Level						
745	Data Not Gamma Distributed at 5% Significance Level										
746											
747	Gamma Statistics										
748	k hat (MLE)			9.95	k star (bias corrected MLE)			9.82			
749	Theta hat (MLE)			3.6933E-5	Theta star (bias corrected MLE)			3.7421E-5			
750	nu hat (MLE)			4477	nu star (bias corrected)			4419			
751	MLE Mean (bias corrected)			3.6747E-4	MLE Sd (bias corrected)			1.1726E-4			
752											
753	Background Statistics Assuming Gamma Distribution										
754	95% Wilson Hilferty (WH) Approx. Gamma UPL		5.7692E-4	90% Percentile			5.2347E-4				
755	95% Hawkins Wixley (HW) Approx. Gamma UPL		5.7239E-4	95% Percentile			5.7918E-4				
756	95% WH Approx. Gamma UTL with	95% Coverage	6.0379E-4	99% Percentile			6.9363E-4				
757	95% HW Approx. Gamma UTL with 95% Coverage		5.9943E-4								
758	95% WH USL		9.1048E-4	95% HW USL			9.1585E-4				
759											
760	Lognormal GOF Test										
761	Shapiro Wilk Test Statistic			0.592	Shapiro Wilk Lognormal GOF Test						
762	5% Shapiro Wilk P Value			0	Data Not Lognormal at 5% Significance Level						
763	Lilliefors Test Statistic			0.391	Lilliefors Lognormal GOF Test						
764	5% Lilliefors Critical Value			0.0595	Data Not Lognormal at 5% Significance Level						
765	Data Not Lognormal at 5% Significance Level										
766											
767	Background Statistics assuming Lognormal Distribution										
768	95% UTL with	95% Coverage	5.8783E-4	90% Percentile (z)			5.0346E-4				
769	95% UPL (t)		5.6018E-4	95% Percentile (z)			5.5850E-4				
770	95% USL		9.4000E-4	99% Percentile (z)			6.7849E-4				

A	B	C	D	E	F	G	H	I	J	K	L	
771												
772	Nonparametric Distribution Free Background Statistics											
773	Data do not follow a Discernible Distribution (0.05)											
774												
775	Nonparametric Upper Limits for Background Threshold Values											
776	Order of Statistic, r	218	95% UTL with 95% Coverage						6.6000E-4			
777	Approx, f used to compute achieved CC	1.434	Approximate Actual Confidence Coefficient achieved by UTL						0.879			
778			Approximate Sample Size needed to achieve specified CC						260			
779	95% Percentile Bootstrap UTL with 95% Coverage	7.5600E-4	95% BCA Bootstrap UTL with 95% Coverage						6.6000E-4			
780	95% UPL	5.4000E-4	90% Percentile						5.0000E-4			
781	90% Chebyshev UPL	8.3076E-4	95% Percentile						5.3800E-4			
782	95% Chebyshev UPL	0.00104	99% Percentile						0.00112			
783	95% USL	0.0015										
784												
785	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.											
786	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers											
787	and consists of observations collected from clean unimpacted locations.											
788	The use of USL tends to provide a balance between false positives and false negatives provided the data											
789	represents a background data set and when many onsite observations need to be compared with the BTV.											
790												
791	Fluoride											
792												
793	General Statistics											
794	Total Number of Observations	277	Number of Distinct Observations						21			
795			Number of Missing Observations						147			
796	Minimum	0.05	First Quartile						0.1			
797	Second Largest	0.5	Median						0.1			
798	Maximum	0.5	Third Quartile						0.25			
799	Mean	0.168	SD						0.124			
800	Coefficient of Variation	0.738	Skewness						1.602			
801	Mean of logged Data	-1.999	SD of logged Data						0.622			
802												
803	Critical Values for Background Threshold Values (BTVs)											
804	Tolerance Factor K (For UTL)	1.805	d2max (for USL)						3.529			
805												
806	Normal GOF Test											
807	Shapiro Wilk Test Statistic	0.707	Normal GOF Test									
808	5% Shapiro Wilk P Value	0	Data Not Normal at 5% Significance Level									
809	Lilliefors Test Statistic	0.3	Lilliefors GOF Test									
810	5% Lilliefors Critical Value	0.0536	Data Not Normal at 5% Significance Level									
811	Data Not Normal at 5% Significance Level											
812												
813	Background Statistics Assuming Normal Distribution											
814	95% UTL with 95% Coverage	0.391	90% Percentile (z)						0.326			
815	95% UPL (t)	0.372	95% Percentile (z)						0.371			
816	95% USL	0.604	99% Percentile (z)						0.455			
817												
818	Gamma GOF Test											
819	A-D Test Statistic	20.68	Anderson-Darling Gamma GOF Test									
820	5% A-D Critical Value	0.763	Data Not Gamma Distributed at 5% Significance Level									
821	K-S Test Statistic	0.278	Kolmogorov-Smirnov Gamma GOF Test									
822	5% K-S Critical Value	0.0553	Data Not Gamma Distributed at 5% Significance Level									
823	Data Not Gamma Distributed at 5% Significance Level											
824												
825	Gamma Statistics											

A	B	C	D	E	F	G	H	I	J	K	L
826	k hat (MLE)				2.507	k star (bias corrected MLE)				2.482	
827	Theta hat (MLE)				0.0668	Theta star (bias corrected MLE)				0.0675	
828	nu hat (MLE)				1389	nu star (bias corrected)				1375	
829	MLE Mean (bias corrected)				0.168	MLE Sd (bias corrected)				0.106	
830											
831	Background Statistics Assuming Gamma Distribution										
832	95% Wilson Hilferty (WH) Approx. Gamma UPL				0.369	90% Percentile				0.31	
833	95% Hawkins Wixley (HW) Approx. Gamma UPL				0.37	95% Percentile				0.372	
834	95% WH Approx. Gamma UTL with 95% Coverage				0.397	99% Percentile				0.507	
835	95% HW Approx. Gamma UTL with 95% Coverage				0.4						
836	95% WH USL				0.818	95% HW USL				0.88	
837											
838	Lognormal GOF Test										
839	Shapiro Wilk Test Statistic				0.847	Shapiro Wilk Lognormal GOF Test					
840	5% Shapiro Wilk P Value				0	Data Not Lognormal at 5% Significance Level					
841	Lilliefors Test Statistic				0.261	Lilliefors Lognormal GOF Test					
842	5% Lilliefors Critical Value				0.0536	Data Not Lognormal at 5% Significance Level					
843	Data Not Lognormal at 5% Significance Level										
844											
845	Background Statistics assuming Lognormal Distribution										
846	95% UTL with 95% Coverage				0.417	90% Percentile (z)				0.301	
847	95% UPL (t)				0.379	95% Percentile (z)				0.377	
848	95% USL				1.218	99% Percentile (z)				0.576	
849											
850	Nonparametric Distribution Free Background Statistics										
851	Data do not follow a Discernible Distribution (0.05)										
852											
853	Nonparametric Upper Limits for Background Threshold Values										
854	Order of Statistic, r				268	95% UTL with 95% Coverage				0.5	
855	Approx, f used to compute achieved CC				1.411	Approximate Actual Confidence Coefficient achieved by UTL				0.889	
856						Approximate Sample Size needed to achieve specified CC				311	
857	95% Percentile Bootstrap UTL with 95% Coverage				0.5	95% BCA Bootstrap UTL with 95% Coverage				0.25	
858	95% UPL				0.5	90% Percentile				0.25	
859	90% Chebyshev UPL				0.539	95% Percentile				0.5	
860	95% Chebyshev UPL				0.707	99% Percentile				0.5	
861	95% USL				0.5						
862											
863	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.										
864	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers										
865	and consists of observations collected from clean unimpacted locations.										
866	The use of USL tends to provide a balance between false positives and false negatives provided the data										
867	represents a background data set and when many onsite observations need to be compared with the BTV.										
868											
869	Lead										
870											
871	General Statistics										
872	Total Number of Observations				209	Number of Distinct Observations				7	
873						Number of Missing Observations				215	
874	Minimum				5.0000E-4	First Quartile				0.01	
875	Second Largest				0.01	Median				0.01	
876	Maximum				0.01	Third Quartile				0.01	
877	Mean				0.00837	SD				0.00357	
878	Coefficient of Variation				0.427	Skewness				-1.75	
879	Mean of logged Data				-5.107	SD of logged Data				1.107	
880											

A	B	C	D	E	F	G	H	I	J	K	L
881	Critical Values for Background Threshold Values (BTVs)										
882	Tolerance Factor K (For UTL)			1.831	d2max (for USL)						3.446
883											
884	Normal GOF Test										
885	Shapiro Wilk Test Statistic			0.447	Normal GOF Test						
886	5% Shapiro Wilk P Value			0	Data Not Normal at 5% Significance Level						
887	Lilliefors Test Statistic			0.503	Lilliefors GOF Test						
888	5% Lilliefors Critical Value			0.0617	Data Not Normal at 5% Significance Level						
889	Data Not Normal at 5% Significance Level										
890											
891	Background Statistics Assuming Normal Distribution										
892	95% UTL with 95% Coverage		0.0149	90% Percentile (z)						0.013	
893	95% UPL (t)		0.0143	95% Percentile (z)						0.0143	
894	95% USL		0.0207	99% Percentile (z)						0.0167	
895											
896	Gamma GOF Test										
897	A-D Test Statistic			60.35	Anderson-Darling Gamma GOF Test						
898	5% A-D Critical Value			0.769	Data Not Gamma Distributed at 5% Significance Level						
899	K-S Test Statistic			0.517	Kolmogorov-Smirnov Gamma GOF Test						
900	5% K-S Critical Value			0.0636	Data Not Gamma Distributed at 5% Significance Level						
901	Data Not Gamma Distributed at 5% Significance Level										
902											
903	Gamma Statistics										
904	k hat (MLE)		1.689	k star (bias corrected MLE)						1.668	
905	Theta hat (MLE)		0.00496	Theta star (bias corrected MLE)						0.00502	
906	nu hat (MLE)		706.2	nu star (bias corrected)						697.4	
907	MLE Mean (bias corrected)		0.00837	MLE Sd (bias corrected)						0.00648	
908											
909	Background Statistics Assuming Gamma Distribution										
910	95% Wilson Hilferty (WH) Approx. Gamma UPL		0.0211	90% Percentile						0.017	
911	95% Hawkins Wixley (HW) Approx. Gamma UPL		0.0233	95% Percentile						0.0211	
912	95% WH Approx. Gamma UTL with 95% Coverage		0.0232	99% Percentile						0.0301	
913	95% HW Approx. Gamma UTL with 95% Coverage		0.026								
914	95% WH USL		0.0494	95% HW USL						0.0633	
915											
916	Lognormal GOF Test										
917	Shapiro Wilk Test Statistic			0.451	Shapiro Wilk Lognormal GOF Test						
918	5% Shapiro Wilk P Value			0	Data Not Lognormal at 5% Significance Level						
919	Lilliefors Test Statistic			0.503	Lilliefors Lognormal GOF Test						
920	5% Lilliefors Critical Value			0.0617	Data Not Lognormal at 5% Significance Level						
921	Data Not Lognormal at 5% Significance Level										
922											
923	Background Statistics assuming Lognormal Distribution										
924	95% UTL with 95% Coverage		0.0459	90% Percentile (z)						0.025	
925	95% UPL (t)		0.0378	95% Percentile (z)						0.0374	
926	95% USL		0.274	99% Percentile (z)						0.0795	
927											
928	Nonparametric Distribution Free Background Statistics										
929	Data do not follow a Discernible Distribution (0.05)										
930											
931	Nonparametric Upper Limits for Background Threshold Values										
932	Order of Statistic, r		203	95% UTL with 95% Coverage						0.01	
933	Approx, f used to compute achieved CC		1.526	Approximate Actual Confidence Coefficient achieved by UTL						0.902	
934				Approximate Sample Size needed to achieve specified CC						234	
935	95% Percentile Bootstrap UTL with 95% Coverage		0.01	95% BCA Bootstrap UTL with 95% Coverage						0.01	

A	B	C	D	E	F	G	H	I	J	K	L
936				95% UPL	0.01					90% Percentile	0.01
937				90% Chebyshev UPL	0.0191					95% Percentile	0.01
938				95% Chebyshev UPL	0.024					99% Percentile	0.01
939				95% USL	0.01						
940											
941	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.										
942	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers										
943	and consists of observations collected from clean unimpacted locations.										
944	The use of USL tends to provide a balance between false positives and false negatives provided the data										
945	represents a background data set and when many onsite observations need to be compared with the BTV.										
946											
947	Lithium										
948											
949	General Statistics										
950				Total Number of Observations	209					Number of Distinct Observations	2
951										Number of Missing Observations	215
952				Minimum	0.01					First Quartile	0.03
953				Second Largest	0.03					Median	0.03
954				Maximum	0.03					Third Quartile	0.03
955				Mean	0.0266					SD	0.00757
956				Coefficient of Variation	0.285					Skewness	-1.749
957				Mean of logged Data	-3.696					SD of logged Data	0.416
958											
959	Critical Values for Background Threshold Values (BTVs)										
960				Tolerance Factor K (For UTL)	1.831					d2max (for USL)	3.446
961											
962	Normal GOF Test										
963				Shapiro Wilk Test Statistic	0.445					Normal GOF Test	
964				5% Shapiro Wilk P Value	0					Data Not Normal at 5% Significance Level	
965				Lilliefors Test Statistic	0.503					Lilliefors GOF Test	
966				5% Lilliefors Critical Value	0.0617					Data Not Normal at 5% Significance Level	
967	Data Not Normal at 5% Significance Level										
968											
969	Background Statistics Assuming Normal Distribution										
970				95% UTL with 95% Coverage	0.0404					90% Percentile (z)	0.0363
971				95% UPL (t)	0.0391					95% Percentile (z)	0.039
972				95% USL	0.0526					99% Percentile (z)	0.0442
973											
974	Gamma GOF Test										
975				A-D Test Statistic	59.41					Anderson-Darling Gamma GOF Test	
976				5% A-D Critical Value	0.754					Data Not Gamma Distributed at 5% Significance Level	
977				K-S Test Statistic	0.506					Kolmogorov-Smirnov Gamma GOF Test	
978				5% K-S Critical Value	0.0626					Data Not Gamma Distributed at 5% Significance Level	
979	Data Not Gamma Distributed at 5% Significance Level										
980											
981	Gamma Statistics										
982				k hat (MLE)	7.597					k star (bias corrected MLE)	7.491
983				Theta hat (MLE)	0.0035					Theta star (bias corrected MLE)	0.00354
984				nu hat (MLE)	3176					nu star (bias corrected)	3131
985				MLE Mean (bias corrected)	0.0266					MLE Sd (bias corrected)	0.0097
986											
987	Background Statistics Assuming Gamma Distribution										
988				95% Wilson Hilferty (WH) Approx. Gamma UPL	0.0444					90% Percentile	0.0395
989				95% Hawkins Wixley (HW) Approx. Gamma UPL	0.0454					95% Percentile	0.0443
990				95% WH Approx. Gamma UTL with 95% Coverage	0.0468					99% Percentile	0.0542

A	B	C	D	E	F	G	H	I	J	K	L	
991	95% HW Approx. Gamma UTL with 95% Coverage			0.0481								
992	95% WH USL			0.0733	95% HW USL					0.0785		
993												
994	Lognormal GOF Test											
995	Shapiro Wilk Test Statistic			0.445	Shapiro Wilk Lognormal GOF Test							
996	5% Shapiro Wilk P Value			0	Data Not Lognormal at 5% Significance Level							
997	Lilliefors Test Statistic			0.503	Lilliefors Lognormal GOF Test							
998	5% Lilliefors Critical Value			0.0617	Data Not Lognormal at 5% Significance Level							
999	Data Not Lognormal at 5% Significance Level											
1000												
1001	Background Statistics assuming Lognormal Distribution											
1002	95% UTL with 95% Coverage			0.0532	90% Percentile (z)					0.0423		
1003	95% UPL (t)			0.0494	95% Percentile (z)					0.0492		
1004	95% USL			0.104	99% Percentile (z)					0.0653		
1005												
1006	Nonparametric Distribution Free Background Statistics											
1007	Data do not follow a Discernible Distribution (0.05)											
1008												
1009	Nonparametric Upper Limits for Background Threshold Values											
1010	Order of Statistic, r		203	95% UTL with 95% Coverage					0.03			
1011	Approx, f used to compute achieved CC			1.526	Approximate Actual Confidence Coefficient achieved by UTL					0.902		
1012					Approximate Sample Size needed to achieve specified CC					234		
1013	95% Percentile Bootstrap UTL with 95% Coverage			N/A	95% BCA Bootstrap UTL with 95% Coverage					N/A		
1014	95% UPL			0.03	90% Percentile					0.03		
1015	90% Chebyshev UPL			0.0493	95% Percentile					0.03		
1016	95% Chebyshev UPL			0.0596	99% Percentile					0.03		
1017	95% USL			0.03								
1018												
1019	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.											
1020	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers											
1021	and consists of observations collected from clean unimpacted locations.											
1022	The use of USL tends to provide a balance between false positives and false negatives provided the data											
1023	represents a background data set and when many onsite observations need to be compared with the BTV.											
1024												
1025	Mercury											
1026												
1027	General Statistics											
1028	Total Number of Observations			208	Number of Distinct Observations					1		
1029					Number of Missing Observations					216		
1030	Minimum			2.0000E-4	First Quartile					2.0000E-4		
1031	Second Largest			2.0000E-4	Median					2.0000E-4		
1032	Maximum			2.0000E-4	Third Quartile					2.0000E-4		
1033	Mean			2.0000E-4	SD					6.793E-19		
1034	Coefficient of Variation			3.396E-15	Skewness					1.007		
1035												
1036	Warning: There is only one distinct observation value in this data set - resulting in '0' variance!											
1037	ProUCL (or any other software) should not be used on such a data set!											
1038	The data set for variable Mercury was not processed!											
1039												
1040	If possible, compute and collect Data Quality Objectives (DQOs) based sample size and analytical results.											
1041	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1042												
1043												
1044	MOLYBDENUM											
1045												

A	B	C	D	E	F	G	H	I	J	K	L
1046	General Statistics										
1047	Total Number of Observations				208	Number of Distinct Observations				2	
1048						Number of Missing Observations				216	
1049	Minimum			0.001	First Quartile			0.001			
1050	Second Largest			0.002	Median			0.001			
1051	Maximum			0.002	Third Quartile			0.001			
1052	Mean			0.00117	SD			3.7923E-4			
1053	Coefficient of Variation			0.323	Skewness			1.741			
1054	Mean of logged Data			-6.788	SD of logged Data			0.263			
1055											
1056	Critical Values for Background Threshold Values (BTVs)										
1057	Tolerance Factor K (For UTL)			1.832	d2max (for USL)			3.444			
1058											
1059	Normal GOF Test										
1060	Shapiro Wilk Test Statistic			0.446	Normal GOF Test						
1061	5% Shapiro Wilk P Value			0	Data Not Normal at 5% Significance Level						
1062	Lilliefors Test Statistic			0.503	Lilliefors GOF Test						
1063	5% Lilliefors Critical Value			0.0619	Data Not Normal at 5% Significance Level						
1064	Data Not Normal at 5% Significance Level										
1065											
1066	Background Statistics Assuming Normal Distribution										
1067	95% UTL with	95% Coverage	0.00187	90% Percentile (z)			0.00166				
1068	95% UPL (t)		0.0018	95% Percentile (z)			0.0018				
1069	95% USL		0.00248	99% Percentile (z)			0.00206				
1070											
1071	Gamma GOF Test										
1072	A-D Test Statistic			58.84	Anderson-Darling Gamma GOF Test						
1073	5% A-D Critical Value			0.751	Data Not Gamma Distributed at 5% Significance Level						
1074	K-S Test Statistic			0.505	Kolmogorov-Smirnov Gamma GOF Test						
1075	5% K-S Critical Value			0.0626	Data Not Gamma Distributed at 5% Significance Level						
1076	Data Not Gamma Distributed at 5% Significance Level										
1077											
1078	Gamma Statistics										
1079	k hat (MLE)			12.77	k star (bias corrected MLE)			12.59			
1080	Theta hat (MLE)			9.1856E-5	Theta star (bias corrected MLE)			9.3176E-5			
1081	nu hat (MLE)			5313	nu star (bias corrected)			5237			
1082	MLE Mean (bias corrected)			0.00117	MLE Sd (bias corrected)			3.3061E-4			
1083											
1084	Background Statistics Assuming Gamma Distribution										
1085	95% Wilson Hilferty (WH) Approx. Gamma UPL			0.00176	90% Percentile			0.00161			
1086	95% Hawkins Wixley (HW) Approx. Gamma UPL			0.00176	95% Percentile			0.00176			
1087	95% WH Approx. Gamma UTL with		95% Coverage	0.00184	99% Percentile			0.00208			
1088	95% HW Approx. Gamma UTL with		95% Coverage	0.00184							
1089	95% WH USL		0.00265	95% HW USL			0.00268				
1090											
1091	Lognormal GOF Test										
1092	Shapiro Wilk Test Statistic			0.446	Shapiro Wilk Lognormal GOF Test						
1093	5% Shapiro Wilk P Value			0	Data Not Lognormal at 5% Significance Level						
1094	Lilliefors Test Statistic			0.503	Lilliefors Lognormal GOF Test						
1095	5% Lilliefors Critical Value			0.0619	Data Not Lognormal at 5% Significance Level						
1096	Data Not Lognormal at 5% Significance Level										
1097											
1098	Background Statistics assuming Lognormal Distribution										
1099	95% UTL with	95% Coverage	0.00182	90% Percentile (z)			0.00158				
1100	95% UPL (t)		0.00174	95% Percentile (z)			0.00174				

A	B	C	D	E	F	G	H	I	J	K	L
1101				95% USL	0.00279					99% Percentile (z)	0.00208
1102											
1103	Nonparametric Distribution Free Background Statistics										
1104	Data do not follow a Discernible Distribution (0.05)										
1105											
1106	Nonparametric Upper Limits for Background Threshold Values										
1107			Order of Statistic, r	202					95% UTL with 95% Coverage	0.002	
1108			Approx, f used to compute achieved CC	1.519					Approximate Actual Confidence Coefficient achieved by UTL	0.899	
1109									Approximate Sample Size needed to achieve specified CC	234	
1110			95% Percentile Bootstrap UTL with 95% Coverage	N/A					95% BCA Bootstrap UTL with 95% Coverage	N/A	
1111			95% UPL	0.002					90% Percentile	0.002	
1112			90% Chebyshev UPL	0.00231					95% Percentile	0.002	
1113			95% Chebyshev UPL	0.00283					99% Percentile	0.002	
1114			95% USL	0.002							
1115											
1116	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.										
1117	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers										
1118	and consists of observations collected from clean unimpacted locations.										
1119	The use of USL tends to provide a balance between false positives and false negatives provided the data										
1120	represents a background data set and when many onsite observations need to be compared with the BTV.										
1121											
1122	Radium (226)										
1123											
1124	General Statistics										
1125			Total Number of Observations	178					Number of Distinct Observations	133	
1126									Number of Missing Observations	246	
1127			Minimum	0.0616					First Quartile	0.0958	
1128			Second Largest	0.467					Median	0.123	
1129			Maximum	0.479					Third Quartile	0.208	
1130			Mean	0.159					SD	0.0925	
1131			Coefficient of Variation	0.584					Skewness	1.423	
1132			Mean of logged Data	-1.979					SD of logged Data	0.502	
1133											
1134	Critical Values for Background Threshold Values (BTVs)										
1135			Tolerance Factor K (For UTL)	1.848					d2max (for USL)	3.397	
1136											
1137	Normal GOF Test										
1138			Shapiro Wilk Test Statistic	0.798					Normal GOF Test		
1139			5% Shapiro Wilk P Value	0					Data Not Normal at 5% Significance Level		
1140			Lilliefors Test Statistic	0.237					Lilliefors GOF Test		
1141			5% Lilliefors Critical Value	0.0668					Data Not Normal at 5% Significance Level		
1142	Data Not Normal at 5% Significance Level										
1143											
1144	Background Statistics Assuming Normal Distribution										
1145			95% UTL with 95% Coverage	0.329					90% Percentile (z)	0.277	
1146			95% UPL (t)	0.312					95% Percentile (z)	0.311	
1147			95% USL	0.473					99% Percentile (z)	0.374	
1148											
1149	Gamma GOF Test										
1150			A-D Test Statistic	7.661					Anderson-Darling Gamma GOF Test		
1151			5% A-D Critical Value	0.757					Data Not Gamma Distributed at 5% Significance Level		
1152			K-S Test Statistic	0.181					Kolmogorov-Smirnov Gamma GOF Test		
1153			5% K-S Critical Value	0.0696					Data Not Gamma Distributed at 5% Significance Level		
1154	Data Not Gamma Distributed at 5% Significance Level										
1155											

A	B	C	D	E	F	G	H	I	J	K	L	
1156	Gamma Statistics											
1157	k hat (MLE)			3.803	k star (bias corrected MLE)			3.743				
1158	Theta hat (MLE)			0.0417	Theta star (bias corrected MLE)			0.0424				
1159	nu hat (MLE)			1354	nu star (bias corrected)			1333				
1160	MLE Mean (bias corrected)			0.159	MLE Sd (bias corrected)			0.0819				
1161												
1162	Background Statistics Assuming Gamma Distribution											
1163	95% Wilson Hilferty (WH) Approx. Gamma UPL			0.312	90% Percentile			0.268				
1164	95% Hawkins Wixley (HW) Approx. Gamma UPL			0.313	95% Percentile			0.313				
1165	95% WH Approx. Gamma UTL with 95% Coverage			0.337	99% Percentile			0.408				
1166	95% HW Approx. Gamma UTL with 95% Coverage			0.34								
1167	95% WH USL			0.592	95% HW USL			0.622				
1168												
1169	Lognormal GOF Test											
1170	Shapiro Wilk Test Statistic			0.904	Shapiro Wilk Lognormal GOF Test							
1171	5% Shapiro Wilk P Value			0	Data Not Lognormal at 5% Significance Level							
1172	Lilliefors Test Statistic			0.148	Lilliefors Lognormal GOF Test							
1173	5% Lilliefors Critical Value			0.0668	Data Not Lognormal at 5% Significance Level							
1174	Data Not Lognormal at 5% Significance Level											
1175												
1176	Background Statistics assuming Lognormal Distribution											
1177	95% UTL with 95% Coverage			0.349	90% Percentile (z)			0.263				
1178	95% UPL (t)			0.318	95% Percentile (z)			0.316				
1179	95% USL			0.76	99% Percentile (z)			0.444				
1180												
1181	Nonparametric Distribution Free Background Statistics											
1182	Data do not follow a Discernible Distribution (0.05)											
1183												
1184	Nonparametric Upper Limits for Background Threshold Values											
1185	Order of Statistic, r			173	95% UTL with 95% Coverage			0.372				
1186	Approx, f used to compute achieved CC			1.518	Approximate Actual Confidence Coefficient achieved by UTL			0.884				
1187					Approximate Sample Size needed to achieve specified CC			208				
1188	95% Percentile Bootstrap UTL with 95% Coverage			0.376	95% BCA Bootstrap UTL with 95% Coverage			0.376				
1189	95% UPL			0.348	90% Percentile			0.298				
1190	90% Chebyshev UPL			0.437	95% Percentile			0.345				
1191	95% Chebyshev UPL			0.563	99% Percentile			0.449				
1192	95% USL			0.479								
1193												
1194	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.											
1195	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers											
1196	and consists of observations collected from clean unimpacted locations.											
1197	The use of USL tends to provide a balance between false positives and false negatives provided the data											
1198	represents a background data set and when many onsite observations need to be compared with the BTV.											
1199												
1200	Radium 228											
1201												
1202	General Statistics											
1203	Total Number of Observations			187	Number of Distinct Observations			153				
1204					Number of Missing Observations			237				
1205	Minimum			0.263	First Quartile			0.373				
1206	Second Largest			1.45	Median			0.453				
1207	Maximum			1.84	Third Quartile			0.634				
1208	Mean			0.545	SD			0.256				
1209	Coefficient of Variation			0.47	Skewness			1.8				
1210	Mean of logged Data			-0.693	SD of logged Data			0.397				

A	B	C	D	E	F	G	H	I	J	K	L		
1211													
1212	Critical Values for Background Threshold Values (BTVs)												
1213	Tolerance Factor K (For UTL)			1.843							d2max (for USL)	3.412	
1214													
1215	Normal GOF Test												
1216	Shapiro Wilk Test Statistic			0.817								Normal GOF Test	
1217	5% Shapiro Wilk P Value			0								Data Not Normal at 5% Significance Level	
1218	Lilliefors Test Statistic			0.188								Lilliefors GOF Test	
1219	5% Lilliefors Critical Value			0.0652								Data Not Normal at 5% Significance Level	
1220	Data Not Normal at 5% Significance Level												
1221													
1222	Background Statistics Assuming Normal Distribution												
1223	95% UTL with 95% Coverage		1.018							90% Percentile (z)	0.874		
1224	95% UPL (t)		0.97							95% Percentile (z)	0.967		
1225	95% USL		1.42							99% Percentile (z)	1.141		
1226													
1227	Gamma GOF Test												
1228	A-D Test Statistic			5.769								Anderson-Darling Gamma GOF Test	
1229	5% A-D Critical Value			0.755								Data Not Gamma Distributed at 5% Significance Level	
1230	K-S Test Statistic			0.143								Kolmogorov-Smirnov Gamma GOF Test	
1231	5% K-S Critical Value			0.0671								Data Not Gamma Distributed at 5% Significance Level	
1232	Data Not Gamma Distributed at 5% Significance Level												
1233													
1234	Gamma Statistics												
1235	k hat (MLE)			5.956							k star (bias corrected MLE)	5.864	
1236	Theta hat (MLE)			0.0915							Theta star (bias corrected MLE)	0.093	
1237	nu hat (MLE)			2227							nu star (bias corrected)	2193	
1238	MLE Mean (bias corrected)			0.545							MLE Sd (bias corrected)	0.225	
1239													
1240	Background Statistics Assuming Gamma Distribution												
1241	95% Wilson Hilferty (WH) Approx. Gamma UPL		0.959							90% Percentile	0.846		
1242	95% Hawkins Wixley (HW) Approx. Gamma UPL		0.96							95% Percentile	0.96		
1243	95% WH Approx. Gamma UTL with 95% Coverage		1.021							99% Percentile	1.2		
1244	95% HW Approx. Gamma UTL with 95% Coverage		1.024										
1245	95% WH USL		1.653							95% HW USL	1.707		
1246													
1247	Lognormal GOF Test												
1248	Shapiro Wilk Test Statistic			0.928								Shapiro Wilk Lognormal GOF Test	
1249	5% Shapiro Wilk P Value			4.535E-12								Data Not Lognormal at 5% Significance Level	
1250	Lilliefors Test Statistic			0.115								Lilliefors Lognormal GOF Test	
1251	5% Lilliefors Critical Value			0.0652								Data Not Lognormal at 5% Significance Level	
1252	Data Not Lognormal at 5% Significance Level												
1253													
1254	Background Statistics assuming Lognormal Distribution												
1255	95% UTL with 95% Coverage		1.039							90% Percentile (z)	0.832		
1256	95% UPL (t)		0.966							95% Percentile (z)	0.961		
1257	95% USL		1.937							99% Percentile (z)	1.259		
1258													
1259	Nonparametric Distribution Free Background Statistics												
1260	Data do not follow a Discernible Distribution (0.05)												
1261													
1262	Nonparametric Upper Limits for Background Threshold Values												
1263	Order of Statistic, r			182							95% UTL with 95% Coverage	1.16	
1264	Approx, f used to compute achieved CC			1.596							Approximate Actual Confidence Coefficient achieved by UTL	0.91	
1265											Approximate Sample Size needed to achieve specified CC	208	

A	B	C	D	E	F	G	H	I	J	K	L	
1266	95% Percentile Bootstrap UTL with 95% Coverage			1.142	95% BCA Bootstrap UTL with 95% Coverage			0.949				
1267	95% UPL			1	90% Percentile			1				
1268	90% Chebyshev UPL			1.316	95% Percentile			1				
1269	95% Chebyshev UPL			1.665	99% Percentile			1.321				
1270	95% USL			1.84								
1271												
1272	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.											
1273	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers											
1274	and consists of observations collected from clean unimpacted locations.											
1275	The use of USL tends to provide a balance between false positives and false negatives provided the data											
1276	represents a background data set and when many onsite observations need to be compared with the BTV.											
1277												
1278	Selenium											
1279												
1280	General Statistics											
1281	Total Number of Observations			209	Number of Distinct Observations			9				
1282					Number of Missing Observations			215				
1283	Minimum			0.001	First Quartile			0.001				
1284	Second Largest			0.005	Median			0.001				
1285	Maximum			0.005	Third Quartile			0.0011				
1286	Mean			0.00172	SD			0.00151				
1287	Coefficient of Variation			0.877	Skewness			1.724				
1288	Mean of logged Data			-6.608	SD of logged Data			0.606				
1289												
1290	Critical Values for Background Threshold Values (BTVs)											
1291	Tolerance Factor K (For UTL)			1.831	d2max (for USL)			3.446				
1292												
1293	Normal GOF Test											
1294	Shapiro Wilk Test Statistic			0.471	Normal GOF Test							
1295	5% Shapiro Wilk P Value			0	Data Not Normal at 5% Significance Level							
1296	Lilliefors Test Statistic			0.439	Lilliefors GOF Test							
1297	5% Lilliefors Critical Value			0.0617	Data Not Normal at 5% Significance Level							
1298	Data Not Normal at 5% Significance Level											
1299												
1300	Background Statistics Assuming Normal Distribution											
1301	95% UTL with 95% Coverage			0.00448	90% Percentile (z)			0.00365				
1302	95% UPL (t)			0.00421	95% Percentile (z)			0.0042				
1303	95% USL			0.00691	99% Percentile (z)			0.00522				
1304												
1305	Gamma GOF Test											
1306	A-D Test Statistic			53.42	Anderson-Darling Gamma GOF Test							
1307	5% A-D Critical Value			0.765	Data Not Gamma Distributed at 5% Significance Level							
1308	K-S Test Statistic			0.435	Kolmogorov-Smirnov Gamma GOF Test							
1309	5% K-S Critical Value			0.0633	Data Not Gamma Distributed at 5% Significance Level							
1310	Data Not Gamma Distributed at 5% Significance Level											
1311												
1312	Gamma Statistics											
1313	k hat (MLE)			2.227	k star (bias corrected MLE)			2.199				
1314	Theta hat (MLE)			7.7095E-4	Theta star (bias corrected MLE)			7.8104E-4				
1315	nu hat (MLE)			931.1	nu star (bias corrected)			919				
1316	MLE Mean (bias corrected)			0.00172	MLE Sd (bias corrected)			0.00116				
1317												
1318	Background Statistics Assuming Gamma Distribution											
1319	95% Wilson Hilferty (WH) Approx. Gamma UPL			0.00389	90% Percentile			0.00327				
1320	95% Hawkins Wixley (HW) Approx. Gamma UPL			0.00384	95% Percentile			0.00395				

A	B	C	D	E	G	H	I	J	K	L
1321	95% WH Approx. Gamma UTL with 95% Coverage			0.00425	99% Percentile				0.00547	
1322	95% HW Approx. Gamma UTL with 95% Coverage			0.00421						
1323	95% WH USL			0.00863	95% HW USL				0.00904	
1324										
1325	Lognormal GOF Test									
1326	Shapiro Wilk Test Statistic			0.492	Shapiro Wilk Lognormal GOF Test					
1327	5% Shapiro Wilk P Value			0	Data Not Lognormal at 5% Significance Level					
1328	Lilliefors Test Statistic			0.431	Lilliefors Lognormal GOF Test					
1329	5% Lilliefors Critical Value			0.0617	Data Not Lognormal at 5% Significance Level					
1330	Data Not Lognormal at 5% Significance Level									
1331										
1332	Background Statistics assuming Lognormal Distribution									
1333	95% UTL with 95% Coverage		0.0041	90% Percentile (z)				0.00293		
1334	95% UPL (t)		0.00368	95% Percentile (z)				0.00366		
1335	95% USL		0.0109	99% Percentile (z)				0.00553		
1336										
1337	Nonparametric Distribution Free Background Statistics									
1338	Data do not follow a Discernible Distribution (0.05)									
1339										
1340	Nonparametric Upper Limits for Background Threshold Values									
1341	Order of Statistic, r		203	95% UTL with 95% Coverage				0.005		
1342	Approx, f used to compute achieved CC		1.526	Approximate Actual Confidence Coefficient achieved by UTL				0.902		
1343				Approximate Sample Size needed to achieve specified CC				234		
1344	95% Percentile Bootstrap UTL with 95% Coverage		0.005	95% BCA Bootstrap UTL with 95% Coverage				0.005		
1345	95% UPL		0.005	90% Percentile				0.005		
1346	90% Chebyshev UPL		0.00625	95% Percentile				0.005		
1347	95% Chebyshev UPL		0.0083	99% Percentile				0.005		
1348	95% USL		0.005							
1349										
1350	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.									
1351	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers									
1352	and consists of observations collected from clean unimpacted locations.									
1353	The use of USL tends to provide a balance between false positives and false negatives provided the data									
1354	represents a background data set and when many onsite observations need to be compared with the BTV.									
1355										
1356	Sulfate as SO4									
1357										
1358	General Statistics									
1359	Total Number of Observations		424	Number of Distinct Observations				228		
1360				Number of Missing Observations				1		
1361	Minimum		2	First Quartile				25.6		
1362	Second Largest		67	Median				29		
1363	Maximum		67.3	Third Quartile				34.8		
1364	Mean		31.15	SD				9.887		
1365	Coefficient of Variation		0.317	Skewness				0.786		
1366	Mean of logged Data		3.383	SD of logged Data				0.36		
1367										
1368	Critical Values for Background Threshold Values (BTVs)									
1369	Tolerance Factor K (For UTL)		1.773	d2max (for USL)				3.65		
1370										
1371	Normal GOF Test									
1372	Shapiro Wilk Test Statistic			0.938	Normal GOF Test					
1373	5% Shapiro Wilk P Value			0	Data Not Normal at 5% Significance Level					
1374	Lilliefors Test Statistic			0.118	Lilliefors GOF Test					
1375	5% Lilliefors Critical Value			0.0434	Data Not Normal at 5% Significance Level					

A	B	C	D	E	G	H	I	J	K	L			
1376	Data Not Normal at 5% Significance Level												
1377													
1378	Background Statistics Assuming Normal Distribution												
1379	95% UTL with	95% Coverage	48.68							90% Percentile (z)	43.82		
1380			95% UPL (t)	47.46							95% Percentile (z)	47.41	
1381			95% USL	67.23							99% Percentile (z)	54.15	
1382													
1383	Gamma GOF Test												
1384			A-D Test Statistic	6.173	Anderson-Darling Gamma GOF Test								
1385			5% A-D Critical Value	0.754	Data Not Gamma Distributed at 5% Significance Level								
1386			K-S Test Statistic	0.0875	Kolmogorov-Smirnov Gamma GOF Test								
1387			5% K-S Critical Value	0.0441	Data Not Gamma Distributed at 5% Significance Level								
1388	Data Not Gamma Distributed at 5% Significance Level												
1389													
1390	Gamma Statistics												
1391			k hat (MLE)	9.19							k star (bias corrected MLE)	9.126	
1392			Theta hat (MLE)	3.389							Theta star (bias corrected MLE)	3.413	
1393			nu hat (MLE)	7793							nu star (bias corrected)	7739	
1394			MLE Mean (bias corrected)	31.15							MLE Sd (bias corrected)	10.31	
1395													
1396	Background Statistics Assuming Gamma Distribution												
1397	95% Wilson Hilferty (WH) Approx.	Gamma UPL	49.72							90% Percentile	44.87		
1398	95% Hawkins Wixley (HW) Approx.	Gamma UPL	50.36							95% Percentile	49.81		
1399	95% WH Approx.	Gamma UTL with	95% Coverage	51.45							99% Percentile	59.99	
1400	95% HW Approx.	Gamma UTL with	95% Coverage	52.21									
1401			95% WH USL	83.15							95% HW USL	87.42	
1402													
1403	Lognormal GOF Test												
1404			Shapiro Wilk Test Statistic	0.882	Shapiro Wilk Lognormal GOF Test								
1405			5% Shapiro Wilk P Value	0	Data Not Lognormal at 5% Significance Level								
1406			Lilliefors Test Statistic	0.114	Lilliefors Lognormal GOF Test								
1407			5% Lilliefors Critical Value	0.0434	Data Not Lognormal at 5% Significance Level								
1408	Data Not Lognormal at 5% Significance Level												
1409													
1410	Background Statistics assuming Lognormal Distribution												
1411	95% UTL with	95% Coverage	55.83							90% Percentile (z)	46.77		
1412			95% UPL (t)	53.42							95% Percentile (z)	53.31	
1413			95% USL	109.8							99% Percentile (z)	68.15	
1414													
1415	Nonparametric Distribution Free Background Statistics												
1416	Data do not follow a Discernible Distribution (0.05)												
1417													
1418	Nonparametric Upper Limits for Background Threshold Values												
1419			Order of Statistic, r	409							95% UTL with	95% Coverage	53
1420			Approx, f used to compute achieved CC	1.345	Approximate Actual Confidence Coefficient achieved by UTL						0.902		
1421					Approximate Sample Size needed to achieve specified CC						458		
1422	95% Percentile Bootstrap UTL with	95% Coverage	53							95% BCA Bootstrap UTL with	95% Coverage	52.97	
1423			95% UPL	50.83							90% Percentile	46.1	
1424			90% Chebyshev UPL	60.84							95% Percentile	49.91	
1425			95% Chebyshev UPL	74.29							99% Percentile	59.33	
1426			95% USL	67.3									
1427													
1428	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.												
1429	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers												
1430	and consists of observations collected from clean unimpacted locations.												

A	B	C	D	E	F	G	H	I	J	K	L
1431	The use of USL tends to provide a balance between false positives and false negatives provided the data										
1432	represents a background data set and when many onsite observations need to be compared with the BTV.										
1433											
1434	Thallium										
1435											
1436	General Statistics										
1437	Total Number of Observations			209		Number of Distinct Observations			5		
1438							Number of Missing Observations			215	
1439	Minimum			2.0000E-4		First Quartile			2.0000E-4		
1440	Second Largest			0.0018		Median			2.0000E-4		
1441	Maximum			0.0018		Third Quartile			2.0000E-4		
1442	Mean			3.4785E-4		SD			3.3427E-4		
1443	Coefficient of Variation			0.961		Skewness			2.069		
1444	Mean of logged Data			-8.232		SD of logged Data			0.629		
1445											
1446	Critical Values for Background Threshold Values (BTVs)										
1447	Tolerance Factor K (For UTL)			1.831		d2max (for USL)			3.446		
1448											
1449	Normal GOF Test										
1450	Shapiro Wilk Test Statistic			0.477		Normal GOF Test					
1451	5% Shapiro Wilk P Value			0		Data Not Normal at 5% Significance Level					
1452	Lilliefors Test Statistic			0.499		Lilliefors GOF Test					
1453	5% Lilliefors Critical Value			0.0617		Data Not Normal at 5% Significance Level					
1454	Data Not Normal at 5% Significance Level										
1455											
1456	Background Statistics Assuming Normal Distribution										
1457	95% UTL with 95% Coverage		9.5999E-4		90% Percentile (z)			7.7623E-4			
1458	95% UPL (t)		9.0146E-4		95% Percentile (z)			8.9768E-4			
1459	95% USL		0.0015		99% Percentile (z)			0.00113			
1460											
1461	Gamma GOF Test										
1462	A-D Test Statistic			57.98		Anderson-Darling Gamma GOF Test					
1463	5% A-D Critical Value			0.766		Data Not Gamma Distributed at 5% Significance Level					
1464	K-S Test Statistic			0.51		Kolmogorov-Smirnov Gamma GOF Test					
1465	5% K-S Critical Value			0.0634		Data Not Gamma Distributed at 5% Significance Level					
1466	Data Not Gamma Distributed at 5% Significance Level										
1467											
1468	Gamma Statistics										
1469	k hat (MLE)			2.013		k star (bias corrected MLE)			1.987		
1470	Theta hat (MLE)			1.7279E-4		Theta star (bias corrected MLE)			1.7502E-4		
1471	nu hat (MLE)			841.5		nu star (bias corrected)			830.8		
1472	MLE Mean (bias corrected)			3.4785E-4		MLE Sd (bias corrected)			2.4674E-4		
1473											
1474	Background Statistics Assuming Gamma Distribution										
1475	95% Wilson Hiferty (WH) Approx. Gamma UPL		8.0945E-4		90% Percentile			6.7752E-4			
1476	95% Hawkins Wixley (HW) Approx. Gamma UPL		7.9614E-4		95% Percentile			8.2671E-4			
1477	95% WH Approx. Gamma UTL with 95% Coverage		8.8697E-4		99% Percentile			0.00116			
1478	95% HW Approx. Gamma UTL with 95% Coverage		8.7627E-4								
1479	95% WH USL		0.00185		95% HW USL			0.00193			
1480											
1481	Lognormal GOF Test										
1482	Shapiro Wilk Test Statistic			0.464		Shapiro Wilk Lognormal GOF Test					
1483	5% Shapiro Wilk P Value			0		Data Not Lognormal at 5% Significance Level					
1484	Lilliefors Test Statistic			0.503		Lilliefors Lognormal GOF Test					
1485	5% Lilliefors Critical Value			0.0617		Data Not Lognormal at 5% Significance Level					

A	B	C	D	E	F	G	H	I	J	K	L
1486	Data Not Lognormal at 5% Significance Level										
1487											
1488	Background Statistics assuming Lognormal Distribution										
1489	95% UTL with	95% Coverage	8.4144E-4					90% Percentile (z)	5.9547E-4		
1490		95% UPL (t)	7.5368E-4					95% Percentile (z)	7.4834E-4		
1491		95% USL	0.00232					99% Percentile (z)	0.00115		
1492											
1493	Nonparametric Distribution Free Background Statistics										
1494	Data do not follow a Discernible Distribution (0.05)										
1495											
1496	Nonparametric Upper Limits for Background Threshold Values										
1497	Order of Statistic, r	203					95% UTL with	95% Coverage	0.001		
1498	Approx, f used to compute achieved CC	1.526					Approximate Actual Confidence Coefficient achieved by UTL	0.902			
1499											
1499	Approximate Sample Size needed to achieve specified CC										
1500	95% Percentile Bootstrap UTL with	95% Coverage	0.001					95% BCA Bootstrap UTL with	95% Coverage	0.001	
1501		95% UPL	0.001					90% Percentile	0.001		
1502		90% Chebyshev UPL	0.00135					95% Percentile	0.001		
1503		95% Chebyshev UPL	0.00181					99% Percentile	0.00129		
1504		95% USL	0.0018								
1505											
1506	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.										
1507	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers										
1508	and consists of observations collected from clean unimpacted locations.										
1509	The use of USL tends to provide a balance between false positives and false negatives provided the data										
1510	represents a background data set and when many onsite observations need to be compared with the BTV.										
1511											
1512	Total Dissolved Solids										
1513											
1514	General Statistics										
1515	Total Number of Observations	417					Number of Distinct Observations	178			
1516	Minimum	127					First Quartile	392			
1517	Second Largest	632					Median	429			
1518	Maximum	632					Third Quartile	467			
1519	Mean	432.7					SD	63.15			
1520	Coefficient of Variation	0.146					Skewness	0.129			
1521	Mean of logged Data	6.059					SD of logged Data	0.154			
1522											
1523	Critical Values for Background Threshold Values (BTVs)										
1524	Tolerance Factor K (For UTL)	1.774					d2max (for USL)	3.645			
1525											
1526	Normal GOF Test										
1527	Shapiro Wilk Test Statistic	0.981					Normal GOF Test				
1528	5% Shapiro Wilk P Value	0.148	Data appear Normal at 5% Significance Level								
1529	Lilliefors Test Statistic	0.0777					Lilliefors GOF Test				
1530	5% Lilliefors Critical Value	0.0438	Data Not Normal at 5% Significance Level								
1531	Data appear Approximate Normal at 5% Significance Level										
1532											
1533	Background Statistics Assuming Normal Distribution										
1534	95% UTL with	95% Coverage	544.7					90% Percentile (z)	513.6		
1535		95% UPL (t)	536.9					95% Percentile (z)	536.5		
1536		95% USL	662.9					99% Percentile (z)	579.6		
1537											
1538	Gamma GOF Test										
1539	A-D Test Statistic	2.291					Anderson-Darling Gamma GOF Test				
1540	5% A-D Critical Value	0.752	Data Not Gamma Distributed at 5% Significance Level								

A	B	C	D	E	F	G	H	I	J	K	L	
1541	K-S Test Statistic				0.0632	Kolmogorov-Smirnov Gamma GOF Test						
1542	5% K-S Critical Value				0.0443	Data Not Gamma Distributed at 5% Significance Level						
1543	Data Not Gamma Distributed at 5% Significance Level											
1544												
1545	Gamma Statistics											
1546	k hat (MLE)				44.81	k star (bias corrected MLE)				44.49		
1547	Theta hat (MLE)				9.656	Theta star (bias corrected MLE)				9.726		
1548	nu hat (MLE)				37369	nu star (bias corrected)				37101		
1549	MLE Mean (bias corrected)				432.7	MLE Sd (bias corrected)				64.87		
1550												
1551	Background Statistics Assuming Gamma Distribution											
1552	95% Wilson Hilferty (WH) Approx. Gamma UPL				544.6	90% Percentile				517.6		
1553	95% Hawkins Wixley (HW) Approx. Gamma UPL				546.1	95% Percentile				544.6		
1554	95% WH Approx. Gamma UTL with 95% Coverage				554	99% Percentile				597.7		
1555	95% HW Approx. Gamma UTL with 95% Coverage				555.7							
1556	95% WH USL				709.2	95% HW USL				717.6		
1557												
1558	Lognormal GOF Test											
1559	Shapiro Wilk Test Statistic				0.952	Shapiro Wilk Lognormal GOF Test						
1560	5% Shapiro Wilk P Value				2.554E-15	Data Not Lognormal at 5% Significance Level						
1561	Lilliefors Test Statistic				0.0717	Lilliefors Lognormal GOF Test						
1562	5% Lilliefors Critical Value				0.0438	Data Not Lognormal at 5% Significance Level						
1563	Data Not Lognormal at 5% Significance Level											
1564												
1565	Background Statistics assuming Lognormal Distribution											
1566	95% UTL with 95% Coverage				561.9	90% Percentile (z)				520.9		
1567	95% UPL (t)				551.3	95% Percentile (z)				550.8		
1568	95% USL				749	99% Percentile (z)				611.6		
1569												
1570	Nonparametric Distribution Free Background Statistics											
1571	Data appear Approximate Normal at 5% Significance Level											
1572												
1573	Nonparametric Upper Limits for Background Threshold Values											
1574	Order of Statistic, r				403	95% UTL with 95% Coverage				558		
1575	Approx, f used to compute achieved CC				1.414	Approximate Actual Confidence Coefficient achieved by UTL				0.929		
1576						Approximate Sample Size needed to achieve specified CC				434		
1577	95% Percentile Bootstrap UTL with 95% Coverage				558	95% BCA Bootstrap UTL with 95% Coverage				558		
1578	95% UPL				546.1	90% Percentile				516		
1579	90% Chebyshev UPL				622.4	95% Percentile				545.2		
1580	95% Chebyshev UPL				708.3	99% Percentile				597		
1581	95% USL				632							
1582												
1583	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.											
1584	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers											
1585	and consists of observations collected from clean unimpacted locations.											
1586	The use of USL tends to provide a balance between false positives and false negatives provided the data											
1587	represents a background data set and when many onsite observations need to be compared with the BTV.											
1588												

Box Plot for pH from 7.1 to 8.1

