

SKB Environmental, Inc.

2021 Coal Combustion Residuals Annual Monitoring Report

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

January 31, 2022





2021 Coal Combustion Residuals Annual Monitoring Report

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

Prepared for:
SKB Environmental, Inc.
251 Starkey Street
St. Paul, MN 55107

Prepared by:
Groundwater & Environmental Services, Inc.
1301 Corporate Center Drive, Suite 190
Eagan, MN 55121
TEL: 800-735-1077
www.gesonline.com

GES Project:
3502216

Date:
January 31, 2022

James F. Simonet, P.G.
Senior Project Hydrogeologist

Bonnie Janowiak, Ph. D.
Principal Chemist

Kevin Michael Lienau, P.E.
Corporate Engineering Manager

Professional Engineer

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

Signature:

Typed or Printed Name: Kevin Michael Lienau

Date: 01/30/2022 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.
mg/L	milligrams per liter
MDH	Minnesota Department of Health
MPCA	Minnesota Pollution Control Agency
NGVD	National Geodetic Vertical Datum
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
USL	Upper Simultaneous Limit



1 Introduction

The *2021 Combustion Coal Residuals Annual Monitoring Report* (Report) was prepared to summarize the results of 2021 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 2021. 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 2021 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 2021 on the following dates:

- March 29-31, 2021
- October 25-27, 2021



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, and specific conductance 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 Amherst, New York.

Groundwater samples were collected from 17 monitoring wells during the 2 sampling events in 2021 and were analyzed for parameters specified in Appendix III (spring and fall events) and Appendix IV (spring (analytes detected in fall 2020 event) and fall (full analyte list) events) per §§ 257.93 – 257.95 and are noted below:

Appendix III

General Chemistry

- Chloride (Method 4500 Cl- E or 300.0)
- Fluoride (Method 4500 F C)
- Sulfate as SO₄ (D-516-90, 02)
- 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 4500 F C)

The above metals were analyzed by Methods 6010D, 6020B, and 7470A. Radium was analyzed by Method 903.0 and 904.0.

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 29 and October 25, 2021 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 **Tables 2** and **3**. 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**.



Chloride was unintentionally not analyzed by Eurofins TA during the spring 2021 sampling event at monitoring wells D-1D, D-2D, D-3D, D-4D, and D-5D. The calculated BTVs for the SKB Rosemount Landfill are provided in **Table 5**. Comparing the 2021 sampling results to the BTVs are summarized below.

Appendix III Analytes - Result Summary of BTV Exceedances

Calcium (BTV = 132 mg/L)

- Downgradient monitoring well
 - D-3S (132 mg/L) (3/30/2021) – Exceeded BTV in the fall of 2020. Below BTV results in spring 2021 indicate fall 2020 exceedance is not statistically significant.

Chloride (BTV = 150 mg/L)

- Downgradient monitoring well
 - D-3S (192 mg/L) (3/30/2021) – Exceeded BTV in spring 2021. Below BTV results in fall 2021 (87.9 mg/l) indicate spring exceedance is not statistically significant.

Total Dissolved Solids (BTV = 614 mg/l)

- Downgradient monitoring well
 - D-3S (688 mg/L) (3/30/2021) – Exceeded BTV in spring 2021. Below BTV results in fall 2021 (476 mg/l) indicate spring exceedance is not statistically significant.

Appendix IV Analytes - Result Summary of BTV Exceedances

Radium 226 (BTV = 0.372 picocuries per liter (pCi/L))

- Downgradient monitoring well
 - D-2S (0.768 pCi/L) (10/26/2021) – Exceedance of BTV; confirmation sampling in spring 2022 will determine if exceedance is statistically significant.

Cobalt (BTV = 0.00058 mg/L)

- Sidegradient monitoring well
 - D-8 (0.0019 mg/L) (10/27/2021) – Exceedance of BTV; confirmation sampling in spring 2022 will determine if exceedance is 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 for 2021 has been completed and is included as **Appendix C**.

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 2021.

Statistical evaluation of the 2017 - 2021 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 Cheby 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 D**.

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:

- 3) The data distribution for a COC contained multiple outliers.
- 4) 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 Chebynev'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 D**.

6.1 SSI Determination

The detected concentrations for the first and second half 2021 sampling event with the respective BTV are listed below. Compliance is determined by comparing the current concentration to the calculated BTV. Boron concentrations at D-3S was confirmed as a SSI.



Comparison of 2021 Confirmed COC Concentrations to BTVs

Monitoring Well	Analyte	First Half 2021 Conc (mg/L unless noted)	BTV Conc (mg/L unless noted)	Second Half 2021 Conc (mg/L unless noted)	USL Notes
D-3S	Calcium	132	132	82.7	Exceedance in fall 2020 but not statistically significant
D-3S	Chloride	192	150	87.9	Exceedance but not statistically significant
D-3S	Total Dissolved Solids	688	614	476	Exceedance but not statistically significant
D-8	Cobalt	ND (<0.0003)	0.00058	0.0019	Exceedance but confirmation sampling in spring 2022 will determine if statistically significant Exceedance but
D-2S	Radium	ND (<0.173) (pCi/L)	0.372 (pCi/L)	0.768 (pCi/L)	confirmation sampling in spring 2022 will determine if 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 (EPA) Maximum Contaminant Levels (MCLs) for detected Appendix IV constituents. For constituents for which the background level is higher than the MCL, the background value will be the GPS. GPS levels are shown in **Table 6**.

For the sampling events conducted in 2021, no constituent in Appendix IV was detected at a statistical significant level 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 2021 at the SKB Rosemount Landfill. Groundwater samples were collected from the monitoring network's 17 monitoring wells (D-1D, D-1S, D-2D, D-2S, D-3D, D-3S, D-4D, D-4S, D-5D, D-5S2, D-7, D-8, D-9, U-4D, U-4S, U-5D, and U-5S). Groundwater samples were analyzed for parameters specified in Appendix III (detection monitoring) and Appendix IV (assessment monitoring).

The groundwater data collected in the 2017 – 2021 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 2021:

Appendix III Analytes

- A Calcium groundwater concentration was detected above the BTV at monitoring well D-3S during the fall 2020 sampling event. Confirmation sampling in spring 2021 determined it was not statistically significant.
- A Chloride concentration was detected above the BTV at downgradient monitoring well D-3S during the spring 2021 sampling event. Subsequent confirmation sampling during the fall 2021 determined this exceedance was not considered statistically significant.
- A Total Dissolved Solids concentration was detected above the BTV at downgradient monitoring well D-3S during the spring 2021 sampling event. Subsequent confirmation sampling during the fall 2021 determined this exceedance was not considered statistically significant.

Appendix IV Analytes

- 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 will determine if this exceedance is statistically significant.
- 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 will determine if this exceedance is statistically significant.



Groundwater concentrations from the 2021 monitoring events were compared to established GPS values. No constituents in Appendix IV were detected at a statistical significant level above established GPS values for the site.

Monitoring well D-7 2021 sampling results were evaluated separately due to limited background analytical data and a summary is included in **Appendix C**.

9 Recommendations

CCR groundwater monitoring events will be conducted in 2022 by the following schedule:

Late February or Early March 2022

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 2021 event).

Fall 2021

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 2022 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 2022 Annual Monitoring Report will be prepared and include sampling results from the 2022 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



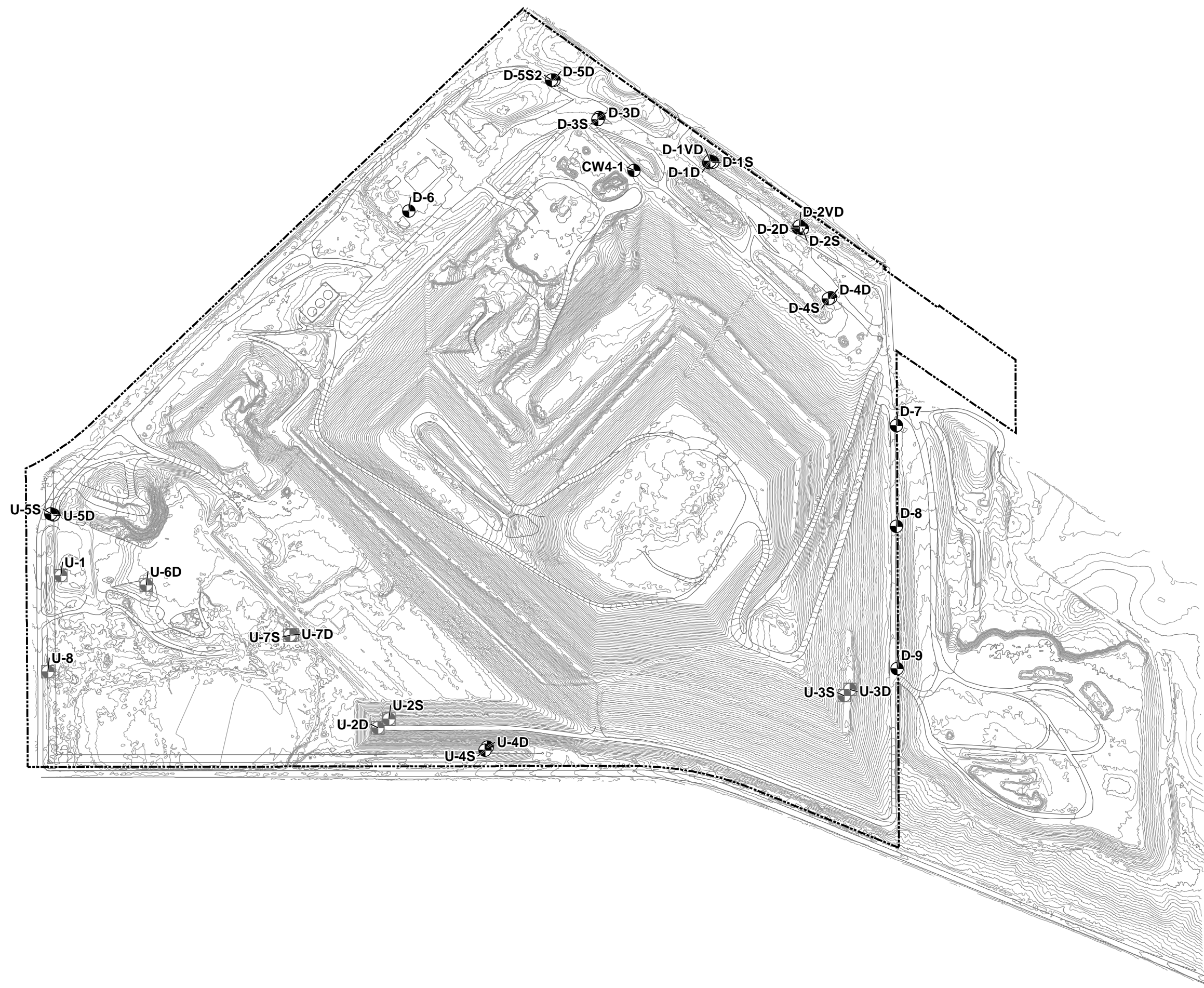
SOURCE: USGS 7.5 MINUTE SERIES
 TOPOGRAPHIC QUADRANGLE 1993
 INVER GROVE HEIGHTS, MINNESOTA
 CONTOUR INTERVAL = 10'



QUADRANGLE LOCATION

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

L:\Projects\SKB Environmental\Rosemount Facility\GIS\Rosemount_SM.mxd - Scale 1:5,400 - 12/13/2021 1:13:43 PM - jbamard -

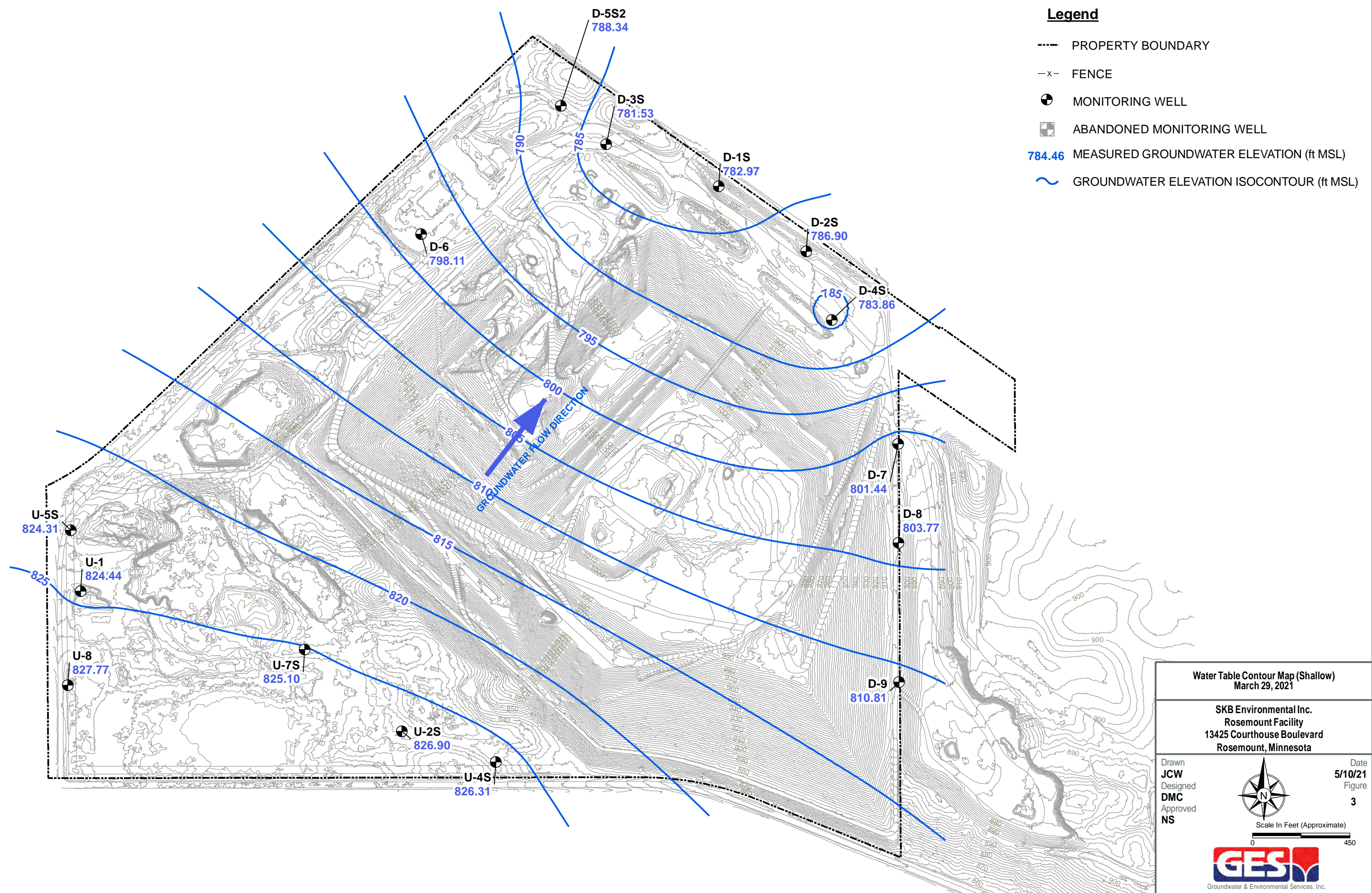


- Legend**
- PROPERTY BOUNDARY
 - x- FENCE
 - MONITORING WELL
 - ABANDONED MONITORING WELL

Note:
Survey completed on 10/21/2021

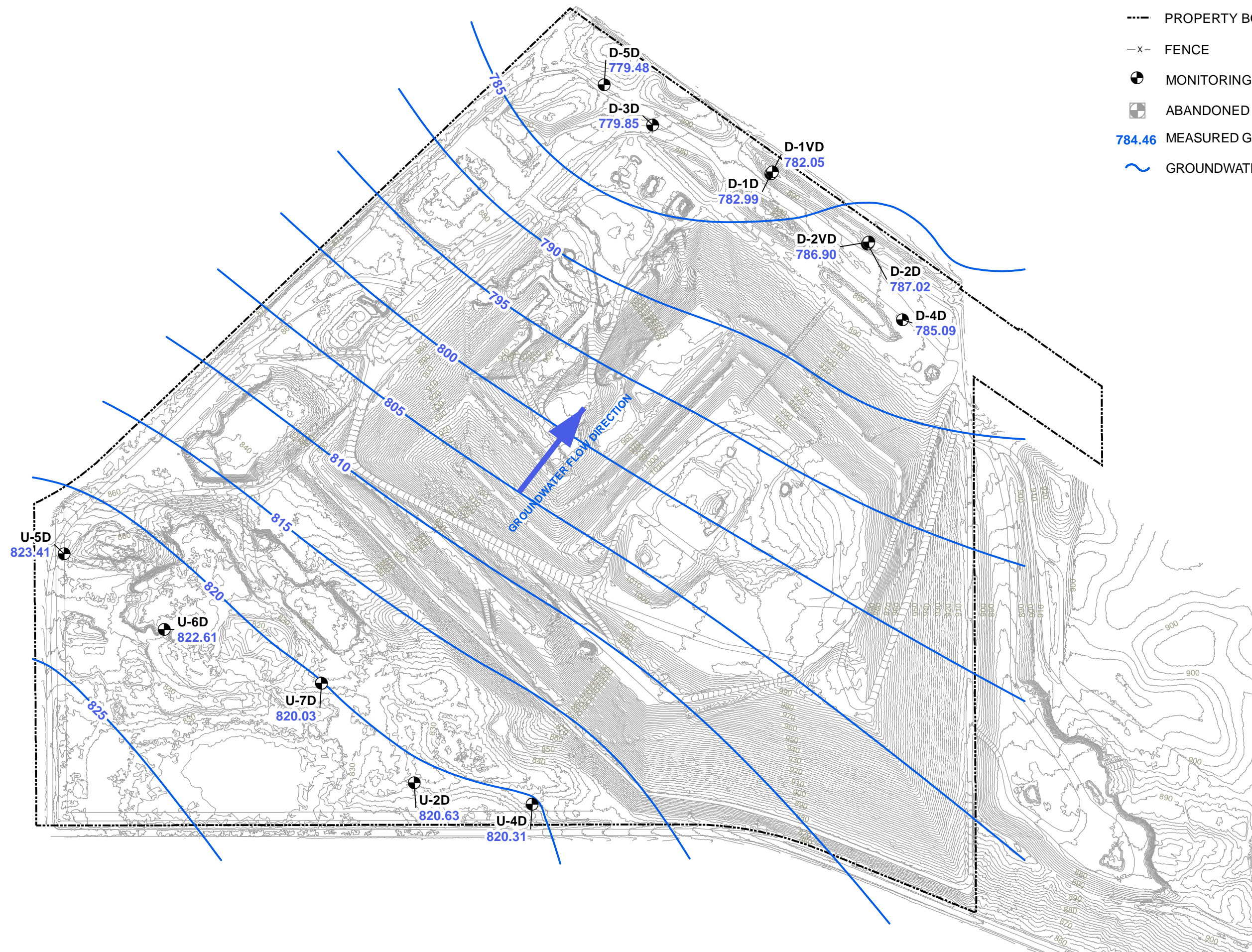
Site Map		
SKB Environmental Inc. Rosemount Facility 13425 Courthouse Boulevard Rosemount, Minnesota		
Drawn JDB Designed DMC Approved JFS	 Scale In Feet (Approximate)   <small>Groundwater & Environmental Services, Inc.</small>	Date 12/13/21 Figure 2

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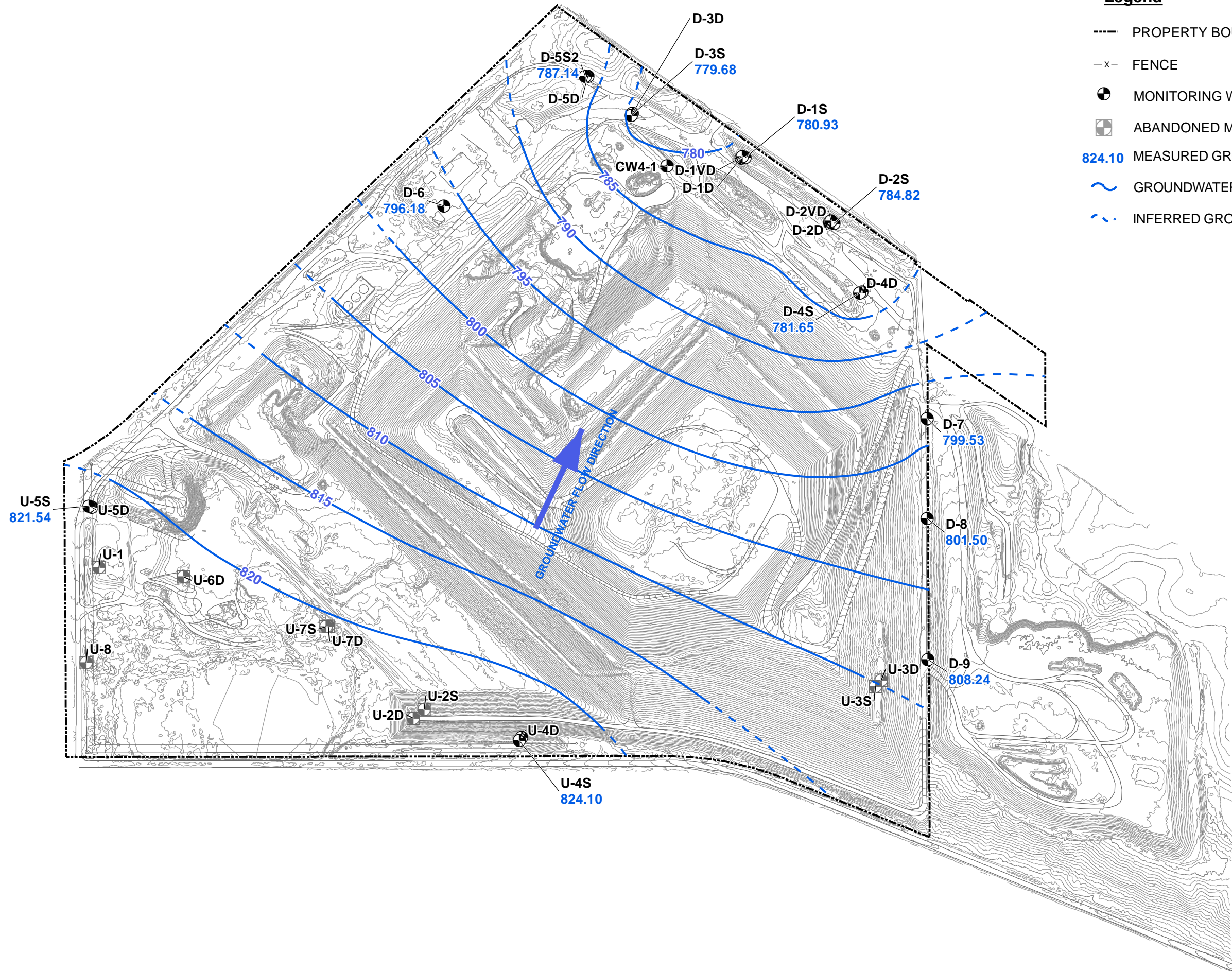


Legend

- PROPERTY BOUNDARY
- x- FENCE
- MONITORING WELL
- ABANDONED MONITORING WELL
- 784.46 MEASURED GROUNDWATER ELEVATION (ft MSL)
- ~ GROUNDWATER ELEVATION ISOCONTOUR (ft MSL)



Water Table Contour Map (Deep) March 29, 2021	
SKB Environmental Inc. Rosemount Facility 13425 Courthouse Boulevard Rosemount, Minnesota	
Drawn JCW Designed DMC Approved NS	Date 5/10/21 Figure 4
 Scale In Feet (Approximate) 0 450	
 Groundwater & Environmental Services, Inc.	



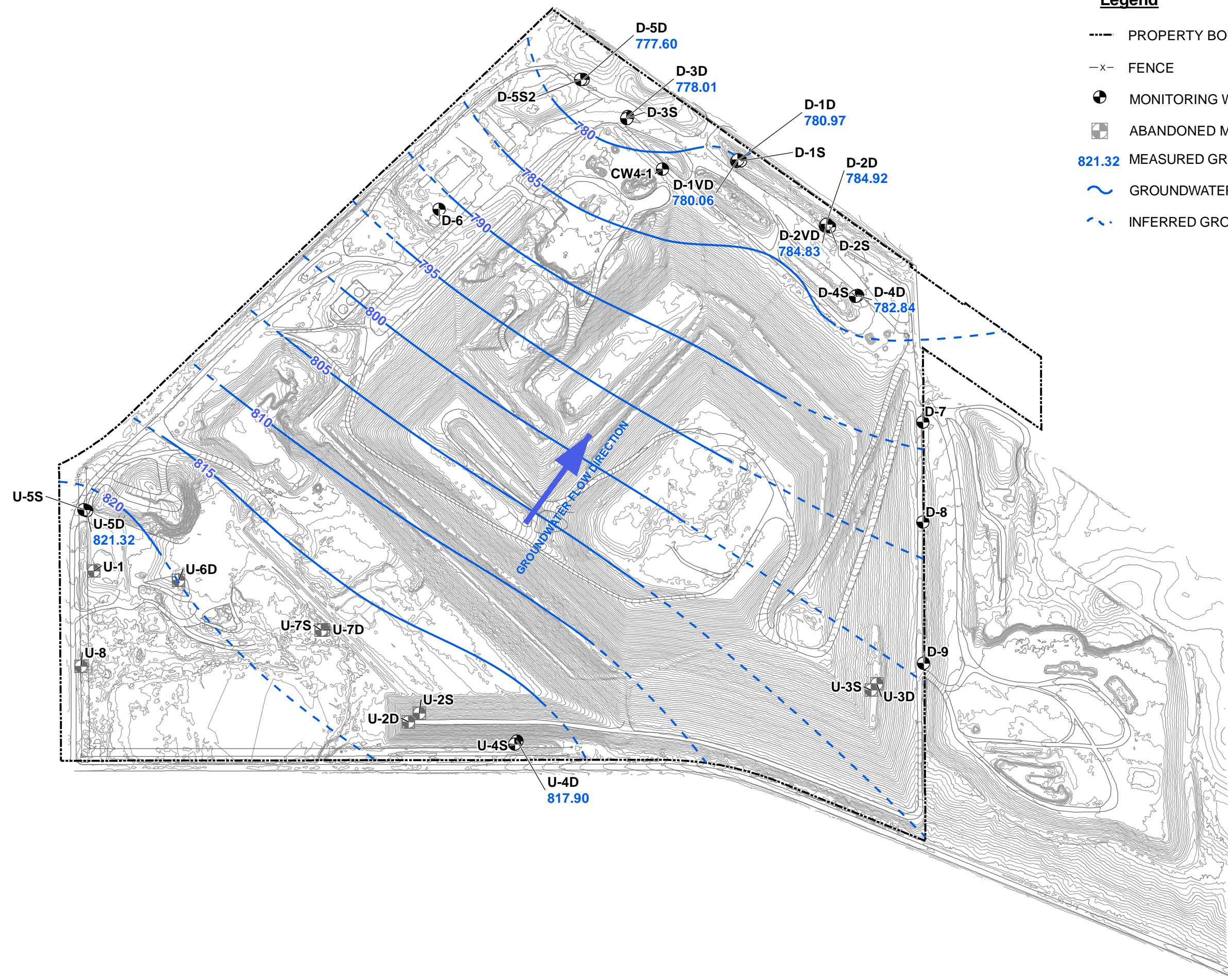
- Legend**
- PROPERTY BOUNDARY
 - x- FENCE
 - MONITORING WELL
 - ABANDONED MONITORING WELL
 - 824.10 MEASURED GROUNDWATER ELEVATION (ft MSL)
 - ~ GROUNDWATER ELEVATION ISOCONTOUR (ft MSL)
 - .-.- INFERRED GROUNDWATER ELEVATION ISOCONTOUR (ft MSL)

Water Table Contour Map October 25, 2021	
SKB Environmental Inc. Rosemount Facility 13425 Courthouse Boulevard Rosemount, Minnesota	
Drawn JDB Designed DMC Approved NJS	Date 12/10/21 Figure 5
 Scale In Feet (Approximate)   Groundwater & Environmental Services, Inc.	

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Legend

- PROPERTY BOUNDARY
- x- FENCE
- MONITORING WELL
- ABANDONED 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 25, 2021	
SKB Environmental Inc. Rosemount Facility 13425 Courthouse Boulevard Rosemount, Minnesota	
Drawn JDB Designed DMC Approved NJS	Date 12/13/21 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
03/29/2021	782.99	782.05	787.02	786.99	779.93	785.09	779.48
10/25/2021	780.97	780.06	784.92	784.83	778.01	782.84	777.6

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
03/29/2021	782.97	786.90	781.53	783.86	788.34	798.11	801.44	803.77	810.81
10/25/2021	780.93	784.82	779.68	781.65	787.14	796.18	799.53	801.50	808.24

Table 1
Groundwater Elevations
Upgradient Deep Wells



DATE	U-2D	U-4D	U-5D	U-6D	U-7D
03/29/2021	820.63	820.31	823.41	822.61	820.03
10/25/2021		817.90	821.32		

Table 1



**Groundwater Elevations
Upgradient Shallow Wells**

DATE	U-1	U-2S	U-4S	U-5S	U-7S	U-8
03/29/2021	824.44	826.9	826.31	824.31	825.10	827.77
10/25/2021			824.10	821.54		

Table 2



Groundwater Analytical Data
 Appendix III

Location	Date	Parameter	Result	Background Threshold Value (BTV)	Units	CAS #
D-1D	03/30/2021	Boron	< 0.020	0.33	mg/l	7440-42-8
D-1D	10/26/2021	Boron	0.021	0.33	mg/l	7440-42-8
D-1D	03/30/2021	Calcium	92.1	132	mg/l	7440-70-2
D-1D	10/26/2021	Calcium	91.2	132	mg/l	7440-70-2
D-1D	10/26/2021	Chloride	33.5	150	mg/l	16887-00-6
D-1D	03/30/2021	Fluoride	0.070	0.25	mg/l	16984-48-8
D-1D	10/26/2021	Fluoride	0.070	0.25	mg/l	16984-48-8
D-1D	03/30/2021	pH	8.1	7.1 < 8.2	pH UNITS	PH
D-1D	10/26/2021	pH	7.9	7.1 < 8.2	pH UNITS	PH
D-1D	03/30/2021	Sulfate as SO4	37.5	67.3	mg/l	14808-79-8
D-1D	10/26/2021	Sulfate as SO4	35.7	67.3	mg/l	14808-79-8
D-1D	03/30/2021	Total Dissolved Solids	403	614	mg/l	TDS
D-1D	10/26/2021	Total Dissolved Solids	380	614	mg/l	TDS
D-1S	03/30/2021	Boron	0.036	0.33	mg/l	7440-42-8
D-1S	10/26/2021	Boron	0.057	0.33	mg/l	7440-42-8
D-1S	03/30/2021	Calcium	100	132	mg/l	7440-70-2
D-1S	10/26/2021	Calcium	94.1	132	mg/l	7440-70-2
D-1S	3/30/2021	Chloride	49.8	150	mg/l	16887-00-6
D-1S	10/26/2021	Chloride	47.8	150	mg/l	16887-00-6
D-1S	03/30/2021	Fluoride	0.060	0.25	mg/l	16984-48-8
D-1S	10/26/2021	Fluoride	0.060	0.25	mg/l	16984-48-8
D-1S	03/30/2021	pH	7.9	7.1 < 8.2	pH UNITS	PH
D-1S	10/26/2021	pH	7.5	7.1 < 8.2	pH UNITS	PH
D-1S	03/30/2021	Sulfate as SO4	23.5	67.3	mg/l	14808-79-8
D-1S	10/26/2021	Sulfate as SO4	18.2	67.3	mg/l	14808-79-8
D-1S	03/30/2021	Total Dissolved Solids	412	614	mg/l	TDS
D-1S	10/26/2021	Total Dissolved Solids	463	614	mg/l	TDS
D-2D	03/30/2021	Boron	< 0.020	0.33	mg/l	7440-42-8
D-2D	10/26/2021	Boron	< 0.020	0.33	mg/l	7440-42-8
D-2D	03/30/2021	Calcium	98.1	132	mg/l	7440-70-2
D-2D	10/26/2021	Calcium	93.7	132	mg/l	7440-70-2
D-2D	10/26/2021	Chloride	34.3	150	mg/l	16887-00-6
D-2D	03/30/2021	Fluoride	0.090	0.25	mg/l	16984-48-8
D-2D	10/26/2021	Fluoride	0.080	0.25	mg/l	16984-48-8
D-2D	03/30/2021	pH	7.9	7.1 < 8.2	pH UNITS	PH
D-2D	10/26/2021	pH	7.8	7.1 < 8.2	pH UNITS	PH
D-2D	03/30/2021	Sulfate as SO4	35.1	67.3	mg/l	14808-79-8
D-2D	10/26/2021	Sulfate as SO4	34.8	67.3	mg/l	14808-79-8
D-2D	03/30/2021	Total Dissolved Solids	411	614	mg/l	TDS
D-2D	10/26/2021	Total Dissolved Solids	410	614	mg/l	TDS
D-2S	03/30/2021	Boron	0.028	0.33	mg/l	7440-42-8
D-2S	10/26/2021	Boron	0.025	0.33	mg/l	7440-42-8

Table 2



Groundwater Analytical Data
 Appendix III

Location	Date	Parameter	Result	Background Threshold Value (BTV)	Units	CAS #
D-2S	03/30/2021	Calcium	104	132	mg/l	7440-70-2
D-2S	10/26/2021	Calcium	104	132	mg/l	7440-70-2
D-2S	3/30/2021	Chloride	42.5	150	mg/l	16887-00-6
D-2S	10/26/2021	Chloride	45.7	150	mg/l	16887-00-6
D-2S	03/30/2021	Fluoride	0.050	0.25	mg/l	16984-48-8
D-2S	10/26/2021	Fluoride	< 0.050	0.25	mg/l	16984-48-8
D-2S	03/30/2021	pH	7.9	7.1 < 8.2	pH UNITS	PH
D-2S	10/26/2021	pH	7.7	7.1 < 8.2	pH UNITS	PH
D-2S	03/30/2021	Sulfate as SO4	21.3	67.3	mg/l	14808-79-8
D-2S	10/26/2021	Sulfate as SO4	22.0	67.3	mg/l	14808-79-8
D-2S	03/30/2021	Total Dissolved Solids	410	614	mg/l	TDS
D-2S	10/26/2021	Total Dissolved Solids	427	614	mg/l	TDS
D-3D	03/30/2021	Boron	0.061	0.33	mg/l	7440-42-8
D-3D	10/26/2021	Boron	0.053	0.33	mg/l	7440-42-8
D-3D	03/30/2021	Calcium	120	132	mg/l	7440-70-2
D-3D	10/26/2021	Calcium	103	132	mg/l	7440-70-2
D-3D	10/26/2021	Chloride	82.5	150	mg/l	16887-00-6
D-3D	03/30/2021	Fluoride	0.070	0.25	mg/l	16984-48-8
D-3D	10/26/2021	Fluoride	0.070	0.25	mg/l	16984-48-8
D-3D	03/30/2021	pH	7.9	7.1 < 8.2	pH UNITS	PH
D-3D	10/26/2021	pH	7.7	7.1 < 8.2	pH UNITS	PH
D-3D	03/30/2021	Sulfate as SO4	42.7	67.3	mg/l	14808-79-8
D-3D	10/26/2021	Sulfate as SO4	34.8	67.3	mg/l	14808-79-8
D-3D	03/30/2021	Total Dissolved Solids	552	614	mg/l	TDS
D-3D	10/26/2021	Total Dissolved Solids	525	614	mg/l	TDS
D-3S	03/30/2021	Boron	0.31	0.33	mg/l	7440-42-8
D-3S	10/26/2021	Boron	0.23	0.33	mg/l	7440-42-8
D-3S	03/30/2021	Calcium	132	132	mg/l	7440-70-2
D-3S	10/26/2021	Calcium	82.7	132	mg/l	7440-70-2
D-3S	3/30/2021	Chloride	192	150	mg/l	16887-00-6
D-3S	10/26/2021	Chloride	87.9	150	mg/l	16887-00-6
D-3S	03/30/2021	Fluoride	0.060	0.25	mg/l	16984-48-8
D-3S	10/26/2021	Fluoride	0.060	0.25	mg/l	16984-48-8
D-3S	03/30/2021	pH	7.9	7.1 < 8.2	pH UNITS	PH
D-3S	10/26/2021	pH	7.7	7.1 < 8.2	pH UNITS	PH
D-3S	03/30/2021	Sulfate as SO4	37.6	67.3	mg/l	14808-79-8
D-3S	10/26/2021	Sulfate as SO4	27.2	67.3	mg/l	14808-79-8
D-3S	03/30/2021	Total Dissolved Solids	688	614	mg/l	TDS
D-3S	10/26/2021	Total Dissolved Solids	476	614	mg/l	TDS
D-4D	03/31/2021	Boron	< 0.020	0.33	mg/l	7440-42-8
D-4D	10/27/2021	Boron	< 0.020	0.33	mg/l	7440-42-8
D-4D	03/31/2021	Calcium	107	132	mg/l	7440-70-2

Table 2



Groundwater Analytical Data
 Appendix III

Location	Date	Parameter	Result	Background Threshold Value (BTV)	Units	CAS #
D-4D	10/27/2021	Calcium	90.3	132	mg/l	7440-70-2
D-4D	10/27/2021	Chloride	32.5	150	mg/l	16887-00-6
D-4D	03/31/2021	Fluoride	0.090	0.25	mg/l	16984-48-8
D-4D	10/27/2021	Fluoride	0.090	0.25	mg/l	16984-48-8
D-4D	03/31/2021	pH	7.9	7.1 < 8.2	pH UNITS	PH
D-4D	10/27/2021	pH	7.8	7.1 < 8.2	pH UNITS	PH
D-4D	03/31/2021	Sulfate as SO4	35.6	67.3	mg/l	14808-79-8
D-4D	10/27/2021	Sulfate as SO4	35.2	67.3	mg/l	14808-79-8
D-4D	03/31/2021	Total Dissolved Solids	435	614	mg/l	TDS
D-4D	10/27/2021	Total Dissolved Solids	430	614	mg/l	TDS
D-4S	03/31/2021	Boron	0.020	0.33	mg/l	7440-42-8
D-4S	10/27/2021	Boron	0.023	0.33	mg/l	7440-42-8
D-4S	03/31/2021	Calcium	111	132	mg/l	7440-70-2
D-4S	10/27/2021	Calcium	106	132	mg/l	7440-70-2
D-4S	3/31/2021	Chloride	48.5	150	mg/l	16887-00-6
D-4S	10/27/2021	Chloride	47.3	150	mg/l	16887-00-6
D-4S	03/31/2021	Fluoride	0.080	0.25	mg/l	16984-48-8
D-4S	10/27/2021	Fluoride	0.080	0.25	mg/l	16984-48-8
D-4S	03/31/2021	pH	8.2	7.1 < 8.2	pH UNITS	PH
D-4S	10/27/2021	pH	7.6	7.1 < 8.2	pH UNITS	PH
D-4S	03/31/2021	Sulfate as SO4	35.7	67.3	mg/l	14808-79-8
D-4S	10/27/2021	Sulfate as SO4	34.9	67.3	mg/l	14808-79-8
D-4S	03/31/2021	Total Dissolved Solids	461	614	mg/l	TDS
D-4S	10/27/2021	Total Dissolved Solids	452	614	mg/l	TDS
D-5D	03/30/2021	Boron	0.020	0.33	mg/l	7440-42-8
D-5D	10/26/2021	Boron	0.022	0.33	mg/l	7440-42-8
D-5D	03/30/2021	Calcium	116	132	mg/l	7440-70-2
D-5D	10/26/2021	Calcium	112	132	mg/l	7440-70-2
D-5D	10/26/2021	Chloride	59.4	150	mg/l	16887-00-6
D-5D	03/30/2021	Fluoride	0.080	0.25	mg/l	16984-48-8
D-5D	10/26/2021	Fluoride	0.070	0.25	mg/l	16984-48-8
D-5D	03/30/2021	pH	7.9	7.1 < 8.2	pH UNITS	PH
D-5D	10/26/2021	pH	7.5	7.1 < 8.2	pH UNITS	PH
D-5D	03/30/2021	Sulfate as SO4	44.3	67.3	mg/l	14808-79-8
D-5D	10/26/2021	Sulfate as SO4	39.7	67.3	mg/l	14808-79-8
D-5D	03/30/2021	Total Dissolved Solids	450	614	mg/l	TDS
D-5D	10/26/2021	Total Dissolved Solids	428	614	mg/l	TDS
D-5S2	03/30/2021	Boron	0.13	0.33	mg/l	7440-42-8
D-5S2	10/26/2021	Boron	0.14	0.33	mg/l	7440-42-8
D-5S2	03/30/2021	Calcium	113	132	mg/l	7440-70-2
D-5S2	10/26/2021	Calcium	96.5	132	mg/l	7440-70-2
D-5S2	3/30/2021	Chloride	103	150	mg/l	16887-00-6

Table 2



Groundwater Analytical Data
 Appendix III

Location	Date	Parameter	Result	Background Threshold Value (BTV)	Units	CAS #
D-5S2	10/26/2021	Chloride	75.6	150	mg/l	16887-00-6
D-5S2	03/30/2021	Fluoride	0.060	0.25	mg/l	16984-48-8
D-5S2	10/26/2021	Fluoride	0.050	0.25	mg/l	16984-48-8
D-5S2	03/30/2021	pH	8.0	7.1 < 8.2	pH UNITS	PH
D-5S2	10/26/2021	pH	7.6	7.1 < 8.2	pH UNITS	PH
D-5S2	03/30/2021	Sulfate as SO4	58.7	67.3	mg/l	14808-79-8
D-5S2	10/26/2021	Sulfate as SO4	39.2	67.3	mg/l	14808-79-8
D-5S2	03/30/2021	Total Dissolved Solids	516	614	mg/l	TDS
D-5S2	10/26/2021	Total Dissolved Solids	430	614	mg/l	TDS
D-8	03/31/2021	Boron	< 0.020	0.33	mg/l	7440-42-8
D-8	10/27/2021	Boron	< 0.020	0.33	mg/l	7440-42-8
D-8	03/31/2021	Calcium	115	132	mg/l	7440-70-2
D-8	10/27/2021	Calcium	121	132	mg/l	7440-70-2
D-8	3/31/2021	Chloride	37.5	150	mg/l	16887-00-6
D-8	10/27/2021	Chloride	38.1	150	mg/l	16887-00-6
D-8	03/31/2021	Fluoride	0.11	0.25	mg/l	16984-48-8
D-8	10/27/2021	Fluoride	0.090	0.25	mg/l	16984-48-8
D-8	03/31/2021	pH	8.0	7.1 < 8.2	pH UNITS	PH
D-8	10/27/2021	pH	7.6	7.1 < 8.2	pH UNITS	PH
D-8	03/31/2021	Sulfate as SO4	47.1	67.3	mg/l	14808-79-8
D-8	10/27/2021	Sulfate as SO4	38.1	67.3	mg/l	14808-79-8
D-8	03/31/2021	Total Dissolved Solids	459	614	mg/l	TDS
D-8	10/27/2021	Total Dissolved Solids	486	614	mg/l	TDS
D-9	03/31/2021	Boron	0.026	0.33	mg/l	7440-42-8
D-9	10/27/2021	Boron	0.029	0.33	mg/l	7440-42-8
D-9	03/31/2021	Calcium	121	132	mg/l	7440-70-2
D-9	10/27/2021	Calcium	121	132	mg/l	7440-70-2
D-9	3/31/2021	Chloride	32	150	mg/l	16887-00-6
D-9	10/27/2021	Chloride	34.8	150	mg/l	16887-00-6
D-9	03/31/2021	Fluoride	0.080	0.25	mg/l	16984-48-8
D-9	10/27/2021	Fluoride	0.070	0.25	mg/l	16984-48-8
D-9	03/31/2021	pH	7.8	7.1 < 8.2	pH UNITS	PH
D-9	10/27/2021	pH	7.5	7.1 < 8.2	pH UNITS	PH
D-9	03/31/2021	Sulfate as SO4	35.7	67.3	mg/l	14808-79-8
D-9	10/27/2021	Sulfate as SO4	30.9	67.3	mg/l	14808-79-8
D-9	03/31/2021	Total Dissolved Solids	483	614	mg/l	TDS
D-9	10/27/2021	Total Dissolved Solids	496	614	mg/l	TDS
U-4D	03/29/2021	Boron	< 0.020	0.33	mg/l	7440-42-8
U-4D	10/26/2021	Boron	0.020	0.33	mg/l	7440-42-8
U-4D	03/29/2021	Calcium	94.2	132	mg/l	7440-70-2
U-4D	10/26/2021	Calcium	101	132	mg/l	7440-70-2
U-4D	3/29/2021	Chloride	33.2	150	mg/l	16887-00-6

Table 2



Groundwater Analytical Data
 Appendix III

Location	Date	Parameter	Result	Background Threshold Value (BTV)	Units	CAS #
U-4D	10/26/2021	Chloride	48.3	150	mg/l	16887-00-6
U-4D	03/29/2021	Fluoride	0.10	0.25	mg/l	16984-48-8
U-4D	10/26/2021	Fluoride	0.080	0.25	mg/l	16984-48-8
U-4D	03/29/2021	pH	8.1	7.1 < 8.2	pH UNITS	PH
U-4D	10/26/2021	pH	7.7	7.1 < 8.2	pH UNITS	PH
U-4D	03/29/2021	Sulfate as SO4	38.5	67.3	mg/l	14808-79-8
U-4D	10/26/2021	Sulfate as SO4	33.2	67.3	mg/l	14808-79-8
U-4D	03/29/2021	Total Dissolved Solids	435	614	mg/l	TDS
U-4D	10/26/2021	Total Dissolved Solids	413	614	mg/l	TDS
U-4S	03/29/2021	Boron	< 0.020	0.33	mg/l	7440-42-8
U-4S	10/26/2021	Boron	< 0.020	0.33	mg/l	7440-42-8
U-4S	03/29/2021	Calcium	100	132	mg/l	7440-70-2
U-4S	10/26/2021	Calcium	101	132	mg/l	7440-70-2
U-4S	3/29/2021	Chloride	52.4	150	mg/l	16887-00-6
U-4S	10/26/2021	Chloride	47.2	150	mg/l	16887-00-6
U-4S	03/29/2021	Fluoride	0.070	0.25	mg/l	16984-48-8
U-4S	10/26/2021	Fluoride	0.060	0.25	mg/l	16984-48-8
U-4S	03/29/2021	pH	7.5	7.1 < 8.2	pH UNITS	PH
U-4S	10/26/2021	pH	7.5	7.1 < 8.2	pH UNITS	PH
U-4S	03/29/2021	Sulfate as SO4	21.2	67.3	mg/l	14808-79-8
U-4S	10/26/2021	Sulfate as SO4	25.4	67.3	mg/l	14808-79-8
U-4S	03/29/2021	Total Dissolved Solids	414	614	mg/l	TDS
U-4S	10/26/2021	Total Dissolved Solids	468	614	mg/l	TDS
U-5D	03/29/2021	Boron	< 0.020	0.33	mg/l	7440-42-8
U-5D	10/26/2021	Boron	< 0.020	0.33	mg/l	7440-42-8
U-5D	03/29/2021	Calcium	92.2	132	mg/l	7440-70-2
U-5D	10/26/2021	Calcium	87.8	132	mg/l	7440-70-2
U-5D	3/29/2021	Chloride	28.5	150	mg/l	16887-00-6
U-5D	10/26/2021	Chloride	28.1	150	mg/l	16887-00-6
U-5D	03/29/2021	Fluoride	0.10	0.25	mg/l	16984-48-8
U-5D	10/26/2021	Fluoride	0.090	0.25	mg/l	16984-48-8
U-5D	03/29/2021	pH	7.7	7.1 < 8.2	pH UNITS	PH
U-5D	10/26/2021	pH	7.7	7.1 < 8.2	pH UNITS	PH
U-5D	03/29/2021	Sulfate as SO4	37.1	67.3	mg/l	14808-79-8
U-5D	10/26/2021	Sulfate as SO4	34.8	67.3	mg/l	14808-79-8
U-5D	03/29/2021	Total Dissolved Solids	407	614	mg/l	TDS
U-5D	10/26/2021	Total Dissolved Solids	406	614	mg/l	TDS
U-5S	03/29/2021	Boron	0.049	0.33	mg/l	7440-42-8
U-5S	10/26/2021	Boron	0.062	0.33	mg/l	7440-42-8
U-5S	03/29/2021	Calcium	91.1	132	mg/l	7440-70-2
U-5S	10/26/2021	Calcium	98.8	132	mg/l	7440-70-2
U-5S	3/29/2021	Chloride	38.3	150	mg/l	16887-00-6

Table 2
Groundwater Analytical Data
Appendix III



Location	Date	Parameter	Result	Background Threshold Value (BTV)	Units	CAS #
U-5S	10/26/2021	Chloride	42.9	150	mg/l	16887-00-6
U-5S	03/29/2021	Fluoride	0.10	0.25	mg/l	16984-48-8
U-5S	10/26/2021	Fluoride	0.10	0.25	mg/l	16984-48-8
U-5S	03/29/2021	pH	7.8	7.1 < 8.2	pH UNITS	PH
U-5S	10/26/2021	pH	7.5	7.1 < 8.2	pH UNITS	PH
U-5S	03/29/2021	Sulfate as SO4	31.0	67.3	mg/l	14808-79-8
U-5S	10/26/2021	Sulfate as SO4	33.1	67.3	mg/l	14808-79-8
U-5S	03/29/2021	Total Dissolved Solids	354	614	mg/l	TDS
U-5S	10/26/2021	Total Dissolved Solids	418	614	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 Values (BTV)	Units	CAS #
D-1D	10/26/2021	Antimony	< 0.001	0.001	mg/l	7440-36-0
D-1D	10/26/2021	Arsenic	< 0.001	0.001	mg/l	7440-38-2
D-1D	03/30/2021	Barium	0.048	0.998	mg/l	7440-39-3
D-1D	10/26/2021	Barium	0.048	0.998	mg/l	7440-39-3
D-1D	10/26/2021	Beryllium	< 0.0007	0.0007	mg/l	7440-41-7
D-1D	10/26/2021	Cadmium	< 0.0005	0.0005	mg/l	7440-43-9
D-1D	03/30/2021	Chromium	0.0076	0.049	mg/l	7440-47-3
D-1D	10/26/2021	Chromium	0.0047	0.049	mg/l	7440-47-3
D-1D	03/30/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
D-1D	10/26/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
D-1D	03/30/2021	Fluoride	0.070	0.25	mg/l	16984-48-8
D-1D	10/26/2021	Fluoride	0.070	0.25	mg/l	16984-48-8
D-1D	10/26/2021	Lead	< 0.010	0.01	mg/l	7439-92-1
D-1D	10/26/2021	Lithium	< 0.030	0.03	mg/l	7439-93-2
D-1D	10/26/2021	Mercury	< 0.0002	0.0002	mg/l	7439-97-6
D-1D	10/26/2021	Molybdenum	< 0.001	0.001	mg/l	7439-98-7
D-1D	03/30/2021	Radium 226	0.226	0.372	pci/l	13982-63-3
D-1D	10/26/2021	Radium 226	< 0.122	0.372	pci/l	13982-63-3
D-1D	03/30/2021	Radium 228	< 0.438	1	pci/l	15262-20-1
D-1D	10/26/2021	Radium 228	0.453	1	pci/l	15262-20-1
D-1D	03/30/2021	Radium 226/228	0.226	1.372	pci/l	425
D-1D	10/26/2021	Radium 226/228	0.453	1.372	pci/l	425
D-1D	10/26/2021	Selenium	< 0.001	0.0014	mg/l	7782-49-2
D-1D	10/26/2021	Thallium	< 0.0002	0.0002	mg/l	7440-28-0
D-1S	10/26/2021	Antimony	< 0.001	0.001	mg/l	7440-36-0
D-1S	10/26/2021	Arsenic	< 0.001	0.001	mg/l	7440-38-2
D-1S	03/30/2021	Barium	0.053	0.998	mg/l	7440-39-3
D-1S	10/26/2021	Barium	0.051	0.998	mg/l	7440-39-3
D-1S	10/26/2021	Beryllium	< 0.0007	0.0007	mg/l	7440-41-7
D-1S	10/26/2021	Cadmium	< 0.0005	0.0005	mg/l	7440-43-9
D-1S	03/30/2021	Chromium	< 0.0040	0.049	mg/l	7440-47-3
D-1S	10/26/2021	Chromium	< 0.0040	0.049	mg/l	7440-47-3
D-1S	03/30/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
D-1S	10/26/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
D-1S	03/30/2021	Fluoride	0.060	0.25	mg/l	16984-48-8
D-1S	10/26/2021	Fluoride	0.060	0.25	mg/l	16984-48-8
D-1S	10/26/2021	Lead	< 0.010	0.01	mg/l	7439-92-1
D-1S	10/26/2021	Lithium	< 0.030	0.03	mg/l	7439-93-2
D-1S	10/26/2021	Mercury	< 0.0002	0.0002	mg/l	7439-97-6
D-1S	10/26/2021	Molybdenum	< 0.001	0.001	mg/l	7439-98-7
D-1S	03/30/2021	Radium 226	< 0.113	0.372	pci/l	13982-63-3
D-1S	10/26/2021	Radium 226	< 0.133	0.372	pci/l	13982-63-3

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Location	Date	Parameter	Result	Background Threshold Values (BTV)	Units	CAS #
D-1S	03/30/2021	Radium 228	< 0.482	1	pci/l	15262-20-1
D-1S	10/26/2021	Radium 228	< 0.430	1	pci/l	15262-20-1
D-1S	03/30/2021	Radium 226/228	< 0.482	1.372	pci/l	425
D-1S	10/26/2021	Radium 226/228	< 0.430	1.372	pci/l	425
D-1S	10/26/2021	Selenium	< 0.001	0.0014	mg/l	7782-49-2
D-1S	10/26/2021	Thallium	< 0.0002	0.0002	mg/l	7440-28-0
D-2D	10/26/2021	Antimony	< 0.001	0.001	mg/l	7440-36-0
D-2D	10/26/2021	Arsenic	< 0.001	0.001	mg/l	7440-38-2
D-2D	03/30/2021	Barium	0.053	0.998	mg/l	7440-39-3
D-2D	10/26/2021	Barium	0.052	0.998	mg/l	7440-39-3
D-2D	10/26/2021	Beryllium	< 0.0007	0.0007	mg/l	7440-41-7
D-2D	10/26/2021	Cadmium	< 0.0005	0.0005	mg/l	7440-43-9
D-2D	03/30/2021	Chromium	< 0.0040	0.049	mg/l	7440-47-3
D-2D	10/26/2021	Chromium	< 0.0040	0.049	mg/l	7440-47-3
D-2D	03/30/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
D-2D	10/26/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
D-2D	03/30/2021	Fluoride	0.090	0.25	mg/l	16984-48-8
D-2D	10/26/2021	Fluoride	0.080	0.25	mg/l	16984-48-8
D-2D	10/26/2021	Lead	< 0.010	0.01	mg/l	7439-92-1
D-2D	10/26/2021	Lithium	< 0.030	0.03	mg/l	7439-93-2
D-2D	10/26/2021	Mercury	< 0.0002	0.0002	mg/l	7439-97-6
D-2D	10/26/2021	Molybdenum	< 0.001	0.001	mg/l	7439-98-7
D-2D	03/30/2021	Radium 226	< 0.114	0.372	pci/l	13982-63-3
D-2D	10/26/2021	Radium 226	< 0.135	0.372	pci/l	13982-63-3
D-2D	03/30/2021	Radium 228	< 0.464	1	pci/l	15262-20-1
D-2D	10/26/2021	Radium 228	< 0.502	1	pci/l	15262-20-1
D-2D	03/30/2021	Radium 226/228	< 0.464	1.372	pci/l	425
D-2D	10/26/2021	Radium 226/228	< 0.502	1.372	pci/l	425
D-2D	10/26/2021	Selenium	< 0.001	0.0014	mg/l	7782-49-2
D-2D	10/26/2021	Thallium	< 0.0002	0.0002	mg/l	7440-28-0
D-2S	10/26/2021	Antimony	< 0.001	0.001	mg/l	7440-36-0
D-2S	10/26/2021	Arsenic	< 0.001	0.001	mg/l	7440-38-2
D-2S	03/30/2021	Barium	0.047	0.998	mg/l	7440-39-3
D-2S	10/26/2021	Barium	0.050	0.998	mg/l	7440-39-3
D-2S	10/26/2021	Beryllium	< 0.0007	0.0007	mg/l	7440-41-7
D-2S	10/26/2021	Cadmium	< 0.0005	0.0005	mg/l	7440-43-9
D-2S	03/30/2021	Chromium	< 0.0040	0.049	mg/l	7440-47-3
D-2S	10/26/2021	Chromium	< 0.0040	0.049	mg/l	7440-47-3
D-2S	03/30/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
D-2S	10/26/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
D-2S	03/30/2021	Fluoride	0.050	0.25	mg/l	16984-48-8
D-2S	10/26/2021	Fluoride	< 0.050	0.25	mg/l	16984-48-8

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D-2S	10/26/2021	Lead	< 0.010	0.01	mg/l	7439-92-1
D-2S	10/26/2021	Lithium	< 0.030	0.03	mg/l	7439-93-2
D-2S	10/26/2021	Mercury	< 0.0002	0.0002	mg/l	7439-97-6
D-2S	10/26/2021	Molybdenum	< 0.001	0.001	mg/l	7439-98-7
D-2S	03/30/2021	Radium 226	< 0.173	0.372	pci/l	13982-63-3
D-2S	10/26/2021	Radium 226	0.768	0.372	pci/l	13982-63-3
D-2S	03/30/2021	Radium 228	< 0.691	1	pci/l	15262-20-1
D-2S	10/26/2021	Radium 228	< 0.702	1	pci/l	15262-20-1
D-2S	03/30/2021	Radium 226/228	< 0.691	1.372	pci/l	425
D-2S	10/26/2021	Radium 226/228	0.768	1.372	pci/l	425
D-2S	10/26/2021	Selenium	< 0.001	0.0014	mg/l	7782-49-2
D-2S	10/26/2021	Thallium	< 0.0002	0.0002	mg/l	7440-28-0
D-3D	10/26/2021	Antimony	< 0.001	0.001	mg/l	7440-36-0
D-3D	10/26/2021	Arsenic	< 0.001	0.001	mg/l	7440-38-2
D-3D	03/30/2021	Barium	0.065	0.998	mg/l	7440-39-3
D-3D	10/26/2021	Barium	0.059	0.998	mg/l	7440-39-3
D-3D	10/26/2021	Beryllium	< 0.0007	0.0007	mg/l	7440-41-7
D-3D	10/26/2021	Cadmium	< 0.0005	0.0005	mg/l	7440-43-9
D-3D	03/30/2021	Chromium	0.015	0.049	mg/l	7440-47-3
D-3D	10/26/2021	Chromium	0.021	0.049	mg/l	7440-47-3
D-3D	03/30/2021	Cobalt	0.00036	0.00058	mg/l	7440-48-4
D-3D	10/26/2021	Cobalt	0.00044	0.00058	mg/l	7440-48-4
D-3D	03/30/2021	Fluoride	0.070	0.25	mg/l	16984-48-8
D-3D	10/26/2021	Fluoride	0.070	0.25	mg/l	16984-48-8
D-3D	10/26/2021	Lead	< 0.010	0.01	mg/l	7439-92-1
D-3D	10/26/2021	Lithium	< 0.030	0.03	mg/l	7439-93-2
D-3D	10/26/2021	Mercury	< 0.0002	0.0002	mg/l	7439-97-6
D-3D	10/26/2021	Molybdenum	< 0.001	0.001	mg/l	7439-98-7
D-3D	03/30/2021	Radium 226	0.111	0.372	pci/l	13982-63-3
D-3D	10/26/2021	Radium 226	< 0.130	0.372	pci/l	13982-63-3
D-3D	03/30/2021	Radium 228	< 0.418	1	pci/l	15262-20-1
D-3D	10/26/2021	Radium 228	< 0.431	1	pci/l	15262-20-1
D-3D	03/30/2021	Radium 226/228	0.111	1.372	pci/l	425
D-3D	10/26/2021	Radium 226/228	< 0.431	1.372	pci/l	425
D-3D	10/26/2021	Selenium	< 0.001	0.0014	mg/l	7782-49-2
D-3D	10/26/2021	Thallium	< 0.0002	0.0002	mg/l	7440-28-0
D-3S	10/26/2021	Antimony	< 0.001	0.001	mg/l	7440-36-0
D-3S	10/26/2021	Arsenic	< 0.001	0.001	mg/l	7440-38-2
D-3S	03/30/2021	Barium	0.070	0.998	mg/l	7440-39-3
D-3S	10/26/2021	Barium	0.044	0.998	mg/l	7440-39-3
D-3S	10/26/2021	Beryllium	< 0.0007	0.0007	mg/l	7440-41-7
D-3S	10/26/2021	Cadmium	< 0.0005	0.0005	mg/l	7440-43-9

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D-3S	03/30/2021	Chromium	0.030	0.049	mg/l	7440-47-3
D-3S	10/26/2021	Chromium	< 0.0040	0.049	mg/l	7440-47-3
D-3S	03/30/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
D-3S	10/26/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
D-3S	03/30/2021	Fluoride	0.060	0.25	mg/l	16984-48-8
D-3S	10/26/2021	Fluoride	0.060	0.25	mg/l	16984-48-8
D-3S	10/26/2021	Lead	< 0.010	0.01	mg/l	7439-92-1
D-3S	10/26/2021	Lithium	< 0.030	0.03	mg/l	7439-93-2
D-3S	10/26/2021	Mercury	< 0.0002	0.0002	mg/l	7439-97-6
D-3S	10/26/2021	Molybdenum	< 0.001	0.001	mg/l	7439-98-7
D-3S	03/30/2021	Radium 226	< 0.0925	0.372	pci/l	13982-63-3
D-3S	10/26/2021	Radium 226	< 0.140	0.372	pci/l	13982-63-3
D-3S	03/30/2021	Radium 228	< 0.415	1	pci/l	15262-20-1
D-3S	10/26/2021	Radium 228	< 0.418	1	pci/l	15262-20-1
D-3S	03/30/2021	Radium 226/228	< 0.415	1.372	pci/l	425
D-3S	10/26/2021	Radium 226/228	< 0.418	1.372	pci/l	425
D-3S	10/26/2021	Selenium	< 0.001	0.0014	mg/l	7782-49-2
D-3S	10/26/2021	Thallium	< 0.0002	0.0002	mg/l	7440-28-0
D-4D	10/27/2021	Antimony	< 0.001	0.001	mg/l	7440-36-0
D-4D	10/27/2021	Arsenic	< 0.001	0.001	mg/l	7440-38-2
D-4D	03/31/2021	Barium	0.068	0.998	mg/l	7440-39-3
D-4D	10/27/2021	Barium	0.043	0.998	mg/l	7440-39-3
D-4D	10/27/2021	Beryllium	< 0.0007	0.0007	mg/l	7440-41-7
D-4D	10/27/2021	Cadmium	< 0.0005	0.0005	mg/l	7440-43-9
D-4D	03/31/2021	Chromium	< 0.0040	0.049	mg/l	7440-47-3
D-4D	10/27/2021	Chromium	< 0.0040	0.049	mg/l	7440-47-3
D-4D	03/31/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
D-4D	10/27/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
D-4D	03/31/2021	Fluoride	0.090	0.25	mg/l	16984-48-8
D-4D	10/27/2021	Fluoride	0.090	0.25	mg/l	16984-48-8
D-4D	10/27/2021	Lead	< 0.010	0.01	mg/l	7439-92-1
D-4D	10/27/2021	Lithium	< 0.030	0.03	mg/l	7439-93-2
D-4D	10/27/2021	Mercury	< 0.0002	0.0002	mg/l	7439-97-6
D-4D	10/27/2021	Molybdenum	< 0.001	0.001	mg/l	7439-98-7
D-4D	03/31/2021	Radium 226	< 0.108	0.372	pci/l	13982-63-3
D-4D	10/27/2021	Radium 226	< 0.203	0.372	pci/l	13982-63-3
D-4D	03/31/2021	Radium 228	< 0.410	1	pci/l	15262-20-1
D-4D	10/27/2021	Radium 228	< 0.683	1	pci/l	15262-20-1
D-4D	03/31/2021	Radium 226/228	< 0.410	1.372	pci/l	425
D-4D	10/27/2021	Radium 226/228	< 0.683	1.372	pci/l	425
D-4D	10/27/2021	Selenium	< 0.001	0.0014	mg/l	7782-49-2
D-4D	10/27/2021	Thallium	< 0.0002	0.0002	mg/l	7440-28-0

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D-4S	10/27/2021	Antimony	< 0.001	0.001	mg/l	7440-36-0
D-4S	10/27/2021	Arsenic	< 0.001	0.001	mg/l	7440-38-2
D-4S	03/31/2021	Barium	0.078	0.998	mg/l	7440-39-3
D-4S	10/27/2021	Barium	0.081	0.998	mg/l	7440-39-3
D-4S	10/27/2021	Beryllium	< 0.0007	0.0007	mg/l	7440-41-7
D-4S	10/27/2021	Cadmium	< 0.0005	0.0005	mg/l	7440-43-9
D-4S	03/31/2021	Chromium	0.0051	0.049	mg/l	7440-47-3
D-4S	10/27/2021	Chromium	< 0.0040	0.049	mg/l	7440-47-3
D-4S	03/31/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
D-4S	10/27/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
D-4S	03/31/2021	Fluoride	0.080	0.25	mg/l	16984-48-8
D-4S	10/27/2021	Fluoride	0.080	0.25	mg/l	16984-48-8
D-4S	10/27/2021	Lead	< 0.010	0.01	mg/l	7439-92-1
D-4S	10/27/2021	Lithium	< 0.030	0.03	mg/l	7439-93-2
D-4S	10/27/2021	Mercury	< 0.0002	0.0002	mg/l	7439-97-6
D-4S	10/27/2021	Molybdenum	< 0.001	0.001	mg/l	7439-98-7
D-4S	03/31/2021	Radium 226	< 0.0917	0.372	pci/l	13982-63-3
D-4S	10/27/2021	Radium 226	< 0.144	0.372	pci/l	13982-63-3
D-4S	03/31/2021	Radium 228	< 0.433	1	pci/l	15262-20-1
D-4S	10/27/2021	Radium 228	< 0.415	1	pci/l	15262-20-1
D-4S	03/31/2021	Radium 226/228	< 0.433	1.372	pci/l	425
D-4S	10/27/2021	Radium 226/228	< 0.415	1.372	pci/l	425
D-4S	10/27/2021	Selenium	< 0.001	0.0014	mg/l	7782-49-2
D-4S	10/27/2021	Thallium	< 0.0002	0.0002	mg/l	7440-28-0
D-5D	10/26/2021	Antimony	< 0.001	0.001	mg/l	7440-36-0
D-5D	10/26/2021	Arsenic	< 0.001	0.001	mg/l	7440-38-2
D-5D	03/30/2021	Barium	0.060	0.998	mg/l	7440-39-3
D-5D	10/26/2021	Barium	0.060	0.998	mg/l	7440-39-3
D-5D	10/26/2021	Beryllium	< 0.0007	0.0007	mg/l	7440-41-7
D-5D	10/26/2021	Cadmium	< 0.0005	0.0005	mg/l	7440-43-9
D-5D	03/30/2021	Chromium	< 0.0040	0.049	mg/l	7440-47-3
D-5D	10/26/2021	Chromium	0.0070	0.049	mg/l	7440-47-3
D-5D	03/30/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
D-5D	10/26/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
D-5D	03/30/2021	Fluoride	0.080	0.25	mg/l	16984-48-8
D-5D	10/26/2021	Fluoride	0.070	0.25	mg/l	16984-48-8
D-5D	10/26/2021	Lead	< 0.010	0.01	mg/l	7439-92-1
D-5D	10/26/2021	Lithium	< 0.030	0.03	mg/l	7439-93-2
D-5D	10/26/2021	Mercury	< 0.0002	0.0002	mg/l	7439-97-6
D-5D	10/26/2021	Molybdenum	< 0.001	0.001	mg/l	7439-98-7
D-5D	03/30/2021	Radium 226	0.132	0.372	pci/l	13982-63-3
D-5D	10/26/2021	Radium 226	< 0.128	0.372	pci/l	13982-63-3

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D-5D	03/30/2021	Radium 228	< 0.396	1	pci/l	15262-20-1
D-5D	10/26/2021	Radium 228	< 0.429	1	pci/l	15262-20-1
D-5D	03/30/2021	Radium 226/228	0.132	1.372	pci/l	425
D-5D	10/26/2021	Radium 226/228	< 0.429	1.372	pci/l	425
D-5D	10/26/2021	Selenium	< 0.001	0.0014	mg/l	7782-49-2
D-5D	10/26/2021	Thallium	< 0.0002	0.0002	mg/l	7440-28-0
D-5S2	10/26/2021	Antimony	< 0.001	0.001	mg/l	7440-36-0
D-5S2	10/26/2021	Arsenic	< 0.001	0.001	mg/l	7440-38-2
D-5S2	03/30/2021	Barium	0.066	0.998	mg/l	7440-39-3
D-5S2	10/26/2021	Barium	0.057	0.998	mg/l	7440-39-3
D-5S2	10/26/2021	Beryllium	< 0.0007	0.0007	mg/l	7440-41-7
D-5S2	10/26/2021	Cadmium	< 0.0005	0.0005	mg/l	7440-43-9
D-5S2	03/30/2021	Chromium	0.0065	0.049	mg/l	7440-47-3
D-5S2	10/26/2021	Chromium	< 0.0040	0.049	mg/l	7440-47-3
D-5S2	03/30/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
D-5S2	10/26/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
D-5S2	03/30/2021	Fluoride	0.060	0.25	mg/l	16984-48-8
D-5S2	10/26/2021	Fluoride	0.050	0.25	mg/l	16984-48-8
D-5S2	10/26/2021	Lead	< 0.010	0.01	mg/l	7439-92-1
D-5S2	10/26/2021	Lithium	< 0.030	0.03	mg/l	7439-93-2
D-5S2	10/26/2021	Mercury	< 0.0002	0.0002	mg/l	7439-97-6
D-5S2	10/26/2021	Molybdenum	< 0.001	0.001	mg/l	7439-98-7
D-5S2	03/30/2021	Radium 226	< 0.0944	0.372	pci/l	13982-63-3
D-5S2	10/26/2021	Radium 226	< 0.144	0.372	pci/l	13982-63-3
D-5S2	03/30/2021	Radium 228	< 0.507	1	pci/l	15262-20-1
D-5S2	10/26/2021	Radium 228	< 0.411	1	pci/l	15262-20-1
D-5S2	03/30/2021	Radium 226/228	< 0.507	1.372	pci/l	425
D-5S2	10/26/2021	Radium 226/228	< 0.411	1.372	pci/l	425
D-5S2	10/26/2021	Selenium	< 0.001	0.0014	mg/l	7782-49-2
D-5S2	10/26/2021	Thallium	< 0.0002	0.0002	mg/l	7440-28-0
D-8	10/27/2021	Antimony	< 0.001	0.001	mg/l	7440-36-0
D-8	10/27/2021	Arsenic	< 0.001	0.001	mg/l	7440-38-2
D-8	03/31/2021	Barium	0.083	0.998	mg/l	7440-39-3
D-8	10/27/2021	Barium	0.095	0.998	mg/l	7440-39-3
D-8	10/27/2021	Beryllium	< 0.0007	0.0007	mg/l	7440-41-7
D-8	10/27/2021	Cadmium	< 0.0005	0.0005	mg/l	7440-43-9
D-8	03/31/2021	Chromium	< 0.0040	0.049	mg/l	7440-47-3
D-8	10/27/2021	Chromium	0.0048	0.049	mg/l	7440-47-3
D-8	03/31/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
D-8	10/27/2021	Cobalt	0.0019	0.00058	mg/l	7440-48-4
D-8	03/31/2021	Fluoride	0.11	0.25	mg/l	16984-48-8
D-8	10/27/2021	Fluoride	0.090	0.25	mg/l	16984-48-8

Table 3



Groundwater Analytical Data
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Location	Date	Parameter	Result	Background Threshold Values (BTV)	Units	CAS #
D-8	10/27/2021	Lead	< 0.010	0.01	mg/l	7439-92-1
D-8	10/27/2021	Lithium	< 0.030	0.03	mg/l	7439-93-2
D-8	10/27/2021	Mercury	< 0.0002	0.0002	mg/l	7439-97-6
D-8	10/27/2021	Molybdenum	< 0.001	0.001	mg/l	7439-98-7
D-8	03/31/2021	Radium 226	0.0932	0.372	pci/l	13982-63-3
D-8	10/27/2021	Radium 226	< 0.199	0.372	pci/l	13982-63-3
D-8	03/31/2021	Radium 228	< 0.371	1	pci/l	15262-20-1
D-8	10/27/2021	Radium 228	< 0.661	1	pci/l	15262-20-1
D-8	03/31/2021	Radium 226/228	0.0932	1.372	pci/l	425
D-8	10/27/2021	Radium 226/228	< 0.661	1.372	pci/l	425
D-8	10/27/2021	Selenium	< 0.001	0.0014	mg/l	7782-49-2
D-8	10/27/2021	Thallium	< 0.0002	0.0002	mg/l	7440-28-0
D-9	10/27/2021	Antimony	< 0.001	0.001	mg/l	7440-36-0
D-9	10/27/2021	Arsenic	< 0.001	0.001	mg/l	7440-38-2
D-9	03/31/2021	Barium	0.078	0.998	mg/l	7440-39-3
D-9	10/27/2021	Barium	0.082	0.998	mg/l	7440-39-3
D-9	10/27/2021	Beryllium	< 0.0007	0.0007	mg/l	7440-41-7
D-9	10/27/2021	Cadmium	< 0.0005	0.0005	mg/l	7440-43-9
D-9	03/31/2021	Chromium	< 0.0040	0.049	mg/l	7440-47-3
D-9	10/27/2021	Chromium	< 0.0040	0.049	mg/l	7440-47-3
D-9	03/31/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
D-9	10/27/2021	Cobalt	0.00046	0.00058	mg/l	7440-48-4
D-9	03/31/2021	Fluoride	0.080	0.25	mg/l	16984-48-8
D-9	10/27/2021	Fluoride	0.070	0.25	mg/l	16984-48-8
D-9	10/27/2021	Lead	< 0.010	0.01	mg/l	7439-92-1
D-9	10/27/2021	Lithium	< 0.030	0.03	mg/l	7439-93-2
D-9	10/27/2021	Mercury	< 0.0002	0.0002	mg/l	7439-97-6
D-9	10/27/2021	Molybdenum	< 0.001	0.001	mg/l	7439-98-7
D-9	03/31/2021	Radium 226	< 0.119	0.372	pci/l	13982-63-3
D-9	10/27/2021	Radium 226	< 0.121	0.372	pci/l	13982-63-3
D-9	03/31/2021	Radium 228	< 0.430	1	pci/l	15262-20-1
D-9	10/27/2021	Radium 228	< 0.365	1	pci/l	15262-20-1
D-9	03/31/2021	Radium 226/228	< 0.430	1.372	pci/l	425
D-9	10/27/2021	Radium 226/228	< 0.365	1.372	pci/l	425
D-9	10/27/2021	Selenium	< 0.001	0.0014	mg/l	7782-49-2
D-9	10/27/2021	Thallium	< 0.0002	0.0002	mg/l	7440-28-0
U-4D	10/26/2021	Antimony	< 0.001	0.001	mg/l	7440-36-0
U-4D	10/26/2021	Arsenic	< 0.001	0.001	mg/l	7440-38-2
U-4D	03/29/2021	Barium	0.042	0.998	mg/l	7440-39-3
U-4D	10/26/2021	Barium	0.068	0.998	mg/l	7440-39-3
U-4D	10/26/2021	Beryllium	< 0.0007	0.0007	mg/l	7440-41-7
U-4D	10/26/2021	Cadmium	< 0.0005	0.0005	mg/l	7440-43-9

Table 3



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Location	Date	Parameter	Result	Background Threshold Values (BTV)	Units	CAS #
U-4D	03/29/2021	Chromium	< 0.0040	0.049	mg/l	7440-47-3
U-4D	10/26/2021	Chromium	< 0.0040	0.049	mg/l	7440-47-3
U-4D	03/29/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
U-4D	10/26/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
U-4D	03/29/2021	Fluoride	0.10	0.25	mg/l	16984-48-8
U-4D	10/26/2021	Fluoride	0.080	0.25	mg/l	16984-48-8
U-4D	10/26/2021	Lead	< 0.010	0.01	mg/l	7439-92-1
U-4D	10/26/2021	Lithium	< 0.030	0.03	mg/l	7439-93-2
U-4D	10/26/2021	Mercury	< 0.0002	0.0002	mg/l	7439-97-6
U-4D	10/26/2021	Molybdenum	< 0.001	0.001	mg/l	7439-98-7
U-4D	03/29/2021	Radium 226	< 0.0989	0.372	pci/l	13982-63-3
U-4D	10/26/2021	Radium 226	< 0.125	0.372	pci/l	13982-63-3
U-4D	03/29/2021	Radium 228	0.575	1	pci/l	15262-20-1
U-4D	10/26/2021	Radium 228	< 0.423	1	pci/l	15262-20-1
U-4D	03/29/2021	Radium 226/228	0.575	1.372	pci/l	425
U-4D	10/26/2021	Radium 226/228	< 0.423	1.372	pci/l	425
U-4D	10/26/2021	Selenium	< 0.001	0.0014	mg/l	7782-49-2
U-4D	10/26/2021	Thallium	< 0.0002	0.0002	mg/l	7440-28-0
U-4S	10/26/2021	Antimony	< 0.001	0.001	mg/l	7440-36-0
U-4S	10/26/2021	Arsenic	< 0.001	0.001	mg/l	7440-38-2
U-4S	03/29/2021	Barium	0.044	0.998	mg/l	7440-39-3
U-4S	10/26/2021	Barium	0.042	0.998	mg/l	7440-39-3
U-4S	10/26/2021	Beryllium	< 0.0007	0.0007	mg/l	7440-41-7
U-4S	10/26/2021	Cadmium	< 0.0005	0.0005	mg/l	7440-43-9
U-4S	03/29/2021	Chromium	0.0086	0.049	mg/l	7440-47-3
U-4S	10/26/2021	Chromium	0.011	0.049	mg/l	7440-47-3
U-4S	03/29/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
U-4S	10/26/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
U-4S	03/29/2021	Fluoride	0.070	0.25	mg/l	16984-48-8
U-4S	10/26/2021	Fluoride	0.060	0.25	mg/l	16984-48-8
U-4S	10/26/2021	Lead	< 0.010	0.01	mg/l	7439-92-1
U-4S	10/26/2021	Lithium	< 0.030	0.03	mg/l	7439-93-2
U-4S	10/26/2021	Mercury	< 0.0002	0.0002	mg/l	7439-97-6
U-4S	10/26/2021	Molybdenum	< 0.001	0.001	mg/l	7439-98-7
U-4S	03/29/2021	Radium 226	< 0.116	0.372	pci/l	13982-63-3
U-4S	10/26/2021	Radium 226	< 0.172	0.372	pci/l	13982-63-3
U-4S	03/29/2021	Radium 228	< 0.512	1	pci/l	15262-20-1
U-4S	10/26/2021	Radium 228	< 0.589	1	pci/l	15262-20-1
U-4S	03/29/2021	Radium 226/228	< 0.512	1.372	pci/l	425
U-4S	10/26/2021	Radium 226/228	< 0.589	1.372	pci/l	425
U-4S	10/26/2021	Selenium	< 0.001	0.0014	mg/l	7782-49-2
U-4S	10/26/2021	Thallium	< 0.0002	0.0002	mg/l	7440-28-0

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Location	Date	Parameter	Result	Background Threshold Values (BTV)	Units	CAS #
U-5D	10/26/2021	Antimony	< 0.001	0.001	mg/l	7440-36-0
U-5D	10/26/2021	Arsenic	< 0.001	0.001	mg/l	7440-38-2
U-5D	03/29/2021	Barium	0.058	0.998	mg/l	7440-39-3
U-5D	10/26/2021	Barium	0.058	0.998	mg/l	7440-39-3
U-5D	10/26/2021	Beryllium	< 0.0007	0.0007	mg/l	7440-41-7
U-5D	10/26/2021	Cadmium	< 0.0005	0.0005	mg/l	7440-43-9
U-5D	03/29/2021	Chromium	< 0.0040	0.049	mg/l	7440-47-3
U-5D	10/26/2021	Chromium	< 0.0040	0.049	mg/l	7440-47-3
U-5D	03/29/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
U-5D	10/26/2021	Cobalt	< 0.0003	0.00058	mg/l	7440-48-4
U-5D	03/29/2021	Fluoride	0.10	0.25	mg/l	16984-48-8
U-5D	10/26/2021	Fluoride	0.090	0.25	mg/l	16984-48-8
U-5D	10/26/2021	Lead	< 0.010	0.01	mg/l	7439-92-1
U-5D	10/26/2021	Lithium	< 0.030	0.03	mg/l	7439-93-2
U-5D	10/26/2021	Mercury	< 0.0002	0.0002	mg/l	7439-97-6
U-5D	10/26/2021	Molybdenum	< 0.001	0.001	mg/l	7439-98-7
U-5D	03/29/2021	Radium 226	< 0.130	0.372	pci/l	13982-63-3
U-5D	10/26/2021	Radium 226	< 0.128	0.372	pci/l	13982-63-3
U-5D	03/29/2021	Radium 228	< 0.466	1	pci/l	15262-20-1
U-5D	10/26/2021	Radium 228	< 0.401	1	pci/l	15262-20-1
U-5D	03/29/2021	Radium 226/228	< 0.466	1.372	pci/l	425
U-5D	10/26/2021	Radium 226/228	< 0.401	1.372	pci/l	425
U-5D	10/26/2021	Selenium	< 0.001	0.0014	mg/l	7782-49-2
U-5D	10/26/2021	Thallium	< 0.0002	0.0002	mg/l	7440-28-0
U-5S	10/26/2021	Antimony	< 0.001	0.001	mg/l	7440-36-0
U-5S	10/26/2021	Arsenic	< 0.001	0.001	mg/l	7440-38-2
U-5S	03/29/2021	Barium	0.064	0.998	mg/l	7440-39-3
U-5S	10/26/2021	Barium	0.073	0.998	mg/l	7440-39-3
U-5S	10/26/2021	Beryllium	< 0.0007	0.0007	mg/l	7440-41-7
U-5S	10/26/2021	Cadmium	< 0.0005	0.0005	mg/l	7440-43-9
U-5S	03/29/2021	Chromium	< 0.0040	0.049	mg/l	7440-47-3
U-5S	10/26/2021	Chromium	< 0.0040	0.049	mg/l	7440-47-3
U-5S	03/29/2021	Cobalt	0.00031	0.00058	mg/l	7440-48-4
U-5S	10/26/2021	Cobalt	0.00035	0.00058	mg/l	7440-48-4
U-5S	03/29/2021	Fluoride	0.10	0.25	mg/l	16984-48-8
U-5S	10/26/2021	Fluoride	0.10	0.25	mg/l	16984-48-8
U-5S	10/26/2021	Lead	< 0.010	0.01	mg/l	7439-92-1
U-5S	10/26/2021	Lithium	< 0.030	0.03	mg/l	7439-93-2
U-5S	10/26/2021	Mercury	< 0.0002	0.0002	mg/l	7439-97-6
U-5S	10/26/2021	Molybdenum	< 0.001	0.001	mg/l	7439-98-7
U-5S	03/29/2021	Radium 226	< 0.132	0.372	pci/l	13982-63-3
U-5S	10/26/2021	Radium 226	< 0.197	0.372	pci/l	13982-63-3

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Location	Date	Parameter	Result	Background Threshold Values (BTV)	Units	CAS #
U-5S	03/29/2021	Radium 228	< 0.438	1	pci/l	15262-20-1
U-5S	10/26/2021	Radium 228	0.977	1	pci/l	15262-20-1
U-5S	03/29/2021	Radium 226/228	< 0.438	1.372	pci/l	425
U-5S	10/26/2021	Radium 226/228	0.977	1.372	pci/l	425
U-5S	10/26/2021	Selenium	< 0.001	0.0014	mg/l	7782-49-2
U-5S	10/26/2021	Thallium	< 0.0002	0.0002	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-1S	3/30/21 12:50 PM	1000	0.1	7.67	677	9.34	7.38	93	105
D-1S	3/30/21 1:05 PM	1000	3	7.28	842	11.75	0.00	129	109
D-1S	3/30/21 1:10 PM	1000	6	7.22	842	11.82	0.00	41.6	102
D-1S	3/30/21 1:15 PM	1000	9.1	7.15	841	11.92	0.00	42.2	101
D-1S	3/30/21 1:20 PM			7.15	841	11.93	0.00	39.1	101
D-1S	10/26/21 12:30 PM	1000	0.1	7.67	794	12.35	9.76	130	47
D-1S	10/26/21 12:35 PM	1000	3	7.40	791	12.55	9.31	50.1	57
D-1S	10/26/21 12:40 PM	1000	6	7.30	768	12.64	2.43	17.3	63
D-1S	10/26/21 12:45 PM	1000	8.5	7.28	768	12.67	0.14	11.6	66
D-1S	10/26/21 12:50 PM			7.26	769	12.66	8.37	11.2	67
D-2S	3/30/21 2:05 PM	1000	0.1	7.58	706	9.90	4.06	352	150
D-2S	3/30/21 2:15 PM	1000	4	7.18	848	10.23	1.72	42.1	124
D-2S	3/30/21 2:25 PM	1000	8	7.08	840	10.26	0.17	33.6	97
D-2S	3/30/21 2:35 PM	1000	11	7.03	841	10.29	0.65	24.2	70
D-2S	3/30/21 2:40 PM			7.03	841	10.29	0.46	24.7	71
D-2S	10/26/21 1:35 PM	1000	0.1	7.86	663	11.91	10.02	29.8	80
D-2S	10/26/21 1:45 PM	1000	3	7.34	820	11.22	9.55	13.2	95
D-2S	10/26/21 1:55 PM	1000	6	7.27	816	11.22	7.44	14.4	93
D-2S	10/26/21 2:05 PM	1000	10	7.21	807	11.21	0.59	11.1	91
D-2S	10/26/21 2:10 PM			7.25	815	11.18	8.67	11.2	93
D-3S	3/30/21 10:00 AM	1000	0.1	7.52	1580	8.94	6.67	105	147
D-3S	3/30/21 10:15 AM	1000	5	7.26	1310	10.14	2.15	35.7	12
D-3S	3/30/21 10:30 AM	1000	10	7.39	1320	9.37	1.51	26.7	32
D-3S	3/30/21 10:45 AM	1000	15	7.25	1310	10.27	2.83	28.1	14
D-3S	3/30/21 10:50 AM			7.25	1320	10.20	2.50	26.9	14
D-3S	10/26/21 11:10 AM	1000	0.1	8.13	963	10.19	9.87	12.1	124
D-3S	10/26/21 11:20 AM	1000	5	7.56	835	10.38	0.80	17.5	36
D-3S	10/26/21 11:30 AM	1000	10	7.52	831	10.70	0.48	13.5	12
D-3S	10/26/21 11:40 AM	1000	14	7.50	832	10.69	0.33	12.7	11
D-3S	10/26/21 11:45 AM			7.51	834	10.70	0.38	12.4	9
D-4S	3/31/21 9:05 AM	1000	0.1	8.01	936	7.65	13.21	92.3	153
D-4S	3/31/21 9:25 AM	1000	6.6	8.09	900	9.68	11.80	38.8	210
D-4S	3/31/21 9:40 AM			8.11	898	9.75	11.75	31.8	216
D-4S	10/27/21 9:10 AM	1000	0.1	7.83	781	12.67	9.59	20.6	314
D-4S	10/27/21 9:30 AM	1000	6	7.44	858	11.74	7.79	11.5	327
D-4S	10/27/21 9:40 AM	1000	9	7.45	861	11.74	5.66	11	329
D-4S	10/27/21 9:45 AM			7.44	860	11.74	5.80	10.3	328
D-5S2	3/30/21 8:55 AM	1000	0.1	8.25	1010	8.83	7.74	44.4	123
D-5S2	3/30/21 9:00 AM	1000	3	7.39	1040	10.01	5.05	23.6	94
D-5S2	3/30/21 9:05 AM	1000	6	7.20	1040	10.02	4.81	19.5	113
D-5S2	3/30/21 9:10 AM	1000	9.1	7.25	1050	10.10	4.41	19.2	118
D-5S2	3/30/21 9:15 AM			7.23	1050	10.09	4.49	18.6	117
D-5S2	10/26/21 10:05 AM	1000	0.1	7.87	911	8.57	10.23	28.9	180
D-5S2	10/26/21 10:15 AM	1000	6	7.43	886	10.18	4.08	20.6	158
D-5S2	10/26/21 10:25 AM			7.40	882	10.41	3.74	9.2	143
D-7	3/31/21 10:10 AM	1000	1	7.17	1310	7.94	4.13	113	260
D-7	3/31/21 10:15 AM	1000	1.25	7.00	1360	7.92	3.42	126	252
D-7	3/31/21 10:20 AM	1000	1.5	7.05	1330	7.95	3.85	157	247
D-7	3/31/21 10:25 AM			7.05	1330	7.95	3.85	157	247
D-7	10/26/21 2:50 PM	1000	0.1	7.29	360	12.17	9.42	129	107
D-7	10/26/21 3:00 PM	1000	0.5	7.36	1130	12.56	2.88	76.4	119
D-7	10/26/21 3:10 PM	1000	1	7.14	1300	12.56	2.22	86.1	114
D-7	10/26/21 3:20 PM	1000	1.5	7.13	1280	12.59	2.44	85.1	114
D-7	10/26/21 3:25 PM			7.13	1270	12.62	2.14	77.8	114
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	10/27/21 10:45 AM	1000	0.1	7.92	752	12.74	8.67	125	304
D-8	10/27/21 11:05 AM	1000	4	7.52	918	10.77	6.27	174	318
D-8	10/27/21 11:15 AM	1000	5	7.56	918	10.75	6.48	255	320
D-8	10/27/21 11:20 AM			7.55	917	10.75	6.58	259	320
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

Table 4
 Well Stabilization Data



Well ID	Measurement Date	Purge Rate m/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 1:15 PM			7.25	951	10.53	7.03	44.3	9
D-9	10/27/21 11:30 AM	1000	0.1	7.88	802	13.61	7.85	31.2	2.86
D-9	10/27/21 11:40 AM	1000	4	7.36	888	12.18	3.50	50.5	-104
D-9	10/27/21 11:50 AM	1000	8	7.40	939	12.13	4.91	33.6	-72
D-9	10/27/21 12:00 PM	1000	11	7.42	951	12.16	5.37	25	-45
D-9	10/27/21 12:05 PM			7.41	951	12.16	5.40	24.2	-44
U-4D	3/29/21 11:45 AM	1000	0.1	7.75	860	9.75	8.79	21.2	131
U-4D	3/29/21 12:00 PM	1000	10	7.72	854	9.72	8.49	19.0	144
U-4D	3/29/21 12:15 PM	1000	20	7.56	849	9.65	9.76	18.1	192
U-4D	3/29/21 12:30 PM	1000	30	7.54	849	9.65	8.68	17.9	205
U-4D	3/29/21 12:40 PM	1000	36	7.54	847	9.65	8.68	17.6	205
U-4D	3/29/21 12:45 PM			7.54	847	9.65	8.67	17.8	205
U-4D	10/25/21 11:15 AM	1000	0.1	7.64	777	10.21	9.81	111.0	113
U-4D	10/25/21 11:20 AM	1000	4	7.54	800	9.80	8.41	115.0	115
U-4D	10/25/21 11:25 AM	1000	8	7.54	799	9.73	8.43	11.1	114
U-4D	10/25/21 11:30 AM	1000	12	7.53	799	9.71	8.34	11.3	115
U-4D	10/25/21 11:35 AM			7.54	800	9.71	8.33	10.9	115
U-4S	3/29/21 11:45 AM	1000	0.1	9.90	881	10.84	0.85	259	6
U-4S	3/29/21 11:55 AM	1000	4	7.80	880	10.73	0.00	76.1	16
U-4S	3/29/21 12:05 PM	1000	8	7.51	879	10.72	0.00	58.6	14
U-4S	3/29/21 12:15 PM	1000	12	7.21	879	10.71	0.00	44	18
U-4S	3/29/21 12:20 PM			7.24	879	10.71	0.00	45.6	18
U-4S	10/25/21 10:35 AM	1000	0.1	7.98	826	12.04	7.98	92.7	167
U-4S	10/25/21 10:40 AM	1000	4	7.28	842	9.95	0.00	28.8	158
U-4S	10/25/21 10:45 AM	1000	8	7.24	844	9.96	0.00	22.6	156
U-4S	10/25/21 10:50 AM	1000	12.5	7.20	843	9.97	0.00	17.7	152
U-4S	10/25/21 10:55 AM			7.19	844	9.97	0.00	17.8	151
U-5D	3/29/21 2:20 PM	1000	0.1	7.69	802	12.59	7.57	20.6	100
U-5D	3/29/21 2:40 PM	1000	15	7.68	802	12.60	7.63	20.1	100
U-5D	3/29/21 3:00 PM	1000	30	7.69	802	12.59	7.70	20.4	101
U-5D	3/29/21 3:20 PM	1000	37	7.69	802	12.59	7.46	20.4	102
U-5D	3/29/21 3:25 PM			7.69	802	12.59	7.46	20.4	102
U-5D	10/25/21 2:00 PM	1000	0.1	7.75	808	10.80	7.27	17	84
U-5D	10/25/21 2:20 PM	1000	10	7.77	802	10.75	6.99	16.5	81
U-5D	10/25/21 2:40 PM	1000	20	7.77	802	10.74	7.15	16.4	81
U-5D	10/25/21 2:55 PM	1000	36	7.77	802	10.74	7.34	16.8	81
U-5D	10/25/21 3:00 PM			7.77	802	10.73	7.27	16.5	81
U-5S	3/29/21 2:20 PM	1000	0.1	7.51	812	11.45	17.73	573	104
U-5S	3/29/21 2:25 PM	1000	3	7.43	807	11.36	11.87	152	-6
U-5S	3/29/21 2:30 PM	1000	6	7.33	803	11.33	7.92	89.2	-38
U-5S	3/29/21 2:35 PM	1000	9	7.29	802	11.32	11.02	62.6	-46
U-5S	3/29/21 2:40 PM			7.28	800	11.35	10.95	62.8	-48
U-5S	10/25/21 2:00 PM	1000	0.1	7.94	714	15.32	7.79	90.7	118
U-5S	10/25/21 2:05 PM	1000	2.5	7.48	798	13.31	3.07	402	121
U-5S	10/25/21 2:10 PM	1000	5	7.40	821	11.56	4.08	113	127
U-5S	10/25/21 2:15 PM	1000	8	7.36	822	11.51	4.24	37.6	124
U-5S	10/25/21 2:20 PM			7.35	828	11.50	3.48	36.3	122

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	150	mg/l	16887-00-6
Fluoride	0.25	mg/l	15984-48-8
pH	7.1 < 8.2	pH UNITS	PH
Sulfate as SO ₄	67.3	mg/l	14808-79-8
Total Dissolved Solids	614	mg/l	TDS

Appendix IV to Part 257

Parameter	Background Threshold Value (BTV)	Units	CAS #
Antimony	0.001	mg/l	7440-36-0
Arsenic	0.001	mg/l	7440-38-2
Barium	0.998	mg/l	7440-39-3
Beryllium	0.0007	mg/l	7440-41-7
Cadmium	0.0005	mg/l	7440-43-9
Chromium	0.049	mg/l	7440-47-3
Cobalt	0.00058	mg/l	7440-48-4
Fluoride	0.25	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	0.001	mg/l	7439-98-7
Radium 226	0.372	pci/l	13982-63-3
Radium 228	1	pci/l	15262-20-1
Total Radium 226/228	1.372	pci/l	--
Selenium	0.0014	mg/l	7782-49-2
Thallium	0.0002	mg/l	7440-28-0

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

Table 6



2021 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	0.001	0.006	0.006	mg/l	7440-36-0
Arsenic	0.001	0.010	0.010	mg/l	7440-38-2
Barium	0.998	2	2	mg/l	7440-39-3
Beryllium	0.0007	0.004	0.004	mg/l	7440-41-7
Cadmium	0.0005	0.005	0.005	mg/l	7440-43-9
Chromium	0.049	0.1	0.1	mg/l	7440-47-3
Cobalt	0.00058	0.006	0.006	mg/l	7440-48-4
Fluoride	0.25	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	0.001	0.1	0.1	mg/l	7439-98-7
Radium 226	0.372	--	--	pci/l	13982-63-3
Radium 228	1	--	--	pci/l	15262-20-1
Radium 226/228	1.372	5	5	pci/l	EDF-206
Selenium	0.0014	0.05	0.05	mg/l	7782-49-2
Thallium	0.0002	0.002	0.002	mg/l	7440-28-0

Results in milligrams per liter (mg/l) or peccories 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	10/26/2021	Antimony	< 0.001	0.006	mg/l	7440-36-0
D-1D	10/26/2021	Arsenic	< 0.001	0.010	mg/l	7440-38-2
D-1D	03/30/2021	Barium	0.048	2	mg/l	7440-39-3
D-1D	10/26/2021	Barium	0.048	2	mg/l	7440-39-3
D-1D	10/26/2021	Beryllium	< 0.0007	0.004	mg/l	7440-41-7
D-1D	10/26/2021	Cadmium	< 0.0005	0.005	mg/l	7440-43-9
D-1D	03/30/2021	Chromium	0.0076	0.1	mg/l	7440-47-3
D-1D	10/26/2021	Chromium	0.0047	0.1	mg/l	7440-47-3
D-1D	03/30/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
D-1D	10/26/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
D-1D	03/30/2021	Fluoride	0.070	4	mg/l	16984-48-8
D-1D	10/26/2021	Fluoride	0.070	4	mg/l	16984-48-8
D-1D	10/26/2021	Lead	< 0.010	0.015	mg/l	7439-92-1
D-1D	10/26/2021	Lithium	< 0.030	0.04	mg/l	7439-93-2
D-1D	10/26/2021	Mercury	< 0.0002	0.002	mg/l	7439-97-6
D-1D	10/26/2021	Molybdenum	< 0.001	0.1	mg/l	7439-98-7
D-1D	03/30/2021	Radium 226	0.226	--	pci/l	13982-63-3
D-1D	10/26/2021	Radium 226	< 0.122	--	pci/l	13982-63-3
D-1D	03/30/2021	Radium 228	< 0.438	--	pci/l	15262-20-1
D-1D	10/26/2021	Radium 228	0.453	--	pci/l	15262-20-1
D-1D	03/30/2021	Radium 226/228	0.226	5	pci/l	425
D-1D	10/26/2021	Radium 226/228	0.453	5	pci/l	425
D-1D	10/26/2021	Selenium	< 0.001	0.05	mg/l	7782-49-2
D-1D	10/26/2021	Thallium	< 0.0002	0.002	mg/l	7440-28-0
D-1S	10/26/2021	Antimony	< 0.001	0.006	mg/l	7440-36-0
D-1S	10/26/2021	Arsenic	< 0.001	0.010	mg/l	7440-38-2
D-1S	03/30/2021	Barium	0.053	2	mg/l	7440-39-3
D-1S	10/26/2021	Barium	0.051	2	mg/l	7440-39-3
D-1S	10/26/2021	Beryllium	< 0.0007	0.004	mg/l	7440-41-7
D-1S	10/26/2021	Cadmium	< 0.0005	0.005	mg/l	7440-43-9
D-1S	03/30/2021	Chromium	< 0.0040	0.1	mg/l	7440-47-3
D-1S	10/26/2021	Chromium	< 0.0040	0.1	mg/l	7440-47-3
D-1S	03/30/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
D-1S	10/26/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
D-1S	03/30/2021	Fluoride	0.060	4	mg/l	16984-48-8
D-1S	10/26/2021	Fluoride	0.060	4	mg/l	16984-48-8
D-1S	10/26/2021	Lead	< 0.010	0.015	mg/l	7439-92-1
D-1S	10/26/2021	Lithium	< 0.030	0.04	mg/l	7439-93-2
D-1S	10/26/2021	Mercury	< 0.0002	0.002	mg/l	7439-97-6
D-1S	10/26/2021	Molybdenum	< 0.001	0.1	mg/l	7439-98-7
D-1S	03/30/2021	Radium 226	< 0.113	--	pci/l	13982-63-3
D-1S	10/26/2021	Radium 226	< 0.133	--	pci/l	13982-63-3

Table 7



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

Location	Date	Parameter	Result	Groundwater Protection Standard (GPS)	Units	CAS #
D-1S	03/30/2021	Radium 228	< 0.482	--	pci/l	15262-20-1
D-1S	10/26/2021	Radium 228	< 0.430	--	pci/l	15262-20-1
D-1S	03/30/2021	Radium 226/228	< 0.482	5	pci/l	425
D-1S	10/26/2021	Radium 226/228	< 0.430	5	pci/l	425
D-1S	10/26/2021	Selenium	< 0.001	0.05	mg/l	7782-49-2
D-1S	10/26/2021	Thallium	< 0.0002	0.002	mg/l	7440-28-0
D-2D	10/26/2021	Antimony	< 0.001	0.006	mg/l	7440-36-0
D-2D	10/26/2021	Arsenic	< 0.001	0.010	mg/l	7440-38-2
D-2D	03/30/2021	Barium	0.053	2	mg/l	7440-39-3
D-2D	10/26/2021	Barium	0.052	2	mg/l	7440-39-3
D-2D	10/26/2021	Beryllium	< 0.0007	0.004	mg/l	7440-41-7
D-2D	10/26/2021	Cadmium	< 0.0005	0.005	mg/l	7440-43-9
D-2D	03/30/2021	Chromium	< 0.0040	0.1	mg/l	7440-47-3
D-2D	10/26/2021	Chromium	< 0.0040	0.1	mg/l	7440-47-3
D-2D	03/30/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
D-2D	10/26/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
D-2D	03/30/2021	Fluoride	0.090	4	mg/l	16984-48-8
D-2D	10/26/2021	Fluoride	0.080	4	mg/l	16984-48-8
D-2D	10/26/2021	Lead	< 0.010	0.015	mg/l	7439-92-1
D-2D	10/26/2021	Lithium	< 0.030	0.04	mg/l	7439-93-2
D-2D	10/26/2021	Mercury	< 0.0002	0.002	mg/l	7439-97-6
D-2D	10/26/2021	Molybdenum	< 0.001	0.1	mg/l	7439-98-7
D-2D	03/30/2021	Radium 226	< 0.114	--	pci/l	13982-63-3
D-2D	10/26/2021	Radium 226	< 0.135	--	pci/l	13982-63-3
D-2D	03/30/2021	Radium 228	< 0.464	--	pci/l	15262-20-1
D-2D	10/26/2021	Radium 228	< 0.502	--	pci/l	15262-20-1
D-2D	03/30/2021	Radium 226/228	< 0.464	5	pci/l	425
D-2D	10/26/2021	Radium 226/228	< 0.502	5	pci/l	425
D-2D	10/26/2021	Selenium	< 0.001	0.05	mg/l	7782-49-2
D-2D	10/26/2021	Thallium	< 0.0002	0.002	mg/l	7440-28-0
D-2S	10/26/2021	Antimony	< 0.001	0.006	mg/l	7440-36-0
D-2S	10/26/2021	Arsenic	< 0.001	0.010	mg/l	7440-38-2
D-2S	03/30/2021	Barium	0.047	2	mg/l	7440-39-3
D-2S	10/26/2021	Barium	0.050	2	mg/l	7440-39-3
D-2S	10/26/2021	Beryllium	< 0.0007	0.004	mg/l	7440-41-7
D-2S	10/26/2021	Cadmium	< 0.0005	0.005	mg/l	7440-43-9
D-2S	03/30/2021	Chromium	< 0.0040	0.1	mg/l	7440-47-3
D-2S	10/26/2021	Chromium	< 0.0040	0.1	mg/l	7440-47-3
D-2S	03/30/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
D-2S	10/26/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
D-2S	03/30/2021	Fluoride	0.050	4	mg/l	16984-48-8
D-2S	10/26/2021	Fluoride	< 0.050	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-2S	10/26/2021	Lead	< 0.010	0.015	mg/l	7439-92-1
D-2S	10/26/2021	Lithium	< 0.030	0.04	mg/l	7439-93-2
D-2S	10/26/2021	Mercury	< 0.0002	0.002	mg/l	7439-97-6
D-2S	10/26/2021	Molybdenum	< 0.001	0.1	mg/l	7439-98-7
D-2S	03/30/2021	Radium 226	< 0.173	--	pci/l	13982-63-3
D-2S	10/26/2021	Radium 226	0.768	--	pci/l	13982-63-3
D-2S	03/30/2021	Radium 228	< 0.691	--	pci/l	15262-20-1
D-2S	10/26/2021	Radium 228	< 0.702	--	pci/l	15262-20-1
D-2S	03/30/2021	Radium 226/228	< 0.691	5	pci/l	425
D-2S	10/26/2021	Radium 226/228	0.768	5	pci/l	425
D-2S	10/26/2021	Selenium	< 0.001	0.05	mg/l	7782-49-2
D-2S	10/26/2021	Thallium	< 0.0002	0.002	mg/l	7440-28-0
D-3D	10/26/2021	Antimony	< 0.001	0.006	mg/l	7440-36-0
D-3D	10/26/2021	Arsenic	< 0.001	0.010	mg/l	7440-38-2
D-3D	03/30/2021	Barium	0.065	2	mg/l	7440-39-3
D-3D	10/26/2021	Barium	0.059	2	mg/l	7440-39-3
D-3D	10/26/2021	Beryllium	< 0.0007	0.004	mg/l	7440-41-7
D-3D	10/26/2021	Cadmium	< 0.0005	0.005	mg/l	7440-43-9
D-3D	03/30/2021	Chromium	0.015	0.1	mg/l	7440-47-3
D-3D	10/26/2021	Chromium	0.021	0.1	mg/l	7440-47-3
D-3D	03/30/2021	Cobalt	0.00036	0.006	mg/l	7440-48-4
D-3D	10/26/2021	Cobalt	0.00044	0.006	mg/l	7440-48-4
D-3D	03/30/2021	Fluoride	0.070	4	mg/l	16984-48-8
D-3D	10/26/2021	Fluoride	0.070	4	mg/l	16984-48-8
D-3D	10/26/2021	Lead	< 0.010	0.015	mg/l	7439-92-1
D-3D	10/26/2021	Lithium	< 0.030	0.04	mg/l	7439-93-2
D-3D	10/26/2021	Mercury	< 0.0002	0.002	mg/l	7439-97-6
D-3D	10/26/2021	Molybdenum	< 0.001	0.1	mg/l	7439-98-7
D-3D	03/30/2021	Radium 226	0.111	--	pci/l	13982-63-3
D-3D	10/26/2021	Radium 226	< 0.130	--	pci/l	13982-63-3
D-3D	03/30/2021	Radium 228	< 0.418	--	pci/l	15262-20-1
D-3D	10/26/2021	Radium 228	< 0.431	--	pci/l	15262-20-1
D-3D	03/30/2021	Radium 226/228	0.111	5	pci/l	425
D-3D	10/26/2021	Radium 226/228	< 0.431	5	pci/l	425
D-3D	10/26/2021	Selenium	< 0.001	0.05	mg/l	7782-49-2
D-3D	10/26/2021	Thallium	< 0.0002	0.002	mg/l	7440-28-0
D-3S	10/26/2021	Antimony	< 0.001	0.006	mg/l	7440-36-0
D-3S	10/26/2021	Arsenic	< 0.001	0.010	mg/l	7440-38-2
D-3S	03/30/2021	Barium	0.070	2	mg/l	7440-39-3
D-3S	10/26/2021	Barium	0.044	2	mg/l	7440-39-3
D-3S	10/26/2021	Beryllium	< 0.0007	0.004	mg/l	7440-41-7
D-3S	10/26/2021	Cadmium	< 0.0005	0.005	mg/l	7440-43-9

Table 7



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

Location	Date	Parameter	Result	Groundwater Protection Standard (GPS)	Units	CAS #
D-3S	03/30/2021	Chromium	0.030	0.1	mg/l	7440-47-3
D-3S	10/26/2021	Chromium	< 0.0040	0.1	mg/l	7440-47-3
D-3S	03/30/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
D-3S	10/26/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
D-3S	03/30/2021	Fluoride	0.060	4	mg/l	16984-48-8
D-3S	10/26/2021	Fluoride	0.060	4	mg/l	16984-48-8
D-3S	10/26/2021	Lead	< 0.010	0.015	mg/l	7439-92-1
D-3S	10/26/2021	Lithium	< 0.030	0.04	mg/l	7439-93-2
D-3S	10/26/2021	Mercury	< 0.0002	0.002	mg/l	7439-97-6
D-3S	10/26/2021	Molybdenum	< 0.001	0.1	mg/l	7439-98-7
D-3S	03/30/2021	Radium 226	< 0.0925	--	pci/l	13982-63-3
D-3S	10/26/2021	Radium 226	< 0.140	--	pci/l	13982-63-3
D-3S	03/30/2021	Radium 228	< 0.415	--	pci/l	15262-20-1
D-3S	10/26/2021	Radium 228	< 0.418	--	pci/l	15262-20-1
D-3S	03/30/2021	Radium 226/228	< 0.415	5	pci/l	425
D-3S	10/26/2021	Radium 226/228	< 0.418	5	pci/l	425
D-3S	10/26/2021	Selenium	< 0.001	0.05	mg/l	7782-49-2
D-3S	10/26/2021	Thallium	< 0.0002	0.002	mg/l	7440-28-0
D-4D	10/27/2021	Antimony	< 0.001	0.006	mg/l	7440-36-0
D-4D	10/27/2021	Arsenic	< 0.001	0.010	mg/l	7440-38-2
D-4D	03/31/2021	Barium	0.068	2	mg/l	7440-39-3
D-4D	10/27/2021	Barium	0.043	2	mg/l	7440-39-3
D-4D	10/27/2021	Beryllium	< 0.0007	0.004	mg/l	7440-41-7
D-4D	10/27/2021	Cadmium	< 0.0005	0.005	mg/l	7440-43-9
D-4D	03/31/2021	Chromium	< 0.0040	0.1	mg/l	7440-47-3
D-4D	10/27/2021	Chromium	< 0.0040	0.1	mg/l	7440-47-3
D-4D	03/31/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
D-4D	10/27/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
D-4D	03/31/2021	Fluoride	0.090	4	mg/l	16984-48-8
D-4D	10/27/2021	Fluoride	0.090	4	mg/l	16984-48-8
D-4D	10/27/2021	Lead	< 0.010	0.015	mg/l	7439-92-1
D-4D	10/27/2021	Lithium	< 0.030	0.04	mg/l	7439-93-2
D-4D	10/27/2021	Mercury	< 0.0002	0.002	mg/l	7439-97-6
D-4D	10/27/2021	Molybdenum	< 0.001	0.1	mg/l	7439-98-7
D-4D	03/31/2021	Radium 226	< 0.108	--	pci/l	13982-63-3
D-4D	10/27/2021	Radium 226	< 0.203	--	pci/l	13982-63-3
D-4D	03/31/2021	Radium 228	< 0.410	--	pci/l	15262-20-1
D-4D	10/27/2021	Radium 228	< 0.683	--	pci/l	15262-20-1
D-4D	03/31/2021	Radium 226/228	< 0.410	5	pci/l	425
D-4D	10/27/2021	Radium 226/228	< 0.683	5	pci/l	425
D-4D	10/27/2021	Selenium	< 0.001	0.05	mg/l	7782-49-2
D-4D	10/27/2021	Thallium	< 0.0002	0.002	mg/l	7440-28-0

Table 7



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

Location	Date	Parameter	Result	Groundwater Protection Standard (GPS)	Units	CAS #
D-4S	10/27/2021	Antimony	< 0.001	0.006	mg/l	7440-36-0
D-4S	10/27/2021	Arsenic	< 0.001	0.010	mg/l	7440-38-2
D-4S	03/31/2021	Barium	0.078	2	mg/l	7440-39-3
D-4S	10/27/2021	Barium	0.081	2	mg/l	7440-39-3
D-4S	10/27/2021	Beryllium	< 0.0007	0.004	mg/l	7440-41-7
D-4S	10/27/2021	Cadmium	< 0.0005	0.005	mg/l	7440-43-9
D-4S	03/31/2021	Chromium	0.0051	0.1	mg/l	7440-47-3
D-4S	10/27/2021	Chromium	< 0.0040	0.1	mg/l	7440-47-3
D-4S	03/31/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
D-4S	10/27/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
D-4S	03/31/2021	Fluoride	0.080	4	mg/l	16984-48-8
D-4S	10/27/2021	Fluoride	0.080	4	mg/l	16984-48-8
D-4S	10/27/2021	Lead	< 0.010	0.015	mg/l	7439-92-1
D-4S	10/27/2021	Lithium	< 0.030	0.04	mg/l	7439-93-2
D-4S	10/27/2021	Mercury	< 0.0002	0.002	mg/l	7439-97-6
D-4S	10/27/2021	Molybdenum	< 0.001	0.1	mg/l	7439-98-7
D-4S	03/31/2021	Radium 226	< 0.0917	--	pci/l	13982-63-3
D-4S	10/27/2021	Radium 226	< 0.144	--	pci/l	13982-63-3
D-4S	03/31/2021	Radium 228	< 0.433	--	pci/l	15262-20-1
D-4S	10/27/2021	Radium 228	< 0.415	--	pci/l	15262-20-1
D-4S	03/31/2021	Radium 226/228	< 0.433	5	pci/l	425
D-4S	10/27/2021	Radium 226/228	< 0.415	5	pci/l	425
D-4S	10/27/2021	Selenium	< 0.001	0.05	mg/l	7782-49-2
D-4S	10/27/2021	Thallium	< 0.0002	0.002	mg/l	7440-28-0
D-5D	10/26/2021	Antimony	< 0.001	0.006	mg/l	7440-36-0
D-5D	10/26/2021	Arsenic	< 0.001	0.010	mg/l	7440-38-2
D-5D	03/30/2021	Barium	0.060	2	mg/l	7440-39-3
D-5D	10/26/2021	Barium	0.060	2	mg/l	7440-39-3
D-5D	10/26/2021	Beryllium	< 0.0007	0.004	mg/l	7440-41-7
D-5D	10/26/2021	Cadmium	< 0.0005	0.005	mg/l	7440-43-9
D-5D	03/30/2021	Chromium	< 0.0040	0.1	mg/l	7440-47-3
D-5D	10/26/2021	Chromium	0.0070	0.1	mg/l	7440-47-3
D-5D	03/30/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
D-5D	10/26/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
D-5D	03/30/2021	Fluoride	0.080	4	mg/l	16984-48-8
D-5D	10/26/2021	Fluoride	0.070	4	mg/l	16984-48-8
D-5D	10/26/2021	Lead	< 0.010	0.015	mg/l	7439-92-1
D-5D	10/26/2021	Lithium	< 0.030	0.04	mg/l	7439-93-2
D-5D	10/26/2021	Mercury	< 0.0002	0.002	mg/l	7439-97-6
D-5D	10/26/2021	Molybdenum	< 0.001	0.1	mg/l	7439-98-7
D-5D	03/30/2021	Radium 226	0.132	--	pci/l	13982-63-3
D-5D	10/26/2021	Radium 226	< 0.128	--	pci/l	13982-63-3

Table 7



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

Location	Date	Parameter	Result	Groundwater Protection Standard (GPS)	Units	CAS #
D-5D	03/30/2021	Radium 228	< 0.396	--	pci/l	15262-20-1
D-5D	10/26/2021	Radium 228	< 0.429	--	pci/l	15262-20-1
D-5D	03/30/2021	Radium 226/228	0.132	5	pci/l	425
D-5D	10/26/2021	Radium 226/228	< 0.429	5	pci/l	425
D-5D	10/26/2021	Selenium	< 0.001	0.05	mg/l	7782-49-2
D-5D	10/26/2021	Thallium	< 0.0002	0.002	mg/l	7440-28-0
D-5S2	10/26/2021	Antimony	< 0.001	0.006	mg/l	7440-36-0
D-5S2	10/26/2021	Arsenic	< 0.001	0.010	mg/l	7440-38-2
D-5S2	03/30/2021	Barium	0.066	2	mg/l	7440-39-3
D-5S2	10/26/2021	Barium	0.057	2	mg/l	7440-39-3
D-5S2	10/26/2021	Beryllium	< 0.0007	0.004	mg/l	7440-41-7
D-5S2	10/26/2021	Cadmium	< 0.0005	0.005	mg/l	7440-43-9
D-5S2	03/30/2021	Chromium	0.0065	0.1	mg/l	7440-47-3
D-5S2	10/26/2021	Chromium	< 0.0040	0.1	mg/l	7440-47-3
D-5S2	03/30/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
D-5S2	10/26/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
D-5S2	03/30/2021	Fluoride	0.060	4	mg/l	16984-48-8
D-5S2	10/26/2021	Fluoride	0.050	4	mg/l	16984-48-8
D-5S2	10/26/2021	Lead	< 0.010	0.015	mg/l	7439-92-1
D-5S2	10/26/2021	Lithium	< 0.030	0.04	mg/l	7439-93-2
D-5S2	10/26/2021	Mercury	< 0.0002	0.002	mg/l	7439-97-6
D-5S2	10/26/2021	Molybdenum	< 0.001	0.1	mg/l	7439-98-7
D-5S2	03/30/2021	Radium 226	< 0.0944	--	pci/l	13982-63-3
D-5S2	10/26/2021	Radium 226	< 0.144	--	pci/l	13982-63-3
D-5S2	03/30/2021	Radium 228	< 0.507	--	pci/l	15262-20-1
D-5S2	10/26/2021	Radium 228	< 0.411	--	pci/l	15262-20-1
D-5S2	03/30/2021	Radium 226/228	< 0.507	5	pci/l	425
D-5S2	10/26/2021	Radium 226/228	< 0.411	5	pci/l	425
D-5S2	10/26/2021	Selenium	< 0.001	0.05	mg/l	7782-49-2
D-5S2	10/26/2021	Thallium	< 0.0002	0.002	mg/l	7440-28-0
D-8	10/27/2021	Antimony	< 0.001	0.006	mg/l	7440-36-0
D-8	10/27/2021	Arsenic	< 0.001	0.010	mg/l	7440-38-2
D-8	03/31/2021	Barium	0.083	2	mg/l	7440-39-3
D-8	10/27/2021	Barium	0.095	2	mg/l	7440-39-3
D-8	10/27/2021	Beryllium	< 0.0007	0.004	mg/l	7440-41-7
D-8	10/27/2021	Cadmium	< 0.0005	0.005	mg/l	7440-43-9
D-8	03/31/2021	Chromium	< 0.0040	0.1	mg/l	7440-47-3
D-8	10/27/2021	Chromium	0.0048	0.1	mg/l	7440-47-3
D-8	03/31/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
D-8	10/27/2021	Cobalt	0.0019	0.006	mg/l	7440-48-4
D-8	03/31/2021	Fluoride	0.11	4	mg/l	16984-48-8
D-8	10/27/2021	Fluoride	0.090	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-8	10/27/2021	Lead	< 0.010	0.015	mg/l	7439-92-1
D-8	10/27/2021	Lithium	< 0.030	0.04	mg/l	7439-93-2
D-8	10/27/2021	Mercury	< 0.0002	0.002	mg/l	7439-97-6
D-8	10/27/2021	Molybdenum	< 0.001	0.1	mg/l	7439-98-7
D-8	03/31/2021	Radium 226	0.0932	--	pci/l	13982-63-3
D-8	10/27/2021	Radium 226	< 0.199	--	pci/l	13982-63-3
D-8	03/31/2021	Radium 228	< 0.371	--	pci/l	15262-20-1
D-8	10/27/2021	Radium 228	< 0.661	--	pci/l	15262-20-1
D-8	03/31/2021	Radium 226/228	0.0932	5	pci/l	425
D-8	10/27/2021	Radium 226/228	< 0.661	5	pci/l	425
D-8	10/27/2021	Selenium	< 0.001	0.05	mg/l	7782-49-2
D-8	10/27/2021	Thallium	< 0.0002	0.002	mg/l	7440-28-0
D-9	10/27/2021	Antimony	< 0.001	0.006	mg/l	7440-36-0
D-9	10/27/2021	Arsenic	< 0.001	0.010	mg/l	7440-38-2
D-9	03/31/2021	Barium	0.078	2	mg/l	7440-39-3
D-9	10/27/2021	Barium	0.082	2	mg/l	7440-39-3
D-9	10/27/2021	Beryllium	< 0.0007	0.004	mg/l	7440-41-7
D-9	10/27/2021	Cadmium	< 0.0005	0.005	mg/l	7440-43-9
D-9	03/31/2021	Chromium	< 0.0040	0.1	mg/l	7440-47-3
D-9	10/27/2021	Chromium	< 0.0040	0.1	mg/l	7440-47-3
D-9	03/31/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
D-9	10/27/2021	Cobalt	0.00046	0.006	mg/l	7440-48-4
D-9	03/31/2021	Fluoride	0.080	4	mg/l	16984-48-8
D-9	10/27/2021	Fluoride	0.070	4	mg/l	16984-48-8
D-9	10/27/2021	Lead	< 0.010	0.015	mg/l	7439-92-1
D-9	10/27/2021	Lithium	< 0.030	0.04	mg/l	7439-93-2
D-9	10/27/2021	Mercury	< 0.0002	0.002	mg/l	7439-97-6
D-9	10/27/2021	Molybdenum	< 0.001	0.1	mg/l	7439-98-7
D-9	03/31/2021	Radium 226	< 0.119	--	pci/l	13982-63-3
D-9	10/27/2021	Radium 226	< 0.121	--	pci/l	13982-63-3
D-9	03/31/2021	Radium 228	< 0.430	--	pci/l	15262-20-1
D-9	10/27/2021	Radium 228	< 0.365	--	pci/l	15262-20-1
D-9	03/31/2021	Radium 226/228	< 0.430	5	pci/l	425
D-9	10/27/2021	Radium 226/228	< 0.365	5	pci/l	425
D-9	10/27/2021	Selenium	< 0.001	0.05	mg/l	7782-49-2
D-9	10/27/2021	Thallium	< 0.0002	0.002	mg/l	7440-28-0
U-4D	10/26/2021	Antimony	< 0.001	0.006	mg/l	7440-36-0
U-4D	10/26/2021	Arsenic	< 0.001	0.010	mg/l	7440-38-2
U-4D	03/29/2021	Barium	0.042	2	mg/l	7440-39-3
U-4D	10/26/2021	Barium	0.068	2	mg/l	7440-39-3
U-4D	10/26/2021	Beryllium	< 0.0007	0.004	mg/l	7440-41-7
U-4D	10/26/2021	Cadmium	< 0.0005	0.005	mg/l	7440-43-9

Table 7



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

Location	Date	Parameter	Result	Groundwater Protection Standard (GPS)	Units	CAS #
U-4D	03/29/2021	Chromium	< 0.0040	0.1	mg/l	7440-47-3
U-4D	10/26/2021	Chromium	< 0.0040	0.1	mg/l	7440-47-3
U-4D	03/29/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
U-4D	10/26/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
U-4D	03/29/2021	Fluoride	0.10	4	mg/l	16984-48-8
U-4D	10/26/2021	Fluoride	0.080	4	mg/l	16984-48-8
U-4D	10/26/2021	Lead	< 0.010	0.015	mg/l	7439-92-1
U-4D	10/26/2021	Lithium	< 0.030	0.04	mg/l	7439-93-2
U-4D	10/26/2021	Mercury	< 0.0002	0.002	mg/l	7439-97-6
U-4D	10/26/2021	Molybdenum	< 0.001	0.1	mg/l	7439-98-7
U-4D	03/29/2021	Radium 226	< 0.0989	--	pci/l	13982-63-3
U-4D	10/26/2021	Radium 226	< 0.125	--	pci/l	13982-63-3
U-4D	03/29/2021	Radium 228	0.575	--	pci/l	15262-20-1
U-4D	10/26/2021	Radium 228	< 0.423	--	pci/l	15262-20-1
U-4D	03/29/2021	Radium 226/228	0.575	5	pci/l	425
U-4D	10/26/2021	Radium 226/228	< 0.423	5	pci/l	425
U-4D	10/26/2021	Selenium	< 0.001	0.05	mg/l	7782-49-2
U-4D	10/26/2021	Thallium	< 0.0002	0.002	mg/l	7440-28-0
U-4S	10/26/2021	Antimony	< 0.001	0.006	mg/l	7440-36-0
U-4S	10/26/2021	Arsenic	< 0.001	0.010	mg/l	7440-38-2
U-4S	03/29/2021	Barium	0.044	2	mg/l	7440-39-3
U-4S	10/26/2021	Barium	0.042	2	mg/l	7440-39-3
U-4S	10/26/2021	Beryllium	< 0.0007	0.004	mg/l	7440-41-7
U-4S	10/26/2021	Cadmium	< 0.0005	0.005	mg/l	7440-43-9
U-4S	03/29/2021	Chromium	0.0086	0.1	mg/l	7440-47-3
U-4S	10/26/2021	Chromium	0.011	0.1	mg/l	7440-47-3
U-4S	03/29/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
U-4S	10/26/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
U-4S	03/29/2021	Fluoride	0.070	4	mg/l	16984-48-8
U-4S	10/26/2021	Fluoride	0.060	4	mg/l	16984-48-8
U-4S	10/26/2021	Lead	< 0.010	0.015	mg/l	7439-92-1
U-4S	10/26/2021	Lithium	< 0.030	0.04	mg/l	7439-93-2
U-4S	10/26/2021	Mercury	< 0.0002	0.002	mg/l	7439-97-6
U-4S	10/26/2021	Molybdenum	< 0.001	0.1	mg/l	7439-98-7
U-4S	03/29/2021	Radium 226	< 0.116	--	pci/l	13982-63-3
U-4S	10/26/2021	Radium 226	< 0.172	--	pci/l	13982-63-3
U-4S	03/29/2021	Radium 228	< 0.512	--	pci/l	15262-20-1
U-4S	10/26/2021	Radium 228	< 0.589	--	pci/l	15262-20-1
U-4S	03/29/2021	Radium 226/228	< 0.512	5	pci/l	425
U-4S	10/26/2021	Radium 226/228	< 0.589	5	pci/l	425
U-4S	10/26/2021	Selenium	< 0.001	0.05	mg/l	7782-49-2
U-4S	10/26/2021	Thallium	< 0.0002	0.002	mg/l	7440-28-0

Table 7



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

Location	Date	Parameter	Result	Groundwater Protection Standard (GPS)	Units	CAS #
U-5D	10/26/2021	Antimony	< 0.001	0.006	mg/l	7440-36-0
U-5D	10/26/2021	Arsenic	< 0.001	0.010	mg/l	7440-38-2
U-5D	03/29/2021	Barium	0.058	2	mg/l	7440-39-3
U-5D	10/26/2021	Barium	0.058	2	mg/l	7440-39-3
U-5D	10/26/2021	Beryllium	< 0.0007	0.004	mg/l	7440-41-7
U-5D	10/26/2021	Cadmium	< 0.0005	0.005	mg/l	7440-43-9
U-5D	03/29/2021	Chromium	< 0.0040	0.1	mg/l	7440-47-3
U-5D	10/26/2021	Chromium	< 0.0040	0.1	mg/l	7440-47-3
U-5D	03/29/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
U-5D	10/26/2021	Cobalt	< 0.0003	0.006	mg/l	7440-48-4
U-5D	03/29/2021	Fluoride	0.10	4	mg/l	16984-48-8
U-5D	10/26/2021	Fluoride	0.090	4	mg/l	16984-48-8
U-5D	10/26/2021	Lead	< 0.010	0.015	mg/l	7439-92-1
U-5D	10/26/2021	Lithium	< 0.030	0.04	mg/l	7439-93-2
U-5D	10/26/2021	Mercury	< 0.0002	0.002	mg/l	7439-97-6
U-5D	10/26/2021	Molybdenum	< 0.001	0.1	mg/l	7439-98-7
U-5D	03/29/2021	Radium 226	< 0.130	--	pci/l	13982-63-3
U-5D	10/26/2021	Radium 226	< 0.128	--	pci/l	13982-63-3
U-5D	03/29/2021	Radium 228	< 0.466	--	pci/l	15262-20-1
U-5D	10/26/2021	Radium 228	< 0.401	--	pci/l	15262-20-1
U-5D	03/29/2021	Radium 226/228	< 0.466	5	pci/l	425
U-5D	10/26/2021	Radium 226/228	< 0.401	5	pci/l	425
U-5D	10/26/2021	Selenium	< 0.001	0.05	mg/l	7782-49-2
U-5D	10/26/2021	Thallium	< 0.0002	0.002	mg/l	7440-28-0
U-5S	10/26/2021	Antimony	< 0.001	0.006	mg/l	7440-36-0
U-5S	10/26/2021	Arsenic	< 0.001	0.010	mg/l	7440-38-2
U-5S	03/29/2021	Barium	0.064	2	mg/l	7440-39-3
U-5S	10/26/2021	Barium	0.073	2	mg/l	7440-39-3
U-5S	10/26/2021	Beryllium	< 0.0007	0.004	mg/l	7440-41-7
U-5S	10/26/2021	Cadmium	< 0.0005	0.005	mg/l	7440-43-9
U-5S	03/29/2021	Chromium	< 0.0040	0.1	mg/l	7440-47-3
U-5S	10/26/2021	Chromium	< 0.0040	0.1	mg/l	7440-47-3
U-5S	03/29/2021	Cobalt	0.00031	0.006	mg/l	7440-48-4
U-5S	10/26/2021	Cobalt	0.00035	0.006	mg/l	7440-48-4
U-5S	03/29/2021	Fluoride	0.10	4	mg/l	16984-48-8
U-5S	10/26/2021	Fluoride	0.10	4	mg/l	16984-48-8
U-5S	10/26/2021	Lead	< 0.010	0.015	mg/l	7439-92-1
U-5S	10/26/2021	Lithium	< 0.030	0.04	mg/l	7439-93-2
U-5S	10/26/2021	Mercury	< 0.0002	0.002	mg/l	7439-97-6
U-5S	10/26/2021	Molybdenum	< 0.001	0.1	mg/l	7439-98-7
U-5S	03/29/2021	Radium 226	< 0.132	--	pci/l	13982-63-3
U-5S	10/26/2021	Radium 226	< 0.197	--	pci/l	13982-63-3

Table 7



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

Location	Date	Parameter	Result	Groundwater Protection Standard (GPS)	Units	CAS #
U-5S	03/29/2021	Radium 228	< 0.438	--	pci/l	15262-20-1
U-5S	10/26/2021	Radium 228	0.977	--	pci/l	15262-20-1
U-5S	03/29/2021	Radium 226/228	< 0.438	5	pci/l	425
U-5S	10/26/2021	Radium 226/228	0.977	5	pci/l	425
U-5S	10/26/2021	Selenium	< 0.001	0.05	mg/l	7782-49-2
U-5S	10/26/2021	Thallium	< 0.0002	0.002	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



Appendix A – Field Data Sheets

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

Site: SKB Rosemount

Personnel: N. Srinivasan

Well ID	Date	Time	Depth To Water:	Notes:
D-1C	3/29/21	10:27	117.47'	
D-1D		10:29	114.40'	
D-1VD		10:31	116.15'	
D-2S		10:19	112.68'	
D-2D		10:21	111.50'	
D-2VD		10:23	112.40'	
D-3S		10:37	104.89'	
D-3D		10:39	105.91'	
D-4S		10:14	99.95'	
D-4D		10:16	100.12'	
D-5S2		10:44	102.25'	
D-5D		10:46	111.70'	
D-6		10:51	74.21'	
D-7		10:00	99.55'	TD = 107.50'
D-8		10:04	104.15'	
D-9		10:08	93.68'	
CW4-1		10:33	-	TD = 73.40'
V-1		11:04	24.89'	
V-2S		11:24	12.69'	
V-2D		11:26	17.48'	
V-4S		11:33	10.42'	
V-4D		11:35	16.99'	
V-5S		14:04	23.98'	
V-5D		14:06	26.26'	
V-6D		11:09	17.50'	
V-7S		11:17	10.05'	
V-7D		11:19	15.57'	
V-8		10:58	2.75'	

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): N. Schlegel

Casing Length(ft) 34.36

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/29/21 11:45

Casing Diameter (inches): 2

Initial Water Level (feet): 10.42 20.32

One Casing Volume (gal): 3.9 2.0

Ground Water Elevation (ft, msl): 816.3

Total Volume Purged (gal): 12.0

Top of Casing (ft, msl) 836.62

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): _____

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 3/29/21 12:20

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)
11:45	1000	0.1	10.84	9.90	981	25.9	0.85	6
11:55	1800	4.0	10.73	7.80	880	76.1	0.00	16
12:05	1800	8.0	10.72	7.51	879	58.6	0.00	14
12:15	1800	12.0	10.71	7.29	879	44.0	0.00	18

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: U-4S

Water Level @ Sampling (ft): 10.43'

Well Collection Sequence 1 of

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>12:20</u> <u>3/29/21</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>10.71</u>	<u>7.24</u>	<u>979</u>	<u>45.6</u>	<u>0.00</u>	<u>18</u>

YSI Serial Number:

YSI Sonde Serial Number:

GENERAL INFORMATION:

Weather Conditions @ sampling: 55°F, sunny, 15-20 mph S

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) # of Bottles Collected: 10

Well Closed and Locked: Yes No (circle)

Notes:

Minnesota Unique Well ID: 4930 21

Date: 3/29/21 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

Equipment Blank Collected: No

PURGE INFORMATION

Sampler(s): N. Sunlight

Casing Length(ft) 89.2

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/29/21 11:45

Casing Diameter (inches): 2

Initial Water Level (feet): 16.99 27.29

One Casing Volume (gal): 11.8 10.4

Ground Water Elevation (ft, msl): -810.03

Total Volume Purged (gal): 36.0

Top of Casing (ft, msl) 837.32

Purged Dry?: Yes No (circle)

PID (Background) 0-0 (PPM)

Water Level After Purge (ft): _____

PID (Headspace) 0-0 (PPM)

Date/Time Completed: 3/29/21 12:45

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)
11:45	1000	0.1	9.75	7.75	860	21.2	8.79	131
12:00	1000	10.0	9.72	7.76	854	19.0	8.49	144
12:15	1000	20.0	9.65	7.56	849	18.1	9.76	192
12:30	1000	30.0	9.65	7.54	849	17.9	8.88	205
12:40	1000	36.0	9.65	7.54	847	17.6	8.88	205

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Water Level @ Sampling (ft): 17.00'

Parameters: Annual _____ Semiannual: _____

Sample Point ID: U-4D

Well Collection Sequence 2 of _____

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>12:48</u> <u>3/29/21</u>	VOCs: <u>100</u> Other: <u>100</u>	<u>9.65</u>	<u>7.54</u>	<u>947</u>	<u>12.8</u>	<u>8.67</u>	<u>205</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 62°F, sunny, 20-25 mph S

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____ # of Bottles Collected: 18

Well Closed and Locked: Yes No (circle) _____

Notes: _____

Minnesota Unique Well ID: 463714

Date: 3/29/21 By: JV-Schwartz 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: Yes - Field Blank 1

Equipment Blank Collected: No

PURGE INFORMATION

Sampler(s): N-Schleier

Casing Length(ft) 42.5

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/29/21 14:20

Casing Diameter (inches): 2

Initial Water Level (feet): 23.90 -33.24

One Casing Volume (gal): 3.0 1.8

Ground Water Elevation (ft, msl): -814.85

Total Volume Purged (gal): 9.0

Top of Casing (ft, msl) 848.09

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 24.00'

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 3/29/21 14:40

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)
14:20	1000	0.1	11.45	7.51	812	573	12.75	104
14:25	1000	2.0	11.36	7.43	807	152	11.87	-6
14:30	1000	6.0	11.33	7.33	803	89.2	7.92	-39
14:35	1000	9.0	11.32	7.29	802	62.6	11.02	-46

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: U-5S

Water Level @ Sampling (ft): 24.00

Well Collection Sequence 3 of

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>14:40</u> <u>3/29/21</u>	VOCs: <u>110</u> Other: <u>1000</u>	<u>11.35</u>	<u>7.28</u>	<u>800</u>	<u>62.9</u>	<u>10.95</u>	<u>-48</u>

YSI Serial Number:

YSI Sonde Serial Number:

GENERAL INFORMATION:

Weather Conditions @ sampling: 68°F, sunny, 20-25 mph S

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) # of Bottles Collected: 10

Well Closed and Locked: Yes No (circle)

Notes:

Minnesota Unique Well ID: 493018

Date: 3/29/21 By: M. Seidel Title: staff environmental 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

Field Blank Collected: No

Sample Matrix: Groundwater

Equipment Blank Collected: No

Sampler(s): M. Selby

Casing Length(ft): 101.54

PURGE INFORMATION

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/29/21 14:20

Casing Diameter (inches): 2

Initial Water Level (feet): 26.26' 35.82

One Casing Volume (gal): 12.3 10.6

Ground Water Elevation (ft, msl): 813.85

Total Volume Purged (gal): 37.0

Top of Casing (ft, msl): 849.67

Purged Dry?: Yes No (circle)

PID (Background): 0.0 (PPM)

Water Level After Purge (ft): 26.26'

PID (Headspace): 0.0 (PPM)

Date/Time Completed: 3/29/21 15:25

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)
14:26	1000	0.1	12.59	7.69	802	20.6	7.57	100
14:40	1000	19.0	12.60	7.68	802	20.1	7.67	100
14:00	1000	30.0	12.59	7.67	802	20.4	7.70	101
15:20	1000	37.0	12.59	7.69	802	20.4	7.48	102

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: U-5D

Water Level @ Sampling (ft): 26.26

Well Collection Sequence 4 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)
<u>15-25 7/29/21</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>12.59</u>	<u>7.69</u>	<u>802</u>	<u>20.4</u>	<u>7.46</u>	<u>102</u>

YSI Serial Number: _____
 YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 65°F, sunny 20-25 5'

Sampling Characteristics: Clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____ # of Bottles Collected: 10

Well Closed and Locked: Yes No (circle) _____

Notes: _____

Minnesota Unique Well ID: 497015

Date: 7/29/21 By: K-Schlegel 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

Sampler(s): M. Schlegel

Casing Length(ft) 121.81

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/30/21 8:55

Casing Diameter (inches): 2

Initial Water Level (feet): 103.25' 114.09

One Casing Volume (gal): 3.0 2.0

Ground Water Elevation (ft, msl): 777.63

Total Volume Purged (gal): 9.1

Top of Casing (ft, msl) 891.72

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 103.26'

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 3/30/21 9:15

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)
8:55	1000	0.1	8.83	8.25	1,010	44.4	7.74	123
9:00	1000	3.0	10.61	7.39	1,040	23.6	5.05	94
9:05	1000	6.0	10.02	7.20	1,040	19.5	4.81	113
9:10	1000	9.1	10.10	7.25	1,050	19.2	4.41	118

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-5S2

Water Level @ Sampling (ft): 103.26'

Well Collection Sequence 5 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)
<u>9:15</u> <u>3/30/21</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>10.09</u>	<u>7.23</u>	<u>1,050</u>	<u>18.6</u>	<u>4.49</u>	<u>117</u>

YSI Serial Number:

YSI Sonde Serial Number:

GENERAL INFORMATION:

Weather Conditions @ sampling: 34°F, cloudy, 15-20 mph W

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

of Bottles Collected: 18

Well Closed and Locked: Yes No (circle)

Notes:

Minnesota Unique Well ID: 463715

Date: 3/30/21 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-5D

Location: Rosemount, MN

Duplicate Collected: No

Sample Matrix: Groundwater

Field Blank Collected: No

Equipment Blank Collected: No

PURGE INFORMATION

Sampler(s): N. Schlegel

Casing Length(ft): 157.1

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/30/21 8:55

Casing Diameter (inches): 2

Initial Water Level (feet): 111.70 -121.35

One Casing Volume (gal): 7.4 5.7

Ground Water Elevation (ft, msl): 771.85

Total Volume Purged (gal): 10.0

Top of Casing (ft, msl): 893.2

Purged Dry?: Yes No (circle)

PID (Background): 0.0 (PPM)

Water Level After Purge (ft): 111.71

PID (Headspace): 0.0 (PPM)

Date/Time Completed: 3/30/21 9:30

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)
8:55	1000	0.1	9.68	7.46	953	20.1	10.53	140
9:05	1000	3.5	9.64	7.46	953	19.7	10.50	145
9:15	1000	7.0	9.65	7.45	952	19.3	10.57	145
9:25	1000	10.0	9.63	7.46	953	20.6	10.57	145

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Water Level @ Sampling (ft): 111.71'

Parameters: Annual _____ Semiannual: _____

Sample Point ID: D-5D

Well Collection Sequence 6 of _____

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>9:30 3/24/20</u>	VOCs: <u>-</u> Other: <u>1003</u>	<u>9.63</u>	<u>7.46</u>	<u>953</u>	<u>20.6</u>	<u>10.57</u>	<u>14.5</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 35°F, clouds, 15-20 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: 452935

Date: 3/24/21 By: P. Seaman Title: staff env.

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): M. Schlegel

Casing Length(ft) 135.13

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/30/21 10:00

Casing Diameter (inches): 2

Initial Water Level (feet): 104.89' 114.87

One Casing Volume (gal): 5.0 3.0

Ground Water Elevation (ft, msl): 771.68

Total Volume Purged (gal): 15.0

Top of Casing (ft, msl) 886.55

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 104.90

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 3/30/21 10:50

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)
10:00	1000	0.1	8.94	7.52	1,545	105	6.67	147
10:15	1000	5.0	10.14	7.26	1,716	35.7	2.15	12
10:30	1000	10.0	9.37	7.39	1,720	26.7	1.51	32
10:45	1000	15.0	10.27	7.25	1,310	28.1	2.83	14

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Water Level @ Sampling (ft): 104.90

Parameters: Annual _____ Semiannual: _____

Sample Point ID: D-3S

Well Collection Sequence 8 of _____

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>10:50 3/17/21</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>10.20</u>	<u>7.25</u>	<u>1,220</u>	<u>26.9</u>	<u>2.50</u>	<u>14</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 38°F, mostly cloudy, 15-20 mph W

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____ # of Bottles Collected: 18

Well Closed and Locked: Yes No (circle) _____

Notes: _____

Minnesota Unique Well ID: 482920

Date: 3/30/21 By: N. Sun Lopez 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

Sampler(s): N. Sample

Casing Length(ft): 155.5

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/30/21 10:00

Casing Diameter (inches): 2

Initial Water Level (feet): 105.91' ~~115.29~~

One Casing Volume (gal): 8.1 5.5

Ground Water Elevation (ft, msl): 770.48

Total Volume Purged (gal): 74.0

Top of Casing (ft, msl): 885.77

Purged Dry?: Yes No (circle)

PID (Background): 0.0 (PPM)

Water Level After Purge (ft): 105.92

PID (Headspace): 0.0 (PPM)

Date/Time Completed: 3/30/21 11:05

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)
10:00	1000	0.1	10.02	7.31	1,040	26.7	4.35	77
10:20	1000	8.5	10.02	7.31	1,040	26.6	4.35	77
10:40	1000	16.0	10.03	7.31	1,040	27.5	4.33	78
11:00	1000	74.0	10.03	7.31	1,040	26.6	4.34	78

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-3D
 Water Level @ Sampling (ft): 105.92
 Well Collection Sequence 8 of
 Parameters: Annual Semiannual: Quarterly: 1 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>19:05 3/30/21</u>	VOCs: <u> </u> Other: <u>1000</u>	<u>10.03</u>	<u>7.31</u>	<u>1040</u>	<u>26.6</u>	<u>4.34</u>	<u>70</u>

YSI Serial Number:
 YSI Sonde Serial Number:

GENERAL INFORMATION:

Weather Conditions @ sampling: 38°F, mostly cloudy 15-20 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: 46288-

Date: 3/30/21 By: M. Schlugel 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): M-Sulgel

Casing Length(ft) 135.97

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/20/21 12:55

Casing Diameter (inches): 2

Initial Water Level (feet): 117.47' -127.67

One Casing Volume (gal): 3.0 -12

Ground Water Elevation (ft, msl): 745.08

Total Volume Purged (gal): 9.1

Top of Casing (ft, msl) 872.75

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 117.48

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 3/30/21 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)
12:55	1000	0.1	9.34	7.67	677	93.0	7.38	105
12:05	1000	3.0	11.75	7.28	842	129	0.20	109
13:10	1000	6.0	11.82	7.22	842	41.6	0.30	102
13:15	1000	9.1	11.92	7.15	841	42.2	0.60	101

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-1S

Water Level @ Sampling (ft): 112.40'

Well Collection Sequence 9 of

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>13:20</u> <u>3/23/21</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>11.97</u>	<u>7.15</u>	<u>841</u>	<u>39.1</u>	<u>0.06</u>	<u>101</u>

YSI Serial Number:

YSI Sonde Serial Number:

GENERAL INFORMATION:

Weather Conditions @ sampling: 39°F, partly cloudy 20-25 mph w

Sampling Characteristics: Clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

of Bottles Collected: 17

Well Closed and Locked: Yes No (circle)

Notes:

Minnesota Unique Well ID: 493014

Date: 3/23/21 By: N. Schloesser 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): M. Schell

Casing Length(ft): 164.5

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/20/21

Casing Diameter (inches): 2

Initial Water Level (feet): 114.40 ~~424.03~~

One Casing Volume (gal): 8.2 ~~6.2~~

Ground Water Elevation (ft, msl): 747.47

Total Volume Purged (gal): 24.5

Top of Casing (ft, msl): 871.5

Purged Dry?: Yes No (circle)

PID (Background): 0.0 (PPM)

Water Level After Purge (ft): 114.41

PID (Headspace): 0.0 (PPM)

Date/Time Completed: 3/30/21 13:25

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)
12:55	1000	0.1	11.58	7.70	779	24.9	10.54	142
13:05	1000	8.6	11.62	7.76	779	24.2	10.45	142
13:10	1000	16.0	11.53	7.77	780	25.3	10.43	143
13:20	1000	24.5	11.59	7.72	781	24.8	10.42	144

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-1D

Water Level @ Sampling (ft): 114.41

Well Collection Sequence 10 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)
<u>13.25 3/30/21</u>	VOCs: <u>-</u> Other: <u>100</u>	<u>11.60</u>	<u>7.71</u>	<u>784</u>	<u>23.6</u>	<u>10.43</u>	<u>147</u>

YSI Serial Number:

YSI Sonde Serial Number:

GENERAL INFORMATION:

Weather Conditions @ sampling: 39°F, partly cloudy 20-25 mph W

Sampling Characteristics: Clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) # of Bottles Collected: 6

Well Closed and Locked: Yes No (circle)

Notes:

Minnesota Unique Well ID: 492.893

Date: 3/30/21 By: M. Schaefer 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): V. Schlager

Casing Length(ft) 134.78

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/30/21 14:05

Casing Diameter (inches): 2

Initial Water Level (feet): 112.68 122.87

One Casing Volume (gal): 3.6 1.5

Ground Water Elevation (ft, msl): 761.36

Total Volume Purged (gal): 11.0

Top of Casing (ft, msl) 884.23

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 112.69

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 3/30/21 14:40

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)
14:05	1000	0.1	9.90	7.59	706	352	4.06	150
14:15	1000	4.0	10.23	7.18	848	42.1	1.72	124
14:25	1000	8.0	10.26	7.09	840	33.6	0.17	97
14:35	1000	11.0	10.29	7.03	841	24.2	0.65	70

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Water Level @ Sampling (ft): 112.69'
 Parameters: Annual _____ Semiannual: _____

Sample Point ID: D-2S
 Well Collection Sequence _____ of _____
 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)
14:40 7/30/21	VOCs: 100 Other: 1000	10.29	7.63	871	247	0.46	71

YSI Serial Number: _____
 YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 40°F, partly cloudy, 20-25 mph w

 Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____ # of Bottles Collected: 11
 Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: 443013
 Date: 7/30/21 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-2D

Location: Rosemount, MN

Duplicate Collected: No

Sample Matrix: Groundwater

Field Blank Collected: No

Equipment Blank Collected: No

PURGE INFORMATION

Sampler(s): N. Schloegel

Casing Length(ft): 163.98

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 2/30/21 14:05

Casing Diameter (inches): 2

Initial Water Level (feet): 111.50 -121.18

One Casing Volume (gal): 8.55 6.8

Ground Water Elevation (ft, msl): 762.85

Total Volume Purged (gal): 26.0

Top of Casing (ft, msl): 884.03

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 111.51'

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 3/30/21 14:55

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	10.03	7.33	851	21.0	4.47	139
14:20	1000	9.0	10.03	7.33	850	21.7	4.44	140
14:33	1000	18.0	10.03	7.33	850	21.2	4.44	140
14:50	1000	26.0	10.03	7.34	851	21.4	4.42	140

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Water Level @ Sampling (ft):

111.51'

Sample Point ID:

D-2D

Well Collection Sequence

of

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>14:58</u> <u>3/30/21</u>	VOCs: <u>L</u> Other: <u>100°</u>	<u>9.98</u>	<u>7.34</u>	<u>851</u>	<u>21.6</u>	<u>4.49</u>	<u>142</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling:

39°f, pretty cloudy, 20-25 mph W

Sampling Characteristics:

clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

of Bottles Collected: 8

Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID:

492882

Date:

3/30/21

By:

N. Schryer

Title:

stte env control

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

Sampler(s): M. Schlapel

Casing Length(ft) 120.4

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/31/21 9:03

Casing Diameter (inches): 2

Initial Water Level (feet): 99.95' 110.27

One Casing Volume (gal): 3.3 0.3

Ground Water Elevation (ft, msl): 773.43

Total Volume Purged (gal): 10.0

Top of Casing (ft, msl) 883.7

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 99.91

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 3/31/21 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	0.1	7.65	9.01	936	72.7	13.21	153
9:15	1000	3.3	9.39	8.01	904	70.8	12.52	187
9:25	1000	6.6	9.68	8.37	900	78.8	11.95	210
9:35	1000	10.0	9.71	8.10	899	72.2	11.74	215

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-4S

Water Level @ Sampling (ft): 99.06'

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)
9:40 3/11/21	VOCs: 100 Other: 1000	9.75	8.11	890	31.8	11.75	216

YSI Serial Number: _____
 YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 30°F, partly cloudy, 10-15 mph NW

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____ # of Bottles Collected: 11

Well Closed and Locked: Yes No (circle) _____

Notes: _____

Minnesota Unique Well ID: 462921

Date: 3/11/21 By: N. Seidel 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: No

Sample Matrix: Groundwater

Field Blank Collected: No

Equipment Blank Collected: No

PURGE INFORMATION

Sampler(s): W. Schlegel

Casing Length(ft) 138.7

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 7/31/21 9:05

Casing Diameter (inches): 2

Initial Water Level (feet): 100.12' 110.05

One Casing Volume (gal): 6.7 3.5

Ground Water Elevation (ft, msl): 775.16

Total Volume Purged (gal): 19.0

Top of Casing (ft, msl) 885.21

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 100.13

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 7/31/21 9:55

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	10.54	7.41	893	20.7	8.57	247
9:20	1000	6.0	10.57	7.40	877	21.2	8.46	248
9:35	1000	12.0	10.58	7.39	894	19.9	8.16	248
9:50	1000	14.0	10.58	7.38	893	21.5	8.22	249

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-4D

Water Level @ Sampling (ft): 100.13'

Well Collection Sequence _____ of _____

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>9:55 3/31/21</u>	VOCs: _____ Other: <u>760</u>	<u>10.61</u>	<u>7.76</u>	<u>905</u>	<u>27.0</u>	<u>7.93</u>	<u>252</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 30°F, partly cloudy, 15-20 mph NW

Sampling Characteristics: degr

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____

of Bottles Collected: 6

Well Closed and Locked: Yes No (circle) _____

Notes: _____

Minnesota Unique Well ID: _____

Date: 3/31/21

By: N. Sealage

Title: shift 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: NO

Sample Matrix: Groundwater

Field Blank Collected: NO

Equipment Blank Collected: NO

PURGE INFORMATION

Sampler(s): 1x 3ch log pit

Casing Length(ft): 107.4

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: No

Date/Time Initiated: 3/31/21 10:05

Casing Diameter (inches): 2

Initial Water Level (feet): 99.58 -107.2

One Casing Volume (gal): 1.3 0.3

Ground Water Elevation (ft, msl): -791.8

Total Volume Purged (gal): 1.5 slow recharge

Top of Casing (ft, msl) 899

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 105.2

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 3/31/21 10:25

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)
10:05	1000	0.1	8.37	7.35	1,200	119	4.15	260
10:10	1000	1.0	7.94	7.17	1,310	113	4.13	260
10:15	1000	1.25	7.92	7.06	1,360	126	3.42	252
10:20	1000	1.5	7.95	7.05	1,330	157	3.85	247

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-7

Water Level @ Sampling (ft): 105.20'

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)
<u>1025 3/31/21</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>7.95</u>	<u>7.05</u>	<u>1,330</u>	<u>157</u>	<u>3.85</u>	<u>247</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 30°F partly cloudy, 15-20 mph NW

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

of Bottles Collected: 12

Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: 703400

Date: 3/31/21 By: N. Schlager Title: staff env. scientist

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

Sampler(s): N. Schmitt

Casing Length(ft): 130.1

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/31/21 11:25

Casing Diameter (inches): 2

Initial Water Level (feet): 104.15 ~~114.06~~

One Casing Volume (gal): 4.2 ~~2.7~~

Ground Water Elevation (ft, msl): 792.16

Total Volume Purged (gal): 8.5 *slow recovery*

Top of Casing (ft, msl): 906.22

Purged Dry?: Yes No (circle)

PID (Background): 0.0 (PPM)

Water Level After Purge (ft): 104.15'

PID (Headspace): 0.0 (PPM)

Date/Time Completed: 3/31/21 12:10

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)
11:25	1000	0.1	6.31	7.62	761	26.2	11.36	242
11:48	1000	4.5	9.77	7.37	972	32.3	7.37	232
11:55	1000	6.5	9.90	7.63	964	27.7	7.81	193
12:05	1000	8.5	7.84	7.61	962	26.4	8.02	186

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-8

Water Level @ Sampling (ft): 104.16'

Well Collection Sequence _____ of _____

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>3/31/21</u> <u>12:10</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>9.99</u>	<u>7.60</u>	<u>962</u>	<u>26.4</u>	<u>8.09</u>	<u>105</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 70°F, partly cloudy, 15-20 mph W

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____ # of Bottles Collected: 11

Well Closed and Locked: Yes No (circle) _____

Notes: _____

Minnesota Unique Well ID: _____

Date: 3/31/21 By: N. Schlage 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

Equipment Blank Collected: Yes

PURGE INFORMATION

Sampler(s): M. Schlegel

Casing Length(ft): 118.5

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 3/31/21 12:25

Casing Diameter (inches): 2

Initial Water Level (feet): 93.69' -104.78

One Casing Volume (gal): 4.0 23

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

Total Volume Purged (gal):

Top of Casing (ft, msl): 227

Purged Dry?: Yes No (circle)

PID (Background): 0.0 (PPM)

Water Level After Purge (ft): 93.70'

PID (Headspace): 0.0 (PPM)

Date/Time Completed: 3/31/21 13:45

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)
12:25	1000	0.1	9.94	7.61	829	344	12.26	197
12:40	1000	4.0	10.17	7.15	871	99.6	5.08	-78
12:55	1000	8.0	10.51	7.32	928	59.1	6.97	-32
13:10	1000	12.0	10.52	7.24	949	44.2	7.23	-38

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION: Sample Point ID: D-9
 Water Level @ Sampling (ft): 93.76' 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)
<u>13-15</u>	VOCs: <u>100</u>	<u>18.53</u>	<u>7.25</u>	<u>951</u>	<u>44.3</u>	<u>7.03</u>	<u>9</u>
	Other: <u>1005</u>						

YSI Serial Number: _____
 YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 31° partly cloudy 15-20 mph NW
 Sampling Characteristics: etc. 1st cloudy orange

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) # of Bottles Collected: 11
 Well Closed and Locked: Yes No (circle)

Notes: _____
 Minnesota Unique Well ID: 766141
 Date: 3/31/21 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-4S

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) 34.36

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 10/25/21 10:55

Casing Diameter (inches): 2

Initial Water Level (feet): 8.77' -20.32'

One Casing Volume (gal): 4.17 -2.0

Ground Water Elevation (ft, msl): 816.3

Total Volume Purged (gal): 12.5

Top of Casing (ft, msl) 836.62

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 8.79'

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 10/25/21 10:55

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)
10:35	1000	0.1	12.04	7.98	826	92.7	7.98	167
10:40	↓	4.0	9.95	7.28	872	28.8	0.00	158
10:45	↓	8.0	9.96	7.24	844	22.6	0.00	156
10:50	↓	12.5	9.97	7.20	843	17.7	0.00	152

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: U-4S

Water Level @ Sampling (ft): 8.79'

Well Collection Sequence 1 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>10-55</u> <u>10/28/21</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>9.47</u>	<u>7.19</u>	<u>844</u>	<u>17.9</u>	<u>0.00</u>	<u>151</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 45°F, sunny 5-10 mph NE

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

of Bottles Collected: 11 + 6

Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: 44302-1

Date: 10/28/21 By: p-schmitt

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): N. Schlegel

Casing Length(ft) 89.2

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 10/25/21 11:15

Casing Diameter (inches): 2

Initial Water Level (feet): 19.20 ~~27.29~~

One Casing Volume (gal): 11.4 ~~10.4~~

Ground Water Elevation (ft, msl): ~~810.03~~

Total Volume Purged (gal): 12.0 ~~25.6~~

Top of Casing (ft, msl) 837.32

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 14.22'

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 10/25/21 11:35

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)
11:15	1000	0.1	10.21	7.64	777	11.1	9.81	112
11:20	↓	4.0	9.80	7.54	800	11.5	8.41	115
11:25	↓	8.0	9.73	7.54	789	11.6	8.45	114
11:30	↓	12.0	9.71	7.53	795	11.3	8.34	115

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: U-4D

Water Level @ Sampling (ft): 19.22

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)
<u>11:35</u> <u>10/25/21</u>	VOCs: <u>100</u>	<u>9.71</u>	<u>7.54</u>	<u>800</u>	<u>10.9</u>	<u>8.33</u>	<u>115</u>
	Other: <u>1000</u>						

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 46°F, sunny, 5-10 mph NE

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

of Bottles Collected: 11/46

Well Closed and Locked: Yes No (circle)

Notes:

Minnesota Unique Well ID: 463714

Date: 10/25/21 By: N. Sealing

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: Yes - Field Blank 1

PURGE INFORMATION

Equipment Blank Collected: No

Method of Well Purge: Dedicated Bladder Pump

Sampler(s): N-Sm by pl

Casing Length(ft): 42.5

Date/Time Initiated: 10/25/21 14:00

Dedicated Equipment: Yes

Casing Diameter (inches): 2

Initial Water Level (feet): 26.75 33.24

One Casing Volume (gal): 2.57 1.8

Ground Water Elevation (ft, msl): 814.85

Total Volume Purged (gal): 8.0

Top of Casing (ft, msl): 848.09

Purged Dry?: Yes No (circle)

PID (Background): 0.0 (PPM)

Water Level After Purge (ft): 26.77'

PID (Headspace): 0.0 (PPM)

Date/Time Completed: 10/25/21 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	10.10	0.1	15.32	7.94	714	90.7	7.79	118
14:05	↓	2.5	13.31	7.98	798	402	3.07	121
14:10	↓	5.0	11.56	7.40	821	113	4.08	127
14:15	↓	8.0	11.51	7.36	822	37.6	4.24	124

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Water Level @ Sampling (ft): 26.77'

Parameters: Annual _____ Semiannual: _____

Sample Point ID: U-5S

Well Collection Sequence 3 of 7

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>14:20</u> <u>10/25/21</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>11.50</u>	<u>7.35</u>	<u>828</u>	<u>36.3</u>	<u>3.48</u>	<u>122</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 51 °F, sunny 0-5 mph N

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____ # of Bottles Collected: 11 of 8

Well Closed and Locked: Yes No (circle) _____

Notes: _____

Minnesota Unique Well ID: 493019

Date: 10/25/21 By: M. S. Lajzel 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

Field Blank Collected: No

Sample Matrix: Groundwater

Equipment Blank Collected: No

Sampler(s): M. Surland

Casing Length(ft) 101.54

PURGE INFORMATION

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 10/25/21 14:00

Casing Diameter (inches): 2

Initial Water Level (feet): 28.35 35.82

One Casing Volume (gal): 11.93 10.6

Ground Water Elevation (ft, msl): 813.85

Total Volume Purged (gal): 36.0

Top of Casing (ft, msl) 849.67

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 28.35'

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 10/25/21 15:00

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	10.00	0.0	10.80	7.75	908	17.0	7.27	84
14:20	↓	10.0	10.75	7.77	902	16.5	6.99	81
14:40	↓	20.0	10.74	7.77	902	16.4	7.15	81
14:55	↓	36.0	10.74	7.77	902	16.8	7.34	81

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: U-5D

Water Level @ Sampling (ft): 28.37'

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>15:00 10/25/21</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>10.3</u>	<u>7.77</u>	<u>802</u>	<u>16.5</u>	<u>7.27</u>	<u>91</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 51 F, sunny, 0-5 mph N

Sampling Characteristics: clean

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

of Bottles Collected: 11 x 6

Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: 493015

Date: 10/25/21 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-5S2

Location: Rosemount, MN

Duplicate Collected: No

Sample Matrix: Groundwater

Field Blank Collected: No

Equipment Blank Collected: No

PURGE INFORMATION

Sampler(s): N. Schneider
Casing Length(ft) 121.81

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 10/26/21 10:05

Casing Diameter (inches): 2

Initial Water Level (feet): 104.45' 114.09

One Casing Volume (gal): 2.83 2.0

Ground Water Elevation (ft, msl): 777.63

Total Volume Purged (gal): 8.5

Top of Casing (ft, msl) 891.72

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 104.47'

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 10/26/21 10:25

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)
10:05	1000	0.1	8.57	7.87	911	28.4	10.23	180
10:10	↓	3.0	9.93	7.49	888	37.0	4.51	173
10:15		6.0	10.19	7.43	886	20.6	4.09	158
10:20		8.5	10.27	7.39	894	9.2	3.75	144

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-5S2

Water Level @ Sampling (ft): 104.47

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>10:25</u> <u>10/26/21</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>10.41</u>	<u>7.46</u>	<u>982</u>	<u>9.2</u>	<u>3.74</u>	<u>143</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 42°F, cloudy, 10-15 mph SE

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

of Bottles Collected: 11/26

Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: 463715

Date: 10/26/21 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-5D

Location: Rosemount, MN

Duplicate Collected: No

Field Blank Collected: No

Sample Matrix: Groundwater

Equipment Blank Collected: No

Sampler(s): N. Sanleyel

Casing Length(ft) 157.1

PURGE INFORMATION

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 10/26/21 10:05

Casing Diameter (inches): 2

Initial Water Level (feet): 113.58' 121.35

One Casing Volume (gal): 7.1 5.7

Ground Water Elevation (ft, msl): 771.85

Total Volume Purged (gal): 7.5

Top of Casing (ft, msl) 893.2

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 113.60'

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 10/26/21 10:30

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	0.1	9.62	8.47	905	12.1	8.04	114
10:15	↓	2.5	9.68	8.47	906	12.3	7.94	113
10:25	↓	5.0	9.67	8.47	906	12.4	7.55	113
10:35	↓	7.5	9.67	8.47	906	12.3	7.29	113

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Water Level @ Sampling (ft): 113.60

Parameters: Annual _____ Semiannual: _____

Sample Point ID: D-5D

Well Collection Sequence 6 of 17

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>10:40</u> <u>10/26/21</u>	VOCs: <u>-</u> Other: <u>100%</u>	<u>9.66</u>	<u>8.47</u>	<u>906</u>	<u>12.2</u>	<u>6.94</u>	<u>113</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 42°F cloudy, 10-15 mph SE

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) # of Bottles Collected: 6

Well Closed and Locked: Yes No (circle)

Notes: Bladder Needs To Be Replaced

Minnesota Unique Well ID: 452895

Date: 10/26/21 By: M. Schroyer 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): 1 - Schlager

Casing Length(ft) 135.13

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 10/26/21 11:10

Casing Diameter (inches): 2

Initial Water Level (feet): 106.74' -114.87

One Casing Volume (gal): 4.63 3.0

Ground Water Elevation (ft, msl): 771.68

Total Volume Purged (gal): 14.0

Top of Casing (ft, msl) 886.55

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 106.76'

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 10/26/21 11:45

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)
11:10	1000	0.1	10.19	8.13	960	12.1	9.87	124
11:20	↓	5.0	10.38	7.56	835	17.5	0.80	36
11:30		10.0	10.70	7.52	831	13.5	0.48	12
11:40		14.0	10.69	7.50	832	12.7	0.33	11

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Water Level @ Sampling (ft): 106.76

Parameters: Annual _____ Semiannual: _____

Sample Point ID: D-3S

Well Collection Sequence 7 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>11:45</u> <u>10/26/21</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>10.70</u>	<u>7.51</u>	<u>834</u>	<u>12.4</u>	<u>0.38</u>	<u>9</u>

YSI Serial Number: _____
 YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 44% partly cloudy, 10-15 mph SE

Sampling Characteristics: partly to clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) _____ # of Bottles Collected: 11/8

Well Closed and Locked: Yes No (circle) _____

Notes: _____

Minnesota Unique Well ID: 462320

Date: 10/26/21 By: Mr. Schlegel 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

Sampler(s): No. 8 Sch 100

Casing Length(ft) 155.5

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 10/26/21 11:10

Casing Diameter (inches): 2

Initial Water Level (feet): 107.75 115.29

One Casing Volume (gal): 7.78 5.5

Ground Water Elevation (ft, msl): 770.48

Total Volume Purged (gal): 8.0

Top of Casing (ft, msl) 885.77

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 107.77'

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 10/26/21 11:50

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)
11:10	1000	0.1	10.70	7.47	922	18.1	4.10	19
11:20	↓	2.5	10.70	7.46	923	16.5	5.01	20
11:30	↓	5.0	10.70	7.47	923	17.4	4.64	20
11:40	↓	8.0	10.71	7.46	923	17.1	4.28	19

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: _____ D-3D

Water Level @ Sampling (ft): 107.77'

Well Collection Sequence 8 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>11:50</u> <u>10/26/20</u>	VOCs: <u>—</u> Other: <u>1000</u>	<u>10.71</u>	<u>7.47</u>	<u>919</u>	<u>15.6</u>	<u>8.07</u>	<u>21</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 50° sunny, 10-15 mph SE

Sampling Characteristics: Ulegu

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) # of Bottles Collected: 6

Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: _____

Date: 10/26/20 By: M. Schlage 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

PURGE INFORMATION

Equipment Blank Collected: No

Method of Well Purge: Dedicated Bladder Pump

Sampler(s): 1/2-56 L/Min

Casing Length(ft) 135.97

Date/Time Initiated: 10/26/21 12:30

Dedicated Equipment: Yes

Casing Diameter (inches): 2

Initial Water Level (feet): 119.51' 127.67

One Casing Volume (gal): 2-69 1.2

Ground Water Elevation (ft, msl): 745.08

Total Volume Purged (gal): 8.5

Top of Casing (ft, msl) 872.75

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 119.53'

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 10/26/21 12:50

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)
12:30	1000	0.1	12.35	7.67	794	130	9.76	47
12:35	↓	3.0	12.55	7.40	791	50.1	9.31	57
12:40	↓	6.0	12.64	7.30	768	17.3	2.47	63
12:45	↓	8.5	12.67	7.28	769	11.6	0.74	66

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Water Level @ Sampling (ft): 119.53'

Sample Point ID: D-1S

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>12:50</u> <u>10/25/21</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>12.66</u>	<u>7.26</u>	<u>769</u>	<u>11.2</u>	<u>8.37</u>	<u>67</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 52°F sunny, 10-15 mph SE

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

of Bottles Collected: 1146

Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: 493914

Date: 10/25/21 By: J. Schlager 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. Schreyer

Casing Length(ft) 164.5

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 10/26/21 12:30

Casing Diameter (inches): 2

Initial Water Level (feet): 116.42 ~~124.05~~

One Casing Volume (gal): 7.84 ~~6.2~~

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): 116.44'

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 10/26/21 13:00

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)
12:30	1000	0.1	12.82	7.80	733	10.2	11.17	70
12:40	↓	2.5	12.77	7.82	734	10.0	10.44	72
12:50	↓	5.0	12.78	7.81	733	10.7	10.44	71
12:55	↓	8.0	12.77	7.81	732	12.3	10.45	72

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-1D

Water Level @ Sampling (ft): 116.44

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>13:00 10/26/12</u>	VOCs: <u>-</u> Other: <u>100%</u>	<u>12.74</u>	<u>7.81</u>	<u>735</u>	<u>10.2</u>	<u>12.06</u>	<u>74</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 52°F, sunny, 10-15 mph SE

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) # of Bottles Collected: 6

Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: 482893

Date: 10/26/12 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-2S

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. Engel

Casing Length(ft) 134.78

Date/Time Initiated: 10/26/21 7:34

Dedicated Equipment: Yes

Casing Diameter (inches): 2

Initial Water Level (feet): 114.76 ~~122.87~~

One Casing Volume (gal): 3.26 ~~1.5~~

Ground Water Elevation (ft, msl): 761.36

Total Volume Purged (gal): 10.0

Top of Casing (ft, msl) 884.23

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

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 114.78'

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 10/26/21 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)
13:35	1000	0.1	11.91	7.96	663	29.8	10.02	80
13:45	↓	3.0	11.22	7.34	820	13.2	9.55	95
13:55	↓	6.0	11.22	7.27	816	14.4	7.44	93
14:05	↓	10.0	11.21	7.21	807	11.1	0.59	91

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-2S

Water Level @ Sampling (ft): 114.78'

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>10/20/21</u>	VOCs: <u>100</u>	<u>11.18</u>	<u>7.25</u>	<u>815</u>	<u>11.2</u>	<u>0.67</u>	<u>93</u>
<u>10/26/21</u>	Other: <u>1000</u>						

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 54°F, sunny, 10-15mph SE

Sampling Characteristics: clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle) # of Bottles Collected: 11/26

Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: 493013

Date: 10/26/21 By: M. McHale Title: state 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

Sampler(s): M. Schlegel

Casing Length(ft) 163.98

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 10/26/21 12:35

Casing Diameter (inches): 2

Initial Water Level (feet): 117.60 -121.18

One Casing Volume (gal): 8.2 -6.8

Ground Water Elevation (ft, msl): 762.85

Total Volume Purged (gal): 8.5

Top of Casing (ft, msl) 884.03

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 113.62'

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 10/26/21 14:18

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)
13:35	1000	0.1	10.80	7.52	798	9.9	7.70	90
13:45	↓	3.0	10.77	7.55	798	10.1	7.59	91
13:55	↓	6.0	10.76	7.55	798	9.9	7.78	91
14:05	↓	8.5	10.76	7.55	798	10.2	7.76	91

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-2D

Water Level @ Sampling (ft): 113.62

Well Collection Sequence 12 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>10/26/21</u> <u>14:15</u>	VOCs: <u>1-</u> Other: <u>1000</u>	<u>10.73</u>	<u>7.55</u>	<u>799</u>	<u>10.0</u>	<u>7.77</u>	<u>92</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 54°F, sunny, 10-15 mph SE

Sampling Characteristics: clean

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

of Bottles Collected: 6

Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: 482582

Date: 10/26/21 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-4S

Location: Rosemount, MN

Duplicate Collected: Yes - Dup 2

Sample Matrix: Groundwater

Field Blank Collected: Yes - Field Blank 2 + 1 (CLR)

Equipment Blank Collected: NB

PURGE INFORMATION

Sampler(s): N. Schlayel

Casing Length(ft) 120.4

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 10/27/21 9:10

Casing Diameter (inches): 2

Initial Water Level (feet): 102.14' ~~110.27~~

One Casing Volume (gal): 2-98 ~~0.3~~

Ground Water Elevation (ft, msl): ~~773.43~~

Total Volume Purged (gal): 9.0

Top of Casing (ft, msl) 883.7

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 102-16'

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 10/27/21 9:45

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)
9:10	1000	0.1	12.67	7.83	781	20.6	9.59	314
9:20	↓	3.0	11.72	7.48	852	13.5	9.38	328
9:30		6.0	11.74	7.44	958	11.5	7.79	327
9:40		9.0	11.74	7.45	861	11.0	5.68	329

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Water Level @ Sampling (ft):

102.16

Sample Point ID:

D-4S

Well Collection Sequence

14 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>09-48 10/27/12</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>11.74</u>	<u>7.44</u>	<u>860</u>	<u>10.3</u>	<u>5.80</u>	<u>320</u>

YSI Serial Number:

YSI Sonde Serial Number:

GENERAL INFORMATION:

Weather Conditions @ sampling:

48°F cloudy, 15-20 mph SE

Sampling Characteristics:

clean

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

of Bottles Collected:

11 + 6

Well Closed and Locked: Yes No (circle)

Notes:

Minnesota Unique Well ID:

462921

Date:

10/27/12

By:

M. Schlapel

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: No

Sample Matrix: Groundwater

Field Blank Collected: No

Equipment Blank Collected: No

PURGE INFORMATION

Sampler(s): MS-102-01

Casing Length(ft) 138.7

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 10/27/21 9:10

Casing Diameter (inches): 2

Initial Water Level (feet): 102.37 110.05

One Casing Volume (gal): 5.92 3.5

Ground Water Elevation (ft, msl): 775.16

Total Volume Purged (gal): 60

Top of Casing (ft, msl) 885.21

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 102.37

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 10/27/21 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)
9:10	1000	0.1	11.53	7.51	848	10.8	6.87	319
9:20	↓	2.0	11.52	7.49	850	10.9	6.88	318
9:30	↓	4.0	11.51	7.52	825	11.0	6.87	319
9:40	↓	6.0	11.53	7.52	850	25.3	6.76	320

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Water Level @ Sampling (ft): 102.39'

Parameters: Annual _____ Semiannual: _____

Sample Point ID: D-4D

Well Collection Sequence 15 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>9:50 10/27/21</u>	VOCs: _____ Other: <u>1000</u>	<u>11.50</u>	<u>7.49</u>	<u>944</u>	<u>11.2</u>	<u>7.50</u>	<u>318</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 48°F, cloudy, 15-20 mph SE

Sampling Characteristics: Clear

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

of Bottles Collected: 6

Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: _____

Date: 10/27/21 By: N. Sunlsga Title: staff environmental

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

PURGE INFORMATION

Sampler(s): 1x Schloegel

Casing Length(ft): 107.4

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: No

Date/Time Initiated: 10/26/21 14:50

Casing Diameter (inches): 2

Initial Water Level (feet): 101.45 -107.2

One Casing Volume (gal): 0.97 0.3

Ground Water Elevation (ft, msl): -791.8

Total Volume Purged (gal): 3.5 slow backwash

Top of Casing (ft, msl) 899

Purged Dry?: Yes No (circle)

PID (Background) 0-0 (PPM)

Water Level After Purge (ft): 103.42'

PID (Headspace) 0-0 (PPM)

Date/Time Completed: 10/26/21 15:25

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)
14:50	1000	0.1	12.17	7.29	380	129	9.42	107
15:00	↓	0.5	12.56	7.38	1,130	76.4	2.98	119
15:10		1.0	12.56	7.14	1,300	86.1	2.22	114
15:20		1.5	12.59	7.13	1,280	85.1	2.44	114

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-7

Water Level @ Sampling (ft): 105.42

Well Collection Sequence 13 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>15378</u> <u>10/26/21</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>12.62</u>	<u>7.13</u>	<u>1,270</u>	<u>77.8</u>	<u>2.14</u>	<u>114</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 54 °F Rainy, 10-15 mph SE

Sampling Characteristics: UGW

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

of Bottles Collected: 11 + 6 + 2

Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: 703406

Date: 10/26/21 By: n. Schlegel Title: staff environmental

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

Sampler(s): µ. Schlager

Casing Length(ft): 130.1

Method of Well Purge: Dedicated Bladder Pump

Dedicated Equipment: Yes

Date/Time Initiated: 10/27/21 10:45

Casing Diameter (inches): 2

Initial Water Level (feet): 106.42 ~~114.06~~

One Casing Volume (gal): 3.86 ~~2.7~~

Ground Water Elevation (ft, msl): 792.16

Total Volume Purged (gal): 8.0 slow recharge

Top of Casing (ft, msl) 906.22

Purged Dry?: Yes No (circle)

PID (Background) 0.0 (PPM)

Water Level After Purge (ft): 107.27

PID (Headspace) 0.0 (PPM)

Date/Time Completed: 10/27/21 11:20

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)
10:45	1000	0.1	12.74	7.92	752	125	8.67	304
10:55	↓	2.0	10.80	7.55	925	146	6.85	316
11:05	↓	4.0	10.77	7.52	918	174	6.27	319
11:15	↓	5.0	10.75	7.56	918	255	6.48	320

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-8

Water Level @ Sampling (ft): 107.27

Well Collection Sequence 16 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>11:21</u> <u>10/27/21</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>10.75</u>	<u>7.53</u>	<u>917</u>	<u>259</u>	<u>6.50</u>	<u>320</u>

YSI Serial Number:

YSI Sonde Serial Number:

GENERAL INFORMATION:

Weather Conditions @ sampling: 50° cloudy, 15-20 mph SE

Sampling Characteristics: slight cloudy, #yellow

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

of Bottles Collected: 1146

Well Closed and Locked: Yes No (circle)

Notes:

Minnesota Unique Well ID: 727735

Date: 10/27/21 By: M. Swalley

Title: staff env-scientist

Company: **Groundwater and Environmental Services, Inc.**

FIELD INFORMATION LOG Part 1

Facility: SKB Landfill (Rosemount)

Location: Rosemount, MN

Sample Matrix: Groundwater

Sample Location: D-9

Duplicate Collected: No

Field Blank Collected: No

Equipment Blank Collected: YES

Sampler(s): M. Scully

Casing Length(ft): 118.5

PURGE INFORMATION

Method of Well Purge: Dedicated Bladder Pump

Date/Time Initiated: 10/27/21 11:30

Initial Water Level (feet): 96.25 ~~104.78~~

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

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

PID (Background): 0.0 (PPM)

PID (Headspace): 0.0 (PPM)

Dedicated Equipment: Yes

Casing Diameter (inches): 2

One Casing Volume (gal): 3.83 ~~2.3~~

Total Volume Purged (gal): 11.0

Purged Dry?: Yes No (circle)

Water Level After Purge (ft): 96.27

Date/Time Completed: 10/27/21 12:05

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)
11:30	1000	0.1	13.61	7.88	802	31.2	7.85	286
11:40	↓	4.0	12.10	7.36	888	50.5	3.50	-104
11:50	↓	8.0	12.13	7.40	939	33.6	4.91	-72
12:00	↓	11.0	12.16	7.42	951	25.0	5.37	-45

FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Water Level @ Sampling (ft): 96.27'

Sample Point ID: D-9

Well Collection Sequence 17 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>12:05</u> <u>10/27/21</u>	VOCs: <u>100</u> Other: <u>1000</u>	<u>12.16</u>	<u>7.41</u>	<u>951</u>	<u>2.42</u>	<u>5.40</u>	<u>-44</u>

YSI Serial Number: _____

YSI Sonde Serial Number: _____

GENERAL INFORMATION:

Weather Conditions @ sampling: 51°F, Cloudy, 10-15 mph SE

Sampling Characteristics: lt yellow

COMMENTS AND OBSERVATIONS:

Full Bottle Set Collected: Yes No (circle)

of Bottles Collected: 11 of 6

Well Closed and Locked: Yes No (circle)

Notes: _____

Minnesota Unique Well ID: 766141

Date: 10/27/21 By: per sondaye

Title: Staff Envir. Scientist

Company: Groundwater and Environmental Services, Inc.

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

Site: SKB Rosemount

Personnel: N. Schlegel

Well ID	Date	Time	Depth To Water:	Notes:
U-4S	10/25/21	10:35	8.77	
U-4D		11:15	19.20	
U-5S		13:58	26.75'	
U-5D		14:00	28.35'	
D-1S		12:50	114.51'	
D-1D		12:52	116.42'	
D-1U9		12:35	118.14'	
D-2S		12:40	114.76'	
D-2D		12:42	113.60'	
D-2U9		12:45	114.55'	
D-3S		13:05	106.74'	
D-3D		13:07	107.75'	
D-4S		13:00	102.14'	
D-4D		13:02	102.37'	
D-5S2		13:20	104.45'	
D-5D		13:30	113.58'	
D-6		13:33	76.14	
D-7		12:35	101.46	TD = 107.50'
D-8		12:30	106.42'	
D-9		12:25	96.25'	
CM4-1		12:57	DRY	TD = 73.40''

INSTRUMENT CALIBRATION DATA:

Start of day:
(Date/Time) 10/25/21

End of day:
(Date/Time) 10/27/21 15:00

YSI Model Number V-5000

YSI Serial Number V 850187

Sonde Model Number V-50

Sonde Serial Number RAS0WUWVB

Sampling Event		
Time:	Value:	
7:00	-	NTU std = <u>DI Water</u>
7:02	100	NTU std = <u>100</u>
7:04	1409	uS std = <u>1409</u>
7:06	4.00	pH std = <u>4</u>
7:08	7.00	pH std = <u>7</u>
7:10	10.00	pH std = <u>10</u>

Calibration Notes:



Appendix B – Laboratory Analytical Reports

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-182733-1

Client Project/Site: SKB Rosemount - CCR Groundwater
Sampling Event: MPCA Groundwater
Revision: 3

For:

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

Attn: Nathaniel Beinemann



Authorized for release by:
6/16/2021 2:58:38 PM

Ryan VanDette, Project Manager II
(716)504-9830

Ryan.VanDette@Eurofinset.com

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



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Definitions/Glossary

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

Job ID: 480-182733-1

Qualifiers

Metals

Qualifier	Qualifier Description
^6+	Interference Check Standard (ICSA and/or ICSAB) is outside acceptance limits, high biased.
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
F1	MS and/or MSD recovery exceeds control limits.
F3	Duplicate RPD exceeds the control limit
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

Case Narrative

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

Job ID: 480-182733-1

Job ID: 480-182733-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative 480-182733-1

Comments

No additional comments.

Revision

The report being provided is a revision of the original report sent on 4/29/2021. This report has been revised to remove mercury from and add Boron and Calcium to all samples except D-7.

Receipt

The samples were received on 4/1/2021 10:00 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 2.0° C, 2.5° C, 2.6° C, 3.0° C and 3.1° C.

Metals

Method 6020B: The interference check standard solution (ICSA) associated with the following samples showed results for Total Cobalt at a level greater than 2X the reporting limit. The solution contains trace impurities of this element, and the results are not due to any matrix interference. These results are consistent with those found by the manufacturer of the ICSA solution. EQUIPMENT BLANK (480-182733-21), (LCS 480-574911/2-A), (LCSD 480-574911/3-A) and (MB 480-574911/1-A)

Method 6020B: The interference check standard solution (ICSA) associated with the following samples showed results for Total Cobalt at a level greater than 2X the reporting limit. The solution contains trace impurities of this element, and the results are not due to any matrix interference. These results are consistent with those found by the manufacturer of the ICSA solution. D-1S (480-182733-1), D-2S (480-182733-2), D-3S (480-182733-3), D-4S (480-182733-4), D-5S2 (480-182733-5), D-7 (480-182733-6), D-8 (480-182733-7), D-9 (480-182733-8), U-4D (480-182733-9), U-4S (480-182733-10), U-5D (480-182733-11), U-5S (480-182733-12), D-1D (480-182733-13), D-2D (480-182733-14), D-3D (480-182733-15), D-4D (480-182733-16), D-5D (480-182733-17), DUP-1 (480-182733-18), DUP-2 (480-182733-19), FIELD BLANK (480-182733-20), (LCS 480-574910/2-A), (MB 480-574910/1-A), (480-182733-D-2-C MS), (480-182733-D-2-D MSD), (480-182733-D-2-B PDS) and (480-182733-D-2-B SD ^5)

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

General Chemistry

Method SM 4500 H+ B: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: D-1S (480-182733-1), D-2S (480-182733-2), D-3S (480-182733-3), D-4S (480-182733-4), D-5S2 (480-182733-5), D-7 (480-182733-6), D-8 (480-182733-7), D-9 (480-182733-8), U-4D (480-182733-9) and (480-182733-F-1 DU).

Methods 9040C, SM 4500 H+ B: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: U-4S (480-182733-10), U-5D (480-182733-11), U-5S (480-182733-12), D-1D (480-182733-13), D-2D (480-182733-14), D-3D (480-182733-15), D-4D (480-182733-16), D-5D (480-182733-17), DUP-1 (480-182733-18), DUP-2 (480-182733-19), FIELD BLANK (480-182733-20), EQUIPMENT BLANK (480-182733-21) and (480-182733-F-20 DU).

Method SM 4500 H+ B: The sample duplicate (DUP) precision for analytical batch 480-575771 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS) precision was within acceptance limits. Sample was analyzed several times.

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

Narrative

Job Narrative 480-182733-2

Comments

No additional comments.

Case Narrative

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

Job ID: 480-182733-1

Job ID: 480-182733-1 (Continued)

Laboratory: Eurofins TestAmerica, Buffalo (Continued)

Receipt

The samples were received on 4/1/2021 10:00 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 2.0° C, 2.5° C, 2.6° C, 3.0° C and 3.1° C.

RAD

Method 903.0: Radium 226 prep batch 160-504283 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-1S (480-182733-1), D-2S (480-182733-2), D-3S (480-182733-3), D-4S (480-182733-4), D-5S2 (480-182733-5), D-7 (480-182733-6), D-8 (480-182733-7), D-9 (480-182733-8), U-4D (480-182733-9), U-4S (480-182733-10), U-5D (480-182733-11), U-5S (480-182733-12), D-1D (480-182733-13), D-2D (480-182733-14), D-3D (480-182733-15), D-4D (480-182733-16), D-5D (480-182733-17), (LCS 160-504283/1-A), (LCSD 160-504283/2-A) and (MB 160-504283/23-A)

Methods 903.0, 9315: Radium-226 prep batch 160-504273: 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. DUP-1 (480-182733-18), DUP-2 (480-182733-19), FIELD BLANK (480-182733-20), EQUIPMENT BLANK (480-182733-21), (LCS 160-504273/1-A), (LCSD 160-504273/2-A) and (MB 160-504273/23-A)

Methods 904.0, 9320: 904 Prep batch 504276 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. DUP-1 (480-182733-18), DUP-2 (480-182733-19), FIELD BLANK (480-182733-20), EQUIPMENT BLANK (480-182733-21), (LCS 160-504276/1-A), (LCSD 160-504276/2-A) and (MB 160-504276/23-A)

Method 904.0: Radium-228 prep batch 160-504284: 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-1S (480-182733-1), D-2S (480-182733-2), D-3S (480-182733-3), D-4S (480-182733-4), D-5S2 (480-182733-5), D-7 (480-182733-6), D-8 (480-182733-7), D-9 (480-182733-8), U-4D (480-182733-9), U-4S (480-182733-10), U-5D (480-182733-11), U-5S (480-182733-12), D-1D (480-182733-13), D-2D (480-182733-14), D-3D (480-182733-15), D-4D (480-182733-16), D-5D (480-182733-17), (LCS 160-504284/1-A), (LCSD 160-504284/2-A) and (MB 160-504284/23-A)

Method PrecSep_0: Radium 228 Prep Batch 160-504276: Insufficient sample volume was available to perform a sample duplicate for the following samples: DUP-1 (480-182733-18), DUP-2 (480-182733-19), FIELD BLANK (480-182733-20) and EQUIPMENT BLANK (480-182733-21). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep_0: Radium 228 prep Batch 160-504284: The following samples were prepared at a reduced aliquot due to their yellow appearance: D-2S (480-182733-2) and D-7 (480-182733-6). This could be an indicator of potential matrix interference. A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep_0: Radium 228 prep Batch 160-504284: Insufficient sample volume was available to perform a sample duplicate for the following samples: D-1S (480-182733-1), D-3S (480-182733-3), D-4S (480-182733-4), D-5S2 (480-182733-5), D-8 (480-182733-7), D-9 (480-182733-8), U-4D (480-182733-9), U-4S (480-182733-10), U-5D (480-182733-11), U-5S (480-182733-12), D-1D (480-182733-13), D-2D (480-182733-14), D-3D (480-182733-15), D-4D (480-182733-16) and D-5D (480-182733-17). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep_0: Method PrecSep-21: Radium Prep Batch 160-504273: Insufficient sample volume was available to perform a sample duplicate for the following samples: DUP-1 (480-182733-18), DUP-2 (480-182733-19), FIELD BLANK (480-182733-20) and EQUIPMENT BLANK (480-182733-21). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Radium 226 prep Batch 160-504283: The following samples were prepared at a reduced aliquot due to their yellow

Case Narrative

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

Job ID: 480-182733-1

Job ID: 480-182733-1 (Continued)

Laboratory: Eurofins TestAmerica, Buffalo (Continued)

appearance: D-2S (480-182733-2) and D-7 (480-182733-6). This could be an indicator of potential matrix interference. 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 160-504283: Insufficient sample volume was available to perform a sample duplicate for the following samples: D-1S (480-182733-1), D-3S (480-182733-3), D-4S (480-182733-4), D-5S2 (480-182733-5), D-8 (480-182733-7), D-9 (480-182733-8), U-4D (480-182733-9), U-4S (480-182733-10), U-5D (480-182733-11), U-5S (480-182733-12), D-1D (480-182733-13), D-2D (480-182733-14), D-3D (480-182733-15), D-4D (480-182733-16) and D-5D (480-182733-17). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

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

Job ID: 480-182775-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative 480-182775-1

Comments

This report was revised to add chloride to the CCR report.

No additional comments.

Receipt

The samples were received on 4/1/2021 10:00 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 2.1° C, 2.3° C, 2.4° C, 2.6° C and 2.8° C.

HPLC/IC

Method 300.0: The following samples were diluted to bring the concentration of target analytes within the calibration range: D-3S (480-182775-3) and D-5S2 (480-182775-5). 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.

Detection Summary

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

Job ID: 480-182733-1

Client Sample ID: D-1S

Lab Sample ID: 480-182733-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.053		0.0020		mg/L	1		6010D	Total/NA
Boron	0.036		0.020		mg/L	1		6010D	Total/NA
Calcium	100		0.50		mg/L	1		6010D	Total/NA
Sulfate	23.5		2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	412		10.0		mg/L	1		SM 2540C	Total/NA
Fluoride	0.060		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.9	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.7	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-2S

Lab Sample ID: 480-182733-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.047		0.0020		mg/L	1		6010D	Total/NA
Boron	0.028		0.020		mg/L	1		6010D	Total/NA
Calcium	104		0.50		mg/L	1		6010D	Total/NA
Sulfate	21.3		2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	410		10.0		mg/L	1		SM 2540C	Total/NA
Fluoride	0.050		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.9	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.5	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-3S

Lab Sample ID: 480-182733-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.070		0.0020		mg/L	1		6010D	Total/NA
Boron	0.31		0.020		mg/L	1		6010D	Total/NA
Calcium	132		0.50		mg/L	1		6010D	Total/NA
Chromium	0.030		0.0040		mg/L	1		6010D	Total/NA
Sulfate	37.6		2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	688		10.0		mg/L	1		SM 2540C	Total/NA
Fluoride	0.060		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.9	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.4	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-4S

Lab Sample ID: 480-182733-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.078		0.0020		mg/L	1		6010D	Total/NA
Boron	0.020		0.020		mg/L	1		6010D	Total/NA
Calcium	111		0.50		mg/L	1		6010D	Total/NA
Chromium	0.0051		0.0040		mg/L	1		6010D	Total/NA
Sulfate	35.7		2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	461		10.0		mg/L	1		SM 2540C	Total/NA
Fluoride	0.080		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	8.2	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.4	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-5S2

Lab Sample ID: 480-182733-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.066		0.0020		mg/L	1		6010D	Total/NA
Boron	0.13		0.020		mg/L	1		6010D	Total/NA
Calcium	113		0.50		mg/L	1		6010D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Detection Summary

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

Job ID: 480-182733-1

Client Sample ID: D-5S2 (Continued)

Lab Sample ID: 480-182733-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.0065		0.0040		mg/L	1		6010D	Total/NA
Sulfate	58.7		4.0		mg/L	2		D516-90, 02	Total/NA
Total Dissolved Solids	516		10.0		mg/L	1		SM 2540C	Total/NA
Fluoride	0.060		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	8.0	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.4	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-7

Lab Sample ID: 480-182733-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.12		0.0020		mg/L	1		6010D	Total/NA
Boron	0.037		0.020		mg/L	1		6010D	Total/NA
Calcium	153		0.50		mg/L	1		6010D	Total/NA
Chromium	0.030		0.0040		mg/L	1		6010D	Total/NA
Arsenic	1.2		1.0		ug/L	1		6020B	Total/NA
Cobalt	2.2	^6+	0.30		ug/L	1		6020B	Total/NA
Sulfate	67.9		4.0		mg/L	2		D516-90, 02	Total/NA
Total Dissolved Solids	618		10.0		mg/L	1		SM 2540C	Total/NA
Chloride	53.7		1.0		mg/L	2		SM 4500 Cl- E	Total/NA
Fluoride	0.060		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.8	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.4	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-8

Lab Sample ID: 480-182733-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.083		0.0020		mg/L	1		6010D	Total/NA
Calcium	115		0.50		mg/L	1		6010D	Total/NA
Sulfate	47.1		4.0		mg/L	2		D516-90, 02	Total/NA
Total Dissolved Solids	459		10.0		mg/L	1		SM 2540C	Total/NA
Fluoride	0.11		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	8.0	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.4	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-9

Lab Sample ID: 480-182733-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.078		0.0020		mg/L	1		6010D	Total/NA
Boron	0.026		0.020		mg/L	1		6010D	Total/NA
Calcium	121		0.50		mg/L	1		6010D	Total/NA
Sulfate	35.7		2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	483		10.0		mg/L	1		SM 2540C	Total/NA
Fluoride	0.080		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.8	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.7	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: U-4D

Lab Sample ID: 480-182733-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.042		0.0020		mg/L	1		6010D	Total/NA
Calcium	94.2		0.50		mg/L	1		6010D	Total/NA
Sulfate	38.5		2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	435		10.0		mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Detection Summary

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

Job ID: 480-182733-1

Client Sample ID: U-4D (Continued)

Lab Sample ID: 480-182733-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.10		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	8.1	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.5	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: U-4S

Lab Sample ID: 480-182733-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.044		0.0020		mg/L	1		6010D	Total/NA
Calcium	100		0.50		mg/L	1		6010D	Total/NA
Chromium	0.0086		0.0040		mg/L	1		6010D	Total/NA
Sulfate	21.2	F1	2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	414		10.0		mg/L	1		SM 2540C	Total/NA
Fluoride	0.070		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.5	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.8	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: U-5D

Lab Sample ID: 480-182733-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.058		0.0020		mg/L	1		6010D	Total/NA
Calcium	92.2		0.50		mg/L	1		6010D	Total/NA
Sulfate	37.1		4.0		mg/L	2		D516-90, 02	Total/NA
Total Dissolved Solids	407		10.0		mg/L	1		SM 2540C	Total/NA
Fluoride	0.10		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.7	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	22.0	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: U-5S

Lab Sample ID: 480-182733-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.064		0.0020		mg/L	1		6010D	Total/NA
Boron	0.049		0.020		mg/L	1		6010D	Total/NA
Calcium	91.1		0.50		mg/L	1		6010D	Total/NA
Cobalt	0.31	^6+	0.30		ug/L	1		6020B	Total/NA
Sulfate	31.0		2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	354		10.0		mg/L	1		SM 2540C	Total/NA
Fluoride	0.10		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.8	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.7	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-1D

Lab Sample ID: 480-182733-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.048		0.0020		mg/L	1		6010D	Total/NA
Calcium	92.1		0.50		mg/L	1		6010D	Total/NA
Chromium	0.0076		0.0040		mg/L	1		6010D	Total/NA
Sulfate	37.5		4.0		mg/L	2		D516-90, 02	Total/NA
Total Dissolved Solids	403		10.0		mg/L	1		SM 2540C	Total/NA
Fluoride	0.070		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	8.1	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.7	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Detection Summary

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

Job ID: 480-182733-1

Client Sample ID: D-2D

Lab Sample ID: 480-182733-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.053		0.0020		mg/L	1		6010D	Total/NA
Calcium	98.1		0.50		mg/L	1		6010D	Total/NA
Sulfate	35.1		2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	411		10.0		mg/L	1		SM 2540C	Total/NA
Fluoride	0.090		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.9	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.9	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-3D

Lab Sample ID: 480-182733-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.065		0.0020		mg/L	1		6010D	Total/NA
Boron	0.061		0.020		mg/L	1		6010D	Total/NA
Calcium	120		0.50		mg/L	1		6010D	Total/NA
Chromium	0.015		0.0040		mg/L	1		6010D	Total/NA
Cobalt	0.36	^6+	0.30		ug/L	1		6020B	Total/NA
Sulfate	42.7		4.0		mg/L	2		D516-90, 02	Total/NA
Total Dissolved Solids	552		10.0		mg/L	1		SM 2540C	Total/NA
Fluoride	0.070		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.9	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	22.2	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-4D

Lab Sample ID: 480-182733-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.068		0.0020		mg/L	1		6010D	Total/NA
Calcium	107		0.50		mg/L	1		6010D	Total/NA
Sulfate	35.6		2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	435		10.0		mg/L	1		SM 2540C	Total/NA
Fluoride	0.090		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.9	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	22.1	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-5D

Lab Sample ID: 480-182733-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.060		0.0020		mg/L	1		6010D	Total/NA
Boron	0.020		0.020		mg/L	1		6010D	Total/NA
Calcium	116		0.50		mg/L	1		6010D	Total/NA
Sulfate	44.3		4.0		mg/L	2		D516-90, 02	Total/NA
Total Dissolved Solids	450		10.0		mg/L	1		SM 2540C	Total/NA
Fluoride	0.080		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.9	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.8	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: DUP-1

Lab Sample ID: 480-182733-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.063		0.0020		mg/L	1		6010D	Total/NA
Boron	0.050		0.020		mg/L	1		6010D	Total/NA
Calcium	90.2		0.50		mg/L	1		6010D	Total/NA
Chromium	0.077		0.0040		mg/L	1		6010D	Total/NA
Cobalt	0.30	^6+	0.30		ug/L	1		6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Detection Summary

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

Job ID: 480-182733-1

Client Sample ID: DUP-1 (Continued)

Lab Sample ID: 480-182733-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	29.8		2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	409		10.0		mg/L	1		SM 2540C	Total/NA
Fluoride	0.10		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.8	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.5	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: DUP-2

Lab Sample ID: 480-182733-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.078		0.0020		mg/L	1		6010D	Total/NA
Boron	0.025		0.020		mg/L	1		6010D	Total/NA
Calcium	121		0.50		mg/L	1		6010D	Total/NA
Chromium	0.0070		0.0040		mg/L	1		6010D	Total/NA
Sulfate	36.0		2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	462		10.0		mg/L	1		SM 2540C	Total/NA
Fluoride	0.080		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.8	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.4	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FIELD BLANK

Lab Sample ID: 480-182733-20

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
Temperature	22.6	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: EQUIPMENT BLANK

Lab Sample ID: 480-182733-21

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	6.3	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	22.6	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-1S

Lab Sample ID: 480-182775-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	49.8		0.50		mg/L	1		300.0	Total/NA

Client Sample ID: D-2S

Lab Sample ID: 480-182775-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	42.5		0.50		mg/L	1		300.0	Total/NA

Client Sample ID: D-3S

Lab Sample ID: 480-182775-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	192		5.0		mg/L	10		300.0	Total/NA

Client Sample ID: D-4S

Lab Sample ID: 480-182775-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	48.5		0.50		mg/L	1		300.0	Total/NA

Client Sample ID: D-5S2

Lab Sample ID: 480-182775-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	103		1.0		mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Detection Summary

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

Job ID: 480-182733-1

Client Sample ID: D-7

Lab Sample ID: 480-182775-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	53.2		0.50		mg/L	1		300.0	Total/NA

Client Sample ID: D-8

Lab Sample ID: 480-182775-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	37.5		0.50		mg/L	1		300.0	Total/NA

Client Sample ID: D-9

Lab Sample ID: 480-182775-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	32.0		0.50		mg/L	1		300.0	Total/NA

Client Sample ID: DUP-1

Lab Sample ID: 480-182775-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	37.6		0.50		mg/L	1		300.0	Total/NA

Client Sample ID: DUP-2

Lab Sample ID: 480-182775-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	32.0		0.50		mg/L	1		300.0	Total/NA

Client Sample ID: FIELD BLANK 2

Lab Sample ID: 480-182775-13

No Detections.

Client Sample ID: U-4D

Lab Sample ID: 480-182775-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	33.2		0.50		mg/L	1		300.0	Total/NA

Client Sample ID: U-4S

Lab Sample ID: 480-182775-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	52.4		0.50		mg/L	1		300.0	Total/NA

Client Sample ID: U-5D

Lab Sample ID: 480-182775-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	28.5		0.50		mg/L	1		300.0	Total/NA

Client Sample ID: U-5S

Lab Sample ID: 480-182775-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	38.3		0.50		mg/L	1		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: D-1S

Lab Sample ID: 480-182733-1

Date Collected: 03/30/21 13:26

Matrix: Water

Date Received: 04/01/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.053		0.0020		mg/L		04/05/21 09:35	04/06/21 01:17	1
Boron	0.036		0.020		mg/L		04/05/21 09:35	04/06/21 01:17	1
Calcium	100		0.50		mg/L		04/05/21 09:35	04/06/21 01:17	1
Chromium	ND		0.0040		mg/L		04/05/21 09:35	04/06/21 01:17	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	^6+	0.30		ug/L		04/05/21 09:17	04/06/21 16:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	23.5		2.0		mg/L			04/09/21 02:24	1
Total Dissolved Solids	412		10.0		mg/L			04/02/21 19:01	1
Fluoride	0.060		0.050		mg/L			04/05/21 15:00	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.9	HF	0.1		SU			04/07/21 23:10	1
Temperature	21.7	HF	0.001		Degrees C			04/07/21 23:10	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0827	U	0.0739	0.0742	1.00	0.113	pCi/L	04/05/21 19:40	04/27/21 10:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.2		40 - 110					04/05/21 19:40	04/27/21 10:15	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.136	U	0.282	0.282	1.00	0.482	pCi/L	04/05/21 20:19	04/15/21 14:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.2		40 - 110					04/05/21 20:19	04/15/21 14:06	1
Y Carrier	81.1		40 - 110					04/05/21 20:19	04/15/21 14:06	1

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: D-2S

Lab Sample ID: 480-182733-2

Date Collected: 03/30/21 14:40

Matrix: Water

Date Received: 04/01/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.047		0.0020		mg/L		04/05/21 09:35	04/06/21 01:36	1
Boron	0.028		0.020		mg/L		04/05/21 09:35	04/06/21 01:36	1
Calcium	104		0.50		mg/L		04/05/21 09:35	04/06/21 01:36	1
Chromium	ND		0.0040		mg/L		04/05/21 09:35	04/06/21 01:36	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	^6+	0.30		ug/L		04/05/21 09:17	04/06/21 16:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	21.3		2.0		mg/L			04/09/21 03:11	1
Total Dissolved Solids	410		10.0		mg/L			04/02/21 19:01	1
Fluoride	0.050		0.050		mg/L			04/05/21 15:07	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.9	HF	0.1		SU			04/07/21 23:13	1
Temperature	21.5	HF	0.001		Degrees C			04/07/21 23:13	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0990	U	0.107	0.108	1.00	0.173	pCi/L	04/05/21 19:40	04/27/21 10:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.6		40 - 110					04/05/21 19:40	04/27/21 10:16	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.665	U	0.446	0.450	1.00	0.691	pCi/L	04/05/21 20:19	04/15/21 14:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.6		40 - 110					04/05/21 20:19	04/15/21 14:07	1
Y Carrier	80.7		40 - 110					04/05/21 20:19	04/15/21 14:07	1

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: D-3S

Lab Sample ID: 480-182733-3

Date Collected: 03/30/21 10:50

Matrix: Water

Date Received: 04/01/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.070		0.0020		mg/L		04/05/21 09:35	04/06/21 01:39	1
Boron	0.31		0.020		mg/L		04/05/21 09:35	04/06/21 01:39	1
Calcium	132		0.50		mg/L		04/05/21 09:35	04/06/21 01:39	1
Chromium	0.030		0.0040		mg/L		04/05/21 09:35	04/06/21 01:39	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	^6+	0.30		ug/L		04/05/21 09:17	04/06/21 16:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	37.6		2.0		mg/L			04/09/21 03:11	1
Total Dissolved Solids	688		10.0		mg/L			04/02/21 19:01	1
Fluoride	0.060		0.050		mg/L			04/05/21 15:10	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.9	HF	0.1		SU			04/07/21 23:14	1
Temperature	21.4	HF	0.001		Degrees C			04/07/21 23:14	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0713	U	0.0623	0.0626	1.00	0.0925	pCi/L	04/05/21 19:40	04/27/21 10:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.1		40 - 110					04/05/21 19:40	04/27/21 10:16	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0300	U	0.231	0.231	1.00	0.415	pCi/L	04/05/21 20:19	04/15/21 14:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.1		40 - 110					04/05/21 20:19	04/15/21 14:07	1
Y Carrier	79.6		40 - 110					04/05/21 20:19	04/15/21 14:07	1

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: D-4S

Lab Sample ID: 480-182733-4

Date Collected: 03/31/21 09:40

Matrix: Water

Date Received: 04/01/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.078		0.0020		mg/L		04/05/21 09:35	04/06/21 01:43	1
Boron	0.020		0.020		mg/L		04/05/21 09:35	04/06/21 01:43	1
Calcium	111		0.50		mg/L		04/05/21 09:35	04/06/21 01:43	1
Chromium	0.0051		0.0040		mg/L		04/05/21 09:35	04/06/21 01:43	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	^6+	0.30		ug/L		04/05/21 09:17	04/06/21 16:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	35.7		2.0		mg/L			04/09/21 02:26	1
Total Dissolved Solids	461		10.0		mg/L			04/02/21 19:01	1
Fluoride	0.080		0.050		mg/L			04/05/21 15:12	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.2	HF	0.1		SU			04/07/21 23:16	1
Temperature	21.4	HF	0.001		Degrees C			04/07/21 23:16	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0769	U	0.0634	0.0638	1.00	0.0917	pCi/L	04/05/21 19:40	04/27/21 10:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.2		40 - 110					04/05/21 19:40	04/27/21 10:16	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.00787	U	0.240	0.240	1.00	0.433	pCi/L	04/05/21 20:19	04/15/21 14:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.2		40 - 110					04/05/21 20:19	04/15/21 14:07	1
Y Carrier	80.4		40 - 110					04/05/21 20:19	04/15/21 14:07	1

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: D-5S2
Date Collected: 03/30/21 09:15
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182733-5
Matrix: Water

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.066		0.0020		mg/L		04/05/21 09:35	04/06/21 01:59	1
Boron	0.13		0.020		mg/L		04/05/21 09:35	04/06/21 01:59	1
Calcium	113		0.50		mg/L		04/05/21 09:35	04/06/21 01:59	1
Chromium	0.0065		0.0040		mg/L		04/05/21 09:35	04/06/21 01:59	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	^6+	0.30		ug/L		04/05/21 09:17	04/06/21 16:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	58.7		4.0		mg/L			04/09/21 03:47	2
Total Dissolved Solids	516		10.0		mg/L			04/02/21 19:01	1
Fluoride	0.060		0.050		mg/L			04/05/21 15:15	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.0	HF	0.1		SU			04/07/21 23:17	1
Temperature	21.4	HF	0.001		Degrees C			04/07/21 23:17	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0220	U	0.0510	0.0510	1.00	0.0944	pCi/L	04/05/21 19:40	04/27/21 10:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		40 - 110					04/05/21 19:40	04/27/21 10:16	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0131	U	0.283	0.283	1.00	0.507	pCi/L	04/05/21 20:19	04/15/21 14:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		40 - 110					04/05/21 20:19	04/15/21 14:07	1
Y Carrier	80.7		40 - 110					04/05/21 20:19	04/15/21 14:07	1

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: D-7

Lab Sample ID: 480-182733-6

Date Collected: 03/31/21 10:25

Matrix: Water

Date Received: 04/01/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.12		0.0020		mg/L		04/05/21 09:35	04/06/21 02:02	1
Boron	0.037		0.020		mg/L		04/05/21 09:35	04/06/21 02:02	1
Calcium	153		0.50		mg/L		04/05/21 09:35	04/06/21 02:02	1
Chromium	0.030		0.0040		mg/L		04/05/21 09:35	04/06/21 02:02	1
Lead	ND		0.010		mg/L		04/05/21 09:35	04/06/21 02:02	1
Lithium	ND		0.030		mg/L		04/05/21 09:35	04/06/21 02:02	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		04/05/21 09:17	04/06/21 16:31	1
Arsenic	1.2		1.0		ug/L		04/05/21 09:17	04/06/21 16:31	1
Beryllium	ND		0.70		ug/L		04/05/21 09:17	04/06/21 16:31	1
Cadmium	ND		0.50		ug/L		04/05/21 09:17	04/06/21 16:31	1
Cobalt	2.2	^6+	0.30		ug/L		04/05/21 09:17	04/06/21 16:31	1
Molybdenum	ND		1.0		ug/L		04/05/21 09:17	04/06/21 16:31	1
Selenium	ND		1.0		ug/L		04/05/21 09:17	04/06/21 16:31	1
Thallium	ND		0.20		ug/L		04/05/21 09:17	04/06/21 16:31	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		04/05/21 13:45	04/06/21 17:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	67.9		4.0		mg/L			04/09/21 02:28	2
Total Dissolved Solids	618		10.0		mg/L			04/02/21 19:01	1
Chloride	53.7		1.0		mg/L			04/09/21 06:45	2
Fluoride	0.060		0.050		mg/L			04/05/21 15:26	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.8	HF	0.1		SU			04/07/21 23:19	1
Temperature	21.4	HF	0.001		Degrees C			04/07/21 23:19	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.467		0.167	0.172	1.00	0.177	pCi/L	04/05/21 19:40	04/27/21 10:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.2		40 - 110					04/05/21 19:40	04/27/21 10:17	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.735		0.381	0.387	1.00	0.550	pCi/L	04/05/21 20:19	04/15/21 14:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.2		40 - 110					04/05/21 20:19	04/15/21 14:07	1
Y Carrier	80.0		40 - 110					04/05/21 20:19	04/15/21 14:07	1

Eurofins TestAmerica, Buffalo

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: D-8

Lab Sample ID: 480-182733-7

Date Collected: 03/31/21 12:10

Matrix: Water

Date Received: 04/01/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.083		0.0020		mg/L		04/05/21 09:35	04/06/21 02:06	1
Boron	ND		0.020		mg/L		04/05/21 09:35	04/06/21 02:06	1
Calcium	115		0.50		mg/L		04/05/21 09:35	04/06/21 02:06	1
Chromium	ND		0.0040		mg/L		04/05/21 09:35	04/06/21 02:06	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	^6+	0.30		ug/L		04/05/21 09:17	04/06/21 16:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	47.1		4.0		mg/L			04/09/21 03:54	2
Total Dissolved Solids	459		10.0		mg/L			04/02/21 19:01	1
Fluoride	0.11		0.050		mg/L			04/05/21 15:29	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.0	HF	0.1		SU			04/07/21 23:20	1
Temperature	21.4	HF	0.001		Degrees C			04/07/21 23:20	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0932		0.0650	0.0655	1.00	0.0880	pCi/L	04/05/21 19:40	04/27/21 10:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.2		40 - 110					04/05/21 19:40	04/27/21 10:17	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.230	U	0.230	0.231	1.00	0.371	pCi/L	04/05/21 20:19	04/15/21 14:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.2		40 - 110					04/05/21 20:19	04/15/21 14:07	1
Y Carrier	80.4		40 - 110					04/05/21 20:19	04/15/21 14:07	1

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: D-9

Lab Sample ID: 480-182733-8

Date Collected: 03/31/21 13:15

Matrix: Water

Date Received: 04/01/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.078		0.0020		mg/L		04/05/21 09:35	04/06/21 02:10	1
Boron	0.026		0.020		mg/L		04/05/21 09:35	04/06/21 02:10	1
Calcium	121		0.50		mg/L		04/05/21 09:35	04/06/21 02:10	1
Chromium	ND		0.0040		mg/L		04/05/21 09:35	04/06/21 02:10	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	^6+	0.30		ug/L		04/05/21 09:17	04/06/21 16:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	35.7		2.0		mg/L			04/09/21 02:29	1
Total Dissolved Solids	483		10.0		mg/L			04/02/21 19:01	1
Fluoride	0.080		0.050		mg/L			04/05/21 15:32	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.8	HF	0.1		SU			04/07/21 23:24	1
Temperature	21.7	HF	0.001		Degrees C			04/07/21 23:24	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0479	U	0.0428	0.0431	1.00	0.119	pCi/L	04/05/21 19:40	04/27/21 10:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.6		40 - 110					04/05/21 19:40	04/27/21 10:17	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0905	U	0.246	0.246	1.00	0.430	pCi/L	04/05/21 20:19	04/15/21 14:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.6		40 - 110					04/05/21 20:19	04/15/21 14:07	1
Y Carrier	79.3		40 - 110					04/05/21 20:19	04/15/21 14:07	1

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: U-4D

Lab Sample ID: 480-182733-9

Date Collected: 03/29/21 12:45

Matrix: Water

Date Received: 04/01/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.042		0.0020		mg/L		04/05/21 09:35	04/06/21 02:14	1
Boron	ND		0.020		mg/L		04/05/21 09:35	04/06/21 02:14	1
Calcium	94.2		0.50		mg/L		04/05/21 09:35	04/06/21 02:14	1
Chromium	ND		0.0040		mg/L		04/05/21 09:35	04/06/21 02:14	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	^6+	0.30		ug/L		04/05/21 09:17	04/06/21 16:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	38.5		2.0		mg/L			04/09/21 02:29	1
Total Dissolved Solids	435		10.0		mg/L			04/02/21 19:01	1
Fluoride	0.10		0.050		mg/L			04/05/21 15:34	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.1	HF	0.1		SU			04/07/21 23:25	1
Temperature	21.5	HF	0.001		Degrees C			04/07/21 23:25	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0361	U	0.0570	0.0571	1.00	0.0989	pCi/L	04/05/21 19:40	04/27/21 10:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.6		40 - 110					04/05/21 19:40	04/27/21 10:17	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.575		0.310	0.314	1.00	0.460	pCi/L	04/05/21 20:19	04/15/21 14:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.6		40 - 110					04/05/21 20:19	04/15/21 14:09	1
Y Carrier	83.0		40 - 110					04/05/21 20:19	04/15/21 14:09	1

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: U-4S

Lab Sample ID: 480-182733-10

Date Collected: 03/29/21 12:20

Matrix: Water

Date Received: 04/01/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.044		0.0020		mg/L		04/05/21 09:35	04/06/21 02:18	1
Boron	ND		0.020		mg/L		04/05/21 09:35	04/06/21 02:18	1
Calcium	100		0.50		mg/L		04/05/21 09:35	04/06/21 02:18	1
Chromium	0.0086		0.0040		mg/L		04/05/21 09:35	04/06/21 02:18	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	^6+	0.30		ug/L		04/05/21 09:17	04/06/21 16:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	21.2	F1	2.0		mg/L			04/09/21 02:30	1
Total Dissolved Solids	414		10.0		mg/L			04/02/21 19:20	1
Fluoride	0.070		0.050		mg/L			04/05/21 15:37	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5	HF	0.1		SU			04/08/21 19:17	1
Temperature	21.8	HF	0.001		Degrees C			04/08/21 19:17	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0628	U	0.0714	0.0716	1.00	0.116	pCi/L	04/05/21 19:40	04/27/21 10:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.3		40 - 110					04/05/21 19:40	04/27/21 10:18	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.223	U	0.307	0.308	1.00	0.512	pCi/L	04/05/21 20:19	04/15/21 14:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.3		40 - 110					04/05/21 20:19	04/15/21 14:10	1
Y Carrier	80.7		40 - 110					04/05/21 20:19	04/15/21 14:10	1

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: U-5D

Lab Sample ID: 480-182733-11

Date Collected: 03/29/21 15:25

Matrix: Water

Date Received: 04/01/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.058		0.0020		mg/L		04/05/21 09:35	04/06/21 02:22	1
Boron	ND		0.020		mg/L		04/05/21 09:35	04/06/21 02:22	1
Calcium	92.2		0.50		mg/L		04/05/21 09:35	04/06/21 02:22	1
Chromium	ND		0.0040		mg/L		04/05/21 09:35	04/06/21 02:22	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	^6+	0.30		ug/L		04/05/21 09:17	04/06/21 16:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	37.1		4.0		mg/L			04/09/21 03:13	2
Total Dissolved Solids	407		10.0		mg/L			04/02/21 19:20	1
Fluoride	0.10		0.050		mg/L			04/05/21 15:40	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.7	HF	0.1		SU			04/08/21 19:20	1
Temperature	22.0	HF	0.001		Degrees C			04/08/21 19:20	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0247	U	0.0590	0.0591	1.00	0.130	pCi/L	04/05/21 19:40	04/27/21 10:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.8		40 - 110					04/05/21 19:40	04/27/21 10:18	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0366	U	0.256	0.256	1.00	0.466	pCi/L	04/05/21 20:19	04/15/21 14:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.8		40 - 110					04/05/21 20:19	04/15/21 14:10	1
Y Carrier	84.1		40 - 110					04/05/21 20:19	04/15/21 14:10	1

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: U-5S

Lab Sample ID: 480-182733-12

Date Collected: 03/29/21 14:40

Matrix: Water

Date Received: 04/01/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.064		0.0020		mg/L		04/05/21 09:35	04/06/21 02:26	1
Boron	0.049		0.020		mg/L		04/05/21 09:35	04/06/21 02:26	1
Calcium	91.1		0.50		mg/L		04/05/21 09:35	04/06/21 02:26	1
Chromium	ND		0.0040		mg/L		04/05/21 09:35	04/06/21 02:26	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.31	^6+	0.30		ug/L		04/05/21 09:17	04/06/21 16:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	31.0		2.0		mg/L			04/09/21 02:35	1
Total Dissolved Solids	354		10.0		mg/L			04/02/21 19:20	1
Fluoride	0.10		0.050		mg/L			04/05/21 15:42	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.8	HF	0.1		SU			04/08/21 19:21	1
Temperature	21.7	HF	0.001		Degrees C			04/08/21 19:21	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0769	U	0.0823	0.0826	1.00	0.132	pCi/L	04/05/21 19:40	04/27/21 10:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.1		40 - 110					04/05/21 19:40	04/27/21 10:18	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.108	U	0.254	0.254	1.00	0.438	pCi/L	04/05/21 20:19	04/15/21 14:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.1		40 - 110					04/05/21 20:19	04/15/21 14:10	1
Y Carrier	86.0		40 - 110					04/05/21 20:19	04/15/21 14:10	1

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: D-1D

Lab Sample ID: 480-182733-13

Date Collected: 03/30/21 13:25

Matrix: Water

Date Received: 04/01/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.048		0.0020		mg/L		04/05/21 09:35	04/06/21 02:29	1
Boron	ND		0.020		mg/L		04/05/21 09:35	04/06/21 02:29	1
Calcium	92.1		0.50		mg/L		04/05/21 09:35	04/06/21 02:29	1
Chromium	0.0076		0.0040		mg/L		04/05/21 09:35	04/06/21 02:29	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	^6+	0.30		ug/L		04/05/21 09:17	04/06/21 16:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	37.5		4.0		mg/L			04/09/21 02:36	2
Total Dissolved Solids	403		10.0		mg/L			04/02/21 19:20	1
Fluoride	0.070		0.050		mg/L			04/05/21 15:45	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.1	HF	0.1		SU			04/08/21 19:23	1
Temperature	21.7	HF	0.001		Degrees C			04/08/21 19:23	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.226		0.107	0.109	1.00	0.133	pCi/L	04/05/21 19:40	04/27/21 10:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.9		40 - 110					04/05/21 19:40	04/27/21 10:18	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.151	U	0.258	0.258	1.00	0.438	pCi/L	04/05/21 20:19	04/15/21 14:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.9		40 - 110					04/05/21 20:19	04/15/21 14:10	1
Y Carrier	81.9		40 - 110					04/05/21 20:19	04/15/21 14:10	1

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: D-2D

Lab Sample ID: 480-182733-14

Date Collected: 03/30/21 14:55

Matrix: Water

Date Received: 04/01/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.053		0.0020		mg/L		04/05/21 09:35	04/06/21 02:45	1
Boron	ND		0.020		mg/L		04/05/21 09:35	04/06/21 02:45	1
Calcium	98.1		0.50		mg/L		04/05/21 09:35	04/06/21 02:45	1
Chromium	ND		0.0040		mg/L		04/05/21 09:35	04/06/21 02:45	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	^6+	0.30		ug/L		04/05/21 09:17	04/06/21 16:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	35.1		2.0		mg/L			04/09/21 03:14	1
Total Dissolved Solids	411		10.0		mg/L			04/02/21 19:20	1
Fluoride	0.090		0.050		mg/L			04/05/21 15:48	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.9	HF	0.1		SU			04/08/21 19:24	1
Temperature	21.9	HF	0.001		Degrees C			04/08/21 19:24	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0404	U	0.0658	0.0659	1.00	0.114	pCi/L	04/05/21 19:40	04/27/21 10:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.8		40 - 110					04/05/21 19:40	04/27/21 10:19	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.161	U	0.274	0.275	1.00	0.464	pCi/L	04/05/21 20:19	04/15/21 14:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.8		40 - 110					04/05/21 20:19	04/15/21 14:11	1
Y Carrier	81.9		40 - 110					04/05/21 20:19	04/15/21 14:11	1

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: D-3D
Date Collected: 03/30/21 11:05
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182733-15
Matrix: Water

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.065		0.0020		mg/L		04/05/21 09:35	04/06/21 02:49	1
Boron	0.061		0.020		mg/L		04/05/21 09:35	04/06/21 02:49	1
Calcium	120		0.50		mg/L		04/05/21 09:35	04/06/21 02:49	1
Chromium	0.015		0.0040		mg/L		04/05/21 09:35	04/06/21 02:49	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.36	^6+	0.30		ug/L		04/05/21 09:17	04/06/21 16:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	42.7		4.0		mg/L			04/09/21 03:15	2
Total Dissolved Solids	552		10.0		mg/L			04/02/21 19:20	1
Fluoride	0.070		0.050		mg/L			04/05/21 15:50	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.9	HF	0.1		SU			04/08/21 19:25	1
Temperature	22.2	HF	0.001		Degrees C			04/08/21 19:25	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.111		0.0751	0.0757	1.00	0.105	pCi/L	04/05/21 19:40	04/27/21 10:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.2		40 - 110					04/05/21 19:40	04/27/21 10:20	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0626	U	0.238	0.238	1.00	0.418	pCi/L	04/05/21 20:19	04/15/21 14:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.2		40 - 110					04/05/21 20:19	04/15/21 14:11	1
Y Carrier	84.1		40 - 110					04/05/21 20:19	04/15/21 14:11	1

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: D-4D

Lab Sample ID: 480-182733-16

Date Collected: 03/31/21 09:55

Matrix: Water

Date Received: 04/01/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.068		0.0020		mg/L		04/05/21 09:35	04/06/21 02:52	1
Boron	ND		0.020		mg/L		04/05/21 09:35	04/06/21 02:52	1
Calcium	107		0.50		mg/L		04/05/21 09:35	04/06/21 02:52	1
Chromium	ND		0.0040		mg/L		04/05/21 09:35	04/06/21 02:52	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	^6+	0.30		ug/L		04/05/21 09:17	04/06/21 17:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	35.6		2.0		mg/L			04/09/21 02:39	1
Total Dissolved Solids	435		10.0		mg/L			04/02/21 19:20	1
Fluoride	0.090		0.050		mg/L			04/05/21 16:08	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.9	HF	0.1		SU			04/08/21 19:27	1
Temperature	22.1	HF	0.001		Degrees C			04/08/21 19:27	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0273	U	0.0601	0.0601	1.00	0.108	pCi/L	04/05/21 19:40	04/27/21 10:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.5		40 - 110					04/05/21 19:40	04/27/21 10:20	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.311	U	0.259	0.260	1.00	0.410	pCi/L	04/05/21 20:19	04/15/21 14:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.5		40 - 110					04/05/21 20:19	04/15/21 14:11	1
Y Carrier	85.2		40 - 110					04/05/21 20:19	04/15/21 14:11	1

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: D-5D

Lab Sample ID: 480-182733-17

Date Collected: 03/30/21 09:30

Matrix: Water

Date Received: 04/01/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.060		0.0020		mg/L		04/05/21 09:35	04/06/21 02:56	1
Boron	0.020		0.020		mg/L		04/05/21 09:35	04/06/21 02:56	1
Calcium	116		0.50		mg/L		04/05/21 09:35	04/06/21 02:56	1
Chromium	ND		0.0040		mg/L		04/05/21 09:35	04/06/21 02:56	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	^6+	0.30		ug/L		04/05/21 09:17	04/06/21 17:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	44.3		4.0		mg/L			04/09/21 02:40	2
Total Dissolved Solids	450		10.0		mg/L			04/02/21 19:20	1
Fluoride	0.080		0.050		mg/L			04/05/21 16:15	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.9	HF	0.1		SU			04/08/21 19:28	1
Temperature	21.8	HF	0.001		Degrees C			04/08/21 19:28	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.132		0.0892	0.0900	1.00	0.127	pCi/L	04/05/21 19:40	04/27/21 10:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.6		40 - 110					04/05/21 19:40	04/27/21 10:20	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.359	U	0.257	0.259	1.00	0.396	pCi/L	04/05/21 20:19	04/15/21 14:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.6		40 - 110					04/05/21 20:19	04/15/21 14:11	1
Y Carrier	85.2		40 - 110					04/05/21 20:19	04/15/21 14:11	1

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: DUP-1

Lab Sample ID: 480-182733-18

Date Collected: 03/29/21 00:00

Matrix: Water

Date Received: 04/01/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.063		0.0020		mg/L		04/05/21 09:35	04/06/21 03:00	1
Boron	0.050		0.020		mg/L		04/05/21 09:35	04/06/21 03:00	1
Calcium	90.2		0.50		mg/L		04/05/21 09:35	04/06/21 03:00	1
Chromium	0.077		0.0040		mg/L		04/05/21 09:35	04/06/21 03:00	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.30	^6+	0.30		ug/L		04/05/21 09:17	04/06/21 17:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	29.8		2.0		mg/L			04/09/21 03:14	1
Total Dissolved Solids	409		10.0		mg/L			04/02/21 19:20	1
Fluoride	0.10		0.050		mg/L			04/05/21 16:18	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.8	HF	0.1		SU			04/08/21 19:29	1
Temperature	21.5	HF	0.001		Degrees C			04/08/21 19:29	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.110	U	0.0814	0.0820	1.00	0.119	pCi/L	04/05/21 16:08	04/28/21 10:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.6		40 - 110					04/05/21 16:08	04/28/21 10:58	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.303	U	0.282	0.283	1.00	0.453	pCi/L	04/05/21 16:42	04/15/21 14:25	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.6		40 - 110					04/05/21 16:42	04/15/21 14:25	1
Y Carrier	80.4		40 - 110					04/05/21 16:42	04/15/21 14:25	1

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: DUP-2

Lab Sample ID: 480-182733-19

Date Collected: 03/31/21 00:00

Matrix: Water

Date Received: 04/01/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.078		0.0020		mg/L		04/05/21 09:35	04/06/21 03:04	1
Boron	0.025		0.020		mg/L		04/05/21 09:35	04/06/21 03:04	1
Calcium	121		0.50		mg/L		04/05/21 09:35	04/06/21 03:04	1
Chromium	0.0070		0.0040		mg/L		04/05/21 09:35	04/06/21 03:04	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	^6+	0.30		ug/L		04/05/21 09:17	04/06/21 17:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	36.0		2.0		mg/L			04/09/21 03:15	1
Total Dissolved Solids	462		10.0		mg/L			04/02/21 19:20	1
Fluoride	0.080		0.050		mg/L			04/05/21 16:21	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.8	HF	0.1		SU			04/08/21 19:31	1
Temperature	21.4	HF	0.001		Degrees C			04/08/21 19:31	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00480	U	0.0497	0.0497	1.00	0.100	pCi/L	04/05/21 16:08	04/28/21 10:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.5		40 - 110					04/05/21 16:08	04/28/21 10:59	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.320	U	0.302	0.303	1.00	0.487	pCi/L	04/05/21 16:42	04/15/21 14:25	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.5		40 - 110					04/05/21 16:42	04/15/21 14:25	1
Y Carrier	80.7		40 - 110					04/05/21 16:42	04/15/21 14:25	1

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: FIELD BLANK

Lab Sample ID: 480-182733-20

Date Collected: 03/31/21 13:55

Matrix: Water

Date Received: 04/01/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		0.0020		mg/L		04/05/21 09:35	04/06/21 03:08	1
Boron	ND		0.020		mg/L		04/05/21 09:35	04/06/21 03:08	1
Calcium	ND		0.50		mg/L		04/05/21 09:35	04/06/21 03:08	1
Chromium	ND		0.0040		mg/L		04/05/21 09:35	04/06/21 03:08	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	^6+	0.30		ug/L		04/05/21 09:17	04/06/21 17:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0		mg/L			04/09/21 02:41	1
Total Dissolved Solids	ND		10.0		mg/L			04/02/21 19:20	1
Fluoride	ND		0.050		mg/L			04/05/21 16:25	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.6	HF	0.1		SU			04/08/21 19:02	1
Temperature	22.6	HF	0.001		Degrees C			04/08/21 19:02	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0489	U	0.0563	0.0565	1.00	0.0908	pCi/L	04/05/21 16:08	04/28/21 10:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.4		40 - 110					04/05/21 16:08	04/28/21 10:58	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.255	U	0.313	0.314	1.00	0.594	pCi/L	04/05/21 16:42	04/15/21 14:25	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.4		40 - 110					04/05/21 16:42	04/15/21 14:25	1
Y Carrier	80.7		40 - 110					04/05/21 16:42	04/15/21 14:25	1

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: EQUIPMENT BLANK

Lab Sample ID: 480-182733-21

Date Collected: 03/31/21 14:00

Matrix: Water

Date Received: 04/01/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		0.0020		mg/L		04/05/21 09:34	04/05/21 22:28	1
Boron	ND		0.020		mg/L		04/05/21 09:34	04/05/21 22:28	1
Calcium	ND		0.50		mg/L		04/05/21 09:34	04/05/21 22:28	1
Chromium	ND		0.0040		mg/L		04/05/21 09:34	04/05/21 22:28	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	^6+	0.30		ug/L		04/05/21 09:17	04/05/21 15:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0		mg/L			04/09/21 02:41	1
Total Dissolved Solids	ND		10.0		mg/L			04/02/21 19:20	1
Fluoride	ND		0.050		mg/L			04/05/21 16:27	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.3	HF	0.1		SU			04/08/21 19:05	1
Temperature	22.6	HF	0.001		Degrees C			04/08/21 19:05	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0222	U	0.0650	0.0650	1.00	0.120	pCi/L	04/05/21 16:08	04/28/21 10:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.8		40 - 110					04/05/21 16:08	04/28/21 10:58	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.503		0.306	0.310	1.00	0.460	pCi/L	04/05/21 16:42	04/15/21 14:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.8		40 - 110					04/05/21 16:42	04/15/21 14:26	1
Y Carrier	81.9		40 - 110					04/05/21 16:42	04/15/21 14:26	1

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: D-1S
Date Collected: 03/30/21 13:20
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182775-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	49.8		0.50		mg/L			04/06/21 11:56	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: D-2S

Lab Sample ID: 480-182775-2

Date Collected: 03/30/21 14:40

Matrix: Water

Date Received: 04/01/21 10:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	42.5		0.50		mg/L			04/06/21 12:10	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: D-3S

Lab Sample ID: 480-182775-3

Date Collected: 03/30/21 10:50

Matrix: Water

Date Received: 04/01/21 10:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	192		5.0		mg/L			04/08/21 12:06	10

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: D-4S
Date Collected: 03/31/21 09:40
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182775-4
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	48.5		0.50		mg/L			04/06/21 12:25	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: D-5S2
Date Collected: 03/30/21 09:15
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182775-5
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	103		1.0		mg/L			04/08/21 12:21	2

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: D-7

Lab Sample ID: 480-182775-6

Date Collected: 03/31/21 10:25

Matrix: Water

Date Received: 04/01/21 10:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	53.2		0.50		mg/L			04/06/21 13:38	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: D-8

Lab Sample ID: 480-182775-7

Date Collected: 03/31/21 12:10

Matrix: Water

Date Received: 04/01/21 10:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	37.5		0.50		mg/L			04/06/21 13:52	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: D-9

Lab Sample ID: 480-182775-8

Date Collected: 03/31/21 13:15

Matrix: Water

Date Received: 04/01/21 10:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	32.0		0.50		mg/L			04/06/21 14:07	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: DUP-1
Date Collected: 03/29/21 00:00
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182775-9
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	37.6		0.50		mg/L			04/06/21 14:22	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: DUP-2

Lab Sample ID: 480-182775-10

Date Collected: 03/31/21 00:00

Matrix: Water

Date Received: 04/01/21 10:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	32.0		0.50		mg/L			04/06/21 14:36	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: FIELD BLANK 2

Lab Sample ID: 480-182775-13

Date Collected: 03/31/21 00:00

Matrix: Water

Date Received: 04/01/21 10:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50		mg/L			04/07/21 20:47	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: U-4D
Date Collected: 03/29/21 12:45
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182775-14
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	33.2		0.50		mg/L			04/06/21 15:05	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: U-4S

Lab Sample ID: 480-182775-15

Date Collected: 03/29/21 12:20

Matrix: Water

Date Received: 04/01/21 10:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	52.4		0.50		mg/L			04/06/21 15:20	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: U-5D
Date Collected: 03/29/21 15:25
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182775-16
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	28.5		0.50		mg/L			04/06/21 15:35	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Client Sample Results

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

Job ID: 480-182733-1

Client Sample ID: U-5S

Lab Sample ID: 480-182775-17

Date Collected: 03/29/21 14:40

Matrix: Water

Date Received: 04/01/21 10:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	38.3		0.50		mg/L			04/06/21 17:17	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Tracer/Carrier Summary

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

Job ID: 480-182733-1

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits)	
		Ba (40-110)	
480-182733-1	D-1S	86.2	
480-182733-2	D-2S	80.6	
480-182733-3	D-3S	89.1	
480-182733-4	D-4S	88.2	
480-182733-5	D-5S2	87.6	
480-182733-6	D-7	81.2	
480-182733-7	D-8	88.2	
480-182733-8	D-9	82.6	
480-182733-9	U-4D	82.6	
480-182733-10	U-4S	80.3	
480-182733-11	U-5D	86.8	
480-182733-12	U-5S	84.1	
480-182733-13	D-1D	85.9	
480-182733-14	D-2D	88.8	
480-182733-15	D-3D	88.2	
480-182733-16	D-4D	86.5	
480-182733-17	D-5D	80.6	
480-182733-18	DUP-1	85.6	
480-182733-19	DUP-2	86.5	
480-182733-20	FIELD BLANK	84.4	
480-182733-21	EQUIPMENT BLANK	81.8	
LCS 160-504273/1-A	Lab Control Sample	85.6	
LCS 160-504283/1-A	Lab Control Sample	80.9	
LCS 160-504273/2-A	Lab Control Sample Dup	84.1	
LCS 160-504283/2-A	Lab Control Sample Dup	83.2	
MB 160-504273/23-A	Method Blank	87.9	
MB 160-504283/23-A	Method Blank	60.3	

Tracer/Carrier Legend
 Ba = Ba Carrier

Method: 904.0 - 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)
480-182733-1	D-1S	86.2	81.1
480-182733-2	D-2S	80.6	80.7
480-182733-3	D-3S	89.1	79.6
480-182733-4	D-4S	88.2	80.4
480-182733-5	D-5S2	87.6	80.7
480-182733-6	D-7	81.2	80.0
480-182733-7	D-8	88.2	80.4
480-182733-8	D-9	82.6	79.3
480-182733-9	U-4D	82.6	83.0
480-182733-10	U-4S	80.3	80.7
480-182733-11	U-5D	86.8	84.1
480-182733-12	U-5S	84.1	86.0
480-182733-13	D-1D	85.9	81.9

Tracer/Carrier Summary

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

Job ID: 480-182733-1

Method: 904.0 - Radium-228 (GFPC) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
480-182733-14	D-2D	88.8	81.9
480-182733-15	D-3D	88.2	84.1
480-182733-16	D-4D	86.5	85.2
480-182733-17	D-5D	80.6	85.2
480-182733-18	DUP-1	85.6	80.4
480-182733-19	DUP-2	86.5	80.7
480-182733-20	FIELD BLANK	84.4	80.7
480-182733-21	EQUIPMENT BLANK	81.8	81.9
LCS 160-504276/1-A	Lab Control Sample	85.6	82.2
LCS 160-504284/1-A	Lab Control Sample	80.9	82.2
LCSD 160-504276/2-A	Lab Control Sample Dup	84.1	82.2
LCSD 160-504284/2-A	Lab Control Sample Dup	83.2	83.4
MB 160-504276/23-A	Method Blank	87.9	87.9
MB 160-504284/23-A	Method Blank	60.3	85.2

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

QC Sample Results

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

Job ID: 480-182733-1

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 480-574908/1-A
Matrix: Water
Analysis Batch: 575185

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 574908

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		0.0020		mg/L		04/05/21 09:35	04/06/21 00:58	1
Boron	ND		0.020		mg/L		04/05/21 09:35	04/06/21 00:58	1
Calcium	ND		0.50		mg/L		04/05/21 09:35	04/06/21 00:58	1
Chromium	ND		0.0040		mg/L		04/05/21 09:35	04/06/21 00:58	1
Lead	ND		0.010		mg/L		04/05/21 09:35	04/06/21 00:58	1
Lithium	ND		0.030		mg/L		04/05/21 09:35	04/06/21 00:58	1

Lab Sample ID: LCS 480-574908/2-A
Matrix: Water
Analysis Batch: 575185

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 574908

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Barium	0.200	0.210		mg/L		105	80 - 120
Boron	0.200	0.197		mg/L		99	80 - 120
Calcium	10.0	10.24		mg/L		102	80 - 120
Chromium	0.200	0.207		mg/L		104	80 - 120
Lead	0.200	0.191		mg/L		96	80 - 120

Lab Sample ID: 480-182733-1 MS
Matrix: Water
Analysis Batch: 575185

Client Sample ID: D-1S
Prep Type: Total/NA
Prep Batch: 574908

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Barium	0.053		0.200	0.257		mg/L		102	75 - 125
Boron	0.036		0.200	0.235		mg/L		100	75 - 125
Calcium	100		10.0	108.8	4	mg/L		85	75 - 125
Chromium	ND		0.200	0.206		mg/L		102	75 - 125
Lead	ND		0.200	0.195		mg/L		97	75 - 125

Lab Sample ID: 480-182733-1 MSD
Matrix: Water
Analysis Batch: 575185

Client Sample ID: D-1S
Prep Type: Total/NA
Prep Batch: 574908

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Barium	0.053		0.200	0.258		mg/L		103	75 - 125	0	20
Boron	0.036		0.200	0.239		mg/L		102	75 - 125	2	20
Calcium	100		10.0	110.9	4	mg/L		106	75 - 125	2	20
Chromium	ND		0.200	0.207		mg/L		103	75 - 125	1	20
Lead	ND		0.200	0.195		mg/L		98	75 - 125	0	20

Lab Sample ID: MB 480-574912/1-A
Matrix: Water
Analysis Batch: 575183

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 574912

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		0.0020		mg/L		04/05/21 09:34	04/05/21 20:48	1
Boron	ND		0.020		mg/L		04/05/21 09:34	04/05/21 20:48	1
Calcium	ND		0.50		mg/L		04/05/21 09:34	04/05/21 20:48	1
Chromium	ND		0.0040		mg/L		04/05/21 09:34	04/05/21 20:48	1

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QC Sample Results

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

Job ID: 480-182733-1

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: MB 480-574912/1-A
Matrix: Water
Analysis Batch: 575183

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 574912

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.010		mg/L		04/05/21 09:34	04/05/21 20:48	1

Lab Sample ID: LCS 480-574912/2-A
Matrix: Water
Analysis Batch: 575183

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 574912

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Barium	0.200	0.206		mg/L		103	80 - 120
Boron	0.200	0.188		mg/L		94	80 - 120
Calcium	10.0	10.01		mg/L		100	80 - 120
Chromium	0.200	0.203		mg/L		101	80 - 120
Lead	0.200	0.185		mg/L		92	80 - 120

Lab Sample ID: LCSD 480-574912/3-A
Matrix: Water
Analysis Batch: 575183

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 574912

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Barium	0.200	0.210		mg/L		105	80 - 120	2	20
Boron	0.200	0.192		mg/L		96	80 - 120	2	20
Calcium	10.0	10.27		mg/L		103	80 - 120	3	20
Chromium	0.200	0.207		mg/L		103	80 - 120	2	20
Lead	0.200	0.190		mg/L		95	80 - 120	3	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 480-574910/1-A
Matrix: Water
Analysis Batch: 575337

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 574910

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		04/05/21 09:17	04/06/21 15:52	1
Arsenic	ND		1.0		ug/L		04/05/21 09:17	04/06/21 15:52	1
Beryllium	ND		0.70		ug/L		04/05/21 09:17	04/06/21 15:52	1
Cadmium	ND		0.50		ug/L		04/05/21 09:17	04/06/21 15:52	1
Cobalt	ND	^6+	0.30		ug/L		04/05/21 09:17	04/06/21 15:52	1
Molybdenum	ND		1.0		ug/L		04/05/21 09:17	04/06/21 15:52	1
Selenium	ND		1.0		ug/L		04/05/21 09:17	04/06/21 15:52	1
Thallium	ND		0.20		ug/L		04/05/21 09:17	04/06/21 15:52	1

Lab Sample ID: LCS 480-574910/2-A
Matrix: Water
Analysis Batch: 575337

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 574910

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony	20.0	18.95		ug/L		95	80 - 120
Arsenic	20.0	18.47		ug/L		92	80 - 120
Beryllium	20.0	19.47		ug/L		97	80 - 120
Cadmium	20.0	19.37		ug/L		97	80 - 120
Cobalt	20.0	19.97	^6+	ug/L		100	80 - 120

Eurolins TestAmerica, Buffalo

QC Sample Results

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

Job ID: 480-182733-1

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

Lab Sample ID: LCS 480-574910/2-A
Matrix: Water
Analysis Batch: 575337

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 574910

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Molybdenum	20.0	20.39		ug/L		102	80 - 120
Selenium	20.0	18.98		ug/L		95	80 - 120
Thallium	20.0	19.59		ug/L		98	80 - 120

Lab Sample ID: 480-182733-2 MS
Matrix: Water
Analysis Batch: 575337

Client Sample ID: D-2S
Prep Type: Total/NA
Prep Batch: 574910

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		20.0	19.44		ug/L		97	75 - 125
Arsenic	ND		20.0	19.77		ug/L		97	75 - 125
Beryllium	ND		20.0	19.60		ug/L		98	75 - 125
Cadmium	ND		20.0	18.17		ug/L		91	75 - 125
Cobalt	ND	^6+	20.0	18.73	^6+	ug/L		93	75 - 125
Molybdenum	ND		20.0	20.75		ug/L		104	75 - 125
Selenium	ND		20.0	18.82		ug/L		94	75 - 125
Thallium	ND		20.0	18.96		ug/L		95	75 - 125

Lab Sample ID: 480-182733-2 MSD
Matrix: Water
Analysis Batch: 575337

Client Sample ID: D-2S
Prep Type: Total/NA
Prep Batch: 574910

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Antimony	ND		20.0	20.01		ug/L		100	75 - 125	3	20
Arsenic	ND		20.0	20.44		ug/L		101	75 - 125	3	20
Beryllium	ND		20.0	20.77		ug/L		104	75 - 125	6	20
Cadmium	ND		20.0	18.99		ug/L		95	75 - 125	4	20
Cobalt	ND	^6+	20.0	19.54	^6+	ug/L		97	75 - 125	4	20
Molybdenum	ND		20.0	21.51		ug/L		108	75 - 125	4	20
Selenium	ND		20.0	19.35		ug/L		97	75 - 125	3	20
Thallium	ND		20.0	19.02		ug/L		95	75 - 125	0	20

Lab Sample ID: MB 480-574911/1-A
Matrix: Water
Analysis Batch: 575108

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 574911

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0		ug/L		04/05/21 09:17	04/05/21 14:33	1
Beryllium	ND		0.70		ug/L		04/05/21 09:17	04/05/21 14:33	1
Cadmium	ND		0.50		ug/L		04/05/21 09:17	04/05/21 14:33	1
Cobalt	ND	^6+	0.30		ug/L		04/05/21 09:17	04/05/21 14:33	1
Selenium	ND		1.0		ug/L		04/05/21 09:17	04/05/21 14:33	1
Thallium	ND		0.20		ug/L		04/05/21 09:17	04/05/21 14:33	1

Lab Sample ID: MB 480-574911/1-A
Matrix: Water
Analysis Batch: 575335

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 574911

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		04/05/21 09:17	04/06/21 15:01	1

Eurofins TestAmerica, Buffalo

QC Sample Results

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

Job ID: 480-182733-1

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

Lab Sample ID: MB 480-574911/1-A
Matrix: Water
Analysis Batch: 575335

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 574911

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	ND		1.0		ug/L		04/05/21 09:17	04/06/21 15:01	1

Lab Sample ID: LCS 480-574911/2-A
Matrix: Water
Analysis Batch: 575108

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 574911

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Arsenic	20.0	18.05		ug/L		90	80 - 120
Beryllium	20.0	19.60		ug/L		98	80 - 120
Cadmium	20.0	19.35		ug/L		97	80 - 120
Cobalt	20.0	19.84	^6+	ug/L		99	80 - 120
Selenium	20.0	18.60		ug/L		93	80 - 120
Thallium	20.0	20.17		ug/L		101	80 - 120

Lab Sample ID: LCS 480-574911/2-A
Matrix: Water
Analysis Batch: 575335

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 574911

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony	20.0	18.53		ug/L		93	80 - 120
Molybdenum	20.0	20.12		ug/L		101	80 - 120

Lab Sample ID: LCSD 480-574911/3-A
Matrix: Water
Analysis Batch: 575108

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 574911

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Arsenic	20.0	18.11		ug/L		91	80 - 120	0	20
Beryllium	20.0	19.64		ug/L		98	80 - 120	0	20
Cadmium	20.0	19.75		ug/L		99	80 - 120	2	20
Cobalt	20.0	19.59	^6+	ug/L		98	80 - 120	1	20
Selenium	20.0	18.90		ug/L		95	80 - 120	2	20
Thallium	20.0	20.03		ug/L		100	80 - 120	1	20

Lab Sample ID: LCSD 480-574911/3-A
Matrix: Water
Analysis Batch: 575335

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 574911

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Antimony	20.0	19.27		ug/L		96	80 - 120	4	20
Molybdenum	20.0	20.46		ug/L		102	80 - 120	2	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 480-575118/1-A
Matrix: Water
Analysis Batch: 575285

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 575118

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		04/05/21 13:45	04/06/21 17:06	1

Eurofins TestAmerica, Buffalo

QC Sample Results

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

Job ID: 480-182733-1

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

Lab Sample ID: LCS 480-575118/2-A
 Matrix: Water
 Analysis Batch: 575285

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 575118

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	6.67	7.13		ug/L		107	80 - 120

Method: D516-90, 02 - Sulfate

Lab Sample ID: MB 480-575708/119
 Matrix: Water
 Analysis Batch: 575708

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0		mg/L			04/09/21 03:09	1

Lab Sample ID: MB 480-575708/41
 Matrix: Water
 Analysis Batch: 575708

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0		mg/L			04/09/21 02:15	1

Lab Sample ID: MB 480-575708/70
 Matrix: Water
 Analysis Batch: 575708

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0		mg/L			04/09/21 02:26	1

Lab Sample ID: MB 480-575708/81
 Matrix: Water
 Analysis Batch: 575708

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0		mg/L			04/09/21 02:32	1

Lab Sample ID: MB 480-575708/98
 Matrix: Water
 Analysis Batch: 575708

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0		mg/L			04/09/21 02:38	1

Lab Sample ID: LCS 480-575708/120
 Matrix: Water
 Analysis Batch: 575708

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	30.0	30.86		mg/L		103	90 - 110

QC Sample Results

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

Job ID: 480-182733-1

Method: D516-90, 02 - Sulfate (Continued)

Lab Sample ID: LCS 480-575708/42
Matrix: Water
Analysis Batch: 575708

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	30.0	30.69		mg/L		102	90 - 110

Lab Sample ID: LCS 480-575708/71
Matrix: Water
Analysis Batch: 575708

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	30.0	30.95		mg/L		103	90 - 110

Lab Sample ID: LCS 480-575708/82
Matrix: Water
Analysis Batch: 575708

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	30.0	30.98		mg/L		103	90 - 110

Lab Sample ID: LCS 480-575708/99
Matrix: Water
Analysis Batch: 575708

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	30.0	30.90		mg/L		103	90 - 110

Lab Sample ID: 480-182733-1 MS
Matrix: Water
Analysis Batch: 575708

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	23.5		20.0	48.84		mg/L		126	60 - 128

Lab Sample ID: 480-182733-1 MSD
Matrix: Water
Analysis Batch: 575708

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Sulfate	23.5		20.0	49.03		mg/L		127	60 - 128	0	20

Lab Sample ID: 480-182733-10 MS
Matrix: Water
Analysis Batch: 575708

Client Sample ID: U-4S
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	21.2	F1	20.0	47.85	F1	mg/L		133	60 - 128

Lab Sample ID: 480-182733-10 MSD
Matrix: Water
Analysis Batch: 575708

Client Sample ID: U-4S
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Sulfate	21.2	F1	20.0	47.39	F1	mg/L		131	60 - 128	1	20

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QC Sample Results

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

Job ID: 480-182733-1

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

Lab Sample ID: MB 480-574925/1
Matrix: Water
Analysis Batch: 574925

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			04/02/21 19:01	1

Lab Sample ID: LCS 480-574925/2
Matrix: Water
Analysis Batch: 574925

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	501	499.0		mg/L		100	85 - 115

Lab Sample ID: 480-182733-9 DU
Matrix: Water
Analysis Batch: 574925

Client Sample ID: U-4D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	435		433.0		mg/L		0.5	10

Lab Sample ID: MB 480-574928/1
Matrix: Water
Analysis Batch: 574928

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			04/02/21 19:20	1

Lab Sample ID: LCS 480-574928/2
Matrix: Water
Analysis Batch: 574928

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	506	506.0		mg/L		100	85 - 115

Lab Sample ID: 480-182733-10 DU
Matrix: Water
Analysis Batch: 574928

Client Sample ID: U-4S
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	414		420.0		mg/L		1	10

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 480-575707/104
Matrix: Water
Analysis Batch: 575707

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50		mg/L			04/09/21 06:43	1

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QC Sample Results

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

Job ID: 480-182733-1

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: MB 480-575707/86
 Matrix: Water
 Analysis Batch: 575707

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50		mg/L			04/09/21 06:34	1

Lab Sample ID: LCS 480-575707/103
 Matrix: Water
 Analysis Batch: 575707

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	27.10		mg/L		108	90 - 110

Lab Sample ID: LCS 480-575707/85
 Matrix: Water
 Analysis Batch: 575707

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	27.01		mg/L		108	90 - 110

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 480-575206/27
 Matrix: Water
 Analysis Batch: 575206

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.050		mg/L			04/05/21 16:04	1

Lab Sample ID: MB 480-575206/3
 Matrix: Water
 Analysis Batch: 575206

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.050		mg/L			04/05/21 14:53	1

Lab Sample ID: LCS 480-575206/28
 Matrix: Water
 Analysis Batch: 575206

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.00	0.990		mg/L		99	90 - 110

Lab Sample ID: LCS 480-575206/4
 Matrix: Water
 Analysis Batch: 575206

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.00	1.02		mg/L		102	90 - 110

QC Sample Results

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

Job ID: 480-182733-1

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 480-182733-1 MS
Matrix: Water
Analysis Batch: 575206

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.060		1.00	1.01		mg/L		95	86 - 111

Lab Sample ID: 480-182733-1 MSD
Matrix: Water
Analysis Batch: 575206

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.060		1.00	0.980		mg/L		92	86 - 111	3	20

Lab Sample ID: 480-182733-16 MS
Matrix: Water
Analysis Batch: 575206

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.090		1.00	1.00		mg/L		91	86 - 111

Lab Sample ID: 480-182733-16 MSD
Matrix: Water
Analysis Batch: 575206

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.090		1.00	1.00		mg/L		91	86 - 111	0	20

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 480-575602/1
Matrix: Water
Analysis Batch: 575602

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101	99 - 101

Lab Sample ID: 480-182733-1 DU
Matrix: Water
Analysis Batch: 575602

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

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.9	HF	7.9		SU		0.6	5
Temperature	21.7	HF	21.6		Degrees C		0.5	10

Lab Sample ID: LCS 480-575771/1
Matrix: Water
Analysis Batch: 575771

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101	99 - 101

QC Sample Results

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

Job ID: 480-182733-1

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

Lab Sample ID: 480-182733-20 DU
Matrix: Water
Analysis Batch: 575771

Client Sample ID: FIELD BLANK
Prep Type: Total/NA

Analyte	Sample		DU		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
pH	6.6	HF	6.1	F3	SU		8	5
Temperature	22.6	HF	22.5		Degrees C		0.4	10

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-504273/23-A
Matrix: Water
Analysis Batch: 507515

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 504273

Analyte	MB		Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared		Analyzed		Dil Fac
	Result	Qualifier										
Radium-226	0.005605	U	0.0439	0.0439	1.00	0.0902	pCi/L	04/05/21 16:08	04/28/21 16:17			1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac		
Ba Carrier	87.9		40 - 110					04/05/21 16:08	04/28/21 16:17			1

Lab Sample ID: LCS 160-504273/1-A
Matrix: Water
Analysis Batch: 507528

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 504273

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	
									Radium-226	11.3
Carrier	%Yield	Qualifier	Limits							
Ba Carrier	85.6		40 - 110							

Lab Sample ID: LCSD 160-504273/2-A
Matrix: Water
Analysis Batch: 507528

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 504273

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		RER	Limit
									Radium-226	11.3		
Carrier	%Yield	Qualifier	Limits									
Ba Carrier	84.1		40 - 110									

Lab Sample ID: MB 160-504283/23-A
Matrix: Water
Analysis Batch: 507329

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 504283

Analyte	MB		Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared		Analyzed		Dil Fac
	Result	Qualifier										
Radium-226	-0.01335	U	0.0803	0.0803	1.00	0.166	pCi/L	04/05/21 19:40	04/27/21 10:20			1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac		
Ba Carrier	60.3		40 - 110					04/05/21 19:40	04/27/21 10:20			1

Eurofins TestAmerica, Buffalo

QC Sample Results

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

Job ID: 480-182733-1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: LCS 160-504283/1-A
Matrix: Water
Analysis Batch: 507303

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 504283

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
									75	125	
Radium-226	11.3	11.08		1.15	1.00	0.108	pCi/L	98	75 - 125		
Carrier	%Yield	LCS Qualifier	Limits								
Ba Carrier	80.9		40 - 110								

Lab Sample ID: LCSD 160-504283/2-A
Matrix: Water
Analysis Batch: 507303

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 504283

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		RER	RER Limit
									75	125	0.14	1
Radium-226	11.3	11.40		1.18	1.00	0.111	pCi/L	100	75 - 125	0.14	1	
Carrier	%Yield	LCSD Qualifier	Limits									
Ba Carrier	83.2		40 - 110									

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-504276/23-A
Matrix: Water
Analysis Batch: 505784

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 504276

Analyte	MB		Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared		Analyzed		Dil Fac
	Result	Qualifier						04/05/21 16:42	04/15/21 14:23	04/05/21 16:42	04/15/21 14:23	
Radium-228	0.1882	U	0.231	0.232	1.00	0.382	pCi/L	04/05/21 16:42	04/15/21 14:23	04/05/21 16:42	04/15/21 14:23	1
Carrier	%Yield	MB Qualifier	Limits									
Ba Carrier	87.9		40 - 110									
Y Carrier	87.9		40 - 110									

Lab Sample ID: LCS 160-504276/1-A
Matrix: Water
Analysis Batch: 505760

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 504276

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
									75	125	
Radium-228	7.28	8.699		1.09	1.00	0.467	pCi/L	119	75 - 125		
Carrier	%Yield	LCS Qualifier	Limits								
Ba Carrier	85.6		40 - 110								
Y Carrier	82.2		40 - 110								

QC Sample Results

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

Job ID: 480-182733-1

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCSD 160-504276/2-A
Matrix: Water
Analysis Batch: 505760

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 504276

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		RER	RER Limit
									75 - 125	0.04	1	
Radium-228	7.28	8.787		1.09	1.00	0.436	pCi/L	121	75 - 125	0.04		1
LCS/LCSD												
Carrier	%Yield	LCSD Qualifier	LCSD Limits									
Ba Carrier	84.1		40 - 110									
Y Carrier	82.2		40 - 110									

Lab Sample ID: MB 160-504284/23-A
Matrix: Water
Analysis Batch: 505760

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 504284

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac		
											04/05/21 20:19	04/15/21 14:11
Radium-228	0.1939	U	0.380	0.380	1.00	0.648	pCi/L	04/05/21 20:19	04/15/21 14:11			1
MB/MB												
Carrier	%Yield	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac						
Ba Carrier	60.3		40 - 110	04/05/21 20:19	04/15/21 14:11	1						
Y Carrier	85.2		40 - 110	04/05/21 20:19	04/15/21 14:11	1						

Lab Sample ID: LCS 160-504284/1-A
Matrix: Water
Analysis Batch: 505795

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 504284

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits			
									75 - 125 <td colspan="2"></td>			
Radium-228	7.28	9.075		1.13	1.00	0.508	pCi/L	125	75 - 125			
LCS/LCS												
Carrier	%Yield	LCS Qualifier	LCS Limits									
Ba Carrier	80.9		40 - 110									
Y Carrier	82.2		40 - 110									

Lab Sample ID: LCSD 160-504284/2-A
Matrix: Water
Analysis Batch: 505795

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 504284

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		RER	RER Limit
									75 - 125	0.42	1	
Radium-228	7.28	8.158		1.03	1.00	0.478	pCi/L	112	75 - 125	0.42		1
LCS/LCSD												
Carrier	%Yield	LCSD Qualifier	LCSD Limits									
Ba Carrier	83.2		40 - 110									
Y Carrier	83.4		40 - 110									

QC Association Summary

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

Job ID: 480-182733-1

Metals

Prep Batch: 574908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-1	D-1S	Total/NA	Water	3005A	
480-182733-2	D-2S	Total/NA	Water	3005A	
480-182733-3	D-3S	Total/NA	Water	3005A	
480-182733-4	D-4S	Total/NA	Water	3005A	
480-182733-5	D-5S2	Total/NA	Water	3005A	
480-182733-6	D-7	Total/NA	Water	3005A	
480-182733-7	D-8	Total/NA	Water	3005A	
480-182733-8	D-9	Total/NA	Water	3005A	
480-182733-9	U-4D	Total/NA	Water	3005A	
480-182733-10	U-4S	Total/NA	Water	3005A	
480-182733-11	U-5D	Total/NA	Water	3005A	
480-182733-12	U-5S	Total/NA	Water	3005A	
480-182733-13	D-1D	Total/NA	Water	3005A	
480-182733-14	D-2D	Total/NA	Water	3005A	
480-182733-15	D-3D	Total/NA	Water	3005A	
480-182733-16	D-4D	Total/NA	Water	3005A	
480-182733-17	D-5D	Total/NA	Water	3005A	
480-182733-18	DUP-1	Total/NA	Water	3005A	
480-182733-19	DUP-2	Total/NA	Water	3005A	
480-182733-20	FIELD BLANK	Total/NA	Water	3005A	
MB 480-574908/1-A	Method Blank	Total/NA	Water	3005A	
LCS 480-574908/2-A	Lab Control Sample	Total/NA	Water	3005A	
480-182733-1 MS	D-1S	Total/NA	Water	3005A	
480-182733-1 MSD	D-1S	Total/NA	Water	3005A	

Prep Batch: 574910

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-1	D-1S	Total/NA	Water	3020A	
480-182733-2	D-2S	Total/NA	Water	3020A	
480-182733-3	D-3S	Total/NA	Water	3020A	
480-182733-4	D-4S	Total/NA	Water	3020A	
480-182733-5	D-5S2	Total/NA	Water	3020A	
480-182733-6	D-7	Total/NA	Water	3020A	
480-182733-7	D-8	Total/NA	Water	3020A	
480-182733-8	D-9	Total/NA	Water	3020A	
480-182733-9	U-4D	Total/NA	Water	3020A	
480-182733-10	U-4S	Total/NA	Water	3020A	
480-182733-11	U-5D	Total/NA	Water	3020A	
480-182733-12	U-5S	Total/NA	Water	3020A	
480-182733-13	D-1D	Total/NA	Water	3020A	
480-182733-14	D-2D	Total/NA	Water	3020A	
480-182733-15	D-3D	Total/NA	Water	3020A	
480-182733-16	D-4D	Total/NA	Water	3020A	
480-182733-17	D-5D	Total/NA	Water	3020A	
480-182733-18	DUP-1	Total/NA	Water	3020A	
480-182733-19	DUP-2	Total/NA	Water	3020A	
480-182733-20	FIELD BLANK	Total/NA	Water	3020A	
MB 480-574910/1-A	Method Blank	Total/NA	Water	3020A	
LCS 480-574910/2-A	Lab Control Sample	Total/NA	Water	3020A	
480-182733-2 MS	D-2S	Total/NA	Water	3020A	
480-182733-2 MSD	D-2S	Total/NA	Water	3020A	

Eurofins TestAmerica, Buffalo

QC Association Summary

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

Job ID: 480-182733-1

Metals

Prep Batch: 574911

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-21	EQUIPMENT BLANK	Total/NA	Water	3020A	
MB 480-574911/1-A	Method Blank	Total/NA	Water	3020A	
LCS 480-574911/2-A	Lab Control Sample	Total/NA	Water	3020A	
LCSD 480-574911/3-A	Lab Control Sample Dup	Total/NA	Water	3020A	

Prep Batch: 574912

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-21	EQUIPMENT BLANK	Total/NA	Water	3005A	
MB 480-574912/1-A	Method Blank	Total/NA	Water	3005A	
LCS 480-574912/2-A	Lab Control Sample	Total/NA	Water	3005A	
LCSD 480-574912/3-A	Lab Control Sample Dup	Total/NA	Water	3005A	

Analysis Batch: 575108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-21	EQUIPMENT BLANK	Total/NA	Water	6020B	574911
MB 480-574911/1-A	Method Blank	Total/NA	Water	6020B	574911
LCS 480-574911/2-A	Lab Control Sample	Total/NA	Water	6020B	574911
LCSD 480-574911/3-A	Lab Control Sample Dup	Total/NA	Water	6020B	574911

Prep Batch: 575118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-6	D-7	Total/NA	Water	7470A	
MB 480-575118/1-A	Method Blank	Total/NA	Water	7470A	
LCS 480-575118/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 575183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-21	EQUIPMENT BLANK	Total/NA	Water	6010D	574912
MB 480-574912/1-A	Method Blank	Total/NA	Water	6010D	574912
LCS 480-574912/2-A	Lab Control Sample	Total/NA	Water	6010D	574912
LCSD 480-574912/3-A	Lab Control Sample Dup	Total/NA	Water	6010D	574912

Analysis Batch: 575185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-1	D-1S	Total/NA	Water	6010D	574908
480-182733-2	D-2S	Total/NA	Water	6010D	574908
480-182733-3	D-3S	Total/NA	Water	6010D	574908
480-182733-4	D-4S	Total/NA	Water	6010D	574908
480-182733-5	D-5S2	Total/NA	Water	6010D	574908
480-182733-6	D-7	Total/NA	Water	6010D	574908
480-182733-7	D-8	Total/NA	Water	6010D	574908
480-182733-8	D-9	Total/NA	Water	6010D	574908
480-182733-9	U-4D	Total/NA	Water	6010D	574908
480-182733-10	U-4S	Total/NA	Water	6010D	574908
480-182733-11	U-5D	Total/NA	Water	6010D	574908
480-182733-12	U-5S	Total/NA	Water	6010D	574908
480-182733-13	D-1D	Total/NA	Water	6010D	574908
480-182733-14	D-2D	Total/NA	Water	6010D	574908
480-182733-15	D-3D	Total/NA	Water	6010D	574908
480-182733-16	D-4D	Total/NA	Water	6010D	574908
480-182733-17	D-5D	Total/NA	Water	6010D	574908

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QC Association Summary

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

Job ID: 480-182733-1

Metals (Continued)

Analysis Batch: 575185 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-18	DUP-1	Total/NA	Water	6010D	574908
480-182733-19	DUP-2	Total/NA	Water	6010D	574908
480-182733-20	FIELD BLANK	Total/NA	Water	6010D	574908
MB 480-574908/1-A	Method Blank	Total/NA	Water	6010D	574908
LCS 480-574908/2-A	Lab Control Sample	Total/NA	Water	6010D	574908
480-182733-1 MS	D-1S	Total/NA	Water	6010D	574908
480-182733-1 MSD	D-1S	Total/NA	Water	6010D	574908

Analysis Batch: 575285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-6	D-7	Total/NA	Water	7470A	575118
MB 480-575118/1-A	Method Blank	Total/NA	Water	7470A	575118
LCS 480-575118/2-A	Lab Control Sample	Total/NA	Water	7470A	575118

Analysis Batch: 575335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-574911/1-A	Method Blank	Total/NA	Water	6020B	574911
LCS 480-574911/2-A	Lab Control Sample	Total/NA	Water	6020B	574911
LCSD 480-574911/3-A	Lab Control Sample Dup	Total/NA	Water	6020B	574911

Analysis Batch: 575337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-1	D-1S	Total/NA	Water	6020B	574910
480-182733-2	D-2S	Total/NA	Water	6020B	574910
480-182733-3	D-3S	Total/NA	Water	6020B	574910
480-182733-4	D-4S	Total/NA	Water	6020B	574910
480-182733-5	D-5S2	Total/NA	Water	6020B	574910
480-182733-6	D-7	Total/NA	Water	6020B	574910
480-182733-7	D-8	Total/NA	Water	6020B	574910
480-182733-8	D-9	Total/NA	Water	6020B	574910
480-182733-9	U-4D	Total/NA	Water	6020B	574910
480-182733-10	U-4S	Total/NA	Water	6020B	574910
480-182733-11	U-5D	Total/NA	Water	6020B	574910
480-182733-12	U-5S	Total/NA	Water	6020B	574910
480-182733-13	D-1D	Total/NA	Water	6020B	574910
480-182733-14	D-2D	Total/NA	Water	6020B	574910
480-182733-15	D-3D	Total/NA	Water	6020B	574910
480-182733-16	D-4D	Total/NA	Water	6020B	574910
480-182733-17	D-5D	Total/NA	Water	6020B	574910
480-182733-18	DUP-1	Total/NA	Water	6020B	574910
480-182733-19	DUP-2	Total/NA	Water	6020B	574910
480-182733-20	FIELD BLANK	Total/NA	Water	6020B	574910
MB 480-574910/1-A	Method Blank	Total/NA	Water	6020B	574910
LCS 480-574910/2-A	Lab Control Sample	Total/NA	Water	6020B	574910
480-182733-2 MS	D-2S	Total/NA	Water	6020B	574910
480-182733-2 MSD	D-2S	Total/NA	Water	6020B	574910

QC Association Summary

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

Job ID: 480-182733-1

General Chemistry

Analysis Batch: 574925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-1	D-1S	Total/NA	Water	SM 2540C	
480-182733-2	D-2S	Total/NA	Water	SM 2540C	
480-182733-3	D-3S	Total/NA	Water	SM 2540C	
480-182733-4	D-4S	Total/NA	Water	SM 2540C	
480-182733-5	D-5S2	Total/NA	Water	SM 2540C	
480-182733-6	D-7	Total/NA	Water	SM 2540C	
480-182733-7	D-8	Total/NA	Water	SM 2540C	
480-182733-8	D-9	Total/NA	Water	SM 2540C	
480-182733-9	U-4D	Total/NA	Water	SM 2540C	
MB 480-574925/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 480-574925/2	Lab Control Sample	Total/NA	Water	SM 2540C	
480-182733-9 DU	U-4D	Total/NA	Water	SM 2540C	

Analysis Batch: 574928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-10	U-4S	Total/NA	Water	SM 2540C	
480-182733-11	U-5D	Total/NA	Water	SM 2540C	
480-182733-12	U-5S	Total/NA	Water	SM 2540C	
480-182733-13	D-1D	Total/NA	Water	SM 2540C	
480-182733-14	D-2D	Total/NA	Water	SM 2540C	
480-182733-15	D-3D	Total/NA	Water	SM 2540C	
480-182733-16	D-4D	Total/NA	Water	SM 2540C	
480-182733-17	D-5D	Total/NA	Water	SM 2540C	
480-182733-18	DUP-1	Total/NA	Water	SM 2540C	
480-182733-19	DUP-2	Total/NA	Water	SM 2540C	
480-182733-20	FIELD BLANK	Total/NA	Water	SM 2540C	
480-182733-21	EQUIPMENT BLANK	Total/NA	Water	SM 2540C	
MB 480-574928/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 480-574928/2	Lab Control Sample	Total/NA	Water	SM 2540C	
480-182733-10 DU	U-4S	Total/NA	Water	SM 2540C	

Analysis Batch: 575199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182775-1	D-1S	Total/NA	Water	300.0	
480-182775-2	D-2S	Total/NA	Water	300.0	
480-182775-4	D-4S	Total/NA	Water	300.0	
480-182775-6	D-7	Total/NA	Water	300.0	
480-182775-7	D-8	Total/NA	Water	300.0	
480-182775-8	D-9	Total/NA	Water	300.0	
480-182775-9	DUP-1	Total/NA	Water	300.0	
480-182775-10	DUP-2	Total/NA	Water	300.0	
480-182775-14	U-4D	Total/NA	Water	300.0	
480-182775-15	U-4S	Total/NA	Water	300.0	
480-182775-16	U-5D	Total/NA	Water	300.0	
480-182775-17	U-5S	Total/NA	Water	300.0	

Analysis Batch: 575206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-1	D-1S	Total/NA	Water	SM 4500 F C	
480-182733-2	D-2S	Total/NA	Water	SM 4500 F C	
480-182733-3	D-3S	Total/NA	Water	SM 4500 F C	

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QC Association Summary

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

Job ID: 480-182733-1

General Chemistry (Continued)

Analysis Batch: 575206 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-4	D-4S	Total/NA	Water	SM 4500 F C	
480-182733-5	D-5S2	Total/NA	Water	SM 4500 F C	
480-182733-6	D-7	Total/NA	Water	SM 4500 F C	
480-182733-7	D-8	Total/NA	Water	SM 4500 F C	
480-182733-8	D-9	Total/NA	Water	SM 4500 F C	
480-182733-9	U-4D	Total/NA	Water	SM 4500 F C	
480-182733-10	U-4S	Total/NA	Water	SM 4500 F C	
480-182733-11	U-5D	Total/NA	Water	SM 4500 F C	
480-182733-12	U-5S	Total/NA	Water	SM 4500 F C	
480-182733-13	D-1D	Total/NA	Water	SM 4500 F C	
480-182733-14	D-2D	Total/NA	Water	SM 4500 F C	
480-182733-15	D-3D	Total/NA	Water	SM 4500 F C	
480-182733-16	D-4D	Total/NA	Water	SM 4500 F C	
480-182733-17	D-5D	Total/NA	Water	SM 4500 F C	
480-182733-18	DUP-1	Total/NA	Water	SM 4500 F C	
480-182733-19	DUP-2	Total/NA	Water	SM 4500 F C	
480-182733-20	FIELD BLANK	Total/NA	Water	SM 4500 F C	
480-182733-21	EQUIPMENT BLANK	Total/NA	Water	SM 4500 F C	
MB 480-575206/27	Method Blank	Total/NA	Water	SM 4500 F C	
MB 480-575206/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 480-575206/28	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCS 480-575206/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
480-182733-1 MS	D-1S	Total/NA	Water	SM 4500 F C	
480-182733-1 MSD	D-1S	Total/NA	Water	SM 4500 F C	
480-182733-16 MS	D-4D	Total/NA	Water	SM 4500 F C	
480-182733-16 MSD	D-4D	Total/NA	Water	SM 4500 F C	

Analysis Batch: 575381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182775-13	FIELD BLANK 2	Total/NA	Water	300.0	

Analysis Batch: 575559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182775-3	D-3S	Total/NA	Water	300.0	
480-182775-5	D-5S2	Total/NA	Water	300.0	

Analysis Batch: 575602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-1	D-1S	Total/NA	Water	SM 4500 H+ B	
480-182733-2	D-2S	Total/NA	Water	SM 4500 H+ B	
480-182733-3	D-3S	Total/NA	Water	SM 4500 H+ B	
480-182733-4	D-4S	Total/NA	Water	SM 4500 H+ B	
480-182733-5	D-5S2	Total/NA	Water	SM 4500 H+ B	
480-182733-6	D-7	Total/NA	Water	SM 4500 H+ B	
480-182733-7	D-8	Total/NA	Water	SM 4500 H+ B	
480-182733-8	D-9	Total/NA	Water	SM 4500 H+ B	
480-182733-9	U-4D	Total/NA	Water	SM 4500 H+ B	
LCS 480-575602/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
480-182733-1 DU	D-1S	Total/NA	Water	SM 4500 H+ B	

Eurofins TestAmerica, Buffalo

QC Association Summary

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

Job ID: 480-182733-1

General Chemistry

Analysis Batch: 575707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-6	D-7	Total/NA	Water	SM 4500 CI- E	
MB 480-575707/104	Method Blank	Total/NA	Water	SM 4500 CI- E	
MB 480-575707/86	Method Blank	Total/NA	Water	SM 4500 CI- E	
LCS 480-575707/103	Lab Control Sample	Total/NA	Water	SM 4500 CI- E	
LCS 480-575707/85	Lab Control Sample	Total/NA	Water	SM 4500 CI- E	

Analysis Batch: 575708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-1	D-1S	Total/NA	Water	D516-90, 02	
480-182733-2	D-2S	Total/NA	Water	D516-90, 02	
480-182733-3	D-3S	Total/NA	Water	D516-90, 02	
480-182733-4	D-4S	Total/NA	Water	D516-90, 02	
480-182733-5	D-5S2	Total/NA	Water	D516-90, 02	
480-182733-6	D-7	Total/NA	Water	D516-90, 02	
480-182733-7	D-8	Total/NA	Water	D516-90, 02	
480-182733-8	D-9	Total/NA	Water	D516-90, 02	
480-182733-9	U-4D	Total/NA	Water	D516-90, 02	
480-182733-10	U-4S	Total/NA	Water	D516-90, 02	
480-182733-11	U-5D	Total/NA	Water	D516-90, 02	
480-182733-12	U-5S	Total/NA	Water	D516-90, 02	
480-182733-13	D-1D	Total/NA	Water	D516-90, 02	
480-182733-14	D-2D	Total/NA	Water	D516-90, 02	
480-182733-15	D-3D	Total/NA	Water	D516-90, 02	
480-182733-16	D-4D	Total/NA	Water	D516-90, 02	
480-182733-17	D-5D	Total/NA	Water	D516-90, 02	
480-182733-18	DUP-1	Total/NA	Water	D516-90, 02	
480-182733-19	DUP-2	Total/NA	Water	D516-90, 02	
480-182733-20	FIELD BLANK	Total/NA	Water	D516-90, 02	
480-182733-21	EQUIPMENT BLANK	Total/NA	Water	D516-90, 02	
MB 480-575708/119	Method Blank	Total/NA	Water	D516-90, 02	
MB 480-575708/41	Method Blank	Total/NA	Water	D516-90, 02	
MB 480-575708/70	Method Blank	Total/NA	Water	D516-90, 02	
MB 480-575708/81	Method Blank	Total/NA	Water	D516-90, 02	
MB 480-575708/98	Method Blank	Total/NA	Water	D516-90, 02	
LCS 480-575708/120	Lab Control Sample	Total/NA	Water	D516-90, 02	
LCS 480-575708/42	Lab Control Sample	Total/NA	Water	D516-90, 02	
LCS 480-575708/71	Lab Control Sample	Total/NA	Water	D516-90, 02	
LCS 480-575708/82	Lab Control Sample	Total/NA	Water	D516-90, 02	
LCS 480-575708/99	Lab Control Sample	Total/NA	Water	D516-90, 02	
480-182733-1 MS	D-1S	Total/NA	Water	D516-90, 02	
480-182733-1 MSD	D-1S	Total/NA	Water	D516-90, 02	
480-182733-10 MS	U-4S	Total/NA	Water	D516-90, 02	
480-182733-10 MSD	U-4S	Total/NA	Water	D516-90, 02	

Analysis Batch: 575771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-10	U-4S	Total/NA	Water	SM 4500 H+ B	
480-182733-11	U-5D	Total/NA	Water	SM 4500 H+ B	
480-182733-12	U-5S	Total/NA	Water	SM 4500 H+ B	
480-182733-13	D-1D	Total/NA	Water	SM 4500 H+ B	
480-182733-14	D-2D	Total/NA	Water	SM 4500 H+ B	

Eurofins TestAmerica, Buffalo

QC Association Summary

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

Job ID: 480-182733-1

General Chemistry (Continued)

Analysis Batch: 575771 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-15	D-3D	Total/NA	Water	SM 4500 H+ B	
480-182733-16	D-4D	Total/NA	Water	SM 4500 H+ B	
480-182733-17	D-5D	Total/NA	Water	SM 4500 H+ B	
480-182733-18	DUP-1	Total/NA	Water	SM 4500 H+ B	
480-182733-19	DUP-2	Total/NA	Water	SM 4500 H+ B	
480-182733-20	FIELD BLANK	Total/NA	Water	SM 4500 H+ B	
480-182733-21	EQUIPMENT BLANK	Total/NA	Water	SM 4500 H+ B	
LCS 480-575771/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
480-182733-20 DU	FIELD BLANK	Total/NA	Water	SM 4500 H+ B	

Rad

Prep Batch: 504273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-18	DUP-1	Total/NA	Water	PrecSep-21	
480-182733-19	DUP-2	Total/NA	Water	PrecSep-21	
480-182733-20	FIELD BLANK	Total/NA	Water	PrecSep-21	
480-182733-21	EQUIPMENT BLANK	Total/NA	Water	PrecSep-21	
MB 160-504273/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-504273/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-504273/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 504276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-18	DUP-1	Total/NA	Water	PrecSep_0	
480-182733-19	DUP-2	Total/NA	Water	PrecSep_0	
480-182733-20	FIELD BLANK	Total/NA	Water	PrecSep_0	
480-182733-21	EQUIPMENT BLANK	Total/NA	Water	PrecSep_0	
MB 160-504276/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-504276/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-504276/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 504283

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-1	D-1S	Total/NA	Water	PrecSep-21	
480-182733-2	D-2S	Total/NA	Water	PrecSep-21	
480-182733-3	D-3S	Total/NA	Water	PrecSep-21	
480-182733-4	D-4S	Total/NA	Water	PrecSep-21	
480-182733-5	D-5S2	Total/NA	Water	PrecSep-21	
480-182733-6	D-7	Total/NA	Water	PrecSep-21	
480-182733-7	D-8	Total/NA	Water	PrecSep-21	
480-182733-8	D-9	Total/NA	Water	PrecSep-21	
480-182733-9	U-4D	Total/NA	Water	PrecSep-21	
480-182733-10	U-4S	Total/NA	Water	PrecSep-21	
480-182733-11	U-5D	Total/NA	Water	PrecSep-21	
480-182733-12	U-5S	Total/NA	Water	PrecSep-21	
480-182733-13	D-1D	Total/NA	Water	PrecSep-21	
480-182733-14	D-2D	Total/NA	Water	PrecSep-21	
480-182733-15	D-3D	Total/NA	Water	PrecSep-21	
480-182733-16	D-4D	Total/NA	Water	PrecSep-21	
480-182733-17	D-5D	Total/NA	Water	PrecSep-21	

Eurofins TestAmerica, Buffalo

QC Association Summary

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

Job ID: 480-182733-1

Rad (Continued)

Prep Batch: 504283 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 160-504283/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-504283/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-504283/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 504284

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182733-1	D-1S	Total/NA	Water	PrecSep_0	
480-182733-2	D-2S	Total/NA	Water	PrecSep_0	
480-182733-3	D-3S	Total/NA	Water	PrecSep_0	
480-182733-4	D-4S	Total/NA	Water	PrecSep_0	
480-182733-5	D-5S2	Total/NA	Water	PrecSep_0	
480-182733-6	D-7	Total/NA	Water	PrecSep_0	
480-182733-7	D-8	Total/NA	Water	PrecSep_0	
480-182733-8	D-9	Total/NA	Water	PrecSep_0	
480-182733-9	U-4D	Total/NA	Water	PrecSep_0	
480-182733-10	U-4S	Total/NA	Water	PrecSep_0	
480-182733-11	U-5D	Total/NA	Water	PrecSep_0	
480-182733-12	U-5S	Total/NA	Water	PrecSep_0	
480-182733-13	D-1D	Total/NA	Water	PrecSep_0	
480-182733-14	D-2D	Total/NA	Water	PrecSep_0	
480-182733-15	D-3D	Total/NA	Water	PrecSep_0	
480-182733-16	D-4D	Total/NA	Water	PrecSep_0	
480-182733-17	D-5D	Total/NA	Water	PrecSep_0	
MB 160-504284/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-504284/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-504284/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

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

Job ID: 480-182733-1

Client Sample ID: D-1S

Lab Sample ID: 480-182733-1

Date Collected: 03/30/21 13:26

Matrix: Water

Date Received: 04/01/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			574908	04/05/21 09:35	KMP	TAL BUF
Total/NA	Analysis	6010D		1	575185	04/06/21 01:17	LMH	TAL BUF
Total/NA	Prep	3020A			574910	04/05/21 09:17	KMP	TAL BUF
Total/NA	Analysis	6020B		1	575337	04/06/21 16:04	KMP	TAL BUF
Total/NA	Analysis	D516-90, 02		1	575708	04/09/21 02:24	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	574925	04/02/21 19:01	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	575206	04/05/21 15:00	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	575602	04/07/21 23:10	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			504283	04/05/21 19:40	JEC	TAL SL
Total/NA	Analysis	903.0		1	507303	04/27/21 10:15	ANW	TAL SL
Total/NA	Prep	PrecSep_0			504284	04/05/21 20:19	JEC	TAL SL
Total/NA	Analysis	904.0		1	505795	04/15/21 14:06	FLC	TAL SL

Client Sample ID: D-2S

Lab Sample ID: 480-182733-2

Date Collected: 03/30/21 14:40

Matrix: Water

Date Received: 04/01/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			574908	04/05/21 09:35	KMP	TAL BUF
Total/NA	Analysis	6010D		1	575185	04/06/21 01:36	LMH	TAL BUF
Total/NA	Prep	3020A			574910	04/05/21 09:17	KMP	TAL BUF
Total/NA	Analysis	6020B		1	575337	04/06/21 16:06	KMP	TAL BUF
Total/NA	Analysis	D516-90, 02		1	575708	04/09/21 03:11	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	574925	04/02/21 19:01	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	575206	04/05/21 15:07	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	575602	04/07/21 23:13	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			504283	04/05/21 19:40	JEC	TAL SL
Total/NA	Analysis	903.0		1	507303	04/27/21 10:16	ANW	TAL SL
Total/NA	Prep	PrecSep_0			504284	04/05/21 20:19	JEC	TAL SL
Total/NA	Analysis	904.0		1	505795	04/15/21 14:07	FLC	TAL SL

Client Sample ID: D-3S

Lab Sample ID: 480-182733-3

Date Collected: 03/30/21 10:50

Matrix: Water

Date Received: 04/01/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			574908	04/05/21 09:35	KMP	TAL BUF
Total/NA	Analysis	6010D		1	575185	04/06/21 01:39	LMH	TAL BUF
Total/NA	Prep	3020A			574910	04/05/21 09:17	KMP	TAL BUF
Total/NA	Analysis	6020B		1	575337	04/06/21 16:17	KMP	TAL BUF
Total/NA	Analysis	D516-90, 02		1	575708	04/09/21 03:11	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	574925	04/02/21 19:01	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	575206	04/05/21 15:10	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	575602	04/07/21 23:14	DLG	TAL BUF

Eurofins TestAmerica, Buffalo

Lab Chronicle

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

Job ID: 480-182733-1

Client Sample ID: D-3S

Lab Sample ID: 480-182733-3

Date Collected: 03/30/21 10:50

Matrix: Water

Date Received: 04/01/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			504283	04/05/21 19:40	JEC	TAL SL
Total/NA	Analysis	903.0		1	507303	04/27/21 10:16	ANW	TAL SL
Total/NA	Prep	PrecSep_0			504284	04/05/21 20:19	JEC	TAL SL
Total/NA	Analysis	904.0		1	505795	04/15/21 14:07	FLC	TAL SL

Client Sample ID: D-4S

Lab Sample ID: 480-182733-4

Date Collected: 03/31/21 09:40

Matrix: Water

Date Received: 04/01/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			574908	04/05/21 09:35	KMP	TAL BUF
Total/NA	Analysis	6010D		1	575185	04/06/21 01:43	LMH	TAL BUF
Total/NA	Prep	3020A			574910	04/05/21 09:17	KMP	TAL BUF
Total/NA	Analysis	6020B		1	575337	04/06/21 16:19	KMP	TAL BUF
Total/NA	Analysis	D516-90, 02		1	575708	04/09/21 02:26	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	574925	04/02/21 19:01	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	575206	04/05/21 15:12	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	575602	04/07/21 23:16	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			504283	04/05/21 19:40	JEC	TAL SL
Total/NA	Analysis	903.0		1	507303	04/27/21 10:16	ANW	TAL SL
Total/NA	Prep	PrecSep_0			504284	04/05/21 20:19	JEC	TAL SL
Total/NA	Analysis	904.0		1	505795	04/15/21 14:07	FLC	TAL SL

Client Sample ID: D-5S2

Lab Sample ID: 480-182733-5

Date Collected: 03/30/21 09:15

Matrix: Water

Date Received: 04/01/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			574908	04/05/21 09:35	KMP	TAL BUF
Total/NA	Analysis	6010D		1	575185	04/06/21 01:59	LMH	TAL BUF
Total/NA	Prep	3020A			574910	04/05/21 09:17	KMP	TAL BUF
Total/NA	Analysis	6020B		1	575337	04/06/21 16:22	KMP	TAL BUF
Total/NA	Analysis	D516-90, 02		2	575708	04/09/21 03:47	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	574925	04/02/21 19:01	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	575206	04/05/21 15:15	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	575602	04/07/21 23:17	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			504283	04/05/21 19:40	JEC	TAL SL
Total/NA	Analysis	903.0		1	507303	04/27/21 10:16	ANW	TAL SL
Total/NA	Prep	PrecSep_0			504284	04/05/21 20:19	JEC	TAL SL
Total/NA	Analysis	904.0		1	505795	04/15/21 14:07	FLC	TAL SL

Eurofins TestAmerica, Buffalo

Lab Chronicle

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

Job ID: 480-182733-1

Client Sample ID: D-7

Lab Sample ID: 480-182733-6

Date Collected: 03/31/21 10:25

Matrix: Water

Date Received: 04/01/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			574908	04/05/21 09:35	KMP	TAL BUF
Total/NA	Analysis	6010D		1	575185	04/06/21 02:02	LMH	TAL BUF
Total/NA	Prep	3020A			574910	04/05/21 09:17	KMP	TAL BUF
Total/NA	Analysis	6020B		1	575337	04/06/21 16:31	KMP	TAL BUF
Total/NA	Prep	7470A			575118	04/05/21 13:45	BMB	TAL BUF
Total/NA	Analysis	7470A		1	575285	04/06/21 17:16	BMB	TAL BUF
Total/NA	Analysis	D516-90, 02		2	575708	04/09/21 02:28	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	574925	04/02/21 19:01	SRW	TAL BUF
Total/NA	Analysis	SM 4500 CI- E		2	575707	04/09/21 06:45	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	575206	04/05/21 15:26	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	575602	04/07/21 23:19	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			504283	04/05/21 19:40	JEC	TAL SL
Total/NA	Analysis	903.0		1	507303	04/27/21 10:17	ANW	TAL SL
Total/NA	Prep	PrecSep_0			504284	04/05/21 20:19	JEC	TAL SL
Total/NA	Analysis	904.0		1	505795	04/15/21 14:07	FLC	TAL SL

Client Sample ID: D-8

Lab Sample ID: 480-182733-7

Date Collected: 03/31/21 12:10

Matrix: Water

Date Received: 04/01/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			574908	04/05/21 09:35	KMP	TAL BUF
Total/NA	Analysis	6010D		1	575185	04/06/21 02:06	LMH	TAL BUF
Total/NA	Prep	3020A			574910	04/05/21 09:17	KMP	TAL BUF
Total/NA	Analysis	6020B		1	575337	04/06/21 16:33	KMP	TAL BUF
Total/NA	Analysis	D516-90, 02		2	575708	04/09/21 03:54	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	574925	04/02/21 19:01	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	575206	04/05/21 15:29	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	575602	04/07/21 23:20	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			504283	04/05/21 19:40	JEC	TAL SL
Total/NA	Analysis	903.0		1	507303	04/27/21 10:17	ANW	TAL SL
Total/NA	Prep	PrecSep_0			504284	04/05/21 20:19	JEC	TAL SL
Total/NA	Analysis	904.0		1	505795	04/15/21 14:07	FLC	TAL SL

Client Sample ID: D-9

Lab Sample ID: 480-182733-8

Date Collected: 03/31/21 13:15

Matrix: Water

Date Received: 04/01/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			574908	04/05/21 09:35	KMP	TAL BUF
Total/NA	Analysis	6010D		1	575185	04/06/21 02:10	LMH	TAL BUF
Total/NA	Prep	3020A			574910	04/05/21 09:17	KMP	TAL BUF
Total/NA	Analysis	6020B		1	575337	04/06/21 16:35	KMP	TAL BUF
Total/NA	Analysis	D516-90, 02		1	575708	04/09/21 02:29	SRW	TAL BUF

Eurofins TestAmerica, Buffalo

Lab Chronicle

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

Job ID: 480-182733-1

Client Sample ID: D-9

Lab Sample ID: 480-182733-8

Date Collected: 03/31/21 13:15

Matrix: Water

Date Received: 04/01/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	574925	04/02/21 19:01	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	575206	04/05/21 15:32	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	575602	04/07/21 23:24	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			504283	04/05/21 19:40	JEC	TAL SL
Total/NA	Analysis	903.0		1	507303	04/27/21 10:17	ANW	TAL SL
Total/NA	Prep	PrecSep_0			504284	04/05/21 20:19	JEC	TAL SL
Total/NA	Analysis	904.0		1	505795	04/15/21 14:07	FLC	TAL SL

Client Sample ID: U-4D

Lab Sample ID: 480-182733-9

Date Collected: 03/29/21 12:45

Matrix: Water

Date Received: 04/01/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			574908	04/05/21 09:35	KMP	TAL BUF
Total/NA	Analysis	6010D		1	575185	04/06/21 02:14	LMH	TAL BUF
Total/NA	Prep	3020A			574910	04/05/21 09:17	KMP	TAL BUF
Total/NA	Analysis	6020B		1	575337	04/06/21 16:38	KMP	TAL BUF
Total/NA	Analysis	D516-90, 02		1	575708	04/09/21 02:29	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	574925	04/02/21 19:01	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	575206	04/05/21 15:34	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	575602	04/07/21 23:25	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			504283	04/05/21 19:40	JEC	TAL SL
Total/NA	Analysis	903.0		1	507303	04/27/21 10:17	ANW	TAL SL
Total/NA	Prep	PrecSep_0			504284	04/05/21 20:19	JEC	TAL SL
Total/NA	Analysis	904.0		1	505760	04/15/21 14:09	FLC	TAL SL

Client Sample ID: U-4S

Lab Sample ID: 480-182733-10

Date Collected: 03/29/21 12:20

Matrix: Water

Date Received: 04/01/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			574908	04/05/21 09:35	KMP	TAL BUF
Total/NA	Analysis	6010D		1	575185	04/06/21 02:18	LMH	TAL BUF
Total/NA	Prep	3020A			574910	04/05/21 09:17	KMP	TAL BUF
Total/NA	Analysis	6020B		1	575337	04/06/21 16:40	KMP	TAL BUF
Total/NA	Analysis	D516-90, 02		1	575708	04/09/21 02:30	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	574928	04/02/21 19:20	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	575206	04/05/21 15:37	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	575771	04/08/21 19:17	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			504283	04/05/21 19:40	JEC	TAL SL
Total/NA	Analysis	903.0		1	507303	04/27/21 10:18	ANW	TAL SL
Total/NA	Prep	PrecSep_0			504284	04/05/21 20:19	JEC	TAL SL
Total/NA	Analysis	904.0		1	505760	04/15/21 14:10	FLC	TAL SL

Eurofins TestAmerica, Buffalo

Lab Chronicle

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

Job ID: 480-182733-1

Client Sample ID: U-5D
Date Collected: 03/29/21 15:25
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182733-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			574908	04/05/21 09:35	KMP	TAL BUF
Total/NA	Analysis	6010D		1	575185	04/06/21 02:22	LMH	TAL BUF
Total/NA	Prep	3020A			574910	04/05/21 09:17	KMP	TAL BUF
Total/NA	Analysis	6020B		1	575337	04/06/21 16:42	KMP	TAL BUF
Total/NA	Analysis	D516-90, 02		2	575708	04/09/21 03:13	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	574928	04/02/21 19:20	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	575206	04/05/21 15:40	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	575771	04/08/21 19:20	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			504283	04/05/21 19:40	JEC	TAL SL
Total/NA	Analysis	903.0		1	507303	04/27/21 10:18	ANW	TAL SL
Total/NA	Prep	PrecSep_0			504284	04/05/21 20:19	JEC	TAL SL
Total/NA	Analysis	904.0		1	505760	04/15/21 14:10	FLC	TAL SL

Client Sample ID: U-5S
Date Collected: 03/29/21 14:40
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182733-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			574908	04/05/21 09:35	KMP	TAL BUF
Total/NA	Analysis	6010D		1	575185	04/06/21 02:26	LMH	TAL BUF
Total/NA	Prep	3020A			574910	04/05/21 09:17	KMP	TAL BUF
Total/NA	Analysis	6020B		1	575337	04/06/21 16:45	KMP	TAL BUF
Total/NA	Analysis	D516-90, 02		1	575708	04/09/21 02:35	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	574928	04/02/21 19:20	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	575206	04/05/21 15:42	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	575771	04/08/21 19:21	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			504283	04/05/21 19:40	JEC	TAL SL
Total/NA	Analysis	903.0		1	507303	04/27/21 10:18	ANW	TAL SL
Total/NA	Prep	PrecSep_0			504284	04/05/21 20:19	JEC	TAL SL
Total/NA	Analysis	904.0		1	505760	04/15/21 14:10	FLC	TAL SL

Client Sample ID: D-1D
Date Collected: 03/30/21 13:25
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182733-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			574908	04/05/21 09:35	KMP	TAL BUF
Total/NA	Analysis	6010D		1	575185	04/06/21 02:29	LMH	TAL BUF
Total/NA	Prep	3020A			574910	04/05/21 09:17	KMP	TAL BUF
Total/NA	Analysis	6020B		1	575337	04/06/21 16:47	KMP	TAL BUF
Total/NA	Analysis	D516-90, 02		2	575708	04/09/21 02:36	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	574928	04/02/21 19:20	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	575206	04/05/21 15:45	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	575771	04/08/21 19:23	DLG	TAL BUF

Eurofins TestAmerica, Buffalo

Lab Chronicle

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

Job ID: 480-182733-1

Client Sample ID: D-1D

Lab Sample ID: 480-182733-13

Date Collected: 03/30/21 13:25

Matrix: Water

Date Received: 04/01/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			504283	04/05/21 19:40	JEC	TAL SL
Total/NA	Analysis	903.0		1	507303	04/27/21 10:18	ANW	TAL SL
Total/NA	Prep	PrecSep_0			504284	04/05/21 20:19	JEC	TAL SL
Total/NA	Analysis	904.0		1	505760	04/15/21 14:10	FLC	TAL SL

Client Sample ID: D-2D

Lab Sample ID: 480-182733-14

Date Collected: 03/30/21 14:55

Matrix: Water

Date Received: 04/01/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			574908	04/05/21 09:35	KMP	TAL BUF
Total/NA	Analysis	6010D		1	575185	04/06/21 02:45	LMH	TAL BUF
Total/NA	Prep	3020A			574910	04/05/21 09:17	KMP	TAL BUF
Total/NA	Analysis	6020B		1	575337	04/06/21 16:49	KMP	TAL BUF
Total/NA	Analysis	D516-90, 02		1	575708	04/09/21 03:14	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	574928	04/02/21 19:20	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	575206	04/05/21 15:48	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	575771	04/08/21 19:24	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			504283	04/05/21 19:40	JEC	TAL SL
Total/NA	Analysis	903.0		1	507329	04/27/21 10:19	SCB	TAL SL
Total/NA	Prep	PrecSep_0			504284	04/05/21 20:19	JEC	TAL SL
Total/NA	Analysis	904.0		1	505760	04/15/21 14:11	FLC	TAL SL

Client Sample ID: D-3D

Lab Sample ID: 480-182733-15

Date Collected: 03/30/21 11:05

Matrix: Water

Date Received: 04/01/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			574908	04/05/21 09:35	KMP	TAL BUF
Total/NA	Analysis	6010D		1	575185	04/06/21 02:49	LMH	TAL BUF
Total/NA	Prep	3020A			574910	04/05/21 09:17	KMP	TAL BUF
Total/NA	Analysis	6020B		1	575337	04/06/21 16:51	KMP	TAL BUF
Total/NA	Analysis	D516-90, 02		2	575708	04/09/21 03:15	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	574928	04/02/21 19:20	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	575206	04/05/21 15:50	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	575771	04/08/21 19:25	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			504283	04/05/21 19:40	JEC	TAL SL
Total/NA	Analysis	903.0		1	507329	04/27/21 10:20	SCB	TAL SL
Total/NA	Prep	PrecSep_0			504284	04/05/21 20:19	JEC	TAL SL
Total/NA	Analysis	904.0		1	505760	04/15/21 14:11	FLC	TAL SL

Lab Chronicle

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

Job ID: 480-182733-1

Client Sample ID: D-4D

Lab Sample ID: 480-182733-16

Date Collected: 03/31/21 09:55

Matrix: Water

Date Received: 04/01/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			574908	04/05/21 09:35	KMP	TAL BUF
Total/NA	Analysis	6010D		1	575185	04/06/21 02:52	LMH	TAL BUF
Total/NA	Prep	3020A			574910	04/05/21 09:17	KMP	TAL BUF
Total/NA	Analysis	6020B		1	575337	04/06/21 17:01	KMP	TAL BUF
Total/NA	Analysis	D516-90, 02		1	575708	04/09/21 02:39	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	574928	04/02/21 19:20	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	575206	04/05/21 16:08	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	575771	04/08/21 19:27	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			504283	04/05/21 19:40	JEC	TAL SL
Total/NA	Analysis	903.0		1	507329	04/27/21 10:20	SCB	TAL SL
Total/NA	Prep	PrecSep_0			504284	04/05/21 20:19	JEC	TAL SL
Total/NA	Analysis	904.0		1	505760	04/15/21 14:11	FLC	TAL SL

Client Sample ID: D-5D

Lab Sample ID: 480-182733-17

Date Collected: 03/30/21 09:30

Matrix: Water

Date Received: 04/01/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			574908	04/05/21 09:35	KMP	TAL BUF
Total/NA	Analysis	6010D		1	575185	04/06/21 02:56	LMH	TAL BUF
Total/NA	Prep	3020A			574910	04/05/21 09:17	KMP	TAL BUF
Total/NA	Analysis	6020B		1	575337	04/06/21 17:03	KMP	TAL BUF
Total/NA	Analysis	D516-90, 02		2	575708	04/09/21 02:40	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	574928	04/02/21 19:20	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	575206	04/05/21 16:15	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	575771	04/08/21 19:28	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			504283	04/05/21 19:40	JEC	TAL SL
Total/NA	Analysis	903.0		1	507329	04/27/21 10:20	SCB	TAL SL
Total/NA	Prep	PrecSep_0			504284	04/05/21 20:19	JEC	TAL SL
Total/NA	Analysis	904.0		1	505760	04/15/21 14:11	FLC	TAL SL

Client Sample ID: DUP-1

Lab Sample ID: 480-182733-18

Date Collected: 03/29/21 00:00

Matrix: Water

Date Received: 04/01/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			574908	04/05/21 09:35	KMP	TAL BUF
Total/NA	Analysis	6010D		1	575185	04/06/21 03:00	LMH	TAL BUF
Total/NA	Prep	3020A			574910	04/05/21 09:17	KMP	TAL BUF
Total/NA	Analysis	6020B		1	575337	04/06/21 17:05	KMP	TAL BUF
Total/NA	Analysis	D516-90, 02		1	575708	04/09/21 03:14	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	574928	04/02/21 19:20	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	575206	04/05/21 16:18	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	575771	04/08/21 19:29	DLG	TAL BUF

Eurofins TestAmerica, Buffalo

Lab Chronicle

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

Job ID: 480-182733-1

Client Sample ID: DUP-1
Date Collected: 03/29/21 00:00
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182733-18
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			504273	04/05/21 16:08	JEC	TAL SL
Total/NA	Analysis	903.0		1	507528	04/28/21 10:58	SCB	TAL SL
Total/NA	Prep	PrecSep_0			504276	04/05/21 16:42	JEC	TAL SL
Total/NA	Analysis	904.0		1	505760	04/15/21 14:25	FLC	TAL SL

Client Sample ID: DUP-2
Date Collected: 03/31/21 00:00
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182733-19
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			574908	04/05/21 09:35	KMP	TAL BUF
Total/NA	Analysis	6010D		1	575185	04/06/21 03:04	LMH	TAL BUF
Total/NA	Prep	3020A			574910	04/05/21 09:17	KMP	TAL BUF
Total/NA	Analysis	6020B		1	575337	04/06/21 17:07	KMP	TAL BUF
Total/NA	Analysis	D516-90, 02		1	575708	04/09/21 03:15	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	574928	04/02/21 19:20	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	575206	04/05/21 16:21	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	575771	04/08/21 19:31	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			504273	04/05/21 16:08	JEC	TAL SL
Total/NA	Analysis	903.0		1	507528	04/28/21 10:59	SCB	TAL SL
Total/NA	Prep	PrecSep_0			504276	04/05/21 16:42	JEC	TAL SL
Total/NA	Analysis	904.0		1	505760	04/15/21 14:25	FLC	TAL SL

Client Sample ID: FIELD BLANK
Date Collected: 03/31/21 13:55
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182733-20
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			574908	04/05/21 09:35	KMP	TAL BUF
Total/NA	Analysis	6010D		1	575185	04/06/21 03:08	LMH	TAL BUF
Total/NA	Prep	3020A			574910	04/05/21 09:17	KMP	TAL BUF
Total/NA	Analysis	6020B		1	575337	04/06/21 17:10	KMP	TAL BUF
Total/NA	Analysis	D516-90, 02		1	575708	04/09/21 02:41	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	574928	04/02/21 19:20	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	575206	04/05/21 16:25	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	575771	04/08/21 19:02	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			504273	04/05/21 16:08	JEC	TAL SL
Total/NA	Analysis	903.0		1	507528	04/28/21 10:58	SCB	TAL SL
Total/NA	Prep	PrecSep_0			504276	04/05/21 16:42	JEC	TAL SL
Total/NA	Analysis	904.0		1	505760	04/15/21 14:25	FLC	TAL SL

Lab Chronicle

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

Job ID: 480-182733-1

Client Sample ID: EQUIPMENT BLANK

Lab Sample ID: 480-182733-21

Date Collected: 03/31/21 14:00

Matrix: Water

Date Received: 04/01/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			574912	04/05/21 09:34	KMP	TAL BUF
Total/NA	Analysis	6010D		1	575183	04/05/21 22:28	LMH	TAL BUF
Total/NA	Prep	3020A			574911	04/05/21 09:17	KMP	TAL BUF
Total/NA	Analysis	6020B		1	575108	04/05/21 15:03	KMP	TAL BUF
Total/NA	Analysis	D516-90, 02		1	575708	04/09/21 02:41	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	574928	04/02/21 19:20	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	575206	04/05/21 16:27	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	575771	04/08/21 19:05	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			504273	04/05/21 16:08	JEC	TAL SL
Total/NA	Analysis	903.0		1	507528	04/28/21 10:58	SCB	TAL SL
Total/NA	Prep	PrecSep_0			504276	04/05/21 16:42	JEC	TAL SL
Total/NA	Analysis	904.0		1	505760	04/15/21 14:26	FLC	TAL SL

Client Sample ID: D-1S

Lab Sample ID: 480-182775-1

Date Collected: 03/30/21 13:20

Matrix: Water

Date Received: 04/01/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	575199	04/06/21 11:56	IMZ	TAL BUF

Client Sample ID: D-2S

Lab Sample ID: 480-182775-2

Date Collected: 03/30/21 14:40

Matrix: Water

Date Received: 04/01/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	575199	04/06/21 12:10	IMZ	TAL BUF

Client Sample ID: D-3S

Lab Sample ID: 480-182775-3

Date Collected: 03/30/21 10:50

Matrix: Water

Date Received: 04/01/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10	575559	04/08/21 12:06	IMZ	TAL BUF

Client Sample ID: D-4S

Lab Sample ID: 480-182775-4

Date Collected: 03/31/21 09:40

Matrix: Water

Date Received: 04/01/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	575199	04/06/21 12:25	IMZ	TAL BUF

Lab Chronicle

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

Job ID: 480-182733-1

Client Sample ID: D-5S2
Date Collected: 03/30/21 09:15
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182775-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	575559	04/08/21 12:21	IMZ	TAL BUF

Client Sample ID: D-7
Date Collected: 03/31/21 10:25
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182775-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	575199	04/06/21 13:38	IMZ	TAL BUF

Client Sample ID: D-8
Date Collected: 03/31/21 12:10
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182775-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	575199	04/06/21 13:52	IMZ	TAL BUF

Client Sample ID: D-9
Date Collected: 03/31/21 13:15
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182775-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	575199	04/06/21 14:07	IMZ	TAL BUF

Client Sample ID: DUP-1
Date Collected: 03/29/21 00:00
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182775-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	575199	04/06/21 14:22	IMZ	TAL BUF

Client Sample ID: DUP-2
Date Collected: 03/31/21 00:00
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182775-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	575199	04/06/21 14:36	IMZ	TAL BUF

Client Sample ID: FIELD BLANK 2
Date Collected: 03/31/21 00:00
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182775-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	575381	04/07/21 20:47	IMZ	TAL BUF

Lab Chronicle

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

Job ID: 480-182733-1

Client Sample ID: U-4D
Date Collected: 03/29/21 12:45
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182775-14
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	575199	04/06/21 15:05	IMZ	TAL BUF

Client Sample ID: U-4S
Date Collected: 03/29/21 12:20
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182775-15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	575199	04/06/21 15:20	IMZ	TAL BUF

Client Sample ID: U-5D
Date Collected: 03/29/21 15:25
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182775-16
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	575199	04/06/21 15:35	IMZ	TAL BUF

Client Sample ID: U-5S
Date Collected: 03/29/21 14:40
Date Received: 04/01/21 10:00

Lab Sample ID: 480-182775-17
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	575199	04/06/21 17:17	IMZ	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

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

Job ID: 480-182733-1

Laboratory: Eurofins TestAmerica, Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Minnesota	NELAP	1524384	01-01-22
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
6010D	3005A	Water	Lithium
D516-90, 02		Water	Sulfate
SM 4500 H+ B		Water	pH
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins TestAmerica, 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	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-21
California	State	2886	06-30-21
Connecticut	State	PH-0241	03-31-21 *
Florida	NELAP	E87689	06-30-21
HI - RadChem Recognition	State	n/a	06-30-21
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-21
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-21
MI - RadChem Recognition	State	9005	06-30-21
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-21
Texas	NELAP	T104704193	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-21

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

Accreditation/Certification Summary

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

Job ID: 480-182733-1

Laboratory: Eurofins TestAmerica, St. Louis (Continued)

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

Authority	Program	Identification Number	Expiration Date
West Virginia DEP	State	381	10-31-21

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Method Summary

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

Job ID: 480-182733-1

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	TAL BUF
6020B	Metals (ICP/MS)	SW846	TAL BUF
7470A	Mercury (CVAA)	SW846	TAL BUF
300.0	Anions, Ion Chromatography	MCAWW	TAL BUF
D516-90, 02	Sulfate	ASTM	TAL BUF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL BUF
SM 4500 Cl- E	Chloride, Total	SM	TAL BUF
SM 4500 F C	Fluoride	SM	TAL BUF
SM 4500 H+ B	pH	SM	TAL BUF
3005A	Preparation, Total Metals	SW846	TAL BUF
3020A	Preparation, Total Metals	SW846	TAL BUF
7470A	Preparation, Mercury	SW846	TAL BUF

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

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

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

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

Job ID: 480-182733-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-182733-1	D-1S	Water	03/30/21 13:26	04/01/21 10:00	
480-182733-2	D-2S	Water	03/30/21 14:40	04/01/21 10:00	
480-182733-3	D-3S	Water	03/30/21 10:50	04/01/21 10:00	
480-182733-4	D-4S	Water	03/31/21 09:40	04/01/21 10:00	
480-182733-5	D-5S2	Water	03/30/21 09:15	04/01/21 10:00	
480-182733-6	D-7	Water	03/31/21 10:25	04/01/21 10:00	
480-182733-7	D-8	Water	03/31/21 12:10	04/01/21 10:00	
480-182733-8	D-9	Water	03/31/21 13:15	04/01/21 10:00	
480-182733-9	U-4D	Water	03/29/21 12:45	04/01/21 10:00	
480-182733-10	U-4S	Water	03/29/21 12:20	04/01/21 10:00	
480-182733-11	U-5D	Water	03/29/21 15:25	04/01/21 10:00	
480-182733-12	U-5S	Water	03/29/21 14:40	04/01/21 10:00	
480-182733-13	D-1D	Water	03/30/21 13:25	04/01/21 10:00	
480-182733-14	D-2D	Water	03/30/21 14:55	04/01/21 10:00	
480-182733-15	D-3D	Water	03/30/21 11:05	04/01/21 10:00	
480-182733-16	D-4D	Water	03/31/21 09:55	04/01/21 10:00	
480-182733-17	D-5D	Water	03/30/21 09:30	04/01/21 10:00	
480-182733-18	DUP-1	Water	03/29/21 00:00	04/01/21 10:00	
480-182733-19	DUP-2	Water	03/31/21 00:00	04/01/21 10:00	
480-182733-20	FIELD BLANK	Water	03/31/21 13:55	04/01/21 10:00	
480-182733-21	EQUIPMENT BLANK	Water	03/31/21 14:00	04/01/21 10:00	
480-182775-1	D-1S	Water	03/30/21 13:20	04/01/21 10:00	
480-182775-2	D-2S	Water	03/30/21 14:40	04/01/21 10:00	
480-182775-3	D-3S	Water	03/30/21 10:50	04/01/21 10:00	
480-182775-4	D-4S	Water	03/31/21 09:40	04/01/21 10:00	
480-182775-5	D-5S2	Water	03/30/21 09:15	04/01/21 10:00	
480-182775-6	D-7	Water	03/31/21 10:25	04/01/21 10:00	
480-182775-7	D-8	Water	03/31/21 12:10	04/01/21 10:00	
480-182775-8	D-9	Water	03/31/21 13:15	04/01/21 10:00	
480-182775-9	DUP-1	Water	03/29/21 00:00	04/01/21 10:00	
480-182775-10	DUP-2	Water	03/31/21 00:00	04/01/21 10:00	
480-182775-13	FIELD BLANK 2	Water	03/31/21 00:00	04/01/21 10:00	
480-182775-14	U-4D	Water	03/29/21 12:45	04/01/21 10:00	
480-182775-15	U-4S	Water	03/29/21 12:20	04/01/21 10:00	
480-182775-16	U-5D	Water	03/29/21 15:25	04/01/21 10:00	
480-182775-17	U-5S	Water	03/29/21 14:40	04/01/21 10:00	

Quantitation Limit Exceptions Summary

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

Job ID: 480-182733-1

The requested project specific reporting limits listed below were less than laboratory standard quantitation limits (PQL) but greater than or equal to the laboratory method detection limits (MDL). It must be noted that results reported below lab standard quantitation limits may result in false positive/false negative values and less accurate quantitation. Routine laboratory procedures do not indicate corrective action for detections below the laboratory's PQL.

Method	Analyte	Matrix	Prep Type	Unit	Client RL	Lab PQL
D516-90, 02	Sulfate	Water	Total/NA	mg/L	2.0	5.0
SM 4500 Cl- E	Chloride	Water	Total/NA	mg/L	0.50	1.0
SM 4500 F C	Fluoride	Water	Total/NA	mg/L	0.050	0.1

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Chain of Custody Record

Client Information


Client Contact: Nathaniel Beinemann
 Company: Waste Connections, Inc.
 Address: 13425 Courthouse Blvd
 City: Rosemount
 State: MN, Zip: 55068
 Phone: [Redacted]
 Email: nathanielb@wcnx.org
 Project Name: SKB Rosemount
 Site: Minnesota

Lab PM: VanDette, Ryan T
 E-Mail: Ryan.VanDette@Eurofinset.com
 PWSID: [Redacted]

Carrier Tracking No(s): 480-157923-30557.1
 State of Origin: Page 1 of 2
 Job #: [Redacted]

Analysis Requested

480-182733 Chain of Custody



Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Solid, Oil, Tissue, AM)	Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		2540C_Calcd - TDS		904.0 - Rad 228		903.0 - Rad 226		Total Number of containers	Special Instructions/Note:
					D	N	D	N	D	N	D	N	D	N		
D-1S	3/30/21	13:20	6	Water	X		X		X	X	X	X	X		Appendix B Analytic	
D-2S	3/30/21	14:40	6	Water	X		X		X	X	X	X	X		- Bowling - Chocoma	
D-3S	3/30/21	10:50	6	Water	X		X		X	X	X	X	X		- Cobalt - Fluoride	
D-4S	3/31/21	9:40	6	Water	X		X		X	X	X	X	X		- Rad 226/228	
D-5S2	3/30/21	9:15	6	Water	X		X		X	X	X	X	X		Full List fee D-7	
D-7	3/31/21	10:25	6	Water	X		X		X	X	X	X	X			
D-8	3/31/21	12:10	6	Water	X		X		X	X	X	X	X			
D-9	3/31/21	13:15	6	Water	X		X		X	X	X	X	X			
U-4D	3/29/21	12:45	6	Water	X		X		X	X	X	X	X			
U-4S	3/29/21	12:20	6	Water	X		X		X	X	X	X	X			
U-5D	3/29/21	15:25	6	Water	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)

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:

Chain of Custody

Relinquished by: [Signature] Date: 3/31/21 Time: 1500 Company: Eurofins

Relinquished by: [Signature] Date: 3/31/21 Time: 1700 Company: Eurofins

Relinquished by: [Signature] Date: 3/31/21 Time: 1000 Company: Eurofins

Custody Seal No.: [Redacted] Custody Seal Intact: Yes No

Cooler Temperature(s) °C and Other Remarks: #1 3.0, 2.6, 3.1, 2.5, 7.0



Chain of Custody Record

Client Information		Lab PM: VanDette, Ryan T	Carrier Tracking No(s):	COC No: 480-157923-30557.2									
Client Contact: Nathaniel Beinemann		E-Mail: Ryan.VanDette@Eurofinset.com	State of Origin:	Page: 2 of 2									
Company: Waste Connections, Inc.		PWSID:		Job #:									
Address: 13425 Courthouse Blvd		Due Date Requested:	Preservation Codes:										
City: Rosemount		TAT Requested (days): Standard	A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - MeOH F - Amchlor G - H2SO4 H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:										
State, Zip: MN, 55068		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)										
Phone:		PO #: Purchase Order Requested	Total Number of containers										
Email: nathanielb@wcnx.org		WO #:	Special Instructions/Note:										
Project Name: SKB Rosemount		Project #: 48013709	Appendix II Analyte - Boron - Chromium - Cobalt - Fluoride - Rad 226/228										
Site: Minnesota		SSOW#:											
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, BT=BIOTISSUE, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	4500 F, C - Fluoride	2540C Calcd - TDS	904.0 - Rad 228	903.0 - Rad 226		
U-5S		3/29/21	14:40	6	Water	X		X	X	X	X		
D-1D		3/30/21	13:25	6	Water								
D-2D		3/30/21	14:55	6	Water								
D-3D		3/30/21	11:05	6	Water								
D-4D		3/31/21	9:55	6	Water								
D-5D		3/30/21	9:30	6	Water								
Dup 1		3/29/21	-	6	Water								
Dup 2		3/31/21	-	6	Water								
Field Blank		3/31/21	13:55	6	Water								
Equipment Blank		3/31/21	14:00	6	Water								
Possible Hazard Identification		Date: 3/31/21		Time: 1500		Company: Eurofins		Received by: Tom Jacka		Date/Time: 3/31-21 1500		Company: Eurofins	
<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		Date: 3-31-21		Time: 1700		Company: Eurofins		Received by: Tom Jacka		Date/Time: 3/31-21 1000		Company: Eurofins	
Deliverable Requested: I, II, III, IV, Other (specify)		Date: 3/31/21		Time: 1700		Company: Eurofins		Received by: Tom Jacka		Date/Time: 3/31-21 1000		Company: Eurofins	
Empty Kit Relinquished by:		Date: 3/31/21		Time: 1700		Company: Eurofins		Received by: Tom Jacka		Date/Time: 3/31-21 1000		Company: Eurofins	
Relinquished by:		Date: 3/31/21		Time: 1700		Company: Eurofins		Received by: Tom Jacka		Date/Time: 3/31-21 1000		Company: Eurofins	
Relinquished by:		Date: 3/31/21		Time: 1700		Company: Eurofins		Received by: Tom Jacka		Date/Time: 3/31-21 1000		Company: Eurofins	
Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:									



Login Sample Receipt Checklist

Client: Waste Connections, Inc.

Job Number: 480-182733-1

SDG Number:

Login Number: 182733

List Number: 1

Creator: Sabuda, Brendan D

List Source: Eurofins TestAmerica, Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
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	3.0 2.6 3.1 2.5 2.0 #1 ICE
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	True	

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-191682-2
Client Project/Site: SKB Rosemount - CCR App III/IV
Sampling Event: CCR Groundwater

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

Attn: Megan Lindstrom



Authorized for release by:
12/7/2021 3:18:40 PM
Joshua Velez, Project Management Assistant I
joshua.velez@eurofinset.com

Designee for
Ryan VanDette, Project Manager II
(716)504-9830
Ryan.VanDette@Eurofinset.com

LINKS

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results through
TotalAccess

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www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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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Definitions/Glossary

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Qualifiers

Metals

Qualifier	Qualifier Description
^6+	Interference Check Standard (ICSA and/or ICSAB) is outside acceptance limits, high biased.
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
F1	MS and/or MSD recovery exceeds control limits.
H	Sample was prepped or analyzed beyond the specified holding time
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
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

Case Narrative

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Job ID: 480-191682-2

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative 480-191682-1

Comments

No additional comments.

Receipt

The samples were received on 10/29/2021 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 7 coolers at receipt time were 2.8° C, 3.1° C, 3.3° C, 3.5° C, 3.6° C, 3.7° C and 7.8° C.

Receipt Exceptions

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. Dates and times of collection were not listed, method selection was not listed for each sample point.

Fedex network delay, shipped 10/27 received at lab 10/29. D-1S-CCR (480-191682-1), D-2S-CCR (480-191682-2), D-3S-CCR (480-191682-3), D-4S-CCR (480-191682-4), D-5S2-CCR (480-191682-5), D-7-CCR (480-191682-6), D-8-CCR (480-191682-7), D-9-CCR (480-191682-8), U-4D-CCR (480-191682-9), U-4S-CCR (480-191682-10), D-5D-CCR (480-191682-11), U-5S-CCR (480-191682-12), D-1D-CCR (480-191682-13), D-2D-CCR (480-191682-14), D-3D-CCR (480-191682-15), D-4D-CCR (480-191682-16), U-5D-CCR (480-191682-17), DUP 1 CCR (480-191682-18), DUP 2 CCR (480-191682-19), FIELD BLANK CCR (480-191682-20) and EQUIPMENT BLANK CCR (480-191682-21)

Missing sample point/yet to be received as of 11/01. Samples logged and placed on hold pending receipt. D-2S-CCR (480-191682-2), U-4S-CCR (480-191682-10), D-3D-CCR (480-191682-15), D-4D-CCR (480-191682-16), U-5D-CCR (480-191682-17) and DUP 1 CCR (480-191682-18)

Delayed cooler containing these samples was received 11/3 at a temp of 7.8. D-2S-CCR (480-191682-2), U-4S-CCR (480-191682-10) and D-4D-CCR (480-191682-16)

Delayed cooler containing these samples was received 11/2 at a temp of 2.7. D-3D-CCR (480-191682-15), U-5D-CCR (480-191682-17) and DUP 1 CCR (480-191682-18)

Metals

Method 6020B: The interference check standard solution (ICSA) associated with the following samples showed results for Total Cobalt at a level greater than 2X the reporting limit. The solution contains trace impurities of this element, and the results are not due to any matrix interference. These results are consistent with those found by the manufacturer of the ICSA solution. D-1S-CCR (480-191682-1), D-3S-CCR (480-191682-3), D-4S-CCR (480-191682-4), D-5S2-CCR (480-191682-5), D-7-CCR (480-191682-6), D-8-CCR (480-191682-7), D-9-CCR (480-191682-8), U-4D-CCR (480-191682-9), D-5D-CCR (480-191682-11), U-5S-CCR (480-191682-12), D-1D-CCR (480-191682-13), D-2D-CCR (480-191682-14), DUP 2 CCR (480-191682-19), FIELD BLANK CCR (480-191682-20), EQUIPMENT BLANK CCR (480-191682-21), (LCS 480-603249/2-A), (MB 480-603249/1-A), (480-191682-D-3-C MS), (480-191682-D-3-D MSD), (480-191682-D-3-B PDS) and (480-191682-D-3-B SD ^5)

Method 6020B: The interference check standard solution (ICSA) associated with the following samples showed results for Total Cobalt at a level greater than 2X the reporting limit. The solution contains trace impurities of this element, and the results are not due to any matrix interference. These results are consistent with those found by the manufacturer of the ICSA solution. D-2S-CCR (480-191682-2), U-4S-CCR (480-191682-10), D-3D-CCR (480-191682-15), D-4D-CCR (480-191682-16), U-5D-CCR (480-191682-17), DUP 1 CCR (480-191682-18), (LCS 480-606062/2-A) and (MB 480-606062/1-A)

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

General Chemistry

Method SM 2540C: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: D-2S-CCR (480-191682-2), U-4S-CCR (480-191682-10), D-3D-CCR (480-191682-15), D-4D-CCR (480-191682-16), U-5D-CCR (480-191682-17) and DUP 1 CCR (480-191682-18).

Case Narrative

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Job ID: 480-191682-2 (Continued)

Laboratory: Eurofins TestAmerica, Buffalo (Continued)

Methods 9040C, SM 4500 H+ B: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: D-1S-CCR (480-191682-1), D-2S-CCR (480-191682-2), D-3S-CCR (480-191682-3), D-4S-CCR (480-191682-4), D-5S2-CCR (480-191682-5), D-7-CCR (480-191682-6), D-8-CCR (480-191682-7), D-9-CCR (480-191682-8), U-4D-CCR (480-191682-9), U-4S-CCR (480-191682-10), D-5D-CCR (480-191682-11), U-5S-CCR (480-191682-12), D-1D-CCR (480-191682-13), D-2D-CCR (480-191682-14), D-3D-CCR (480-191682-15), D-4D-CCR (480-191682-16), U-5D-CCR (480-191682-17), DUP 1 CCR (480-191682-18), DUP 2 CCR (480-191682-19), FIELD BLANK CCR (480-191682-20) and EQUIPMENT BLANK CCR (480-191682-21).

Method SM 4500 H+ B: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: D-1S-CCR (480-191682-1), D-2S-CCR (480-191682-2), D-3S-CCR (480-191682-3), D-4S-CCR (480-191682-4), D-5S2-CCR (480-191682-5), D-7-CCR (480-191682-6), D-8-CCR (480-191682-7), D-9-CCR (480-191682-8), U-4D-CCR (480-191682-9), U-4S-CCR (480-191682-10), D-5D-CCR (480-191682-11), U-5S-CCR (480-191682-12), D-1D-CCR (480-191682-13), D-2D-CCR (480-191682-14), D-3D-CCR (480-191682-15), D-4D-CCR (480-191682-16), U-5D-CCR (480-191682-17), DUP 1 CCR (480-191682-18), DUP 2 CCR (480-191682-19), FIELD BLANK CCR (480-191682-20), EQUIPMENT BLANK CCR (480-191682-21) and (480-191682-E-6 DU).

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

Narrative

Job Narrative 480-191682-2

Comments

No additional comments.

Receipt

The samples were received on 10/29/2021 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 7 coolers at receipt time were 2.8° C, 3.1° C, 3.3° C, 3.5° C, 3.6° C, 3.7° C and 7.8° C.

Receipt Exceptions

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. Dates and times of collection were not listed, method selection was not listed for each sample point.

Fedex network delay, shipped 10/27 received at lab on 10/29. D-1S-CCR (480-191682-1), D-2S-CCR (480-191682-2), D-3S-CCR (480-191682-3), D-4S-CCR (480-191682-4), D-5S2-CCR (480-191682-5), D-7-CCR (480-191682-6), D-8-CCR (480-191682-7), D-9-CCR (480-191682-8), U-4D-CCR (480-191682-9), U-4S-CCR (480-191682-10), D-5D-CCR (480-191682-11), U-5S-CCR (480-191682-12), D-1D-CCR (480-191682-13), D-2D-CCR (480-191682-14), D-3D-CCR (480-191682-15), D-4D-CCR (480-191682-16), U-5D-CCR (480-191682-17), DUP 1 CCR (480-191682-18), DUP 2 CCR (480-191682-19), FIELD BLANK CCR (480-191682-20) and EQUIPMENT BLANK CCR (480-191682-21)

Missing sample point/yet to be received as of 11/01. Samples logged and placed on hold pending receipt. D-2S-CCR (480-191682-2), U-4S-CCR (480-191682-10), D-3D-CCR (480-191682-15), D-4D-CCR (480-191682-16), U-5D-CCR (480-191682-17) and DUP 1 CCR (480-191682-18)

Delayed cooler containing these samples was received 11/3 at a temp of 7.8. D-2S-CCR (480-191682-2), U-4S-CCR (480-191682-10) and D-4D-CCR (480-191682-16)

Delayed cooler containing these samples was received 11/2 at a temp of 2.7. D-3D-CCR (480-191682-15), U-5D-CCR (480-191682-17) and DUP 1 CCR (480-191682-18)

RAD

Methods 903.0, 9315: 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-1S-CCR (480-191682-1),

Case Narrative

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Job ID: 480-191682-2 (Continued)

Laboratory: Eurofins TestAmerica, Buffalo (Continued)

D-3S-CCR (480-191682-3), D-4S-CCR (480-191682-4), D-5S2-CCR (480-191682-5), D-7-CCR (480-191682-6), D-8-CCR (480-191682-7), D-9-CCR (480-191682-8), U-4D-CCR (480-191682-9), D-5D-CCR (480-191682-11), U-5S-CCR (480-191682-12), D-1D-CCR (480-191682-13), D-2D-CCR (480-191682-14), DUP 2 CCR (480-191682-19), FIELD BLANK CCR (480-191682-20) and EQUIPMENT BLANK CCR (480-191682-21)

Method 903.0: Radium 226 batch 535410 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-2S-CCR (480-191682-2), U-4S-CCR (480-191682-10), D-3D-CCR (480-191682-15), D-4D-CCR (480-191682-16), U-5D-CCR (480-191682-17), DUP 1 CCR (480-191682-18), (LCS 160-535410/1-A), (LCSD 160-535410/2-A) and (MB 160-535410/22-A)

Method 904.0: Radium-228 prep batch 160-535423: The following samples did not meet the requested limit (RL) due to the reduced sample volume attributed to the presence of matrix interferences. The method blank (MB) and laboratory control sample (LCS) were also run at the reduced aliquot following NELAC guidance to match the nominal volume of client samples in the prep batch. The data have been reported with this narrative. (MB 160-535423/22-A)

Method 904.0: Radium-228 prep batch 160-535423: 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-2S-CCR (480-191682-2), U-4S-CCR (480-191682-10), D-3D-CCR (480-191682-15), D-4D-CCR (480-191682-16), U-5D-CCR (480-191682-17), DUP 1 CCR (480-191682-18), (LCS 160-535423/1-A), (LCSD 160-535423/2-A) and (MB 160-535423/22-A)

Method 904.0: Radium 228 batch 535160 The following sample(s) exhibited a negative result greater in magnitude than the 3 sigma TPU. This occurrence was evaluated and determined to be random in nature. Sporadic occurrences such as this are statistically expected. No further action is required. D-5S2-CCR (480-191682-5)

Methods 904.0, 9320: Radium 228 batch 535160 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-1S-CCR (480-191682-1), D-3S-CCR (480-191682-3), D-4S-CCR (480-191682-4), D-5S2-CCR (480-191682-5), D-7-CCR (480-191682-6), D-8-CCR (480-191682-7), D-9-CCR (480-191682-8), U-4D-CCR (480-191682-9), D-5D-CCR (480-191682-11), U-5S-CCR (480-191682-12), D-1D-CCR (480-191682-13), D-2D-CCR (480-191682-14), DUP 2 CCR (480-191682-19), FIELD BLANK CCR (480-191682-20), EQUIPMENT BLANK CCR (480-191682-21), (LCS 160-535160/1-A), (LCSD 160-535160/2-A) and (MB 160-535160/23-A)

The following samples were prepared at a reduced aliquot due to Matrix: D-7-CCR (480-191682-6), D-8-CCR (480-191682-7) and U-5S-CCR (480-191682-12). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision. Method PrecSep_0: Radium-228 Prep Batch 160-535160

Insufficient sample volume was available to perform a sample duplicate for the following samples: D-1S-CCR (480-191682-1), D-3S-CCR (480-191682-3), D-4S-CCR (480-191682-4), D-5S2-CCR (480-191682-5), D-9-CCR (480-191682-8), U-4D-CCR (480-191682-9), D-5D-CCR (480-191682-11), D-1D-CCR (480-191682-13), D-2D-CCR (480-191682-14), DUP 2 CCR (480-191682-19), FIELD BLANK CCR (480-191682-20) and EQUIPMENT BLANK CCR (480-191682-21). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

The following samples were prepared at a reduced aliquot due to Matrix: D-2S-CCR (480-191682-2), U-4S-CCR (480-191682-10), D-3D-CCR (480-191682-15), D-4D-CCR (480-191682-16) and DUP 1 CCR (480-191682-18). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

The following samples were prepared at a reduced aliquot due to Matrix: D-7-CCR (480-191682-6), D-8-CCR (480-191682-7) and U-5S-CCR (480-191682-12). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Insufficient sample volume was available to perform a sample duplicate for the following samples: D-1S-CCR (480-191682-1), D-3S-CCR (480-191682-3), D-4S-CCR (480-191682-4), D-5S2-CCR (480-191682-5), D-9-CCR (480-191682-8), U-4D-CCR (480-191682-9), D-5D-CCR (480-191682-11), D-1D-CCR (480-191682-13), D-2D-CCR (480-191682-14), DUP 2 CCR (480-191682-19), FIELD BLANK

Case Narrative

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Job ID: 480-191682-2 (Continued)

Laboratory: Eurofins TestAmerica, Buffalo (Continued)

CCR (480-191682-20) and EQUIPMENT BLANK CCR (480-191682-21). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

The following samples were prepared at a reduced aliquot due to Matrix: D-2S-CCR (480-191682-2), U-4S-CCR (480-191682-10), D-3D-CCR (480-191682-15), D-4D-CCR (480-191682-16) and DUP 1 CCR (480-191682-18). 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.



Detection Summary

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: D-1S-CCR

Lab Sample ID: 480-191682-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.051		0.0020		mg/L	1		6010D	Total/NA
Boron	0.057		0.020		mg/L	1		6010D	Total/NA
Calcium	94.1		0.50		mg/L	1		6010D	Total/NA
Sulfate	18.2		2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	463		10.0		mg/L	1		SM 2540C	Total/NA
Chloride	47.8	F1	0.50		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.060		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.5	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.8	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-2S-CCR

Lab Sample ID: 480-191682-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.050		0.0020		mg/L	1		6010D	Total/NA
Boron	0.025		0.020		mg/L	1		6010D	Total/NA
Calcium	104		0.50		mg/L	1		6010D	Total/NA
Sulfate	22.0	F1	2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	427	H	10.0		mg/L	1		SM 2540C	Total/NA
Chloride	45.7	F1	0.50		mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.7	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	22.0	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-3S-CCR

Lab Sample ID: 480-191682-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.044		0.0020		mg/L	1		6010D	Total/NA
Boron	0.23		0.020		mg/L	1		6010D	Total/NA
Calcium	82.7		0.50		mg/L	1		6010D	Total/NA
Sulfate	27.2		2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	476		10.0		mg/L	1		SM 2540C	Total/NA
Chloride	87.9		2.5		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.060		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.7	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	22.1	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-4S-CCR

Lab Sample ID: 480-191682-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.081		0.0020		mg/L	1		6010D	Total/NA
Boron	0.023		0.020		mg/L	1		6010D	Total/NA
Calcium	106		0.50		mg/L	1		6010D	Total/NA
Sulfate	34.9		2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	452		10.0		mg/L	1		SM 2540C	Total/NA
Chloride	47.3	F1	1.0		mg/L	2		SM 4500 Cl- E	Total/NA
Fluoride	0.080		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.6	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	22.3	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-5S2-CCR

Lab Sample ID: 480-191682-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.057		0.0020		mg/L	1		6010D	Total/NA
Boron	0.14		0.020		mg/L	1		6010D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Detection Summary

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: D-5S2-CCR (Continued)

Lab Sample ID: 480-191682-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	96.5		0.50		mg/L	1		6010D	Total/NA
Sulfate	39.2		4.0		mg/L	2		D516-90, 02	Total/NA
Total Dissolved Solids	430		10.0		mg/L	1		SM 2540C	Total/NA
Chloride	75.6		1.0		mg/L	2		SM 4500 Cl- E	Total/NA
Fluoride	0.050		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.6	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.9	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-7-CCR

Lab Sample ID: 480-191682-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.10		0.0020		mg/L	1		6010D	Total/NA
Boron	0.029		0.020		mg/L	1		6010D	Total/NA
Calcium	134		0.50		mg/L	1		6010D	Total/NA
Chromium	0.015		0.0040		mg/L	1		6010D	Total/NA
Cobalt	2.1	^6+	0.30		ug/L	1		6020B	Total/NA
Sulfate	60.7		4.0		mg/L	2		D516-90, 02	Total/NA
Total Dissolved Solids	620		10.0		mg/L	1		SM 2540C	Total/NA
Chloride	46.6		1.0		mg/L	2		SM 4500 Cl- E	Total/NA
Fluoride	0.050		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.3	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	22.6	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-8-CCR

Lab Sample ID: 480-191682-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.095		0.0020		mg/L	1		6010D	Total/NA
Calcium	121		0.50		mg/L	1		6010D	Total/NA
Chromium	0.0048		0.0040		mg/L	1		6010D	Total/NA
Cobalt	1.9	^6+	0.30		ug/L	1		6020B	Total/NA
Sulfate	38.1		4.0		mg/L	2		D516-90, 02	Total/NA
Total Dissolved Solids	486		10.0		mg/L	1		SM 2540C	Total/NA
Chloride	38.1		0.50		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.090		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.6	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	22.6	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-9-CCR

Lab Sample ID: 480-191682-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.082		0.0020		mg/L	1		6010D	Total/NA
Boron	0.029		0.020		mg/L	1		6010D	Total/NA
Calcium	121		0.50		mg/L	1		6010D	Total/NA
Cobalt	0.46	^6+	0.30		ug/L	1		6020B	Total/NA
Sulfate	30.9		2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	496		10.0		mg/L	1		SM 2540C	Total/NA
Chloride	34.8		0.50		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.070		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.5	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	22.7	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Detection Summary

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: U-4D-CCR

Lab Sample ID: 480-191682-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.068		0.0020		mg/L	1		6010D	Total/NA
Boron	0.020		0.020		mg/L	1		6010D	Total/NA
Calcium	101		0.50		mg/L	1		6010D	Total/NA
Sulfate	33.2		2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	413		10.0		mg/L	1		SM 2540C	Total/NA
Chloride	48.3		0.50		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.080		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.7	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	22.9	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: U-4S-CCR

Lab Sample ID: 480-191682-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.042		0.0020		mg/L	1		6010D	Total/NA
Calcium	101		0.50		mg/L	1		6010D	Total/NA
Chromium	0.011		0.0040		mg/L	1		6010D	Total/NA
Sulfate	25.4		2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	468	H	10.0		mg/L	1		SM 2540C	Total/NA
Chloride	47.2		0.50		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.060		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.5	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	22.6	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-5D-CCR

Lab Sample ID: 480-191682-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.060		0.0020		mg/L	1		6010D	Total/NA
Boron	0.022		0.020		mg/L	1		6010D	Total/NA
Calcium	112		0.50		mg/L	1		6010D	Total/NA
Chromium	0.0070		0.0040		mg/L	1		6010D	Total/NA
Sulfate	39.7		4.0		mg/L	2		D516-90, 02	Total/NA
Total Dissolved Solids	428		10.0		mg/L	1		SM 2540C	Total/NA
Chloride	59.4		1.0		mg/L	2		SM 4500 Cl- E	Total/NA
Fluoride	0.070		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.5	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	22.7	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: U-5S-CCR

Lab Sample ID: 480-191682-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.073		0.0020		mg/L	1		6010D	Total/NA
Boron	0.062		0.020		mg/L	1		6010D	Total/NA
Calcium	98.8		0.50		mg/L	1		6010D	Total/NA
Cobalt	0.35	^6+	0.30		ug/L	1		6020B	Total/NA
Sulfate	33.1		2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	418		10.0		mg/L	1		SM 2540C	Total/NA
Chloride	42.9		1.0		mg/L	2		SM 4500 Cl- E	Total/NA
Fluoride	0.10		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.5	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	22.8	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Detection Summary

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: D-1D-CCR

Lab Sample ID: 480-191682-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.048		0.0020		mg/L	1		6010D	Total/NA
Boron	0.021		0.020		mg/L	1		6010D	Total/NA
Calcium	91.2		0.50		mg/L	1		6010D	Total/NA
Chromium	0.0047		0.0040		mg/L	1		6010D	Total/NA
Sulfate	35.7		2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	380		10.0		mg/L	1		SM 2540C	Total/NA
Chloride	33.5		0.50		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.070		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.9	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	22.8	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-2D-CCR

Lab Sample ID: 480-191682-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.052		0.0020		mg/L	1		6010D	Total/NA
Calcium	93.7		0.50		mg/L	1		6010D	Total/NA
Sulfate	34.8		2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	410		10.0		mg/L	1		SM 2540C	Total/NA
Chloride	34.3		0.50		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.080		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.8	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	22.9	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-3D-CCR

Lab Sample ID: 480-191682-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.059		0.0020		mg/L	1		6010D	Total/NA
Boron	0.053		0.020		mg/L	1		6010D	Total/NA
Calcium	103		0.50		mg/L	1		6010D	Total/NA
Chromium	0.021		0.0040		mg/L	1		6010D	Total/NA
Cobalt	0.44	^6+	0.30		ug/L	1		6020B	Total/NA
Sulfate	34.8		4.0		mg/L	2		D516-90, 02	Total/NA
Total Dissolved Solids	525	H	10.0		mg/L	1		SM 2540C	Total/NA
Chloride	82.5		1.0		mg/L	2		SM 4500 Cl- E	Total/NA
Fluoride	0.070		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.7	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	22.7	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: D-4D-CCR

Lab Sample ID: 480-191682-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.043		0.0020		mg/L	1		6010D	Total/NA
Calcium	90.3		0.50		mg/L	1		6010D	Total/NA
Sulfate	35.2		2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	430	H	10.0		mg/L	1		SM 2540C	Total/NA
Chloride	32.5		0.50		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.090		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.8	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	22.9	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Detection Summary

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: U-5D-CCR

Lab Sample ID: 480-191682-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.058		0.0020		mg/L	1		6010D	Total/NA
Calcium	87.8		0.50		mg/L	1		6010D	Total/NA
Sulfate	34.8		4.0		mg/L	2		D516-90, 02	Total/NA
Total Dissolved Solids	406	H	10.0		mg/L	1		SM 2540C	Total/NA
Chloride	28.1		1.0		mg/L	2		SM 4500 Cl- E	Total/NA
Fluoride	0.090		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.7	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	22.9	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: DUP 1 CCR

Lab Sample ID: 480-191682-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.073		0.0020		mg/L	1		6010D	Total/NA
Boron	0.056		0.020		mg/L	1		6010D	Total/NA
Calcium	96.8		0.50		mg/L	1		6010D	Total/NA
Cobalt	0.37	^6+	0.30		ug/L	1		6020B	Total/NA
Sulfate	33.9		2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	451	H	10.0		mg/L	1		SM 2540C	Total/NA
Chloride	44.0		0.50		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.10		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.7	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	22.8	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: DUP 2 CCR

Lab Sample ID: 480-191682-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.078		0.0020		mg/L	1		6010D	Total/NA
Boron	0.022		0.020		mg/L	1		6010D	Total/NA
Calcium	106		0.50		mg/L	1		6010D	Total/NA
Sulfate	34.3		2.0		mg/L	1		D516-90, 02	Total/NA
Total Dissolved Solids	440		10.0		mg/L	1		SM 2540C	Total/NA
Chloride	47.9		0.50		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.070		0.050		mg/L	1		SM 4500 F C	Total/NA
pH	7.6	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	22.8	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FIELD BLANK CCR

Lab Sample ID: 480-191682-20

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.3	HF	0.1		SU	1		SM 4500 H+ B	Total/NA
Temperature	22.8	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: EQUIPMENT BLANK CCR

Lab Sample ID: 480-191682-21

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
Temperature	22.9	HF	0.001		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: D-1S-CCR

Lab Sample ID: 480-191682-1

Date Collected: 10/26/21 12:50

Matrix: Water

Date Received: 10/29/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.051		0.0020		mg/L		11/03/21 09:05	11/06/21 17:01	1
Boron	0.057		0.020		mg/L		11/03/21 09:05	11/06/21 17:01	1
Calcium	94.1		0.50		mg/L		11/03/21 09:05	11/06/21 17:01	1
Chromium	ND		0.0040		mg/L		11/03/21 09:05	11/06/21 17:01	1
Lead	ND		0.010		mg/L		11/03/21 09:05	11/06/21 17:01	1
Lithium	ND		0.030		mg/L		11/03/21 09:05	11/06/21 17:01	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/05/21 08:07	11/23/21 12:50	1
Arsenic	ND		1.0		ug/L		11/05/21 08:07	11/23/21 12:50	1
Beryllium	ND		0.70		ug/L		11/05/21 08:07	11/23/21 12:50	1
Cadmium	ND		0.50		ug/L		11/05/21 08:07	11/23/21 12:50	1
Cobalt	ND	^6+	0.30		ug/L		11/05/21 08:07	11/23/21 12:50	1
Molybdenum	ND		1.0		ug/L		11/05/21 08:07	11/24/21 13:21	1
Selenium	ND		1.0		ug/L		11/05/21 08:07	11/23/21 12:50	1
Thallium	ND		0.20		ug/L		11/05/21 08:07	11/23/21 12:50	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/07/21 13:16	11/07/21 16:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	18.2		2.0		mg/L			11/03/21 20:12	1
Total Dissolved Solids	463		10.0		mg/L			11/02/21 11:39	1
Chloride	47.8	F1	0.50		mg/L			11/01/21 21:25	1
Fluoride	0.060		0.050		mg/L			11/04/21 19:28	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5	HF	0.1		SU			11/12/21 15:43	1
Temperature	21.8	HF	0.001		Degrees C			11/12/21 15:43	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0596	U	0.0796	0.0798	1.00	0.133	pCi/L	11/04/21 09:25	11/29/21 11:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	105		40 - 110					11/04/21 09:25	11/29/21 11:18	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.159	U	0.255	0.255	1.00	0.430	pCi/L	11/04/21 10:07	11/22/21 13:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	105		40 - 110					11/04/21 10:07	11/22/21 13:19	1
Y Carrier	77.0		40 - 110					11/04/21 10:07	11/22/21 13:19	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: D-2S-CCR

Lab Sample ID: 480-191682-2

Date Collected: 10/26/21 14:10

Matrix: Water

Date Received: 10/29/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.050		0.0020		mg/L		11/10/21 09:21	11/11/21 01:23	1
Boron	0.025		0.020		mg/L		11/10/21 09:21	11/11/21 01:23	1
Calcium	104		0.50		mg/L		11/10/21 09:21	11/11/21 01:23	1
Chromium	ND		0.0040		mg/L		11/10/21 09:21	11/11/21 01:23	1
Lead	ND		0.010		mg/L		11/10/21 09:21	11/11/21 01:23	1
Lithium	ND		0.030		mg/L		11/10/21 09:21	11/11/21 01:23	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/23/21 08:55	11/23/21 22:14	1
Arsenic	ND		1.0		ug/L		11/23/21 08:55	11/23/21 22:14	1
Beryllium	ND		0.70		ug/L		11/23/21 08:55	11/23/21 22:14	1
Cadmium	ND		0.50		ug/L		11/23/21 08:55	11/23/21 22:14	1
Cobalt	ND	^6+	0.30		ug/L		11/23/21 08:55	11/23/21 22:14	1
Molybdenum	ND		1.0		ug/L		11/23/21 08:55	11/24/21 16:07	1
Selenium	ND		1.0		ug/L		11/23/21 08:55	11/23/21 22:14	1
Thallium	ND		0.20		ug/L		11/23/21 08:55	11/23/21 22:14	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/07/21 13:16	11/07/21 16:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	22.0	F1	2.0		mg/L			11/03/21 19:59	1
Total Dissolved Solids	427	H	10.0		mg/L			11/04/21 08:45	1
Chloride	45.7	F1	0.50		mg/L			11/04/21 19:10	1
Fluoride	ND		0.050		mg/L			11/04/21 19:31	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.7	HF	0.1		SU			11/12/21 15:44	1
Temperature	22.0	HF	0.001		Degrees C			11/12/21 15:44	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.768		0.221	0.231	1.00	0.208	pCi/L	11/08/21 10:05	11/30/21 08:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	73.4		40 - 110					11/08/21 10:05	11/30/21 08:54	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0752	U	0.395	0.395	1.00	0.702	pCi/L	11/08/21 11:01	11/22/21 13:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	73.4		40 - 110					11/08/21 11:01	11/22/21 13:51	1
Y Carrier	83.4		40 - 110					11/08/21 11:01	11/22/21 13:51	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: D-3S-CCR

Lab Sample ID: 480-191682-3

Date Collected: 10/26/21 11:45

Matrix: Water

Date Received: 10/29/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.044		0.0020		mg/L		11/03/21 09:05	11/06/21 17:05	1
Boron	0.23		0.020		mg/L		11/03/21 09:05	11/06/21 17:05	1
Calcium	82.7		0.50		mg/L		11/03/21 09:05	11/06/21 17:05	1
Chromium	ND		0.0040		mg/L		11/03/21 09:05	11/06/21 17:05	1
Lead	ND		0.010		mg/L		11/03/21 09:05	11/06/21 17:05	1
Lithium	ND		0.030		mg/L		11/03/21 09:05	11/06/21 17:05	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/05/21 08:07	11/23/21 12:52	1
Arsenic	ND		1.0		ug/L		11/05/21 08:07	11/23/21 12:52	1
Beryllium	ND		0.70		ug/L		11/05/21 08:07	11/23/21 12:52	1
Cadmium	ND		0.50		ug/L		11/05/21 08:07	11/23/21 12:52	1
Cobalt	ND	^6+	0.30		ug/L		11/05/21 08:07	11/23/21 12:52	1
Molybdenum	ND		1.0		ug/L		11/05/21 08:07	11/24/21 13:23	1
Selenium	ND		1.0		ug/L		11/05/21 08:07	11/23/21 12:52	1
Thallium	ND		0.20		ug/L		11/05/21 08:07	11/23/21 12:52	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/07/21 13:16	11/07/21 16:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	27.2		2.0		mg/L			11/03/21 20:00	1
Total Dissolved Solids	476		10.0		mg/L			11/02/21 11:39	1
Chloride	87.9		2.5		mg/L			11/01/21 21:30	5
Fluoride	0.060		0.050		mg/L			11/04/21 19:39	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.7	HF	0.1		SU			11/12/21 15:46	1
Temperature	22.1	HF	0.001		Degrees C			11/12/21 15:46	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0534	U	0.0818	0.0819	1.00	0.140	pCi/L	11/04/21 09:25	11/29/21 11:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					11/04/21 09:25	11/29/21 11:18	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.151	U	0.248	0.248	1.00	0.418	pCi/L	11/04/21 10:07	11/22/21 13:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					11/04/21 10:07	11/22/21 13:19	1
Y Carrier	84.5		40 - 110					11/04/21 10:07	11/22/21 13:19	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: D-4S-CCR

Lab Sample ID: 480-191682-4

Date Collected: 10/27/21 09:45

Matrix: Water

Date Received: 10/29/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.081		0.0020		mg/L		11/03/21 09:05	11/06/21 17:09	1
Boron	0.023		0.020		mg/L		11/03/21 09:05	11/06/21 17:09	1
Calcium	106		0.50		mg/L		11/03/21 09:05	11/06/21 17:09	1
Chromium	ND		0.0040		mg/L		11/03/21 09:05	11/06/21 17:09	1
Lead	ND		0.010		mg/L		11/03/21 09:05	11/06/21 17:09	1
Lithium	ND		0.030		mg/L		11/03/21 09:05	11/06/21 17:09	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:13	1
Arsenic	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:13	1
Beryllium	ND		0.70		ug/L		11/05/21 08:07	11/23/21 13:13	1
Cadmium	ND		0.50		ug/L		11/05/21 08:07	11/23/21 13:13	1
Cobalt	ND	^6+	0.30		ug/L		11/05/21 08:07	11/23/21 13:13	1
Molybdenum	ND		1.0		ug/L		11/05/21 08:07	11/24/21 13:36	1
Selenium	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:13	1
Thallium	ND		0.20		ug/L		11/05/21 08:07	11/23/21 13:13	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/07/21 13:16	11/07/21 16:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	34.9		2.0		mg/L			11/03/21 21:08	1
Total Dissolved Solids	452		10.0		mg/L			11/02/21 11:54	1
Chloride	47.3	F1	1.0		mg/L			11/01/21 21:32	2
Fluoride	0.080		0.050		mg/L			11/04/21 19:42	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.6	HF	0.1		SU			11/12/21 15:49	1
Temperature	22.3	HF	0.001		Degrees C			11/12/21 15:49	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0351	U	0.0808	0.0809	1.00	0.144	pCi/L	11/04/21 09:25	11/29/21 11:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					11/04/21 09:25	11/29/21 11:19	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0132	U	0.231	0.231	1.00	0.415	pCi/L	11/04/21 10:07	11/22/21 13:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					11/04/21 10:07	11/22/21 13:19	1
Y Carrier	83.7		40 - 110					11/04/21 10:07	11/22/21 13:19	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: D-5S2-CCR

Lab Sample ID: 480-191682-5

Date Collected: 10/26/21 10:25

Matrix: Water

Date Received: 10/29/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.057		0.0020		mg/L		11/03/21 09:05	11/06/21 17:24	1
Boron	0.14		0.020		mg/L		11/03/21 09:05	11/06/21 17:24	1
Calcium	96.5		0.50		mg/L		11/03/21 09:05	11/06/21 17:24	1
Chromium	ND		0.0040		mg/L		11/03/21 09:05	11/06/21 17:24	1
Lead	ND		0.010		mg/L		11/03/21 09:05	11/06/21 17:24	1
Lithium	ND		0.030		mg/L		11/03/21 09:05	11/06/21 17:24	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:15	1
Arsenic	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:15	1
Beryllium	ND		0.70		ug/L		11/05/21 08:07	11/23/21 13:15	1
Cadmium	ND		0.50		ug/L		11/05/21 08:07	11/23/21 13:15	1
Cobalt	ND	^6+	0.30		ug/L		11/05/21 08:07	11/23/21 13:15	1
Molybdenum	ND		1.0		ug/L		11/05/21 08:07	11/24/21 13:46	1
Selenium	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:15	1
Thallium	ND		0.20		ug/L		11/05/21 08:07	11/23/21 13:15	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/07/21 13:16	11/07/21 16:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	39.2		4.0		mg/L			11/03/21 20:13	2
Total Dissolved Solids	430		10.0		mg/L			11/02/21 11:54	1
Chloride	75.6		1.0		mg/L			11/01/21 21:40	2
Fluoride	0.050		0.050		mg/L			11/04/21 19:51	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.6	HF	0.1		SU			11/12/21 15:50	1
Temperature	21.9	HF	0.001		Degrees C			11/12/21 15:50	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0939	U	0.0910	0.0914	1.00	0.144	pCi/L	11/04/21 09:25	11/29/21 11:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					11/04/21 09:25	11/29/21 11:19	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.318	U	0.195	0.197	1.00	0.411	pCi/L	11/04/21 10:07	11/22/21 13:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					11/04/21 10:07	11/22/21 13:19	1
Y Carrier	79.3		40 - 110					11/04/21 10:07	11/22/21 13:19	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: D-7-CCR

Lab Sample ID: 480-191682-6

Date Collected: 10/26/21 15:25

Matrix: Water

Date Received: 10/29/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.10		0.0020		mg/L		11/03/21 09:05	11/06/21 17:27	1
Boron	0.029		0.020		mg/L		11/03/21 09:05	11/06/21 17:27	1
Calcium	134		0.50		mg/L		11/03/21 09:05	11/06/21 17:27	1
Chromium	0.015		0.0040		mg/L		11/03/21 09:05	11/06/21 17:27	1
Lead	ND		0.010		mg/L		11/03/21 09:05	11/06/21 17:27	1
Lithium	ND		0.030		mg/L		11/03/21 09:05	11/06/21 17:27	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:18	1
Arsenic	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:18	1
Beryllium	ND		0.70		ug/L		11/05/21 08:07	11/23/21 13:18	1
Cadmium	ND		0.50		ug/L		11/05/21 08:07	11/23/21 13:18	1
Cobalt	2.1	^6+	0.30		ug/L		11/05/21 08:07	11/23/21 13:18	1
Molybdenum	ND		1.0		ug/L		11/05/21 08:07	11/24/21 13:49	1
Selenium	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:18	1
Thallium	ND		0.20		ug/L		11/05/21 08:07	11/23/21 13:18	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/07/21 13:16	11/07/21 16:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	60.7		4.0		mg/L			11/03/21 21:09	2
Total Dissolved Solids	620		10.0		mg/L			11/02/21 11:54	1
Chloride	46.6		1.0		mg/L			11/01/21 21:34	2
Fluoride	0.050		0.050		mg/L			11/04/21 19:55	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.3	HF	0.1		SU			11/12/21 15:53	1
Temperature	22.6	HF	0.001		Degrees C			11/12/21 15:53	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.235		0.151	0.152	1.00	0.208	pCi/L	11/04/21 09:25	11/29/21 11:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.8		40 - 110					11/04/21 09:25	11/29/21 11:19	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.674	U	0.477	0.481	1.00	0.745	pCi/L	11/04/21 10:07	11/22/21 13:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.8		40 - 110					11/04/21 10:07	11/22/21 13:19	1
Y Carrier	83.0		40 - 110					11/04/21 10:07	11/22/21 13:19	1

Euofins TestAmerica, Buffalo

Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: D-8-CCR

Lab Sample ID: 480-191682-7

Date Collected: 10/27/21 11:20

Matrix: Water

Date Received: 10/29/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.095		0.0020		mg/L		11/03/21 09:05	11/06/21 17:31	1
Boron	ND		0.020		mg/L		11/03/21 09:05	11/06/21 17:31	1
Calcium	121		0.50		mg/L		11/03/21 09:05	11/06/21 17:31	1
Chromium	0.0048		0.0040		mg/L		11/03/21 09:05	11/06/21 17:31	1
Lead	ND		0.010		mg/L		11/03/21 09:05	11/06/21 17:31	1
Lithium	ND		0.030		mg/L		11/03/21 09:05	11/06/21 17:31	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:20	1
Arsenic	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:20	1
Beryllium	ND		0.70		ug/L		11/05/21 08:07	11/23/21 13:20	1
Cadmium	ND		0.50		ug/L		11/05/21 08:07	11/23/21 13:20	1
Cobalt	1.9	^6+	0.30		ug/L		11/05/21 08:07	11/23/21 13:20	1
Molybdenum	ND		1.0		ug/L		11/05/21 08:07	11/24/21 13:51	1
Selenium	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:20	1
Thallium	ND		0.20		ug/L		11/05/21 08:07	11/23/21 13:20	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/07/21 13:16	11/07/21 16:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	38.1		4.0		mg/L			11/03/21 20:13	2
Total Dissolved Solids	486		10.0		mg/L			11/02/21 11:54	1
Chloride	38.1		0.50		mg/L			11/01/21 21:31	1
Fluoride	0.090		0.050		mg/L			11/04/21 19:57	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.6	HF	0.1		SU			11/12/21 15:55	1
Temperature	22.6	HF	0.001		Degrees C			11/12/21 15:55	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.114	U	0.124	0.124	1.00	0.199	pCi/L	11/04/21 09:25	11/29/21 11:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.8		40 - 110					11/04/21 09:25	11/29/21 11:19	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.174	U	0.385	0.385	1.00	0.661	pCi/L	11/04/21 10:07	11/22/21 13:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.8		40 - 110					11/04/21 10:07	11/22/21 13:19	1
Y Carrier	86.0		40 - 110					11/04/21 10:07	11/22/21 13:19	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: D-9-CCR

Lab Sample ID: 480-191682-8

Date Collected: 10/27/21 12:05

Matrix: Water

Date Received: 10/29/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.082		0.0020		mg/L		11/03/21 09:05	11/06/21 17:35	1
Boron	0.029		0.020		mg/L		11/03/21 09:05	11/06/21 17:35	1
Calcium	121		0.50		mg/L		11/03/21 09:05	11/06/21 17:35	1
Chromium	ND		0.0040		mg/L		11/03/21 09:05	11/06/21 17:35	1
Lead	ND		0.010		mg/L		11/03/21 09:05	11/06/21 17:35	1
Lithium	ND		0.030		mg/L		11/03/21 09:05	11/06/21 17:35	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:23	1
Arsenic	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:23	1
Beryllium	ND		0.70		ug/L		11/05/21 08:07	11/23/21 13:23	1
Cadmium	ND		0.50		ug/L		11/05/21 08:07	11/23/21 13:23	1
Cobalt	0.46	^6+	0.30		ug/L		11/05/21 08:07	11/23/21 13:23	1
Molybdenum	ND		1.0		ug/L		11/05/21 08:07	11/24/21 13:54	1
Selenium	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:23	1
Thallium	ND		0.20		ug/L		11/05/21 08:07	11/23/21 13:23	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/07/21 13:16	11/07/21 16:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	30.9		2.0		mg/L			11/03/21 21:09	1
Total Dissolved Solids	496		10.0		mg/L			11/02/21 11:54	1
Chloride	34.8		0.50		mg/L			11/01/21 21:34	1
Fluoride	0.070		0.050		mg/L			11/04/21 20:00	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5	HF	0.1		SU			11/12/21 15:57	1
Temperature	22.7	HF	0.001		Degrees C			11/12/21 15:57	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0143	U	0.0635	0.0635	1.00	0.121	pCi/L	11/04/21 09:25	11/29/21 11:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	107		40 - 110					11/04/21 09:25	11/29/21 11:19	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0184	U	0.201	0.201	1.00	0.365	pCi/L	11/04/21 10:07	11/22/21 13:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	107		40 - 110					11/04/21 10:07	11/22/21 13:20	1
Y Carrier	84.9		40 - 110					11/04/21 10:07	11/22/21 13:20	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: U-4D-CCR

Lab Sample ID: 480-191682-9

Date Collected: 10/26/21 11:35

Matrix: Water

Date Received: 10/29/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.068		0.0020		mg/L		11/03/21 09:05	11/06/21 17:39	1
Boron	0.020		0.020		mg/L		11/03/21 09:05	11/06/21 17:39	1
Calcium	101		0.50		mg/L		11/03/21 09:05	11/06/21 17:39	1
Chromium	ND		0.0040		mg/L		11/03/21 09:05	11/06/21 17:39	1
Lead	ND		0.010		mg/L		11/03/21 09:05	11/06/21 17:39	1
Lithium	ND		0.030		mg/L		11/03/21 09:05	11/06/21 17:39	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:25	1
Arsenic	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:25	1
Beryllium	ND		0.70		ug/L		11/05/21 08:07	11/23/21 13:25	1
Cadmium	ND		0.50		ug/L		11/05/21 08:07	11/23/21 13:25	1
Cobalt	ND	^6+	0.30		ug/L		11/05/21 08:07	11/23/21 13:25	1
Molybdenum	ND		1.0		ug/L		11/05/21 08:07	11/24/21 13:56	1
Selenium	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:25	1
Thallium	ND		0.20		ug/L		11/05/21 08:07	11/23/21 13:25	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/07/21 13:16	11/07/21 16:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	33.2		2.0		mg/L			11/03/21 20:03	1
Total Dissolved Solids	413		10.0		mg/L			11/02/21 11:54	1
Chloride	48.3		0.50		mg/L			11/02/21 01:47	1
Fluoride	0.080		0.050		mg/L			11/04/21 20:03	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.7	HF	0.1		SU			11/12/21 15:58	1
Temperature	22.9	HF	0.001		Degrees C			11/12/21 15:58	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.108	U	0.0842	0.0847	1.00	0.125	pCi/L	11/04/21 09:25	11/29/21 11:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					11/04/21 09:25	11/29/21 11:19	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.229	U	0.258	0.258	1.00	0.423	pCi/L	11/04/21 10:07	11/22/21 13:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					11/04/21 10:07	11/22/21 13:20	1
Y Carrier	83.0		40 - 110					11/04/21 10:07	11/22/21 13:20	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: U-4S-CCR

Lab Sample ID: 480-191682-10

Date Collected: 10/26/21 10:55

Matrix: Water

Date Received: 10/29/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.042		0.0020		mg/L		11/10/21 09:21	11/11/21 01:38	1
Boron	ND		0.020		mg/L		11/10/21 09:21	11/11/21 01:38	1
Calcium	101		0.50		mg/L		11/10/21 09:21	11/11/21 01:38	1
Chromium	0.011		0.0040		mg/L		11/10/21 09:21	11/11/21 01:38	1
Lead	ND		0.010		mg/L		11/10/21 09:21	11/11/21 01:38	1
Lithium	ND		0.030		mg/L		11/10/21 09:21	11/11/21 01:38	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/23/21 08:55	11/23/21 22:17	1
Arsenic	ND		1.0		ug/L		11/23/21 08:55	11/23/21 22:17	1
Beryllium	ND		0.70		ug/L		11/23/21 08:55	11/23/21 22:17	1
Cadmium	ND		0.50		ug/L		11/23/21 08:55	11/23/21 22:17	1
Cobalt	ND	^6+	0.30		ug/L		11/23/21 08:55	11/23/21 22:17	1
Molybdenum	ND		1.0		ug/L		11/23/21 08:55	11/24/21 16:09	1
Selenium	ND		1.0		ug/L		11/23/21 08:55	11/23/21 22:17	1
Thallium	ND		0.20		ug/L		11/23/21 08:55	11/23/21 22:17	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/07/21 13:16	11/07/21 16:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	25.4		2.0		mg/L			11/03/21 20:04	1
Total Dissolved Solids	468	H	10.0		mg/L			11/04/21 08:45	1
Chloride	47.2		0.50		mg/L			11/04/21 19:11	1
Fluoride	0.060		0.050		mg/L			11/04/21 20:06	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5	HF	0.1		SU			11/12/21 15:59	1
Temperature	22.6	HF	0.001		Degrees C			11/12/21 15:59	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.118	U	0.110	0.111	1.00	0.172	pCi/L	11/08/21 10:05	11/30/21 08:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					11/08/21 10:05	11/30/21 08:54	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.280	U	0.355	0.356	1.00	0.589	pCi/L	11/08/21 11:01	11/22/21 13:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					11/08/21 11:01	11/22/21 13:51	1
Y Carrier	81.9		40 - 110					11/08/21 11:01	11/22/21 13:51	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: D-5D-CCR

Lab Sample ID: 480-191682-11

Date Collected: 10/26/21 15:00

Matrix: Water

Date Received: 10/29/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.060		0.0020		mg/L		11/03/21 09:05	11/06/21 18:08	1
Boron	0.022		0.020		mg/L		11/03/21 09:05	11/06/21 18:08	1
Calcium	112		0.50		mg/L		11/03/21 09:05	11/06/21 18:08	1
Chromium	0.0070		0.0040		mg/L		11/03/21 09:05	11/06/21 18:08	1
Lead	ND		0.010		mg/L		11/03/21 09:05	11/06/21 18:08	1
Lithium	ND		0.030		mg/L		11/03/21 09:05	11/06/21 18:08	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:28	1
Arsenic	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:28	1
Beryllium	ND		0.70		ug/L		11/05/21 08:07	11/23/21 13:28	1
Cadmium	ND		0.50		ug/L		11/05/21 08:07	11/23/21 13:28	1
Cobalt	ND	^6+	0.30		ug/L		11/05/21 08:07	11/23/21 13:28	1
Molybdenum	ND		1.0		ug/L		11/05/21 08:07	11/24/21 13:59	1
Selenium	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:28	1
Thallium	ND		0.20		ug/L		11/05/21 08:07	11/23/21 13:28	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/07/21 13:16	11/07/21 16:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	39.7		4.0		mg/L			11/03/21 21:10	2
Total Dissolved Solids	428		10.0		mg/L			11/02/21 11:54	1
Chloride	59.4		1.0		mg/L			11/02/21 01:57	2
Fluoride	0.070		0.050		mg/L			11/04/21 20:09	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5	HF	0.1		SU			11/12/21 16:01	1
Temperature	22.7	HF	0.001		Degrees C			11/12/21 16:01	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0971	U	0.0836	0.0840	1.00	0.128	pCi/L	11/04/21 09:25	11/29/21 11:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					11/04/21 09:25	11/29/21 11:19	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.113	U	0.250	0.250	1.00	0.429	pCi/L	11/04/21 10:07	11/22/21 13:25	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					11/04/21 10:07	11/22/21 13:25	1
Y Carrier	77.0		40 - 110					11/04/21 10:07	11/22/21 13:25	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: U-5S-CCR

Lab Sample ID: 480-191682-12

Date Collected: 10/26/21 14:20

Matrix: Water

Date Received: 10/29/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.073		0.0020		mg/L		11/03/21 09:05	11/06/21 18:12	1
Boron	0.062		0.020		mg/L		11/03/21 09:05	11/06/21 18:12	1
Calcium	98.8		0.50		mg/L		11/03/21 09:05	11/06/21 18:12	1
Chromium	ND		0.0040		mg/L		11/03/21 09:05	11/06/21 18:12	1
Lead	ND		0.010		mg/L		11/03/21 09:05	11/06/21 18:12	1
Lithium	ND		0.030		mg/L		11/03/21 09:05	11/06/21 18:12	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:30	1
Arsenic	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:30	1
Beryllium	ND		0.70		ug/L		11/05/21 08:07	11/23/21 13:30	1
Cadmium	ND		0.50		ug/L		11/05/21 08:07	11/23/21 13:30	1
Cobalt	0.35	^6+	0.30		ug/L		11/05/21 08:07	11/23/21 13:30	1
Molybdenum	ND		1.0		ug/L		11/05/21 08:07	11/24/21 14:01	1
Selenium	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:30	1
Thallium	ND		0.20		ug/L		11/05/21 08:07	11/23/21 13:30	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/07/21 13:16	11/07/21 16:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	33.1		2.0		mg/L			11/03/21 21:10	1
Total Dissolved Solids	418		10.0		mg/L			11/02/21 11:54	1
Chloride	42.9		1.0		mg/L			11/02/21 01:49	2
Fluoride	0.10		0.050		mg/L			11/04/21 20:11	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5	HF	0.1		SU			11/12/21 16:03	1
Temperature	22.8	HF	0.001		Degrees C			11/12/21 16:03	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.164	U	0.131	0.131	1.00	0.197	pCi/L	11/04/21 09:25	11/29/21 11:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	105		40 - 110					11/04/21 09:25	11/29/21 11:20	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.977		0.338	0.349	1.00	0.445	pCi/L	11/04/21 10:07	11/22/21 13:25	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	105		40 - 110					11/04/21 10:07	11/22/21 13:25	1
Y Carrier	87.1		40 - 110					11/04/21 10:07	11/22/21 13:25	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: D-1D-CCR

Lab Sample ID: 480-191682-13

Date Collected: 10/26/21 13:00

Matrix: Water

Date Received: 10/29/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.048		0.0020		mg/L		11/03/21 09:05	11/06/21 18:15	1
Boron	0.021		0.020		mg/L		11/03/21 09:05	11/06/21 18:15	1
Calcium	91.2		0.50		mg/L		11/03/21 09:05	11/06/21 18:15	1
Chromium	0.0047		0.0040		mg/L		11/03/21 09:05	11/06/21 18:15	1
Lead	ND		0.010		mg/L		11/03/21 09:05	11/06/21 18:15	1
Lithium	ND		0.030		mg/L		11/03/21 09:05	11/06/21 18:15	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:40	1
Arsenic	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:40	1
Beryllium	ND		0.70		ug/L		11/05/21 08:07	11/23/21 13:40	1
Cadmium	ND		0.50		ug/L		11/05/21 08:07	11/23/21 13:40	1
Cobalt	ND	^6+	0.30		ug/L		11/05/21 08:07	11/23/21 13:40	1
Molybdenum	ND		1.0		ug/L		11/05/21 08:07	11/24/21 14:04	1
Selenium	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:40	1
Thallium	ND		0.20		ug/L		11/05/21 08:07	11/23/21 13:40	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/07/21 13:16	11/07/21 16:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	35.7		2.0		mg/L			11/03/21 21:10	1
Total Dissolved Solids	380		10.0		mg/L			11/02/21 11:54	1
Chloride	33.5		0.50		mg/L			11/02/21 01:50	1
Fluoride	0.070		0.050		mg/L			11/04/21 20:14	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.9	HF	0.1		SU			11/12/21 16:05	1
Temperature	22.8	HF	0.001		Degrees C			11/12/21 16:05	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.111	U	0.0837	0.0842	1.00	0.122	pCi/L	11/04/21 09:25	11/29/21 11:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.8		40 - 110					11/04/21 09:25	11/29/21 11:20	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.453		0.271	0.274	1.00	0.408	pCi/L	11/04/21 10:07	11/22/21 13:25	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.8		40 - 110					11/04/21 10:07	11/22/21 13:25	1
Y Carrier	76.3		40 - 110					11/04/21 10:07	11/22/21 13:25	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: D-2D-CCR

Lab Sample ID: 480-191682-14

Date Collected: 10/26/21 14:15

Matrix: Water

Date Received: 10/29/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.052		0.0020		mg/L		11/03/21 09:05	11/06/21 18:19	1
Boron	ND		0.020		mg/L		11/03/21 09:05	11/06/21 18:19	1
Calcium	93.7		0.50		mg/L		11/03/21 09:05	11/06/21 18:19	1
Chromium	ND		0.0040		mg/L		11/03/21 09:05	11/06/21 18:19	1
Lead	ND		0.010		mg/L		11/03/21 09:05	11/06/21 18:19	1
Lithium	ND		0.030		mg/L		11/03/21 09:05	11/06/21 18:19	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:43	1
Arsenic	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:43	1
Beryllium	ND		0.70		ug/L		11/05/21 08:07	11/23/21 13:43	1
Cadmium	ND		0.50		ug/L		11/05/21 08:07	11/23/21 13:43	1
Cobalt	ND	^6+	0.30		ug/L		11/05/21 08:07	11/23/21 13:43	1
Molybdenum	ND		1.0		ug/L		11/05/21 08:07	11/24/21 14:06	1
Selenium	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:43	1
Thallium	ND		0.20		ug/L		11/05/21 08:07	11/23/21 13:43	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/07/21 13:16	11/07/21 16:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	34.8		2.0		mg/L			11/03/21 21:10	1
Total Dissolved Solids	410		10.0		mg/L			11/02/21 11:54	1
Chloride	34.3		0.50		mg/L			11/02/21 01:50	1
Fluoride	0.080		0.050		mg/L			11/04/21 20:17	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.8	HF	0.1		SU			11/12/21 16:06	1
Temperature	22.9	HF	0.001		Degrees C			11/12/21 16:06	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.134	U	0.0940	0.0948	1.00	0.135	pCi/L	11/04/21 09:25	11/29/21 11:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.3		40 - 110					11/04/21 09:25	11/29/21 11:20	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.400	U	0.315	0.317	1.00	0.502	pCi/L	11/04/21 10:07	11/22/21 13:25	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.3		40 - 110					11/04/21 10:07	11/22/21 13:25	1
Y Carrier	87.5		40 - 110					11/04/21 10:07	11/22/21 13:25	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: D-3D-CCR

Lab Sample ID: 480-191682-15

Date Collected: 10/26/21 11:50

Matrix: Water

Date Received: 10/29/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.059		0.0020		mg/L		11/10/21 09:21	11/11/21 01:42	1
Boron	0.053		0.020		mg/L		11/10/21 09:21	11/11/21 01:42	1
Calcium	103		0.50		mg/L		11/10/21 09:21	11/11/21 01:42	1
Chromium	0.021		0.0040		mg/L		11/10/21 09:21	11/11/21 01:42	1
Lead	ND		0.010		mg/L		11/10/21 09:21	11/11/21 01:42	1
Lithium	ND		0.030		mg/L		11/10/21 09:21	11/11/21 01:42	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/23/21 08:55	11/23/21 22:19	1
Arsenic	ND		1.0		ug/L		11/23/21 08:55	11/23/21 22:19	1
Beryllium	ND		0.70		ug/L		11/23/21 08:55	11/23/21 22:19	1
Cadmium	ND		0.50		ug/L		11/23/21 08:55	11/23/21 22:19	1
Cobalt	0.44	^6+	0.30		ug/L		11/23/21 08:55	11/23/21 22:19	1
Molybdenum	ND		1.0		ug/L		11/23/21 08:55	11/24/21 16:20	1
Selenium	ND		1.0		ug/L		11/23/21 08:55	11/23/21 22:19	1
Thallium	ND		0.20		ug/L		11/23/21 08:55	11/23/21 22:19	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/07/21 13:16	11/07/21 16:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	34.8		4.0		mg/L			11/03/21 20:17	2
Total Dissolved Solids	525	H	10.0		mg/L			11/04/21 08:45	1
Chloride	82.5		1.0		mg/L			11/04/21 19:11	2
Fluoride	0.070		0.050		mg/L			11/04/21 20:35	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.7	HF	0.1		SU			11/12/21 16:09	1
Temperature	22.7	HF	0.001		Degrees C			11/12/21 16:09	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0318	U	0.0722	0.0722	1.00	0.130	pCi/L	11/08/21 10:05	11/30/21 08:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.9		40 - 110					11/08/21 10:05	11/30/21 08:54	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.254	U	0.264	0.265	1.00	0.431	pCi/L	11/08/21 11:01	11/22/21 13:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.9		40 - 110					11/08/21 11:01	11/22/21 13:54	1
Y Carrier	83.0		40 - 110					11/08/21 11:01	11/22/21 13:54	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: D-4D-CCR

Lab Sample ID: 480-191682-16

Date Collected: 10/27/21 09:50

Matrix: Water

Date Received: 10/29/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.043		0.0020		mg/L		11/10/21 09:21	11/11/21 01:46	1
Boron	ND		0.020		mg/L		11/10/21 09:21	11/11/21 01:46	1
Calcium	90.3		0.50		mg/L		11/10/21 09:21	11/11/21 01:46	1
Chromium	ND		0.0040		mg/L		11/10/21 09:21	11/11/21 01:46	1
Lead	ND		0.010		mg/L		11/10/21 09:21	11/11/21 01:46	1
Lithium	ND		0.030		mg/L		11/10/21 09:21	11/11/21 01:46	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/23/21 08:55	11/23/21 22:22	1
Arsenic	ND		1.0		ug/L		11/23/21 08:55	11/23/21 22:22	1
Beryllium	ND		0.70		ug/L		11/23/21 08:55	11/23/21 22:22	1
Cadmium	ND		0.50		ug/L		11/23/21 08:55	11/23/21 22:22	1
Cobalt	ND	^6+	0.30		ug/L		11/23/21 08:55	11/23/21 22:22	1
Molybdenum	ND		1.0		ug/L		11/23/21 08:55	11/24/21 16:22	1
Selenium	ND		1.0		ug/L		11/23/21 08:55	11/23/21 22:22	1
Thallium	ND		0.20		ug/L		11/23/21 08:55	11/23/21 22:22	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/07/21 13:16	11/07/21 16:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	35.2		2.0		mg/L			11/03/21 20:17	1
Total Dissolved Solids	430	H	10.0		mg/L			11/04/21 08:45	1
Chloride	32.5		0.50		mg/L			11/04/21 20:21	1
Fluoride	0.090		0.050		mg/L			11/04/21 20:43	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.8	HF	0.1		SU			11/12/21 16:10	1
Temperature	22.9	HF	0.001		Degrees C			11/12/21 16:10	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0490	U	0.113	0.113	1.00	0.203	pCi/L	11/08/21 10:05	11/30/21 08:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.4		40 - 110					11/08/21 10:05	11/30/21 08:54	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.441	U	0.423	0.425	1.00	0.683	pCi/L	11/08/21 11:01	11/22/21 13:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.4		40 - 110					11/08/21 11:01	11/22/21 13:53	1
Y Carrier	65.4		40 - 110					11/08/21 11:01	11/22/21 13:53	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: U-5D-CCR

Lab Sample ID: 480-191682-17

Date Collected: 10/26/21 10:40

Matrix: Water

Date Received: 10/29/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.058		0.0020		mg/L		11/10/21 09:21	11/11/21 01:50	1
Boron	ND		0.020		mg/L		11/10/21 09:21	11/11/21 01:50	1
Calcium	87.8		0.50		mg/L		11/10/21 09:21	11/11/21 01:50	1
Chromium	ND		0.0040		mg/L		11/10/21 09:21	11/11/21 01:50	1
Lead	ND		0.010		mg/L		11/10/21 09:21	11/11/21 01:50	1
Lithium	ND		0.030		mg/L		11/10/21 09:21	11/11/21 01:50	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/23/21 08:55	11/23/21 22:32	1
Arsenic	ND		1.0		ug/L		11/23/21 08:55	11/23/21 22:32	1
Beryllium	ND		0.70		ug/L		11/23/21 08:55	11/23/21 22:32	1
Cadmium	ND		0.50		ug/L		11/23/21 08:55	11/23/21 22:32	1
Cobalt	ND	^6+	0.30		ug/L		11/23/21 08:55	11/23/21 22:32	1
Molybdenum	ND		1.0		ug/L		11/23/21 08:55	11/24/21 16:25	1
Selenium	ND		1.0		ug/L		11/23/21 08:55	11/23/21 22:32	1
Thallium	ND		0.20		ug/L		11/23/21 08:55	11/23/21 22:32	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/07/21 13:16	11/07/21 16:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	34.8		4.0		mg/L			11/03/21 20:24	2
Total Dissolved Solids	406	H	10.0		mg/L			11/04/21 08:45	1
Chloride	28.1		1.0		mg/L			11/04/21 19:12	2
Fluoride	0.090		0.050		mg/L			11/04/21 20:45	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.7	HF	0.1		SU			11/12/21 16:11	1
Temperature	22.9	HF	0.001		Degrees C			11/12/21 16:11	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0286	U	0.0700	0.0701	1.00	0.128	pCi/L	11/08/21 10:05	11/30/21 08:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.1		40 - 110					11/08/21 10:05	11/30/21 08:54	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0189	U	0.221	0.221	1.00	0.401	pCi/L	11/08/21 11:01	11/22/21 13:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.1		40 - 110					11/08/21 11:01	11/22/21 13:54	1
Y Carrier	81.5		40 - 110					11/08/21 11:01	11/22/21 13:54	1

Eurolins TestAmerica, Buffalo

Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: DUP 1 CCR

Lab Sample ID: 480-191682-18

Date Collected: 10/26/21 00:00

Matrix: Water

Date Received: 10/29/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.073		0.0020		mg/L		11/10/21 09:21	11/11/21 01:53	1
Boron	0.056		0.020		mg/L		11/10/21 09:21	11/11/21 01:53	1
Calcium	96.8		0.50		mg/L		11/10/21 09:21	11/11/21 01:53	1
Chromium	ND		0.0040		mg/L		11/10/21 09:21	11/11/21 01:53	1
Lead	ND		0.010		mg/L		11/10/21 09:21	11/11/21 01:53	1
Lithium	ND		0.030		mg/L		11/10/21 09:21	11/11/21 01:53	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/23/21 08:55	11/23/21 22:34	1
Arsenic	ND		1.0		ug/L		11/23/21 08:55	11/23/21 22:34	1
Beryllium	ND		0.70		ug/L		11/23/21 08:55	11/23/21 22:34	1
Cadmium	ND		0.50		ug/L		11/23/21 08:55	11/23/21 22:34	1
Cobalt	0.37	^6+	0.30		ug/L		11/23/21 08:55	11/23/21 22:34	1
Molybdenum	ND		1.0		ug/L		11/23/21 08:55	11/24/21 16:27	1
Selenium	ND		1.0		ug/L		11/23/21 08:55	11/23/21 22:34	1
Thallium	ND		0.20		ug/L		11/23/21 08:55	11/23/21 22:34	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/07/21 13:16	11/07/21 16:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	33.9		2.0		mg/L			11/03/21 20:18	1
Total Dissolved Solids	451	H	10.0		mg/L			11/04/21 08:45	1
Chloride	44.0		0.50		mg/L			11/04/21 19:12	1
Fluoride	0.10		0.050		mg/L			11/04/21 20:48	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.7	HF	0.1		SU			11/12/21 16:13	1
Temperature	22.8	HF	0.001		Degrees C			11/12/21 16:13	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.397		0.154	0.158	1.00	0.173	pCi/L	11/08/21 10:05	11/30/21 08:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.2		40 - 110					11/08/21 10:05	11/30/21 08:55	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.502		0.326	0.329	1.00	0.493	pCi/L	11/08/21 11:01	11/22/21 13:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.2		40 - 110					11/08/21 11:01	11/22/21 13:54	1
Y Carrier	81.9		40 - 110					11/08/21 11:01	11/22/21 13:54	1

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Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: DUP 2 CCR

Lab Sample ID: 480-191682-19

Date Collected: 10/27/21 00:00

Matrix: Water

Date Received: 10/29/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.078		0.0020		mg/L		11/03/21 09:05	11/06/21 18:23	1
Boron	0.022		0.020		mg/L		11/03/21 09:05	11/06/21 18:23	1
Calcium	106		0.50		mg/L		11/03/21 09:05	11/06/21 18:23	1
Chromium	ND		0.0040		mg/L		11/03/21 09:05	11/06/21 18:23	1
Lead	ND		0.010		mg/L		11/03/21 09:05	11/06/21 18:23	1
Lithium	ND		0.030		mg/L		11/03/21 09:05	11/06/21 18:23	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:45	1
Arsenic	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:45	1
Beryllium	ND		0.70		ug/L		11/05/21 08:07	11/23/21 13:45	1
Cadmium	ND		0.50		ug/L		11/05/21 08:07	11/23/21 13:45	1
Cobalt	ND	^6+	0.30		ug/L		11/05/21 08:07	11/23/21 13:45	1
Molybdenum	ND		1.0		ug/L		11/05/21 08:07	11/24/21 14:09	1
Selenium	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:45	1
Thallium	ND		0.20		ug/L		11/05/21 08:07	11/23/21 13:45	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/07/21 13:16	11/07/21 16:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	34.3		2.0		mg/L			11/03/21 20:18	1
Total Dissolved Solids	440		10.0		mg/L			11/02/21 11:54	1
Chloride	47.9		0.50		mg/L			11/02/21 01:50	1
Fluoride	0.070		0.050		mg/L			11/04/21 20:51	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.6	HF	0.1		SU			11/12/21 16:14	1
Temperature	22.8	HF	0.001		Degrees C			11/12/21 16:14	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.119	U	0.102	0.102	1.00	0.157	pCi/L	11/04/21 09:25	11/29/21 11:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					11/04/21 09:25	11/29/21 11:20	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.239	U	0.266	0.267	1.00	0.436	pCi/L	11/04/21 10:07	11/22/21 13:25	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					11/04/21 10:07	11/22/21 13:25	1
Y Carrier	81.1		40 - 110					11/04/21 10:07	11/22/21 13:25	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: FIELD BLANK CCR

Lab Sample ID: 480-191682-20

Date Collected: 10/27/21 10:00

Matrix: Water

Date Received: 10/29/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		0.0020		mg/L		11/03/21 09:05	11/06/21 18:27	1
Boron	ND		0.020		mg/L		11/03/21 09:05	11/06/21 18:27	1
Calcium	ND		0.50		mg/L		11/03/21 09:05	11/06/21 18:27	1
Chromium	ND		0.0040		mg/L		11/03/21 09:05	11/06/21 18:27	1
Lead	ND		0.010		mg/L		11/03/21 09:05	11/06/21 18:27	1
Lithium	ND		0.030		mg/L		11/03/21 09:05	11/06/21 18:27	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:48	1
Arsenic	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:48	1
Beryllium	ND		0.70		ug/L		11/05/21 08:07	11/23/21 13:48	1
Cadmium	ND		0.50		ug/L		11/05/21 08:07	11/23/21 13:48	1
Cobalt	ND	^6+	0.30		ug/L		11/05/21 08:07	11/23/21 13:48	1
Molybdenum	ND		1.0		ug/L		11/05/21 08:07	11/24/21 14:19	1
Selenium	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:48	1
Thallium	ND		0.20		ug/L		11/05/21 08:07	11/23/21 13:48	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/07/21 13:16	11/07/21 16:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0		mg/L			11/03/21 20:19	1
Total Dissolved Solids	ND		10.0		mg/L			11/02/21 11:54	1
Chloride	ND		0.50		mg/L			11/02/21 01:50	1
Fluoride	ND		0.050		mg/L			11/04/21 20:55	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.3	HF	0.1		SU			11/12/21 16:15	1
Temperature	22.8	HF	0.001		Degrees C			11/12/21 16:15	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0878	U	0.0927	0.0931	1.00	0.149	pCi/L	11/04/21 09:25	11/29/21 11:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.0		40 - 110					11/04/21 09:25	11/29/21 11:20	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.219	U	0.259	0.260	1.00	0.428	pCi/L	11/04/21 10:07	11/22/21 13:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.0		40 - 110					11/04/21 10:07	11/22/21 13:26	1
Y Carrier	80.0		40 - 110					11/04/21 10:07	11/22/21 13:26	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: EQUIPMENT BLANK CCR

Lab Sample ID: 480-191682-21

Date Collected: 10/27/21 12:15

Matrix: Water

Date Received: 10/29/21 10:00

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		0.0020		mg/L		11/03/21 09:05	11/06/21 18:30	1
Boron	ND		0.020		mg/L		11/03/21 09:05	11/06/21 18:30	1
Calcium	ND		0.50		mg/L		11/03/21 09:05	11/06/21 18:30	1
Chromium	ND		0.0040		mg/L		11/03/21 09:05	11/06/21 18:30	1
Lead	ND		0.010		mg/L		11/03/21 09:05	11/06/21 18:30	1
Lithium	ND		0.030		mg/L		11/03/21 09:05	11/06/21 18:30	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:51	1
Arsenic	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:51	1
Beryllium	ND		0.70		ug/L		11/05/21 08:07	11/23/21 13:51	1
Cadmium	ND		0.50		ug/L		11/05/21 08:07	11/23/21 13:51	1
Cobalt	ND	^6+	0.30		ug/L		11/05/21 08:07	11/23/21 13:51	1
Molybdenum	ND		1.0		ug/L		11/05/21 08:07	11/24/21 14:21	1
Selenium	ND		1.0		ug/L		11/05/21 08:07	11/23/21 13:51	1
Thallium	ND		0.20		ug/L		11/05/21 08:07	11/23/21 13:51	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/07/21 13:16	11/07/21 16:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0		mg/L			11/03/21 20:19	1
Total Dissolved Solids	ND		10.0		mg/L			11/02/21 11:54	1
Chloride	ND		0.50		mg/L			11/02/21 01:51	1
Fluoride	ND		0.050		mg/L			11/04/21 21:07	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.6	HF	0.1		SU			11/12/21 16:18	1
Temperature	22.9	HF	0.001		Degrees C			11/12/21 16:18	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.145	U	0.102	0.103	1.00	0.150	pCi/L	11/04/21 09:25	11/29/21 11:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	109		40 - 110					11/04/21 09:25	11/29/21 11:20	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.395		0.221	0.224	1.00	0.329	pCi/L	11/04/21 10:07	11/22/21 13:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	109		40 - 110					11/04/21 10:07	11/22/21 13:26	1
Y Carrier	88.2		40 - 110					11/04/21 10:07	11/22/21 13:26	1

Eurofins TestAmerica, Buffalo

Tracer/Carrier Summary

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits)	
		Ba (40-110)	
480-191682-1	D-1S-CCR	105	
480-191682-2	D-2S-CCR	73.4	
480-191682-3	D-3S-CCR	100	
480-191682-4	D-4S-CCR	103	
480-191682-5	D-5S2-CCR	104	
480-191682-6	D-7-CCR	74.8	
480-191682-7	D-8-CCR	75.8	
480-191682-8	D-9-CCR	107	
480-191682-9	U-4D-CCR	102	
480-191682-10	U-4S-CCR	92.9	
480-191682-11	D-5D-CCR	101	
480-191682-12	U-5S-CCR	105	
480-191682-13	D-1D-CCR	99.8	
480-191682-14	D-2D-CCR	93.3	
480-191682-15	D-3D-CCR	93.9	
480-191682-16	D-4D-CCR	95.4	
480-191682-17	U-5D-CCR	89.1	
480-191682-18	DUP 1 CCR	93.2	
480-191682-19	DUP 2 CCR	102	
480-191682-20	FIELD BLANK CCR	97.0	
480-191682-21	EQUIPMENT BLANK CCR	109	
LCS 160-535029/1-A	Lab Control Sample	100	
LCS 160-535410/1-A	Lab Control Sample	95.9	
LCS 160-535029/2-A	Lab Control Sample Dup	104	
LCS 160-535410/2-A	Lab Control Sample Dup	99.0	
MB 160-535029/23-A	Method Blank	90.3	
MB 160-535410/22-A	Method Blank	88.1	

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - 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)
480-191682-1	D-1S-CCR	105	77.0
480-191682-2	D-2S-CCR	73.4	83.4
480-191682-3	D-3S-CCR	100	84.5
480-191682-4	D-4S-CCR	103	83.7
480-191682-5	D-5S2-CCR	104	79.3
480-191682-6	D-7-CCR	74.8	83.0
480-191682-7	D-8-CCR	75.8	86.0
480-191682-8	D-9-CCR	107	84.9
480-191682-9	U-4D-CCR	102	83.0
480-191682-10	U-4S-CCR	92.9	81.9
480-191682-11	D-5D-CCR	101	77.0
480-191682-12	U-5S-CCR	105	87.1
480-191682-13	D-1D-CCR	99.8	76.3

Tracer/Carrier Summary

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Method: 904.0 - Radium-228 (GFPC) (Continued)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits)	
		Ba (40-110)	Y (40-110)
480-191682-14	D-2D-CCR	93.3	87.5
480-191682-15	D-3D-CCR	93.9	83.0
480-191682-16	D-4D-CCR	95.4	65.4
480-191682-17	U-5D-CCR	89.1	81.5
480-191682-18	DUP 1 CCR	93.2	81.9
480-191682-19	DUP 2 CCR	102	81.1
480-191682-20	FIELD BLANK CCR	97.0	80.0
480-191682-21	EQUIPMENT BLANK CCR	109	88.2
LCS 160-535160/1-A	Lab Control Sample	100	78.1
LCS 160-535423/1-A	Lab Control Sample	95.9	86.4
LCSD 160-535160/2-A	Lab Control Sample Dup	104	84.5
LCSD 160-535423/2-A	Lab Control Sample Dup	99.0	84.9
MB 160-535160/23-A	Method Blank	90.3	76.6
MB 160-535423/22-A	Method Blank	88.1	83.7

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier



QC Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 480-603082/1-A
Matrix: Water
Analysis Batch: 603846

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 603082

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		0.0020		mg/L		11/03/21 09:05	11/06/21 16:54	1
Boron	ND		0.020		mg/L		11/03/21 09:05	11/06/21 16:54	1
Calcium	ND		0.50		mg/L		11/03/21 09:05	11/06/21 16:54	1
Chromium	ND		0.0040		mg/L		11/03/21 09:05	11/06/21 16:54	1
Lead	ND		0.010		mg/L		11/03/21 09:05	11/06/21 16:54	1
Lithium	ND		0.030		mg/L		11/03/21 09:05	11/06/21 16:54	1

Lab Sample ID: LCS 480-603082/2-A
Matrix: Water
Analysis Batch: 603846

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 603082

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Barium	0.200	0.211		mg/L		106	80 - 120
Boron	0.200	0.208		mg/L		104	80 - 120
Calcium	10.0	9.90		mg/L		99	80 - 120
Chromium	0.200	0.201		mg/L		101	80 - 120
Lead	0.200	0.194		mg/L		97	80 - 120

Lab Sample ID: 480-191682-9 MS
Matrix: Water
Analysis Batch: 603846

Client Sample ID: U-4D-CCR
Prep Type: Total/NA
Prep Batch: 603082

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Barium	0.068		0.200	0.279		mg/L		106	75 - 125
Boron	0.020		0.200	0.230		mg/L		105	75 - 125
Calcium	101		10.0	112.4	4	mg/L		113	75 - 125
Chromium	ND		0.200	0.200		mg/L		99	75 - 125
Lead	ND		0.200	0.199		mg/L		100	75 - 125

Lab Sample ID: 480-191682-9 MSD
Matrix: Water
Analysis Batch: 603846

Client Sample ID: U-4D-CCR
Prep Type: Total/NA
Prep Batch: 603082

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Barium	0.068		0.200	0.279		mg/L		106	75 - 125	0	20
Boron	0.020		0.200	0.229		mg/L		105	75 - 125	0	20
Calcium	101		10.0	112.1	4	mg/L		110	75 - 125	0	20
Chromium	ND		0.200	0.202		mg/L		100	75 - 125	1	20
Lead	ND		0.200	0.201		mg/L		100	75 - 125	1	20

Lab Sample ID: MB 480-604131/1-A
Matrix: Water
Analysis Batch: 604421

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 604131

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		0.0020		mg/L		11/10/21 09:21	11/11/21 01:16	1
Boron	ND		0.020		mg/L		11/10/21 09:21	11/11/21 01:16	1
Calcium	ND		0.50		mg/L		11/10/21 09:21	11/11/21 01:16	1
Chromium	ND		0.0040		mg/L		11/10/21 09:21	11/11/21 01:16	1

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QC Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: MB 480-604131/1-A
Matrix: Water
Analysis Batch: 604421

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 604131

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.010		mg/L		11/10/21 09:21	11/11/21 01:16	1
Lithium	ND		0.030		mg/L		11/10/21 09:21	11/11/21 01:16	1

Lab Sample ID: LCS 480-604131/2-A
Matrix: Water
Analysis Batch: 604421

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 604131

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	0.200	0.213		mg/L		106	80 - 120
Boron	0.200	0.191		mg/L		96	80 - 120
Calcium	10.0	10.09		mg/L		101	80 - 120
Chromium	0.200	0.199		mg/L		100	80 - 120
Lead	0.200	0.194		mg/L		97	80 - 120

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 480-603249/1-A
Matrix: Water
Analysis Batch: 606300

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 603249

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/05/21 08:07	11/23/21 12:45	1
Arsenic	ND		1.0		ug/L		11/05/21 08:07	11/23/21 12:45	1
Beryllium	ND		0.70		ug/L		11/05/21 08:07	11/23/21 12:45	1
Cadmium	ND		0.50		ug/L		11/05/21 08:07	11/23/21 12:45	1
Cobalt	ND	^6+	0.30		ug/L		11/05/21 08:07	11/23/21 12:45	1
Selenium	ND		1.0		ug/L		11/05/21 08:07	11/23/21 12:45	1
Thallium	ND		0.20		ug/L		11/05/21 08:07	11/23/21 12:45	1

Lab Sample ID: MB 480-603249/1-A
Matrix: Water
Analysis Batch: 606543

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 603249

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	ND		1.0		ug/L		11/05/21 08:07	11/24/21 13:16	1

Lab Sample ID: LCS 480-603249/2-A
Matrix: Water
Analysis Batch: 606300

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 603249

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	20.0	19.62		ug/L		98	80 - 120
Arsenic	20.0	18.08		ug/L		90	80 - 120
Beryllium	20.0	17.93		ug/L		90	80 - 120
Cadmium	20.0	19.11		ug/L		96	80 - 120
Cobalt	20.0	19.08	^6+	ug/L		95	80 - 120
Selenium	20.0	18.15		ug/L		91	80 - 120
Thallium	20.0	19.82		ug/L		99	80 - 120

QC Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

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

Lab Sample ID: LCS 480-603249/2-A
Matrix: Water
Analysis Batch: 606543

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 603249
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Molybdenum	20.0	20.36		ug/L		102	80 - 120

Lab Sample ID: 480-191682-3 MS
Matrix: Water
Analysis Batch: 606300

Client Sample ID: D-3S-CCR
Prep Type: Total/NA
Prep Batch: 603249
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Antimony	ND		20.0	22.19		ug/L		111	75 - 125
Arsenic	ND		20.0	20.70		ug/L		104	75 - 125
Beryllium	ND		20.0	19.35		ug/L		97	75 - 125
Cadmium	ND		20.0	19.73		ug/L		99	75 - 125
Cobalt	ND	^6+	20.0	19.05	^6+	ug/L		94	75 - 125
Selenium	ND		20.0	20.13		ug/L		101	75 - 125
Thallium	ND		20.0	19.54		ug/L		98	75 - 125

Lab Sample ID: 480-191682-3 MS
Matrix: Water
Analysis Batch: 606543

Client Sample ID: D-3S-CCR
Prep Type: Total/NA
Prep Batch: 603249
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Molybdenum	ND		20.0	23.07		ug/L		115	75 - 125

Lab Sample ID: 480-191682-3 MSD
Matrix: Water
Analysis Batch: 606300

Client Sample ID: D-3S-CCR
Prep Type: Total/NA
Prep Batch: 603249
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Antimony	ND		20.0	21.72		ug/L		109	75 - 125	2	20
Arsenic	ND		20.0	20.57		ug/L		103	75 - 125	1	20
Beryllium	ND		20.0	19.64		ug/L		98	75 - 125	2	20
Cadmium	ND		20.0	19.02		ug/L		95	75 - 125	4	20
Cobalt	ND	^6+	20.0	18.78	^6+	ug/L		93	75 - 125	1	20
Selenium	ND		20.0	19.35		ug/L		97	75 - 125	4	20
Thallium	ND		20.0	19.15		ug/L		96	75 - 125	2	20

Lab Sample ID: 480-191682-3 MSD
Matrix: Water
Analysis Batch: 606543

Client Sample ID: D-3S-CCR
Prep Type: Total/NA
Prep Batch: 603249
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Molybdenum	ND		20.0	22.49		ug/L		112	75 - 125	3	20

Lab Sample ID: MB 480-606062/1-A
Matrix: Water
Analysis Batch: 606479

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 606062

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/23/21 08:55	11/23/21 21:46	1
Arsenic	ND		1.0		ug/L		11/23/21 08:55	11/23/21 21:46	1
Beryllium	ND		0.70		ug/L		11/23/21 08:55	11/23/21 21:46	1

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QC Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

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

Lab Sample ID: MB 480-606062/1-A
Matrix: Water
Analysis Batch: 606479

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 606062

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.50		ug/L		11/23/21 08:55	11/23/21 21:46	1
Cobalt	ND	^6+	0.30		ug/L		11/23/21 08:55	11/23/21 21:46	1
Selenium	ND		1.0		ug/L		11/23/21 08:55	11/23/21 21:46	1
Thallium	ND		0.20		ug/L		11/23/21 08:55	11/23/21 21:46	1

Lab Sample ID: MB 480-606062/1-A
Matrix: Water
Analysis Batch: 606585

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 606062

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	ND		1.0		ug/L		11/23/21 08:55	11/24/21 16:02	1

Lab Sample ID: LCS 480-606062/2-A
Matrix: Water
Analysis Batch: 606479

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 606062

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony	20.0	19.14		ug/L		96	80 - 120
Arsenic	20.0	18.22		ug/L		91	80 - 120
Beryllium	20.0	19.22		ug/L		96	80 - 120
Cadmium	20.0	18.79		ug/L		94	80 - 120
Cobalt	20.0	19.41	^6+	ug/L		97	80 - 120
Selenium	20.0	18.60		ug/L		93	80 - 120
Thallium	20.0	20.46		ug/L		102	80 - 120

Lab Sample ID: LCS 480-606062/2-A
Matrix: Water
Analysis Batch: 606585

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 606062

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Molybdenum	20.0	20.58		ug/L		103	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 480-603666/1-A
Matrix: Water
Analysis Batch: 603785

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 603666

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/07/21 13:16	11/07/21 15:40	1

Lab Sample ID: LCS 480-603666/2-A
Matrix: Water
Analysis Batch: 603785

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 603666

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	6.67	7.47		ug/L		112	80 - 120

QC Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

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

Lab Sample ID: MB 480-603667/1-A
Matrix: Water
Analysis Batch: 603785

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 603667

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/07/21 13:16	11/07/21 16:19	1

Lab Sample ID: LCS 480-603667/2-A
Matrix: Water
Analysis Batch: 603785

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 603667

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	6.67	7.30		ug/L		109	80 - 120

Lab Sample ID: 480-191682-4 MS
Matrix: Water
Analysis Batch: 603785

Client Sample ID: D-4S-CCR
Prep Type: Total/NA
Prep Batch: 603667

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		6.67	7.22		ug/L		108	80 - 120

Lab Sample ID: 480-191682-4 MSD
Matrix: Water
Analysis Batch: 603785

Client Sample ID: D-4S-CCR
Prep Type: Total/NA
Prep Batch: 603667

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Mercury	ND		6.67	7.15		ug/L		107	80 - 120	1	20

Method: D516-90, 02 - Sulfate

Lab Sample ID: MB 480-603362/101
Matrix: Water
Analysis Batch: 603362

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0		mg/L			11/03/21 20:03	1

Lab Sample ID: MB 480-603362/113
Matrix: Water
Analysis Batch: 603362

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0		mg/L			11/03/21 20:07	1

Lab Sample ID: MB 480-603362/153
Matrix: Water
Analysis Batch: 603362

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0		mg/L			11/03/21 20:37	1

QC Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Method: D516-90, 02 - Sulfate (Continued)

Lab Sample ID: MB 480-603362/183
Matrix: Water
Analysis Batch: 603362

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0		mg/L			11/03/21 21:21	1

Lab Sample ID: MB 480-603362/95
Matrix: Water
Analysis Batch: 603362

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0		mg/L			11/03/21 19:59	1

Lab Sample ID: LCS 480-603362/102
Matrix: Water
Analysis Batch: 603362

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	30.0	31.19		mg/L		104	90 - 110

Lab Sample ID: LCS 480-603362/114
Matrix: Water
Analysis Batch: 603362

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	30.0	30.23		mg/L		101	90 - 110

Lab Sample ID: LCS 480-603362/154
Matrix: Water
Analysis Batch: 603362

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	30.0	30.05		mg/L		100	90 - 110

Lab Sample ID: LCS 480-603362/184
Matrix: Water
Analysis Batch: 603362

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	30.0	31.08		mg/L		104	90 - 110

Lab Sample ID: LCS 480-603362/96
Matrix: Water
Analysis Batch: 603362

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	30.0	31.74		mg/L		106	90 - 110

Lab Sample ID: 480-191682-1 MS
Matrix: Water
Analysis Batch: 603362

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	18.2		20.0	42.00		mg/L		119	60 - 128

Eurofins TestAmerica, Buffalo

QC Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Method: D516-90, 02 - Sulfate

Lab Sample ID: 480-191682-1 MSD
Matrix: Water
Analysis Batch: 603362

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	18.2		20.0	42.26		mg/L		121	60 - 128	1	20

Lab Sample ID: 480-191682-2 MS
Matrix: Water
Analysis Batch: 603362

Client Sample ID: D-2S-CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	22.0	F1	20.0	45.05		mg/L		115	60 - 128		

Lab Sample ID: 480-191682-2 MSD
Matrix: Water
Analysis Batch: 603362

Client Sample ID: D-2S-CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	22.0	F1	20.0	46.63		mg/L		123	60 - 128	3	20

Lab Sample ID: 480-191682-14 MS
Matrix: Water
Analysis Batch: 603362

Client Sample ID: D-2D-CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	34.8		20.0	52.40		mg/L		88	60 - 128		

Lab Sample ID: 480-191682-14 MSD
Matrix: Water
Analysis Batch: 603362

Client Sample ID: D-2D-CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	34.8		20.0	52.89		mg/L		91	60 - 128	1	20

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

Lab Sample ID: MB 480-603062/1
Matrix: Water
Analysis Batch: 603062

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			11/02/21 11:39	1

Lab Sample ID: LCS 480-603062/2
Matrix: Water
Analysis Batch: 603062

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	501	476.0		mg/L		95	85 - 115		

QC Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

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

Lab Sample ID: 480-191682-3 DU
Matrix: Water
Analysis Batch: 603062

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	476		450.0		mg/L		6	10

Lab Sample ID: MB 480-603063/1
Matrix: Water
Analysis Batch: 603063

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			11/02/21 11:54	1

Lab Sample ID: LCS 480-603063/2
Matrix: Water
Analysis Batch: 603063

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	502	488.0		mg/L		97	85 - 115

Lab Sample ID: 480-191682-4 DU
Matrix: Water
Analysis Batch: 603063

Client Sample ID: D-4S-CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	452		436.0		mg/L		4	10

Lab Sample ID: MB 480-603379/1
Matrix: Water
Analysis Batch: 603379

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			11/04/21 08:45	1

Lab Sample ID: LCS 480-603379/2
Matrix: Water
Analysis Batch: 603379

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	501	477.0		mg/L		95	85 - 115

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 480-602978/110
Matrix: Water
Analysis Batch: 602978

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50		mg/L			11/01/21 21:19	1

QC Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: MB 480-602978/118
Matrix: Water
Analysis Batch: 602978

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50		mg/L			11/01/21 21:23	1

Lab Sample ID: MB 480-602978/128
Matrix: Water
Analysis Batch: 602978

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50		mg/L			11/01/21 21:27	1

Lab Sample ID: MB 480-602978/137
Matrix: Water
Analysis Batch: 602978

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50		mg/L			11/01/21 21:32	1

Lab Sample ID: MB 480-602978/149
Matrix: Water
Analysis Batch: 602978

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50		mg/L			11/02/21 01:45	1

Lab Sample ID: MB 480-602978/160
Matrix: Water
Analysis Batch: 602978

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50		mg/L			11/02/21 01:49	1

Lab Sample ID: LCS 480-602978/117
Matrix: Water
Analysis Batch: 602978

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	26.27		mg/L		105	90 - 110

Lab Sample ID: LCS 480-602978/127
Matrix: Water
Analysis Batch: 602978

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	26.21		mg/L		105	90 - 110

Lab Sample ID: LCS 480-602978/136
Matrix: Water
Analysis Batch: 602978

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	26.24		mg/L		105	90 - 110

Eurofins TestAmerica, Buffalo

QC Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: LCS 480-602978/148
Matrix: Water
Analysis Batch: 602978

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	26.37		mg/L		105	90 - 110

Lab Sample ID: LCS 480-602978/159
Matrix: Water
Analysis Batch: 602978

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	26.23		mg/L		105	90 - 110

Lab Sample ID: 480-191682-1 MS
Matrix: Water
Analysis Batch: 602978

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	47.8	F1	20.0	64.85		mg/L		85	74 - 131

Lab Sample ID: 480-191682-1 MSD
Matrix: Water
Analysis Batch: 602978

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Chloride	47.8	F1	20.0	65.44		mg/L		88	74 - 131	1	20

Lab Sample ID: 480-191682-4 MS
Matrix: Water
Analysis Batch: 602978

Client Sample ID: D-4S-CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	47.3	F1	20.0	65.65		mg/L		92	74 - 131

Lab Sample ID: 480-191682-4 MSD
Matrix: Water
Analysis Batch: 602978

Client Sample ID: D-4S-CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Chloride	47.3	F1	20.0	65.51		mg/L		91	74 - 131	0	20

Lab Sample ID: MB 480-603551/122
Matrix: Water
Analysis Batch: 603551

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50		mg/L			11/04/21 20:08	1

Lab Sample ID: MB 480-603551/13
Matrix: Water
Analysis Batch: 603551

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50		mg/L			11/04/21 19:10	1

Eurofins TestAmerica, Buffalo

QC Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 480-603551/134
Matrix: Water
Analysis Batch: 603551

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50		mg/L			11/04/21 20:15	1

Lab Sample ID: LCS 480-603551/12
Matrix: Water
Analysis Batch: 603551

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	26.75		mg/L		107	90 - 110

Lab Sample ID: LCS 480-603551/133
Matrix: Water
Analysis Batch: 603551

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	25.75		mg/L		103	90 - 110

Lab Sample ID: 480-191682-2 MS
Matrix: Water
Analysis Batch: 603551

Client Sample ID: D-2S-CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	45.7	F1	20.0	63.05		mg/L		87	74 - 131

Lab Sample ID: 480-191682-2 MSD
Matrix: Water
Analysis Batch: 603551

Client Sample ID: D-2S-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	45.7	F1	20.0	63.73		mg/L		90	74 - 131	1	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 480-603791/27
Matrix: Water
Analysis Batch: 603791

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.050		mg/L			11/04/21 20:30	1

Lab Sample ID: MB 480-603791/3
Matrix: Water
Analysis Batch: 603791

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.050		mg/L			11/04/21 19:18	1

QC Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: LCS 480-603791/28
Matrix: Water
Analysis Batch: 603791

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.00	0.980		mg/L		98	90 - 110

Lab Sample ID: LCS 480-603791/4
Matrix: Water
Analysis Batch: 603791

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.00	1.04		mg/L		104	90 - 110

Lab Sample ID: 480-191682-2 MS
Matrix: Water
Analysis Batch: 603791

Client Sample ID: D-2S-CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	ND		1.00	1.08		mg/L		104	86 - 111

Lab Sample ID: 480-191682-2 MSD
Matrix: Water
Analysis Batch: 603791

Client Sample ID: D-2S-CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	ND		1.00	1.08		mg/L		104	86 - 111	0	20

Lab Sample ID: 480-191682-15 MS
Matrix: Water
Analysis Batch: 603791

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.070		1.00	1.05		mg/L		98	86 - 111

Lab Sample ID: 480-191682-15 MSD
Matrix: Water
Analysis Batch: 603791

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.070		1.00	1.06		mg/L		99	86 - 111	1	20

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 480-604749/1
Matrix: Water
Analysis Batch: 604749

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101	99 - 101

QC Sample Results

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

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

Lab Sample ID: LCS 480-604749/23
Matrix: Water
Analysis Batch: 604749

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101	99 - 101

Lab Sample ID: 480-191682-6 DU
Matrix: Water
Analysis Batch: 604749

Client Sample ID: D-7-CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.3	HF	7.4		SU		1	5
Temperature	22.6	HF	22.7		Degrees C		0.4	10

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-535029/23-A
Matrix: Water
Analysis Batch: 539049

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 535029

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1101	U	0.0834	0.0840	1.00	0.120	pCi/L	11/04/21 09:25	11/29/21 11:24	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.3		40 - 110					11/04/21 09:25	11/29/21 11:24	1

Lab Sample ID: LCS 160-535029/1-A
Matrix: Water
Analysis Batch: 539046

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 535029

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.3	9.997		1.06	1.00	0.134	pCi/L	88	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	100		40 - 110						

Lab Sample ID: LCSD 160-535029/2-A
Matrix: Water
Analysis Batch: 539046

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 535029

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	11.3	9.750		1.03	1.00	0.139	pCi/L	86	75 - 125	0.12	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits								
Ba Carrier	104		40 - 110								

QC Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: MB 160-535410/22-A
Matrix: Water
Analysis Batch: 539373

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 535410

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.5108	U	0.438	0.441	1.00	0.676	pCi/L	11/08/21 10:05	11/30/21 08:55	1
Carrier	MB		Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	88.1		40 - 110			11/08/21 10:05	11/30/21 08:55	1		

Lab Sample ID: LCS 160-535410/1-A
Matrix: Water
Analysis Batch: 539373

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 535410

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	45.4	42.01		4.40	1.00	0.529	pCi/L	93	75 - 125
Carrier	LCS		Limits			Prepared	Analyzed	Dil Fac	
	%Yield	Qualifier							
Ba Carrier	95.9		40 - 110						

Lab Sample ID: LCSD 160-535410/2-A
Matrix: Water
Analysis Batch: 539373

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 535410

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
				Uncert. (2σ+/-)							
Radium-226	45.4	38.28		4.07	1.00	0.534	pCi/L	84	75 - 125	0.44	1
Carrier	LCSD		Limits			Prepared	Analyzed	Dil Fac			
	%Yield	Qualifier									
Ba Carrier	99.0		40 - 110								

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-535160/23-A
Matrix: Water
Analysis Batch: 537997

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 535160

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.4991		0.280	0.284	1.00	0.414	pCi/L	11/04/21 10:07	11/22/21 13:28	1
Carrier	MB		Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	90.3		40 - 110			11/04/21 10:07	11/22/21 13:28	1		
Y Carrier	76.6		40 - 110			11/04/21 10:07	11/22/21 13:28	1		

QC Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-535160/1-A
Matrix: Water
Analysis Batch: 538184

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 535160

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	
									75	125
Radium-228	9.12	8.410		1.03	1.00	0.454	pCi/L	92	75 - 125	
LCS LCS										
Carrier	%Yield	Qualifier	Limits							
Ba Carrier	100		40 - 110							
Y Carrier	78.1		40 - 110							

Lab Sample ID: LCSD 160-535160/2-A
Matrix: Water
Analysis Batch: 538184

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 535160

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		RER	Limit
									75	125	0.28	1
Radium-228	9.12	7.866		0.945	1.00	0.362	pCi/L	86	75 - 125	0.28	1	
LCSD LCSD												
Carrier	%Yield	Qualifier	Limits									
Ba Carrier	104		40 - 110									
Y Carrier	84.5		40 - 110									

Lab Sample ID: MB 160-535423/22-A
Matrix: Water
Analysis Batch: 538185

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 535423

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared		Analyzed		Dil Fac
								11/08/21 11:01	11/08/21 11:01	11/22/21 13:54	11/22/21 13:54	1
Radium-228	0.2545	U G	1.15	1.15	1.00	2.00	pCi/L	11/08/21 11:01	11/08/21 11:01	11/22/21 13:54	11/22/21 13:54	1
MB MB												
Carrier	%Yield	Qualifier	Limits		Prepared		Analyzed		Dil Fac			
Ba Carrier	88.1		40 - 110		11/08/21 11:01		11/22/21 13:54		1			
Y Carrier	83.7		40 - 110		11/08/21 11:01		11/22/21 13:54		1			

Lab Sample ID: LCS 160-535423/1-A
Matrix: Water
Analysis Batch: 538176

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 535423

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	
									75	125
Radium-228	36.5	37.06		4.40	1.00	1.64	pCi/L	102	75 - 125	
LCS LCS										
Carrier	%Yield	Qualifier	Limits							
Ba Carrier	95.9		40 - 110							
Y Carrier	86.4		40 - 110							

QC Sample Results

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCSD 160-535423/2-A
 Matrix: Water
 Analysis Batch: 538176

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 535423

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	36.5	35.54		4.26	1.00	1.69	pCi/L	97	75 - 125	0.18	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	99.0		40 - 110
Y Carrier	84.9		40 - 110

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

QC Association Summary

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Metals

Prep Batch: 603082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-1	D-1S-CCR	Total/NA	Water	3005A	
480-191682-3	D-3S-CCR	Total/NA	Water	3005A	
480-191682-4	D-4S-CCR	Total/NA	Water	3005A	
480-191682-5	D-5S2-CCR	Total/NA	Water	3005A	
480-191682-6	D-7-CCR	Total/NA	Water	3005A	
480-191682-7	D-8-CCR	Total/NA	Water	3005A	
480-191682-8	D-9-CCR	Total/NA	Water	3005A	
480-191682-9	U-4D-CCR	Total/NA	Water	3005A	
480-191682-11	D-5D-CCR	Total/NA	Water	3005A	
480-191682-12	U-5S-CCR	Total/NA	Water	3005A	
480-191682-13	D-1D-CCR	Total/NA	Water	3005A	
480-191682-14	D-2D-CCR	Total/NA	Water	3005A	
480-191682-19	DUP 2 CCR	Total/NA	Water	3005A	
480-191682-20	FIELD BLANK CCR	Total/NA	Water	3005A	
480-191682-21	EQUIPMENT BLANK CCR	Total/NA	Water	3005A	
MB 480-603082/1-A	Method Blank	Total/NA	Water	3005A	
LCS 480-603082/2-A	Lab Control Sample	Total/NA	Water	3005A	
480-191682-9 MS	U-4D-CCR	Total/NA	Water	3005A	
480-191682-9 MSD	U-4D-CCR	Total/NA	Water	3005A	

Prep Batch: 603249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-1	D-1S-CCR	Total/NA	Water	3020A	
480-191682-3	D-3S-CCR	Total/NA	Water	3020A	
480-191682-4	D-4S-CCR	Total/NA	Water	3020A	
480-191682-5	D-5S2-CCR	Total/NA	Water	3020A	
480-191682-6	D-7-CCR	Total/NA	Water	3020A	
480-191682-7	D-8-CCR	Total/NA	Water	3020A	
480-191682-8	D-9-CCR	Total/NA	Water	3020A	
480-191682-9	U-4D-CCR	Total/NA	Water	3020A	
480-191682-11	D-5D-CCR	Total/NA	Water	3020A	
480-191682-12	U-5S-CCR	Total/NA	Water	3020A	
480-191682-13	D-1D-CCR	Total/NA	Water	3020A	
480-191682-14	D-2D-CCR	Total/NA	Water	3020A	
480-191682-19	DUP 2 CCR	Total/NA	Water	3020A	
480-191682-20	FIELD BLANK CCR	Total/NA	Water	3020A	
480-191682-21	EQUIPMENT BLANK CCR	Total/NA	Water	3020A	
MB 480-603249/1-A	Method Blank	Total/NA	Water	3020A	
LCS 480-603249/2-A	Lab Control Sample	Total/NA	Water	3020A	
480-191682-3 MS	D-3S-CCR	Total/NA	Water	3020A	
480-191682-3 MSD	D-3S-CCR	Total/NA	Water	3020A	

Prep Batch: 603666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-1	D-1S-CCR	Total/NA	Water	7470A	
480-191682-2	D-2S-CCR	Total/NA	Water	7470A	
MB 480-603666/1-A	Method Blank	Total/NA	Water	7470A	
LCS 480-603666/2-A	Lab Control Sample	Total/NA	Water	7470A	

QC Association Summary

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Metals

Prep Batch: 603667

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-3	D-3S-CCR	Total/NA	Water	7470A	
480-191682-4	D-4S-CCR	Total/NA	Water	7470A	
480-191682-5	D-5S2-CCR	Total/NA	Water	7470A	
480-191682-6	D-7-CCR	Total/NA	Water	7470A	
480-191682-7	D-8-CCR	Total/NA	Water	7470A	
480-191682-8	D-9-CCR	Total/NA	Water	7470A	
480-191682-9	U-4D-CCR	Total/NA	Water	7470A	
480-191682-10	U-4S-CCR	Total/NA	Water	7470A	
480-191682-11	D-5D-CCR	Total/NA	Water	7470A	
480-191682-12	U-5S-CCR	Total/NA	Water	7470A	
480-191682-13	D-1D-CCR	Total/NA	Water	7470A	
480-191682-14	D-2D-CCR	Total/NA	Water	7470A	
480-191682-15	D-3D-CCR	Total/NA	Water	7470A	
480-191682-16	D-4D-CCR	Total/NA	Water	7470A	
480-191682-17	U-5D-CCR	Total/NA	Water	7470A	
480-191682-18	DUP 1 CCR	Total/NA	Water	7470A	
480-191682-19	DUP 2 CCR	Total/NA	Water	7470A	
480-191682-20	FIELD BLANK CCR	Total/NA	Water	7470A	
480-191682-21	EQUIPMENT BLANK CCR	Total/NA	Water	7470A	
MB 480-603667/1-A	Method Blank	Total/NA	Water	7470A	
LCS 480-603667/2-A	Lab Control Sample	Total/NA	Water	7470A	
480-191682-4 MS	D-4S-CCR	Total/NA	Water	7470A	
480-191682-4 MSD	D-4S-CCR	Total/NA	Water	7470A	

Analysis Batch: 603785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-1	D-1S-CCR	Total/NA	Water	7470A	603666
480-191682-2	D-2S-CCR	Total/NA	Water	7470A	603666
480-191682-3	D-3S-CCR	Total/NA	Water	7470A	603667
480-191682-4	D-4S-CCR	Total/NA	Water	7470A	603667
480-191682-5	D-5S2-CCR	Total/NA	Water	7470A	603667
480-191682-6	D-7-CCR	Total/NA	Water	7470A	603667
480-191682-7	D-8-CCR	Total/NA	Water	7470A	603667
480-191682-8	D-9-CCR	Total/NA	Water	7470A	603667
480-191682-9	U-4D-CCR	Total/NA	Water	7470A	603667
480-191682-10	U-4S-CCR	Total/NA	Water	7470A	603667
480-191682-11	D-5D-CCR	Total/NA	Water	7470A	603667
480-191682-12	U-5S-CCR	Total/NA	Water	7470A	603667
480-191682-13	D-1D-CCR	Total/NA	Water	7470A	603667
480-191682-14	D-2D-CCR	Total/NA	Water	7470A	603667
480-191682-15	D-3D-CCR	Total/NA	Water	7470A	603667
480-191682-16	D-4D-CCR	Total/NA	Water	7470A	603667
480-191682-17	U-5D-CCR	Total/NA	Water	7470A	603667
480-191682-18	DUP 1 CCR	Total/NA	Water	7470A	603667
480-191682-19	DUP 2 CCR	Total/NA	Water	7470A	603667
480-191682-20	FIELD BLANK CCR	Total/NA	Water	7470A	603667
480-191682-21	EQUIPMENT BLANK CCR	Total/NA	Water	7470A	603667
MB 480-603666/1-A	Method Blank	Total/NA	Water	7470A	603666
MB 480-603667/1-A	Method Blank	Total/NA	Water	7470A	603667
LCS 480-603666/2-A	Lab Control Sample	Total/NA	Water	7470A	603666
LCS 480-603667/2-A	Lab Control Sample	Total/NA	Water	7470A	603667

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QC Association Summary

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Metals (Continued)

Analysis Batch: 603785 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-4 MS	D-4S-CCR	Total/NA	Water	7470A	603667
480-191682-4 MSD	D-4S-CCR	Total/NA	Water	7470A	603667

Analysis Batch: 603846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-1	D-1S-CCR	Total/NA	Water	6010D	603082
480-191682-3	D-3S-CCR	Total/NA	Water	6010D	603082
480-191682-4	D-4S-CCR	Total/NA	Water	6010D	603082
480-191682-5	D-5S2-CCR	Total/NA	Water	6010D	603082
480-191682-6	D-7-CCR	Total/NA	Water	6010D	603082
480-191682-7	D-8-CCR	Total/NA	Water	6010D	603082
480-191682-8	D-9-CCR	Total/NA	Water	6010D	603082
480-191682-9	U-4D-CCR	Total/NA	Water	6010D	603082
480-191682-11	D-5D-CCR	Total/NA	Water	6010D	603082
480-191682-12	U-5S-CCR	Total/NA	Water	6010D	603082
480-191682-13	D-1D-CCR	Total/NA	Water	6010D	603082
480-191682-14	D-2D-CCR	Total/NA	Water	6010D	603082
480-191682-19	DUP 2 CCR	Total/NA	Water	6010D	603082
480-191682-20	FIELD BLANK CCR	Total/NA	Water	6010D	603082
480-191682-21	EQUIPMENT BLANK CCR	Total/NA	Water	6010D	603082
MB 480-603082/1-A	Method Blank	Total/NA	Water	6010D	603082
LCS 480-603082/2-A	Lab Control Sample	Total/NA	Water	6010D	603082
480-191682-9 MS	U-4D-CCR	Total/NA	Water	6010D	603082
480-191682-9 MSD	U-4D-CCR	Total/NA	Water	6010D	603082

Prep Batch: 604131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-2	D-2S-CCR	Total/NA	Water	3005A	
480-191682-10	U-4S-CCR	Total/NA	Water	3005A	
480-191682-15	D-3D-CCR	Total/NA	Water	3005A	
480-191682-16	D-4D-CCR	Total/NA	Water	3005A	
480-191682-17	U-5D-CCR	Total/NA	Water	3005A	
480-191682-18	DUP 1 CCR	Total/NA	Water	3005A	
MB 480-604131/1-A	Method Blank	Total/NA	Water	3005A	
LCS 480-604131/2-A	Lab Control Sample	Total/NA	Water	3005A	

Analysis Batch: 604421

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-2	D-2S-CCR	Total/NA	Water	6010D	604131
480-191682-10	U-4S-CCR	Total/NA	Water	6010D	604131
480-191682-15	D-3D-CCR	Total/NA	Water	6010D	604131
480-191682-16	D-4D-CCR	Total/NA	Water	6010D	604131
480-191682-17	U-5D-CCR	Total/NA	Water	6010D	604131
480-191682-18	DUP 1 CCR	Total/NA	Water	6010D	604131
MB 480-604131/1-A	Method Blank	Total/NA	Water	6010D	604131
LCS 480-604131/2-A	Lab Control Sample	Total/NA	Water	6010D	604131

Prep Batch: 606062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-2	D-2S-CCR	Total/NA	Water	3020A	
480-191682-10	U-4S-CCR	Total/NA	Water	3020A	

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QC Association Summary

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Metals (Continued)

Prep Batch: 606062 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-15	D-3D-CCR	Total/NA	Water	3020A	
480-191682-16	D-4D-CCR	Total/NA	Water	3020A	
480-191682-17	U-5D-CCR	Total/NA	Water	3020A	
480-191682-18	DUP 1 CCR	Total/NA	Water	3020A	
MB 480-606062/1-A	Method Blank	Total/NA	Water	3020A	
LCS 480-606062/2-A	Lab Control Sample	Total/NA	Water	3020A	

Analysis Batch: 606300

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-1	D-1S-CCR	Total/NA	Water	6020B	603249
480-191682-3	D-3S-CCR	Total/NA	Water	6020B	603249
480-191682-4	D-4S-CCR	Total/NA	Water	6020B	603249
480-191682-5	D-5S2-CCR	Total/NA	Water	6020B	603249
480-191682-6	D-7-CCR	Total/NA	Water	6020B	603249
480-191682-7	D-8-CCR	Total/NA	Water	6020B	603249
480-191682-8	D-9-CCR	Total/NA	Water	6020B	603249
480-191682-9	U-4D-CCR	Total/NA	Water	6020B	603249
480-191682-11	D-5D-CCR	Total/NA	Water	6020B	603249
480-191682-12	U-5S-CCR	Total/NA	Water	6020B	603249
480-191682-13	D-1D-CCR	Total/NA	Water	6020B	603249
480-191682-14	D-2D-CCR	Total/NA	Water	6020B	603249
480-191682-19	DUP 2 CCR	Total/NA	Water	6020B	603249
480-191682-20	FIELD BLANK CCR	Total/NA	Water	6020B	603249
480-191682-21	EQUIPMENT BLANK CCR	Total/NA	Water	6020B	603249
MB 480-603249/1-A	Method Blank	Total/NA	Water	6020B	603249
LCS 480-603249/2-A	Lab Control Sample	Total/NA	Water	6020B	603249
480-191682-3 MS	D-3S-CCR	Total/NA	Water	6020B	603249
480-191682-3 MSD	D-3S-CCR	Total/NA	Water	6020B	603249

Analysis Batch: 606479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-2	D-2S-CCR	Total/NA	Water	6020B	606062
480-191682-10	U-4S-CCR	Total/NA	Water	6020B	606062
480-191682-15	D-3D-CCR	Total/NA	Water	6020B	606062
480-191682-16	D-4D-CCR	Total/NA	Water	6020B	606062
480-191682-17	U-5D-CCR	Total/NA	Water	6020B	606062
480-191682-18	DUP 1 CCR	Total/NA	Water	6020B	606062
MB 480-606062/1-A	Method Blank	Total/NA	Water	6020B	606062
LCS 480-606062/2-A	Lab Control Sample	Total/NA	Water	6020B	606062

Analysis Batch: 606543

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-1	D-1S-CCR	Total/NA	Water	6020B	603249
480-191682-3	D-3S-CCR	Total/NA	Water	6020B	603249
480-191682-4	D-4S-CCR	Total/NA	Water	6020B	603249
480-191682-5	D-5S2-CCR	Total/NA	Water	6020B	603249
480-191682-6	D-7-CCR	Total/NA	Water	6020B	603249
480-191682-7	D-8-CCR	Total/NA	Water	6020B	603249
480-191682-8	D-9-CCR	Total/NA	Water	6020B	603249
480-191682-9	U-4D-CCR	Total/NA	Water	6020B	603249
480-191682-11	D-5D-CCR	Total/NA	Water	6020B	603249

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QC Association Summary

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Metals (Continued)

Analysis Batch: 606543 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-12	U-5S-CCR	Total/NA	Water	6020B	603249
480-191682-13	D-1D-CCR	Total/NA	Water	6020B	603249
480-191682-14	D-2D-CCR	Total/NA	Water	6020B	603249
480-191682-19	DUP 2 CCR	Total/NA	Water	6020B	603249
480-191682-20	FIELD BLANK CCR	Total/NA	Water	6020B	603249
480-191682-21	EQUIPMENT BLANK CCR	Total/NA	Water	6020B	603249
MB 480-603249/1-A	Method Blank	Total/NA	Water	6020B	603249
LCS 480-603249/2-A	Lab Control Sample	Total/NA	Water	6020B	603249
480-191682-3 MS	D-3S-CCR	Total/NA	Water	6020B	603249
480-191682-3 MSD	D-3S-CCR	Total/NA	Water	6020B	603249

Analysis Batch: 606585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-2	D-2S-CCR	Total/NA	Water	6020B	606062
480-191682-10	U-4S-CCR	Total/NA	Water	6020B	606062
480-191682-15	D-3D-CCR	Total/NA	Water	6020B	606062
480-191682-16	D-4D-CCR	Total/NA	Water	6020B	606062
480-191682-17	U-5D-CCR	Total/NA	Water	6020B	606062
480-191682-18	DUP 1 CCR	Total/NA	Water	6020B	606062
MB 480-606062/1-A	Method Blank	Total/NA	Water	6020B	606062
LCS 480-606062/2-A	Lab Control Sample	Total/NA	Water	6020B	606062

General Chemistry

Analysis Batch: 602978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-1	D-1S-CCR	Total/NA	Water	SM 4500 CI- E	
480-191682-3	D-3S-CCR	Total/NA	Water	SM 4500 CI- E	
480-191682-4	D-4S-CCR	Total/NA	Water	SM 4500 CI- E	
480-191682-5	D-5S2-CCR	Total/NA	Water	SM 4500 CI- E	
480-191682-6	D-7-CCR	Total/NA	Water	SM 4500 CI- E	
480-191682-7	D-8-CCR	Total/NA	Water	SM 4500 CI- E	
480-191682-8	D-9-CCR	Total/NA	Water	SM 4500 CI- E	
480-191682-9	U-4D-CCR	Total/NA	Water	SM 4500 CI- E	
480-191682-11	D-5D-CCR	Total/NA	Water	SM 4500 CI- E	
480-191682-12	U-5S-CCR	Total/NA	Water	SM 4500 CI- E	
480-191682-13	D-1D-CCR	Total/NA	Water	SM 4500 CI- E	
480-191682-14	D-2D-CCR	Total/NA	Water	SM 4500 CI- E	
480-191682-19	DUP 2 CCR	Total/NA	Water	SM 4500 CI- E	
480-191682-20	FIELD BLANK CCR	Total/NA	Water	SM 4500 CI- E	
480-191682-21	EQUIPMENT BLANK CCR	Total/NA	Water	SM 4500 CI- E	
MB 480-602978/110	Method Blank	Total/NA	Water	SM 4500 CI- E	
MB 480-602978/118	Method Blank	Total/NA	Water	SM 4500 CI- E	
MB 480-602978/128	Method Blank	Total/NA	Water	SM 4500 CI- E	
MB 480-602978/137	Method Blank	Total/NA	Water	SM 4500 CI- E	
MB 480-602978/149	Method Blank	Total/NA	Water	SM 4500 CI- E	
MB 480-602978/160	Method Blank	Total/NA	Water	SM 4500 CI- E	
LCS 480-602978/117	Lab Control Sample	Total/NA	Water	SM 4500 CI- E	
LCS 480-602978/127	Lab Control Sample	Total/NA	Water	SM 4500 CI- E	
LCS 480-602978/136	Lab Control Sample	Total/NA	Water	SM 4500 CI- E	
LCS 480-602978/148	Lab Control Sample	Total/NA	Water	SM 4500 CI- E	

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QC Association Summary

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

General Chemistry (Continued)

Analysis Batch: 602978 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-602978/159	Lab Control Sample	Total/NA	Water	SM 4500 CI- E	
480-191682-1 MS	D-1S-CCR	Total/NA	Water	SM 4500 CI- E	
480-191682-1 MSD	D-1S-CCR	Total/NA	Water	SM 4500 CI- E	
480-191682-4 MS	D-4S-CCR	Total/NA	Water	SM 4500 CI- E	
480-191682-4 MSD	D-4S-CCR	Total/NA	Water	SM 4500 CI- E	

Analysis Batch: 603062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-1	D-1S-CCR	Total/NA	Water	SM 2540C	
480-191682-3	D-3S-CCR	Total/NA	Water	SM 2540C	
MB 480-603062/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 480-603062/2	Lab Control Sample	Total/NA	Water	SM 2540C	
480-191682-3 DU	D-3S-CCR	Total/NA	Water	SM 2540C	

Analysis Batch: 603063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-4	D-4S-CCR	Total/NA	Water	SM 2540C	
480-191682-5	D-5S2-CCR	Total/NA	Water	SM 2540C	
480-191682-6	D-7-CCR	Total/NA	Water	SM 2540C	
480-191682-7	D-8-CCR	Total/NA	Water	SM 2540C	
480-191682-8	D-9-CCR	Total/NA	Water	SM 2540C	
480-191682-9	U-4D-CCR	Total/NA	Water	SM 2540C	
480-191682-11	D-5D-CCR	Total/NA	Water	SM 2540C	
480-191682-12	U-5S-CCR	Total/NA	Water	SM 2540C	
480-191682-13	D-1D-CCR	Total/NA	Water	SM 2540C	
480-191682-14	D-2D-CCR	Total/NA	Water	SM 2540C	
480-191682-19	DUP 2 CCR	Total/NA	Water	SM 2540C	
480-191682-20	FIELD BLANK CCR	Total/NA	Water	SM 2540C	
480-191682-21	EQUIPMENT BLANK CCR	Total/NA	Water	SM 2540C	
MB 480-603063/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 480-603063/2	Lab Control Sample	Total/NA	Water	SM 2540C	
480-191682-4 DU	D-4S-CCR	Total/NA	Water	SM 2540C	

Analysis Batch: 603362

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-1	D-1S-CCR	Total/NA	Water	D516-90, 02	
480-191682-2	D-2S-CCR	Total/NA	Water	D516-90, 02	
480-191682-3	D-3S-CCR	Total/NA	Water	D516-90, 02	
480-191682-4	D-4S-CCR	Total/NA	Water	D516-90, 02	
480-191682-5	D-5S2-CCR	Total/NA	Water	D516-90, 02	
480-191682-6	D-7-CCR	Total/NA	Water	D516-90, 02	
480-191682-7	D-8-CCR	Total/NA	Water	D516-90, 02	
480-191682-8	D-9-CCR	Total/NA	Water	D516-90, 02	
480-191682-9	U-4D-CCR	Total/NA	Water	D516-90, 02	
480-191682-10	U-4S-CCR	Total/NA	Water	D516-90, 02	
480-191682-11	D-5D-CCR	Total/NA	Water	D516-90, 02	
480-191682-12	U-5S-CCR	Total/NA	Water	D516-90, 02	
480-191682-13	D-1D-CCR	Total/NA	Water	D516-90, 02	
480-191682-14	D-2D-CCR	Total/NA	Water	D516-90, 02	
480-191682-15	D-3D-CCR	Total/NA	Water	D516-90, 02	
480-191682-16	D-4D-CCR	Total/NA	Water	D516-90, 02	

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QC Association Summary

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

General Chemistry (Continued)

Analysis Batch: 603362 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-17	U-5D-CCR	Total/NA	Water	D516-90, 02	
480-191682-18	DUP 1 CCR	Total/NA	Water	D516-90, 02	
480-191682-19	DUP 2 CCR	Total/NA	Water	D516-90, 02	
480-191682-20	FIELD BLANK CCR	Total/NA	Water	D516-90, 02	
480-191682-21	EQUIPMENT BLANK CCR	Total/NA	Water	D516-90, 02	
MB 480-603362/101	Method Blank	Total/NA	Water	D516-90, 02	
MB 480-603362/113	Method Blank	Total/NA	Water	D516-90, 02	
MB 480-603362/153	Method Blank	Total/NA	Water	D516-90, 02	
MB 480-603362/183	Method Blank	Total/NA	Water	D516-90, 02	
MB 480-603362/95	Method Blank	Total/NA	Water	D516-90, 02	
LCS 480-603362/102	Lab Control Sample	Total/NA	Water	D516-90, 02	
LCS 480-603362/114	Lab Control Sample	Total/NA	Water	D516-90, 02	
LCS 480-603362/154	Lab Control Sample	Total/NA	Water	D516-90, 02	
LCS 480-603362/184	Lab Control Sample	Total/NA	Water	D516-90, 02	
LCS 480-603362/96	Lab Control Sample	Total/NA	Water	D516-90, 02	
480-191682-1 MS	D-1S-CCR	Total/NA	Water	D516-90, 02	
480-191682-1 MSD	D-1S-CCR	Total/NA	Water	D516-90, 02	
480-191682-2 MS	D-2S-CCR	Total/NA	Water	D516-90, 02	
480-191682-2 MSD	D-2S-CCR	Total/NA	Water	D516-90, 02	
480-191682-14 MS	D-2D-CCR	Total/NA	Water	D516-90, 02	
480-191682-14 MSD	D-2D-CCR	Total/NA	Water	D516-90, 02	

Analysis Batch: 603379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-2	D-2S-CCR	Total/NA	Water	SM 2540C	
480-191682-10	U-4S-CCR	Total/NA	Water	SM 2540C	
480-191682-15	D-3D-CCR	Total/NA	Water	SM 2540C	
480-191682-16	D-4D-CCR	Total/NA	Water	SM 2540C	
480-191682-17	U-5D-CCR	Total/NA	Water	SM 2540C	
480-191682-18	DUP 1 CCR	Total/NA	Water	SM 2540C	
MB 480-603379/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 480-603379/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 603551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-2	D-2S-CCR	Total/NA	Water	SM 4500 Cl- E	
480-191682-10	U-4S-CCR	Total/NA	Water	SM 4500 Cl- E	
480-191682-15	D-3D-CCR	Total/NA	Water	SM 4500 Cl- E	
480-191682-16	D-4D-CCR	Total/NA	Water	SM 4500 Cl- E	
480-191682-17	U-5D-CCR	Total/NA	Water	SM 4500 Cl- E	
480-191682-18	DUP 1 CCR	Total/NA	Water	SM 4500 Cl- E	
MB 480-603551/122	Method Blank	Total/NA	Water	SM 4500 Cl- E	
MB 480-603551/13	Method Blank	Total/NA	Water	SM 4500 Cl- E	
MB 480-603551/134	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 480-603551/12	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
LCS 480-603551/133	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
480-191682-2 MS	D-2S-CCR	Total/NA	Water	SM 4500 Cl- E	
480-191682-2 MSD	D-2S-CCR	Total/NA	Water	SM 4500 Cl- E	

QC Association Summary

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

General Chemistry

Analysis Batch: 603791

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-1	D-1S-CCR	Total/NA	Water	SM 4500 F C	
480-191682-2	D-2S-CCR	Total/NA	Water	SM 4500 F C	
480-191682-3	D-3S-CCR	Total/NA	Water	SM 4500 F C	
480-191682-4	D-4S-CCR	Total/NA	Water	SM 4500 F C	
480-191682-5	D-5S2-CCR	Total/NA	Water	SM 4500 F C	
480-191682-6	D-7-CCR	Total/NA	Water	SM 4500 F C	
480-191682-7	D-8-CCR	Total/NA	Water	SM 4500 F C	
480-191682-8	D-9-CCR	Total/NA	Water	SM 4500 F C	
480-191682-9	U-4D-CCR	Total/NA	Water	SM 4500 F C	
480-191682-10	U-4S-CCR	Total/NA	Water	SM 4500 F C	
480-191682-11	D-5D-CCR	Total/NA	Water	SM 4500 F C	
480-191682-12	U-5S-CCR	Total/NA	Water	SM 4500 F C	
480-191682-13	D-1D-CCR	Total/NA	Water	SM 4500 F C	
480-191682-14	D-2D-CCR	Total/NA	Water	SM 4500 F C	
480-191682-15	D-3D-CCR	Total/NA	Water	SM 4500 F C	
480-191682-16	D-4D-CCR	Total/NA	Water	SM 4500 F C	
480-191682-17	U-5D-CCR	Total/NA	Water	SM 4500 F C	
480-191682-18	DUP 1 CCR	Total/NA	Water	SM 4500 F C	
480-191682-19	DUP 2 CCR	Total/NA	Water	SM 4500 F C	
480-191682-20	FIELD BLANK CCR	Total/NA	Water	SM 4500 F C	
480-191682-21	EQUIPMENT BLANK CCR	Total/NA	Water	SM 4500 F C	
MB 480-603791/27	Method Blank	Total/NA	Water	SM 4500 F C	
MB 480-603791/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 480-603791/28	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCS 480-603791/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
480-191682-2 MS	D-2S-CCR	Total/NA	Water	SM 4500 F C	
480-191682-2 MSD	D-2S-CCR	Total/NA	Water	SM 4500 F C	
480-191682-15 MS	D-3D-CCR	Total/NA	Water	SM 4500 F C	
480-191682-15 MSD	D-3D-CCR	Total/NA	Water	SM 4500 F C	

Analysis Batch: 604749

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-1	D-1S-CCR	Total/NA	Water	SM 4500 H+ B	
480-191682-2	D-2S-CCR	Total/NA	Water	SM 4500 H+ B	
480-191682-3	D-3S-CCR	Total/NA	Water	SM 4500 H+ B	
480-191682-4	D-4S-CCR	Total/NA	Water	SM 4500 H+ B	
480-191682-5	D-5S2-CCR	Total/NA	Water	SM 4500 H+ B	
480-191682-6	D-7-CCR	Total/NA	Water	SM 4500 H+ B	
480-191682-7	D-8-CCR	Total/NA	Water	SM 4500 H+ B	
480-191682-8	D-9-CCR	Total/NA	Water	SM 4500 H+ B	
480-191682-9	U-4D-CCR	Total/NA	Water	SM 4500 H+ B	
480-191682-10	U-4S-CCR	Total/NA	Water	SM 4500 H+ B	
480-191682-11	D-5D-CCR	Total/NA	Water	SM 4500 H+ B	
480-191682-12	U-5S-CCR	Total/NA	Water	SM 4500 H+ B	
480-191682-13	D-1D-CCR	Total/NA	Water	SM 4500 H+ B	
480-191682-14	D-2D-CCR	Total/NA	Water	SM 4500 H+ B	
480-191682-15	D-3D-CCR	Total/NA	Water	SM 4500 H+ B	
480-191682-16	D-4D-CCR	Total/NA	Water	SM 4500 H+ B	
480-191682-17	U-5D-CCR	Total/NA	Water	SM 4500 H+ B	
480-191682-18	DUP 1 CCR	Total/NA	Water	SM 4500 H+ B	
480-191682-19	DUP 2 CCR	Total/NA	Water	SM 4500 H+ B	

Eurofins TestAmerica, Buffalo

QC Association Summary

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

General Chemistry (Continued)

Analysis Batch: 604749 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-20	FIELD BLANK CCR	Total/NA	Water	SM 4500 H+ B	
480-191682-21	EQUIPMENT BLANK CCR	Total/NA	Water	SM 4500 H+ B	
LCS 480-604749/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCS 480-604749/23	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
480-191682-6 DU	D-7-CCR	Total/NA	Water	SM 4500 H+ B	

Rad

Prep Batch: 535029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-1	D-1S-CCR	Total/NA	Water	PrecSep-21	
480-191682-3	D-3S-CCR	Total/NA	Water	PrecSep-21	
480-191682-4	D-4S-CCR	Total/NA	Water	PrecSep-21	
480-191682-5	D-5S2-CCR	Total/NA	Water	PrecSep-21	
480-191682-6	D-7-CCR	Total/NA	Water	PrecSep-21	
480-191682-7	D-8-CCR	Total/NA	Water	PrecSep-21	
480-191682-8	D-9-CCR	Total/NA	Water	PrecSep-21	
480-191682-9	U-4D-CCR	Total/NA	Water	PrecSep-21	
480-191682-11	D-5D-CCR	Total/NA	Water	PrecSep-21	
480-191682-12	U-5S-CCR	Total/NA	Water	PrecSep-21	
480-191682-13	D-1D-CCR	Total/NA	Water	PrecSep-21	
480-191682-14	D-2D-CCR	Total/NA	Water	PrecSep-21	
480-191682-19	DUP 2 CCR	Total/NA	Water	PrecSep-21	
480-191682-20	FIELD BLANK CCR	Total/NA	Water	PrecSep-21	
480-191682-21	EQUIPMENT BLANK CCR	Total/NA	Water	PrecSep-21	
MB 160-535029/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-535029/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-535029/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 535160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-1	D-1S-CCR	Total/NA	Water	PrecSep_0	
480-191682-3	D-3S-CCR	Total/NA	Water	PrecSep_0	
480-191682-4	D-4S-CCR	Total/NA	Water	PrecSep_0	
480-191682-5	D-5S2-CCR	Total/NA	Water	PrecSep_0	
480-191682-6	D-7-CCR	Total/NA	Water	PrecSep_0	
480-191682-7	D-8-CCR	Total/NA	Water	PrecSep_0	
480-191682-8	D-9-CCR	Total/NA	Water	PrecSep_0	
480-191682-9	U-4D-CCR	Total/NA	Water	PrecSep_0	
480-191682-11	D-5D-CCR	Total/NA	Water	PrecSep_0	
480-191682-12	U-5S-CCR	Total/NA	Water	PrecSep_0	
480-191682-13	D-1D-CCR	Total/NA	Water	PrecSep_0	
480-191682-14	D-2D-CCR	Total/NA	Water	PrecSep_0	
480-191682-19	DUP 2 CCR	Total/NA	Water	PrecSep_0	
480-191682-20	FIELD BLANK CCR	Total/NA	Water	PrecSep_0	
480-191682-21	EQUIPMENT BLANK CCR	Total/NA	Water	PrecSep_0	
MB 160-535160/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-535160/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-535160/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

QC Association Summary

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Rad

Prep Batch: 535410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-2	D-2S-CCR	Total/NA	Water	PrecSep-21	
480-191682-10	U-4S-CCR	Total/NA	Water	PrecSep-21	
480-191682-15	D-3D-CCR	Total/NA	Water	PrecSep-21	
480-191682-16	D-4D-CCR	Total/NA	Water	PrecSep-21	
480-191682-17	U-5D-CCR	Total/NA	Water	PrecSep-21	
480-191682-18	DUP 1 CCR	Total/NA	Water	PrecSep-21	
MB 160-535410/22-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-535410/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-535410/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 535423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191682-2	D-2S-CCR	Total/NA	Water	PrecSep_0	
480-191682-10	U-4S-CCR	Total/NA	Water	PrecSep_0	
480-191682-15	D-3D-CCR	Total/NA	Water	PrecSep_0	
480-191682-16	D-4D-CCR	Total/NA	Water	PrecSep_0	
480-191682-17	U-5D-CCR	Total/NA	Water	PrecSep_0	
480-191682-18	DUP 1 CCR	Total/NA	Water	PrecSep_0	
MB 160-535423/22-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-535423/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-535423/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: D-1S-CCR

Lab Sample ID: 480-191682-1

Date Collected: 10/26/21 12:50

Matrix: Water

Date Received: 10/29/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			603082	11/03/21 09:05	ADM	TAL BUF
Total/NA	Analysis	6010D		1	603846	11/06/21 17:01	AMH	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606300	11/23/21 12:50	KMP	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606543	11/24/21 13:21	KMP	TAL BUF
Total/NA	Prep	7470A			603666	11/07/21 13:16	BMB	TAL BUF
Total/NA	Analysis	7470A		1	603785	11/07/21 16:16	BMB	TAL BUF
Total/NA	Analysis	D516-90, 02		1	603362	11/03/21 20:12	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	603062	11/02/21 11:39	JGO	TAL BUF
Total/NA	Analysis	SM 4500 CI- E		1	602978	11/01/21 21:25	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	603791	11/04/21 19:28	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	604749	11/12/21 15:43	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			535029	11/04/21 09:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	539046	11/29/21 11:18	MLK	TAL SL
Total/NA	Prep	PrecSep_0			535160	11/04/21 10:07	BMP	TAL SL
Total/NA	Analysis	904.0		1	538184	11/22/21 13:19	MLK	TAL SL

Client Sample ID: D-2S-CCR

Lab Sample ID: 480-191682-2

Date Collected: 10/26/21 14:10

Matrix: Water

Date Received: 10/29/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			604131	11/10/21 09:21	KMP	TAL BUF
Total/NA	Analysis	6010D		1	604421	11/11/21 01:23	AMH	TAL BUF
Total/NA	Prep	3020A			606062	11/23/21 08:55	KMP	TAL BUF
Total/NA	Analysis	6020B		1	606479	11/23/21 22:14	KMP	TAL BUF
Total/NA	Prep	3020A			606062	11/23/21 08:55	KMP	TAL BUF
Total/NA	Analysis	6020B		1	606585	11/24/21 16:07	AMH	TAL BUF
Total/NA	Prep	7470A			603666	11/07/21 13:16	BMB	TAL BUF
Total/NA	Analysis	7470A		1	603785	11/07/21 16:18	BMB	TAL BUF
Total/NA	Analysis	D516-90, 02		1	603362	11/03/21 19:59	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	603379	11/04/21 08:45	EJL	TAL BUF
Total/NA	Analysis	SM 4500 CI- E		1	603551	11/04/21 19:10	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	603791	11/04/21 19:31	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	604749	11/12/21 15:44	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			535410	11/08/21 10:05	LPS	TAL SL
Total/NA	Analysis	903.0		1	539373	11/30/21 08:54	EMH	TAL SL
Total/NA	Prep	PrecSep_0			535423	11/08/21 11:01	LPS	TAL SL
Total/NA	Analysis	904.0		1	538176	11/22/21 13:51	MLK	TAL SL

Lab Chronicle

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: D-3S-CCR

Lab Sample ID: 480-191682-3

Date Collected: 10/26/21 11:45

Matrix: Water

Date Received: 10/29/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			603082	11/03/21 09:05	ADM	TAL BUF
Total/NA	Analysis	6010D		1	603846	11/06/21 17:05	AMH	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606300	11/23/21 12:52	KMP	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606543	11/24/21 13:23	KMP	TAL BUF
Total/NA	Prep	7470A			603667	11/07/21 13:16	BMB	TAL BUF
Total/NA	Analysis	7470A		1	603785	11/07/21 16:26	BMB	TAL BUF
Total/NA	Analysis	D516-90, 02		1	603362	11/03/21 20:00	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	603062	11/02/21 11:39	JGO	TAL BUF
Total/NA	Analysis	SM 4500 CI- E		5	602978	11/01/21 21:30	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	603791	11/04/21 19:39	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	604749	11/12/21 15:46	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			535029	11/04/21 09:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	539046	11/29/21 11:18	MLK	TAL SL
Total/NA	Prep	PrecSep_0			535160	11/04/21 10:07	BMP	TAL SL
Total/NA	Analysis	904.0		1	538184	11/22/21 13:19	MLK	TAL SL

Client Sample ID: D-4S-CCR

Lab Sample ID: 480-191682-4

Date Collected: 10/27/21 09:45

Matrix: Water

Date Received: 10/29/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			603082	11/03/21 09:05	ADM	TAL BUF
Total/NA	Analysis	6010D		1	603846	11/06/21 17:09	AMH	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606300	11/23/21 13:13	KMP	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606543	11/24/21 13:36	KMP	TAL BUF
Total/NA	Prep	7470A			603667	11/07/21 13:16	BMB	TAL BUF
Total/NA	Analysis	7470A		1	603785	11/07/21 16:27	BMB	TAL BUF
Total/NA	Analysis	D516-90, 02		1	603362	11/03/21 21:08	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	603063	11/02/21 11:54	JGO	TAL BUF
Total/NA	Analysis	SM 4500 CI- E		2	602978	11/01/21 21:32	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	603791	11/04/21 19:42	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	604749	11/12/21 15:49	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			535029	11/04/21 09:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	539046	11/29/21 11:19	MLK	TAL SL
Total/NA	Prep	PrecSep_0			535160	11/04/21 10:07	BMP	TAL SL
Total/NA	Analysis	904.0		1	538184	11/22/21 13:19	MLK	TAL SL

Lab Chronicle

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: D-5S2-CCR

Lab Sample ID: 480-191682-5

Date Collected: 10/26/21 10:25

Matrix: Water

Date Received: 10/29/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			603082	11/03/21 09:05	ADM	TAL BUF
Total/NA	Analysis	6010D		1	603846	11/06/21 17:24	AMH	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606300	11/23/21 13:15	KMP	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606543	11/24/21 13:46	KMP	TAL BUF
Total/NA	Prep	7470A			603667	11/07/21 13:16	BMB	TAL BUF
Total/NA	Analysis	7470A		1	603785	11/07/21 16:35	BMB	TAL BUF
Total/NA	Analysis	D516-90, 02		2	603362	11/03/21 20:13	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	603063	11/02/21 11:54	JGO	TAL BUF
Total/NA	Analysis	SM 4500 CI- E		2	602978	11/01/21 21:40	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	603791	11/04/21 19:51	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	604749	11/12/21 15:50	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			535029	11/04/21 09:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	539046	11/29/21 11:19	MLK	TAL SL
Total/NA	Prep	PrecSep_0			535160	11/04/21 10:07	BMP	TAL SL
Total/NA	Analysis	904.0		1	538184	11/22/21 13:19	MLK	TAL SL

Client Sample ID: D-7-CCR

Lab Sample ID: 480-191682-6

Date Collected: 10/26/21 15:25

Matrix: Water

Date Received: 10/29/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			603082	11/03/21 09:05	ADM	TAL BUF
Total/NA	Analysis	6010D		1	603846	11/06/21 17:27	AMH	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606300	11/23/21 13:18	KMP	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606543	11/24/21 13:49	KMP	TAL BUF
Total/NA	Prep	7470A			603667	11/07/21 13:16	BMB	TAL BUF
Total/NA	Analysis	7470A		1	603785	11/07/21 16:36	BMB	TAL BUF
Total/NA	Analysis	D516-90, 02		2	603362	11/03/21 21:09	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	603063	11/02/21 11:54	JGO	TAL BUF
Total/NA	Analysis	SM 4500 CI- E		2	602978	11/01/21 21:34	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	603791	11/04/21 19:55	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	604749	11/12/21 15:53	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			535029	11/04/21 09:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	539046	11/29/21 11:19	MLK	TAL SL
Total/NA	Prep	PrecSep_0			535160	11/04/21 10:07	BMP	TAL SL
Total/NA	Analysis	904.0		1	538184	11/22/21 13:19	MLK	TAL SL

Lab Chronicle

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: D-8-CCR

Lab Sample ID: 480-191682-7

Date Collected: 10/27/21 11:20

Matrix: Water

Date Received: 10/29/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			603082	11/03/21 09:05	ADM	TAL BUF
Total/NA	Analysis	6010D		1	603846	11/06/21 17:31	AMH	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606300	11/23/21 13:20	KMP	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606543	11/24/21 13:51	KMP	TAL BUF
Total/NA	Prep	7470A			603667	11/07/21 13:16	BMB	TAL BUF
Total/NA	Analysis	7470A		1	603785	11/07/21 16:37	BMB	TAL BUF
Total/NA	Analysis	D516-90, 02		2	603362	11/03/21 20:13	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	603063	11/02/21 11:54	JGO	TAL BUF
Total/NA	Analysis	SM 4500 CI- E		1	602978	11/01/21 21:31	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	603791	11/04/21 19:57	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	604749	11/12/21 15:55	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			535029	11/04/21 09:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	539046	11/29/21 11:19	MLK	TAL SL
Total/NA	Prep	PrecSep_0			535160	11/04/21 10:07	BMP	TAL SL
Total/NA	Analysis	904.0		1	538184	11/22/21 13:19	MLK	TAL SL

Client Sample ID: D-9-CCR

Lab Sample ID: 480-191682-8

Date Collected: 10/27/21 12:05

Matrix: Water

Date Received: 10/29/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			603082	11/03/21 09:05	ADM	TAL BUF
Total/NA	Analysis	6010D		1	603846	11/06/21 17:35	AMH	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606300	11/23/21 13:23	KMP	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606543	11/24/21 13:54	KMP	TAL BUF
Total/NA	Prep	7470A			603667	11/07/21 13:16	BMB	TAL BUF
Total/NA	Analysis	7470A		1	603785	11/07/21 16:39	BMB	TAL BUF
Total/NA	Analysis	D516-90, 02		1	603362	11/03/21 21:09	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	603063	11/02/21 11:54	JGO	TAL BUF
Total/NA	Analysis	SM 4500 CI- E		1	602978	11/01/21 21:34	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	603791	11/04/21 20:00	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	604749	11/12/21 15:57	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			535029	11/04/21 09:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	539046	11/29/21 11:19	MLK	TAL SL
Total/NA	Prep	PrecSep_0			535160	11/04/21 10:07	BMP	TAL SL
Total/NA	Analysis	904.0		1	538184	11/22/21 13:20	MLK	TAL SL

Lab Chronicle

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: U-4D-CCR

Lab Sample ID: 480-191682-9

Date Collected: 10/26/21 11:35

Matrix: Water

Date Received: 10/29/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			603082	11/03/21 09:05	ADM	TAL BUF
Total/NA	Analysis	6010D		1	603846	11/06/21 17:39	AMH	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606300	11/23/21 13:25	KMP	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606543	11/24/21 13:56	KMP	TAL BUF
Total/NA	Prep	7470A			603667	11/07/21 13:16	BMB	TAL BUF
Total/NA	Analysis	7470A		1	603785	11/07/21 16:40	BMB	TAL BUF
Total/NA	Analysis	D516-90, 02		1	603362	11/03/21 20:03	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	603063	11/02/21 11:54	JGO	TAL BUF
Total/NA	Analysis	SM 4500 CI- E		1	602978	11/02/21 01:47	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	603791	11/04/21 20:03	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	604749	11/12/21 15:58	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			535029	11/04/21 09:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	539046	11/29/21 11:19	MLK	TAL SL
Total/NA	Prep	PrecSep_0			535160	11/04/21 10:07	BMP	TAL SL
Total/NA	Analysis	904.0		1	538184	11/22/21 13:20	MLK	TAL SL

Client Sample ID: U-4S-CCR

Lab Sample ID: 480-191682-10

Date Collected: 10/26/21 10:55

Matrix: Water

Date Received: 10/29/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			604131	11/10/21 09:21	KMP	TAL BUF
Total/NA	Analysis	6010D		1	604421	11/11/21 01:38	AMH	TAL BUF
Total/NA	Prep	3020A			606062	11/23/21 08:55	KMP	TAL BUF
Total/NA	Analysis	6020B		1	606479	11/23/21 22:17	KMP	TAL BUF
Total/NA	Prep	3020A			606062	11/23/21 08:55	KMP	TAL BUF
Total/NA	Analysis	6020B		1	606585	11/24/21 16:09	AMH	TAL BUF
Total/NA	Prep	7470A			603667	11/07/21 13:16	BMB	TAL BUF
Total/NA	Analysis	7470A		1	603785	11/07/21 16:41	BMB	TAL BUF
Total/NA	Analysis	D516-90, 02		1	603362	11/03/21 20:04	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	603379	11/04/21 08:45	EJL	TAL BUF
Total/NA	Analysis	SM 4500 CI- E		1	603551	11/04/21 19:11	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	603791	11/04/21 20:06	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	604749	11/12/21 15:59	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			535410	11/08/21 10:05	LPS	TAL SL
Total/NA	Analysis	903.0		1	539373	11/30/21 08:54	EMH	TAL SL
Total/NA	Prep	PrecSep_0			535423	11/08/21 11:01	LPS	TAL SL
Total/NA	Analysis	904.0		1	538176	11/22/21 13:51	MLK	TAL SL

Lab Chronicle

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: D-5D-CCR

Lab Sample ID: 480-191682-11

Date Collected: 10/26/21 15:00

Matrix: Water

Date Received: 10/29/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			603082	11/03/21 09:05	ADM	TAL BUF
Total/NA	Analysis	6010D		1	603846	11/06/21 18:08	AMH	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606300	11/23/21 13:28	KMP	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606543	11/24/21 13:59	KMP	TAL BUF
Total/NA	Prep	7470A			603667	11/07/21 13:16	BMB	TAL BUF
Total/NA	Analysis	7470A		1	603785	11/07/21 16:42	BMB	TAL BUF
Total/NA	Analysis	D516-90, 02		2	603362	11/03/21 21:10	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	603063	11/02/21 11:54	JGO	TAL BUF
Total/NA	Analysis	SM 4500 CI- E		2	602978	11/02/21 01:57	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	603791	11/04/21 20:09	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	604749	11/12/21 16:01	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			535029	11/04/21 09:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	539046	11/29/21 11:19	MLK	TAL SL
Total/NA	Prep	PrecSep_0			535160	11/04/21 10:07	BMP	TAL SL
Total/NA	Analysis	904.0		1	537997	11/22/21 13:25	EMH	TAL SL

Client Sample ID: U-5S-CCR

Lab Sample ID: 480-191682-12

Date Collected: 10/26/21 14:20

Matrix: Water

Date Received: 10/29/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			603082	11/03/21 09:05	ADM	TAL BUF
Total/NA	Analysis	6010D		1	603846	11/06/21 18:12	AMH	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606300	11/23/21 13:30	KMP	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606543	11/24/21 14:01	KMP	TAL BUF
Total/NA	Prep	7470A			603667	11/07/21 13:16	BMB	TAL BUF
Total/NA	Analysis	7470A		1	603785	11/07/21 16:44	BMB	TAL BUF
Total/NA	Analysis	D516-90, 02		1	603362	11/03/21 21:10	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	603063	11/02/21 11:54	JGO	TAL BUF
Total/NA	Analysis	SM 4500 CI- E		2	602978	11/02/21 01:49	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	603791	11/04/21 20:11	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	604749	11/12/21 16:03	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			535029	11/04/21 09:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	539046	11/29/21 11:20	MLK	TAL SL
Total/NA	Prep	PrecSep_0			535160	11/04/21 10:07	BMP	TAL SL
Total/NA	Analysis	904.0		1	537997	11/22/21 13:25	EMH	TAL SL

Lab Chronicle

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: D-1D-CCR

Lab Sample ID: 480-191682-13

Date Collected: 10/26/21 13:00

Matrix: Water

Date Received: 10/29/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			603082	11/03/21 09:05	ADM	TAL BUF
Total/NA	Analysis	6010D		1	603846	11/06/21 18:15	AMH	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606300	11/23/21 13:40	KMP	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606543	11/24/21 14:04	KMP	TAL BUF
Total/NA	Prep	7470A			603667	11/07/21 13:16	BMB	TAL BUF
Total/NA	Analysis	7470A		1	603785	11/07/21 16:48	BMB	TAL BUF
Total/NA	Analysis	D516-90, 02		1	603362	11/03/21 21:10	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	603063	11/02/21 11:54	JGO	TAL BUF
Total/NA	Analysis	SM 4500 CI- E		1	602978	11/02/21 01:50	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	603791	11/04/21 20:14	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	604749	11/12/21 16:05	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			535029	11/04/21 09:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	539046	11/29/21 11:20	MLK	TAL SL
Total/NA	Prep	PrecSep_0			535160	11/04/21 10:07	BMP	TAL SL
Total/NA	Analysis	904.0		1	537997	11/22/21 13:25	EMH	TAL SL

Client Sample ID: D-2D-CCR

Lab Sample ID: 480-191682-14

Date Collected: 10/26/21 14:15

Matrix: Water

Date Received: 10/29/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			603082	11/03/21 09:05	ADM	TAL BUF
Total/NA	Analysis	6010D		1	603846	11/06/21 18:19	AMH	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606300	11/23/21 13:43	KMP	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606543	11/24/21 14:06	KMP	TAL BUF
Total/NA	Prep	7470A			603667	11/07/21 13:16	BMB	TAL BUF
Total/NA	Analysis	7470A		1	603785	11/07/21 16:49	BMB	TAL BUF
Total/NA	Analysis	D516-90, 02		1	603362	11/03/21 21:10	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	603063	11/02/21 11:54	JGO	TAL BUF
Total/NA	Analysis	SM 4500 CI- E		1	602978	11/02/21 01:50	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	603791	11/04/21 20:17	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	604749	11/12/21 16:06	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			535029	11/04/21 09:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	539046	11/29/21 11:20	MLK	TAL SL
Total/NA	Prep	PrecSep_0			535160	11/04/21 10:07	BMP	TAL SL
Total/NA	Analysis	904.0		1	537997	11/22/21 13:25	EMH	TAL SL

Lab Chronicle

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: D-3D-CCR

Lab Sample ID: 480-191682-15

Date Collected: 10/26/21 11:50

Matrix: Water

Date Received: 10/29/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			604131	11/10/21 09:21	KMP	TAL BUF
Total/NA	Analysis	6010D		1	604421	11/11/21 01:42	AMH	TAL BUF
Total/NA	Prep	3020A			606062	11/23/21 08:55	KMP	TAL BUF
Total/NA	Analysis	6020B		1	606479	11/23/21 22:19	KMP	TAL BUF
Total/NA	Prep	3020A			606062	11/23/21 08:55	KMP	TAL BUF
Total/NA	Analysis	6020B		1	606585	11/24/21 16:20	AMH	TAL BUF
Total/NA	Prep	7470A			603667	11/07/21 13:16	BMB	TAL BUF
Total/NA	Analysis	7470A		1	603785	11/07/21 16:50	BMB	TAL BUF
Total/NA	Analysis	D516-90, 02		2	603362	11/03/21 20:17	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	603379	11/04/21 08:45	EJL	TAL BUF
Total/NA	Analysis	SM 4500 CI- E		2	603551	11/04/21 19:11	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	603791	11/04/21 20:35	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	604749	11/12/21 16:09	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			535410	11/08/21 10:05	LPS	TAL SL
Total/NA	Analysis	903.0		1	539373	11/30/21 08:54	EMH	TAL SL
Total/NA	Prep	PrecSep_0			535423	11/08/21 11:01	LPS	TAL SL
Total/NA	Analysis	904.0		1	538185	11/22/21 13:54	MLK	TAL SL

Client Sample ID: D-4D-CCR

Lab Sample ID: 480-191682-16

Date Collected: 10/27/21 09:50

Matrix: Water

Date Received: 10/29/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			604131	11/10/21 09:21	KMP	TAL BUF
Total/NA	Analysis	6010D		1	604421	11/11/21 01:46	AMH	TAL BUF
Total/NA	Prep	3020A			606062	11/23/21 08:55	KMP	TAL BUF
Total/NA	Analysis	6020B		1	606479	11/23/21 22:22	KMP	TAL BUF
Total/NA	Prep	3020A			606062	11/23/21 08:55	KMP	TAL BUF
Total/NA	Analysis	6020B		1	606585	11/24/21 16:22	AMH	TAL BUF
Total/NA	Prep	7470A			603667	11/07/21 13:16	BMB	TAL BUF
Total/NA	Analysis	7470A		1	603785	11/07/21 16:52	BMB	TAL BUF
Total/NA	Analysis	D516-90, 02		1	603362	11/03/21 20:17	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	603379	11/04/21 08:45	EJL	TAL BUF
Total/NA	Analysis	SM 4500 CI- E		1	603551	11/04/21 20:21	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	603791	11/04/21 20:43	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	604749	11/12/21 16:10	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			535410	11/08/21 10:05	LPS	TAL SL
Total/NA	Analysis	903.0		1	539373	11/30/21 08:54	EMH	TAL SL
Total/NA	Prep	PrecSep_0			535423	11/08/21 11:01	LPS	TAL SL
Total/NA	Analysis	904.0		1	538185	11/22/21 13:53	MLK	TAL SL

Lab Chronicle

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: U-5D-CCR

Lab Sample ID: 480-191682-17

Date Collected: 10/26/21 10:40

Matrix: Water

Date Received: 10/29/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			604131	11/10/21 09:21	KMP	TAL BUF
Total/NA	Analysis	6010D		1	604421	11/11/21 01:50	AMH	TAL BUF
Total/NA	Prep	3020A			606062	11/23/21 08:55	KMP	TAL BUF
Total/NA	Analysis	6020B		1	606479	11/23/21 22:32	KMP	TAL BUF
Total/NA	Prep	3020A			606062	11/23/21 08:55	KMP	TAL BUF
Total/NA	Analysis	6020B		1	606585	11/24/21 16:25	AMH	TAL BUF
Total/NA	Prep	7470A			603667	11/07/21 13:16	BMB	TAL BUF
Total/NA	Analysis	7470A		1	603785	11/07/21 16:53	BMB	TAL BUF
Total/NA	Analysis	D516-90, 02		2	603362	11/03/21 20:24	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	603379	11/04/21 08:45	EJL	TAL BUF
Total/NA	Analysis	SM 4500 CI- E		2	603551	11/04/21 19:12	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	603791	11/04/21 20:45	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	604749	11/12/21 16:11	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			535410	11/08/21 10:05	LPS	TAL SL
Total/NA	Analysis	903.0		1	539373	11/30/21 08:54	EMH	TAL SL
Total/NA	Prep	PrecSep_0			535423	11/08/21 11:01	LPS	TAL SL
Total/NA	Analysis	904.0		1	538185	11/22/21 13:54	MLK	TAL SL

Client Sample ID: DUP 1 CCR

Lab Sample ID: 480-191682-18

Date Collected: 10/26/21 00:00

Matrix: Water

Date Received: 10/29/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			604131	11/10/21 09:21	KMP	TAL BUF
Total/NA	Analysis	6010D		1	604421	11/11/21 01:53	AMH	TAL BUF
Total/NA	Prep	3020A			606062	11/23/21 08:55	KMP	TAL BUF
Total/NA	Analysis	6020B		1	606479	11/23/21 22:34	KMP	TAL BUF
Total/NA	Prep	3020A			606062	11/23/21 08:55	KMP	TAL BUF
Total/NA	Analysis	6020B		1	606585	11/24/21 16:27	AMH	TAL BUF
Total/NA	Prep	7470A			603667	11/07/21 13:16	BMB	TAL BUF
Total/NA	Analysis	7470A		1	603785	11/07/21 16:54	BMB	TAL BUF
Total/NA	Analysis	D516-90, 02		1	603362	11/03/21 20:18	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	603379	11/04/21 08:45	EJL	TAL BUF
Total/NA	Analysis	SM 4500 CI- E		1	603551	11/04/21 19:12	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	603791	11/04/21 20:48	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	604749	11/12/21 16:13	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			535410	11/08/21 10:05	LPS	TAL SL
Total/NA	Analysis	903.0		1	539373	11/30/21 08:55	EMH	TAL SL
Total/NA	Prep	PrecSep_0			535423	11/08/21 11:01	LPS	TAL SL
Total/NA	Analysis	904.0		1	538185	11/22/21 13:54	MLK	TAL SL

Lab Chronicle

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: DUP 2 CCR

Lab Sample ID: 480-191682-19

Date Collected: 10/27/21 00:00

Matrix: Water

Date Received: 10/29/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			603082	11/03/21 09:05	ADM	TAL BUF
Total/NA	Analysis	6010D		1	603846	11/06/21 18:23	AMH	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606300	11/23/21 13:45	KMP	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606543	11/24/21 14:09	KMP	TAL BUF
Total/NA	Prep	7470A			603667	11/07/21 13:16	BMB	TAL BUF
Total/NA	Analysis	7470A		1	603785	11/07/21 16:56	BMB	TAL BUF
Total/NA	Analysis	D516-90, 02		1	603362	11/03/21 20:18	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	603063	11/02/21 11:54	JGO	TAL BUF
Total/NA	Analysis	SM 4500 CI- E		1	602978	11/02/21 01:50	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	603791	11/04/21 20:51	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	604749	11/12/21 16:14	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			535029	11/04/21 09:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	539046	11/29/21 11:20	MLK	TAL SL
Total/NA	Prep	PrecSep_0			535160	11/04/21 10:07	BMP	TAL SL
Total/NA	Analysis	904.0		1	537997	11/22/21 13:25	EMH	TAL SL

Client Sample ID: FIELD BLANK CCR

Lab Sample ID: 480-191682-20

Date Collected: 10/27/21 10:00

Matrix: Water

Date Received: 10/29/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			603082	11/03/21 09:05	ADM	TAL BUF
Total/NA	Analysis	6010D		1	603846	11/06/21 18:27	AMH	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606300	11/23/21 13:48	KMP	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606543	11/24/21 14:19	KMP	TAL BUF
Total/NA	Prep	7470A			603667	11/07/21 13:16	BMB	TAL BUF
Total/NA	Analysis	7470A		1	603785	11/07/21 16:57	BMB	TAL BUF
Total/NA	Analysis	D516-90, 02		1	603362	11/03/21 20:19	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	603063	11/02/21 11:54	JGO	TAL BUF
Total/NA	Analysis	SM 4500 CI- E		1	602978	11/02/21 01:50	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	603791	11/04/21 20:55	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	604749	11/12/21 16:15	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			535029	11/04/21 09:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	539046	11/29/21 11:20	MLK	TAL SL
Total/NA	Prep	PrecSep_0			535160	11/04/21 10:07	BMP	TAL SL
Total/NA	Analysis	904.0		1	537997	11/22/21 13:26	EMH	TAL SL

Lab Chronicle

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Client Sample ID: EQUIPMENT BLANK CCR

Lab Sample ID: 480-191682-21

Date Collected: 10/27/21 12:15

Matrix: Water

Date Received: 10/29/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			603082	11/03/21 09:05	ADM	TAL BUF
Total/NA	Analysis	6010D		1	603846	11/06/21 18:30	AMH	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606300	11/23/21 13:51	KMP	TAL BUF
Total/NA	Prep	3020A			603249	11/05/21 08:07	ADM	TAL BUF
Total/NA	Analysis	6020B		1	606543	11/24/21 14:21	KMP	TAL BUF
Total/NA	Prep	7470A			603667	11/07/21 13:16	BMB	TAL BUF
Total/NA	Analysis	7470A		1	603785	11/07/21 16:58	BMB	TAL BUF
Total/NA	Analysis	D516-90, 02		1	603362	11/03/21 20:19	SRW	TAL BUF
Total/NA	Analysis	SM 2540C		1	603063	11/02/21 11:54	JGO	TAL BUF
Total/NA	Analysis	SM 4500 CI- E		1	602978	11/02/21 01:51	SRW	TAL BUF
Total/NA	Analysis	SM 4500 F C		1	603791	11/04/21 21:07	KEB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	604749	11/12/21 16:18	DLG	TAL BUF
Total/NA	Prep	PrecSep-21			535029	11/04/21 09:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	539046	11/29/21 11:20	MLK	TAL SL
Total/NA	Prep	PrecSep_0			535160	11/04/21 10:07	BMP	TAL SL
Total/NA	Analysis	904.0		1	537997	11/22/21 13:26	EMH	TAL SL

Laboratory References:

TAL SL = Eurofins TestAmerica, 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 App III/IV

Job ID: 480-191682-2

Laboratory: Eurofins TestAmerica, Buffalo

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-0686	07-06-22
Connecticut	State	PH-0568	09-30-22
Florida	NELAP	E87672	06-30-22
Georgia	State	10026 (NY)	03-31-22
Georgia	State Program	N/A	03-31-09 *
Georgia (DW)	State	956	03-31-22
Illinois	NELAP	200003	09-30-22
Iowa	State	374	03-01-23
Iowa	State Program	374	03-01-09 *
Kansas	NELAP	E-10187	02-02-22
Kentucky (DW)	State	90029	12-31-21
Kentucky (UST)	State	30	04-01-22
Kentucky (WW)	State	KY90029	01-01-22
Louisiana	NELAP	02031	06-30-22
Maine	State	NY00044	12-05-22
Maryland	State	294	04-02-22
Massachusetts	State	M-NY044	06-30-22
Michigan	State	9937	04-01-22
Michigan	State Program	9937	04-01-09 *
Minnesota	NELAP	1524384	01-01-22
New Hampshire	NELAP	2973	09-11-19 *
New Hampshire	NELAP	2337	11-17-22
New Jersey	NELAP	NY455	06-30-22
New York	NELAP	10026	04-01-22
Oregon	NELAP	NY200003	06-12-22
Pennsylvania	NELAP	68-00281	07-31-22
Rhode Island	State	LAO00328	12-31-21
Tennessee	State	02970	03-31-22
Texas	NELAP	T104704412-18-10	07-31-22
USDA	US Federal Programs	P330-18-00039	03-25-24
Virginia	NELAP	460185	09-14-22
Washington	State	C784	02-10-22
Wisconsin	State	998310390	08-31-22

Laboratory: Eurofins TestAmerica, 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	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
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

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

Eurofins TestAmerica, Buffalo

Accreditation/Certification Summary

Client: Waste Connections, Inc.
 Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Laboratory: Eurofins TestAmerica, St. Louis (Continued)

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

Authority	Program	Identification Number	Expiration Date
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-21
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	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	03-01-22
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 App III/IV

Job ID: 480-191682-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency
None = None

Laboratory References:

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

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Sample Summary

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-191682-1	D-1S-CCR	Water	10/26/21 12:50	10/29/21 10:00
480-191682-2	D-2S-CCR	Water	10/26/21 14:10	10/29/21 10:00
480-191682-3	D-3S-CCR	Water	10/26/21 11:45	10/29/21 10:00
480-191682-4	D-4S-CCR	Water	10/27/21 09:45	10/29/21 10:00
480-191682-5	D-5S2-CCR	Water	10/26/21 10:25	10/29/21 10:00
480-191682-6	D-7-CCR	Water	10/26/21 15:25	10/29/21 10:00
480-191682-7	D-8-CCR	Water	10/27/21 11:20	10/29/21 10:00
480-191682-8	D-9-CCR	Water	10/27/21 12:05	10/29/21 10:00
480-191682-9	U-4D-CCR	Water	10/26/21 11:35	10/29/21 10:00
480-191682-10	U-4S-CCR	Water	10/26/21 10:55	10/29/21 10:00
480-191682-11	D-5D-CCR	Water	10/26/21 15:00	10/29/21 10:00
480-191682-12	U-5S-CCR	Water	10/26/21 14:20	10/29/21 10:00
480-191682-13	D-1D-CCR	Water	10/26/21 13:00	10/29/21 10:00
480-191682-14	D-2D-CCR	Water	10/26/21 14:15	10/29/21 10:00
480-191682-15	D-3D-CCR	Water	10/26/21 11:50	10/29/21 10:00
480-191682-16	D-4D-CCR	Water	10/27/21 09:50	10/29/21 10:00
480-191682-17	U-5D-CCR	Water	10/26/21 10:40	10/29/21 10:00
480-191682-18	DUP 1 CCR	Water	10/26/21 00:00	10/29/21 10:00
480-191682-19	DUP 2 CCR	Water	10/27/21 00:00	10/29/21 10:00
480-191682-20	FIELD BLANK CCR	Water	10/27/21 10:00	10/29/21 10:00
480-191682-21	EQUIPMENT BLANK CCR	Water	10/27/21 12:15	10/29/21 10:00



Quantitation Limit Exceptions Summary

Client: Waste Connections, Inc.
Project/Site: SKB Rosemount - CCR App III/IV

Job ID: 480-191682-2

The requested project specific reporting limits listed below were less than laboratory standard quantitation limits (PQL) but greater than or equal to the laboratory method detection limits (MDL). It must be noted that results reported below lab standard quantitation limits may result in false positive/false negative values and less accurate quantitation. Routine laboratory procedures do not indicate corrective action for detections below the laboratory's PQL.

Method	Analyte	Matrix	Prep Type	Unit	Client RL	Lab PQL
D516-90, 02	Sulfate	Water	Total/NA	mg/L	2.0	5.0
SM 4500 Cl- E	Chloride	Water	Total/NA	mg/L	0.50	1.0
SM 4500 F C	Fluoride	Water	Total/NA	mg/L	0.050	0.1

Client Information		Sampler: VanDette, Ryan T		Lab PM: VanDette, Ryan T		Carrier Tracking No(s):		COC No: 480-165076-30557.1	
Client Contact: Nathaniel Beinemann		Phone:		E-Mail: Ryan.VanDette@Eurofins.com		State of Origin:		Page: Page 1 of 2	
Company: Waste Connections, Inc.		PWSID:						Job #:	
Address: 13425 Courthouse Blvd		Due Date Requested:						Preservation Codes:	
City: Rosemount		TAT Requested (days):						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, 55068		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No						M - Hexane N - None O - AshNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Phone:		PO #:		Purchase Order Requested				Total Number of containers	
Email: nathanielb@wcnx.org		WO #:						Special Instructions/Note:	
Project Name: SKB Rosemount - CCR App III/IV		Project #:		48013709				480-191682 Chain of Custody	
Site: Minnesota		SSOW#:							
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Preservation Code:	Matrix (Water, Solid, On-water, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Analysis Requested	Special Instructions/Note:
D-1S CLR					Water				
D-2S CLR					Water				
D-3S CLR					Water				
D-4S CLR					Water				
D-5S CLR					Water				
D-7 CLR					Water				
D-8 CLR					Water				
D-9 CLR					Water				
U-4D CLR					Water				
U-4S CLR					Water				
U-5D CLR					Water				
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: _____ Method of Shipment: _____ Relinquished by: _____ Date/Time: 10-27-21 1430 Company: CES Relinquished by: _____ Date/Time: _____ Company: _____ Relinquished by: _____ Date/Time: _____ Company: _____ Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.: _____ Cooler Temperature: _____ °C and Other Remarks: _____									



Client Information		Lab PM: VanDette, Ryan T		Carrier Tracking No(s):		COC No: 480-165076-30557.2	
Client Contact: Nathaniel Beinmann		E-Mail: Ryan.VanDette@Eurofins.com		State of Origin:		Page 2 of 2	
Company: Waste Connections, Inc.		PWSID:		Analysis Requested		Job #:	
Address: 13425 Courthouse Blvd		Due Date Requested:		Total Number of Containers		Preservation Codes:	
City: Rosemount		TAT Requested (days):		Perform MS/MSD (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, 55068		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		Field Filtered Sample (Yes or No)		M - Hexane N - None O - AsNaO2 P - Na2O4S R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Phone:		Purchase Order Requested		6010D, 6020B, 7470A		Special Instructions/Note:	
Email: nathanielb@wcnx.org		WO #:		D516, SM4500, Cl, F, SM4500, H+			
Project Name: SKB Rosemount - CCR App III/IV		Project #:		4500, F, C - Fluoride			
Site: Minnesota		SSOW#:		2540C_Calcd - TDS			
		Sample Date		904.0 - Rad 228			
		Sample Time		903.0 - Rad 226			
		Sample Type (C=Comp, G=grab)					
		Matrix (Water, Solid, On-site, In-Tissue, AAW)					
		Preservation Code:					
Sample Identification		U-5S CLR		Water			
D-1D CCR		Water					
D-2D CCR		Water					
D-3D CCR		Water					
D-4D CCR		Water					
D-5D CCR		Water					
Dup 1 CLR		Water					
Dup 2 CLR		Water					
Field Blank CLR		Water					
Equipment Blank CLR		Water					
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		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	
Deliverable Requested: I, II, III, IV, Other (specify)		Empty Kit Relinquished by:		Special Instructions/QC Requirements:			
Date:		Time:		Method of Shipment:			
Relinquished by: Donjacka (Wick S.)		Date/Time: 10-27-21 1430		Received by: [Signature]		Date/Time: 10-27-21 1430	
Relinquished by: [Signature]		Date/Time: 10-27-21 1700		Received by: [Signature]		Date/Time: [Signature]	
Relinquished by: Eurofins		Date/Time: [Signature]		Received by: [Signature]		Date/Time: [Signature]	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:			



Login Sample Receipt Checklist

Client: Waste Connections, Inc.

Job Number: 480-191682-1

Login Number: 191682

List Number: 1

Creator: Kolb, Chris M

List Source: Eurofins TestAmerica, Buffalo

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

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-191630-1

Client Project/Site: SKB Rosemount - CCR Groundwater

For:

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

Attn: Megan Lindstrom



Authorized for release by:
11/24/2021 10:27:13 AM

Ryan VanDette, Project Manager II
(716)504-9830
Ryan.VanDette@Eurofinset.com

LINKS

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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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Definitions/Glossary

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

Job ID: 480-191630-1

Qualifiers

Metals

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
^6+	Interference Check Standard (ICSA and/or ICSAB) is outside acceptance limits, high biased.

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

Case Narrative

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

Job ID: 480-191630-1

Job ID: 480-191630-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative 480-191630-1

Comments

No additional comments.

Receipt

The sample was received on 10/29/2021 10:00 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.0° C.

Metals

Methods 6010C, 6010D: The continuing calibration verification (CCV 480-604271/17) associated with batch 480-604271 recovered above the upper control limit for Dissolved Boron. The sample associated with this CCV, (MB 480-603088/1-A), was non-detect for the affected analyte; therefore, the data have been reported.

Method 6020B: The interference check standard solution (ICSA) associated with the following samples showed results for Dissolved Cobalt at a level greater than 2X the reporting limit. The solution contains trace impurities of this element, and the results are not due to any matrix interference. These results are consistent with those found by the manufacturer of the ICSA solution. D-7-FS (480-191630-1), (LCS 480-603253/2-A) and (MB 480-603253/1-A)

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

Detection Summary

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

Job ID: 480-191630-1

Client Sample ID: D-7-FS

Lab Sample ID: 480-191630-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.033		0.020		mg/L	1		6010D	Dissolved
Barium	0.11		0.0020		mg/L	1		6010D	Dissolved
Calcium	153		0.50		mg/L	1		6010D	Dissolved
Cobalt	0.33	^6+	0.30		ug/L	1		6020B	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Client Sample Results

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

Job ID: 480-191630-1

Client Sample ID: D-7-FS

Lab Sample ID: 480-191630-1

Date Collected: 10/26/21 15:25

Matrix: Water

Date Received: 10/29/21 10:00

Method: 6010D - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.033		0.020		mg/L		11/05/21 08:33	11/09/21 23:48	1
Barium	0.11		0.0020		mg/L		11/05/21 08:33	11/09/21 23:48	1
Calcium	153		0.50		mg/L		11/05/21 08:33	11/09/21 23:48	1
Chromium	ND		0.0040		mg/L		11/05/21 08:33	11/09/21 23:48	1
Lithium	ND		0.030		mg/L		11/05/21 08:33	11/09/21 23:48	1
Lead	ND		0.010		mg/L		11/05/21 08:33	11/09/21 23:48	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0		ug/L		11/08/21 12:53	11/22/21 16:57	1
Arsenic	ND		1.0		ug/L		11/08/21 12:53	11/22/21 16:57	1
Beryllium	ND		0.70		ug/L		11/08/21 12:53	11/22/21 16:57	1
Cadmium	ND		0.50		ug/L		11/08/21 12:53	11/22/21 16:57	1
Cobalt	0.33	^6+	0.30		ug/L		11/08/21 12:53	11/22/21 16:57	1
Molybdenum	ND		1.0		ug/L		11/08/21 12:53	11/22/21 16:57	1
Selenium	ND		1.0		ug/L		11/08/21 12:53	11/22/21 16:57	1
Thallium	ND		0.20		ug/L		11/08/21 12:53	11/22/21 16:57	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/05/21 13:53	11/05/21 17:38	1

QC Sample Results

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

Job ID: 480-191630-1

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 480-603088/1-A
Matrix: Water
Analysis Batch: 604271

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 603088

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Boron	ND	^+	0.020		mg/L		11/05/21 08:33	11/09/21 21:51	1
Barium	ND		0.0020		mg/L		11/05/21 08:33	11/09/21 21:51	1
Calcium	ND		0.50		mg/L		11/05/21 08:33	11/09/21 21:51	1
Chromium	ND		0.0040		mg/L		11/05/21 08:33	11/09/21 21:51	1
Lithium	ND		0.030		mg/L		11/05/21 08:33	11/09/21 21:51	1
Lead	ND		0.010		mg/L		11/05/21 08:33	11/09/21 21:51	1

Lab Sample ID: LCS 480-603088/2-A
Matrix: Water
Analysis Batch: 604271

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 603088

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Barium	0.200	0.228		mg/L		114	80 - 120
Calcium	10.0	10.38		mg/L		104	80 - 120
Chromium	0.200	0.204		mg/L		102	80 - 120
Lead	0.200	0.215		mg/L		108	80 - 120

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 480-603253/1-A
Matrix: Water
Analysis Batch: 606161

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 603253

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	ND		1.0		ug/L		11/08/21 12:53	11/22/21 16:09	1
Arsenic	ND		1.0		ug/L		11/08/21 12:53	11/22/21 16:09	1
Beryllium	ND		0.70		ug/L		11/08/21 12:53	11/22/21 16:09	1
Cadmium	ND		0.50		ug/L		11/08/21 12:53	11/22/21 16:09	1
Cobalt	ND	^6+	0.30		ug/L		11/08/21 12:53	11/22/21 16:09	1
Molybdenum	ND		1.0		ug/L		11/08/21 12:53	11/22/21 16:09	1
Selenium	ND		1.0		ug/L		11/08/21 12:53	11/22/21 16:09	1
Thallium	ND		0.20		ug/L		11/08/21 12:53	11/22/21 16:09	1

Lab Sample ID: LCS 480-603253/2-A
Matrix: Water
Analysis Batch: 606161

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 603253

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Antimony	20.0	18.60		ug/L		93	80 - 120
Arsenic	20.0	19.28		ug/L		96	80 - 120
Beryllium	20.0	21.19		ug/L		106	80 - 120
Cadmium	20.0	19.48		ug/L		97	80 - 120
Cobalt	20.0	20.73	^6+	ug/L		104	80 - 120
Molybdenum	20.0	20.56		ug/L		103	80 - 120
Selenium	20.0	20.18		ug/L		101	80 - 120
Thallium	20.0	20.35		ug/L		102	80 - 120

QC Sample Results

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

Job ID: 480-191630-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 480-603638/1-A
Matrix: Water
Analysis Batch: 603689

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 603638

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		11/05/21 13:53	11/05/21 17:01	1

Lab Sample ID: LCS 480-603638/2-A
Matrix: Water
Analysis Batch: 603689

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 603638

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	6.67	6.82		ug/L		102	80 - 120

QC Association Summary

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

Job ID: 480-191630-1

Metals

Prep Batch: 603088

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191630-1	D-7-FS	Dissolved	Water	3005A	
MB 480-603088/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 480-603088/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 603253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191630-1	D-7-FS	Dissolved	Water	3020A	
MB 480-603253/1-A	Method Blank	Total/NA	Water	3020A	
LCS 480-603253/2-A	Lab Control Sample	Total/NA	Water	3020A	

Prep Batch: 603638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191630-1	D-7-FS	Dissolved	Water	7470A	
MB 480-603638/1-A	Method Blank	Total/NA	Water	7470A	
LCS 480-603638/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 603689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191630-1	D-7-FS	Dissolved	Water	7470A	603638
MB 480-603638/1-A	Method Blank	Total/NA	Water	7470A	603638
LCS 480-603638/2-A	Lab Control Sample	Total/NA	Water	7470A	603638

Analysis Batch: 604271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191630-1	D-7-FS	Dissolved	Water	6010D	603088
MB 480-603088/1-A	Method Blank	Total Recoverable	Water	6010D	603088
LCS 480-603088/2-A	Lab Control Sample	Total Recoverable	Water	6010D	603088

Analysis Batch: 606161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-191630-1	D-7-FS	Dissolved	Water	6020B	603253
MB 480-603253/1-A	Method Blank	Total/NA	Water	6020B	603253
LCS 480-603253/2-A	Lab Control Sample	Total/NA	Water	6020B	603253

Lab Chronicle

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

Job ID: 480-191630-1

Client Sample ID: D-7-FS

Lab Sample ID: 480-191630-1

Date Collected: 10/26/21 15:25

Matrix: Water

Date Received: 10/29/21 10:00

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Prepared or Analyzed</u>	<u>Analyst</u>	<u>Lab</u>
Dissolved	Prep	3005A			603088	11/05/21 08:33	ADM	TAL BUF
Dissolved	Analysis	6010D		1	604271	11/09/21 23:48	AMH	TAL BUF
Dissolved	Prep	3020A			603253	11/08/21 12:53	KMP	TAL BUF
Dissolved	Analysis	6020B		1	606161	11/22/21 16:57	KMP	TAL BUF
Dissolved	Prep	7470A			603638	11/05/21 13:53	NVK	TAL BUF
Dissolved	Analysis	7470A		1	603689	11/05/21 17:38	BMB	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600



Accreditation/Certification Summary

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

Job ID: 480-191630-1

Laboratory: Eurofins TestAmerica, Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Minnesota	NELAP	1524384	01-01-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
6010D	3005A	Water	Lithium

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

Method Summary

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

Job ID: 480-191630-1

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	TAL BUF
6020B	Metals (ICP/MS)	SW846	TAL BUF
7470A	Mercury (CVAA)	SW846	TAL BUF
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL BUF
3020A	Preparation, Total Metals	SW846	TAL BUF
7470A	Preparation, Mercury	SW846	TAL BUF

Protocol References:

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

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600



Sample Summary


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

Job ID: 480-191630-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-191630-1	D-7-FS	Water	10/26/21 15:25	10/29/21 10:00

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

Chain of Custody Record

Client Information		Sampler: <i>M. K. Lloyd</i>		Lab PM: <i>VanDette, Ryan T</i>		Carrier Tracking No(s): <i>480-166681-36520.1</i>	
Client Contact: <i>Jake Simonet</i>		Phone: <i>651-772-6065</i>		E-Mail: <i>Ryan.VanDette@Eurofinset.com</i>		COC No: <i>480-166681-36520.1</i>	
Company: <i>Groundwater & Environmental Services Inc</i>		PWSID:		State of Origin: <i>NY</i>		Page: <i>1 of 1</i>	
Address: <i>1301 Corporate Center Drive Suite 190</i>		Due Date Requested:		Analysis Requested		Job #:	
City: <i>Eagan</i>		TAT Requested (days): <i>Standard</i>				Preservation Codes:	
State/Zip: <i>MN, 55121-1562</i>		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				A - HCL B - NaOH M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecylaldehyde U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Phone:		PO #:		Purchase Order Requested		Other:	
Email: <i>jsimonet@gesonline.com</i>		WO #:					
Project Name: <i>SKB Rosemount - D7</i>		Project #:		Perform MSM/SD (Yes or No): <i>5010D, 6020B</i>			
Site: <i>Minnesota</i>		SSOW#:		Field Filtered Sample (Yes or No): <i>X</i>			
Sample Identification: <i>D-7 - FS</i>		Sample Date: <i>10/26/21</i>		Sample Time: <i>15:25</i>		Sample Matrix: <i>Water</i>	
		Sample Type (C=comp, G=grab): <i>6</i>		Preservation Code: <i>D</i>		Special Instructions/Note:	
						 480-191630 Chain of Custody	
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		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			
Deliverable Requested: I, II, III, IV, Other (specify)				Special Instructions/QC Requirements:			
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by: <i>Michelle Quibbe</i>		Date/Time: <i>10/27/21 1450</i>		Company: <i>ES</i>		Received by: <i>Agay</i>	
Relinquished by: <i>Don Joe</i>		Date/Time: <i>10-27-21 1700</i>		Company: <i>Eurofins</i>		Received by: <i>Michelle Quibbe</i>	
Relinquished by:		Date/Time:		Company:		Received by:	
Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: <i>#1 YD</i>			

Login Sample Receipt Checklist

Client: Waste Connections, Inc.

Job Number: 480-191630-1

Login Number: 191630

List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Sabuda, Brendan D

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
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	4.0 #1 ICE
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	True	





Appendix C – Monitoring Well D-7 Evaluation

Appendix C

Monitoring Well D-7 Overall Evaluation

In 2017, 8 groundwater sampling events were conducted at the SKB Rosemount Landfill for the purpose of collecting CCR background groundwater analytical data. During these background sampling events, monitoring well D-7 was dry and groundwater samples were not collected. Groundwater was present in D-7 during some of the groundwater sampling events in 2018-2020, and when enough water was present, groundwater samples were collected. Unlike the other monitoring wells at the SKB Rosemount Landfill, D-7 did not have a bladder pump installed in the well for low flow sampling during 2018 to 2020. When groundwater was present at well D-7 from prior to 2021, the well was sampled using a disposable bailer. A bladder pump was installed for all sampling events in 2021.

Previous Year (2020) Sampling Results

Elevated turbidity in D-7 was reported in both the field notes and the laboratory evaluation in 2020. Laboratory results in 2020 reported correspondingly elevated total metal concentrations in D-7 for the two sampling events. The dissolved metal concentrations collected at D-7 were significantly lower - corroborating that sediment was the likely source of the elevated total metals concentrations. Because of the high sediment content, the total metals data from 2020 should not be considered a reliable indicator of possible landfill impact in or around the D-7 location.

Data from this well was also excluded from inter-well threshold calculations due to these same turbidity issues.

2021 Sampling Results

The 2021 D-7 samples were collected via bladder pump, and exhibited lower turbidity. The data from D-7 continues to be excluded from the inter-well threshold calculations until a statistically significant number of viable data points are collected. After 8 sampling events via bladder pump are completed, calculations will be reassessed including the D-7 sampling location data. Currently evaluation of the D-7 data is separate from the other wells and utilization of total vs dissolved metals differences will determine if one or both analytical data sets (total or dissolved metals) is more appropriate to determine possible landfill impacts. Detected D-7 results from 2021 Fall event are within 2 standard deviations of the other landfill well detections, and the use of the bladder pump has reduced the impact of well turbidity on groundwater metals results (Attached **Tables 1 through 3**).

Table 1
Appendix C



D-7 Groundwater Analytical Data
Appendix III

Location	Date	Parameter	Result	Units	CAS #
D-7	02/10/2020	Boron	0.12	mg/l	7440-42-8
D-7	10/21/2020	Boron	0.10	mg/l	7440-42-8
D-7	03/31/2021	Boron	0.037	mg/l	7440-42-8
D-7	10/26/2021	Boron	0.029	mg/l	7440-42-8
D-7	10/26/2022	Boron - Dissolved	0.033	mg/l	7440-42-8
D-7	02/10/2020	Calcium	182	mg/l	7440-70-2
D-7	10/21/2020	Calcium	178	mg/l	7440-70-2
D-7	03/31/2021	Calcium	153	mg/l	7440-70-2
D-7	10/26/2021	Calcium	134	mg/l	7440-70-2
D-7	10/26/2022	Calcium - Dissolved	153	mg/l	7440-70-2
D-7	02/10/2020	Chloride	45.4	mg/l	16887-00-6
D-7	10/21/2020	Chloride	66.6	mg/l	16887-00-6
D-7	03/31/2021	Chloride	53.7	mg/l	16887-00-6
D-7	10/26/2021	Chloride	46.6	mg/l	16887-00-6
D-7	02/10/2020	Fluoride	0.070	mg/l	16984-48-8
D-7	10/21/2020	Fluoride	0.050	mg/l	16984-48-8
D-7	03/31/2021	Fluoride	0.060	mg/l	16984-48-8
D-7	10/26/2021	Fluoride	0.050	mg/l	16984-48-8
D-7	02/10/2020	pH	7.1	pH UNITS	PH
D-7	10/21/2020	pH	7.0	pH UNITS	PH
D-7	03/31/2021	pH	7.8	pH UNITS	PH
D-7	10/26/2021	pH	7.3	pH UNITS	PH
D-7	02/10/2020	Sulfate as SO4	69.7	mg/l	14808-79-8
D-7	10/21/2020	Sulfate as SO4	81.1	mg/l	14808-79-8
D-7	03/31/2021	Sulfate as SO4	67.9	mg/l	14808-79-8
D-7	10/26/2021	Sulfate as SO4	60.7	mg/l	14808-79-8
D-7	02/10/2020	Total Dissolved Solids	413	mg/l	TDS
D-7	10/20/2020	Total Dissolved Solids	562	mg/l	TDS
D-7	03/31/2021	Total Dissolved Solids	618	mg/l	TDS
D-7	10/26/2021	Total Dissolved Solids	620	mg/l	TDS

mg/l = milligrams per liter

Table 2
Appendix C



D-7 Groundwater Analytical Data
Appendix IV

Location	Date	Parameter	Result	Units	CAS #
D-7	10/26/2021	Antimony - Dissolved	< 0.001	mg/l	7440-36-0
D-7	10/21/2020	Antimony - Total	< 0.001	mg/l	7440-36-0
D-7	03/31/2021	Antimony - Total	<0.001	mg/l	7440-36-0
D-7	10/26/2021	Antimony - Total	<0.001	mg/l	7440-36-0
D-7	02/10/2020	Arsenic - Dissolved	< 0.015	mg/l	7440-38-2
D-7	02/10/2020	Arsenic - Dissolved	< 0.001	mg/l	7440-38-2
D-7	10/26/2021	Arsenic - Dissolved	< 0.001	mg/l	7440-38-2
D-7	02/10/2020	Arsenic - Total	0.0283	mg/l	7440-38-2
D-7	10/21/2020	Arsenic - Total	0.0244	mg/l	7440-38-2
D-7	03/31/2021	Arsenic - Total	0.0012	mg/l	7440-38-2
D-7	10/26/2021	Arsenic - Total	<0.001	mg/l	7440-38-2
D-7	02/10/2020	Barium - Dissolved	0.11	mg/l	7440-39-3
D-7	10/26/2021	Barium - Dissolved	0.11	mg/l	7440-39-3
D-7	02/10/2020	Barium - Total	0.56	mg/l	7440-39-3
D-7	10/21/2020	Barium - Total	0.43	mg/l	7440-39-3
D-7	03/31/2021	Barium - Total	0.12	mg/l	7440-39-3
D-7	10/26/2021	Barium - Total	0.10	mg/l	7440-39-3
D-7	10/26/2021	Beryllium - Dissolved	<0.0007	mg/l	7440-41-7
D-7	10/21/2020	Beryllium - Total	0.0015	mg/l	7440-41-7
D-7	03/31/2021	Beryllium - Total	<0.0007	mg/l	7440-41-7
D-7	10/26/2021	Beryllium - Total	<0.0007	mg/l	7440-41-7
D-7	10/26/2021	Cadmium - Dissolved	<0.0005	mg/l	7440-43-9
D-7	10/21/2020	Cadmium - Total	0.001	mg/l	7440-43-9
D-7	03/31/2021	Cadmium - Total	<0.0005	mg/l	7440-43-9
D-7	10/26/2021	Cadmium - Total	<0.0005	mg/l	7440-43-9
D-7	10/26/2021	Chromium - Dissolved	<0.004	mg/l	7440-47-3
D-7	02/10/2020	Chromium - Total	0.27	mg/l	7440-47-3
D-7	10/21/2020	Chromium - Total	0.20	mg/l	7440-47-3
D-7	03/31/2021	Chromium - Total	0.030	mg/l	7440-47-3
D-7	10/26/2021	Chromium - Total	0.015	mg/l	7440-47-3
D-7	02/10/2020	Cobalt - Dissolved	< 0.0003	mg/l	7440-48-4
D-7	10/26/2021	Cobalt - Dissolved	0.00033	mg/l	7440-48-4
D-7	02/10/2020	Cobalt - Total	0.082	mg/l	7440-48-4
D-7	10/21/2020	Cobalt - Total	0.0557	mg/l	7440-48-4
D-7	03/31/2021	Cobalt - Total	0.0022	mg/l	7440-48-4
D-7	10/26/2021	Cobalt - Total	0.0021	mg/l	7440-48-4
D-7	02/10/2020	Fluoride	0.070	mg/l	16984-48-8
D-7	10/21/2020	Fluoride	0.050	mg/l	16984-48-8
D-7	03/31/2021	Fluoride	0.060	mg/l	16984-48-8
D-7	10/26/2021	Fluoride	0.050	mg/l	16984-48-8
D-7	02/10/2020	Lead - Dissolved	< 0.01	mg/l	7439-92-1
D-7	10/26/2021	Lead - Dissolved	< 0.01	mg/l	7439-92-1

Table 2
Appendix C



D-7 Groundwater Analytical Data
Appendix IV

Location	Date	Parameter	Result	Units	CAS #
D-7	02/10/2020	Lead - Total	0.074	mg/l	7439-92-1
D-7	10/21/2020	Lead - Total	0.053	mg/l	7439-92-1
D-7	03/31/2021	Lead - Total	< 0.010	mg/l	7439-92-1
D-7	10/26/2021	Lead - Total	< 0.010	mg/l	7439-92-1
D-7	10/26/2021	Lithium - Dissolved	<0.03	mg/l	7439-93-2
D-7	10/21/2020	Lithium - Total	< 0.03	mg/l	7439-93-2
D-7	03/31/2021	Lithium - Total	< 0.030	mg/l	7439-93-2
D-7	10/26/2021	Lithium - Total	< 0.030	mg/l	7439-93-2
D-7	10/26/2021	Mercury - Dissolved	<0.0002	mg/l	7439-97-6
D-7	02/10/2020	Mercury - Total	0.00038	mg/l	7439-97-6
D-7	10/21/2020	Mercury - Total	0.00025	mg/l	7439-97-6
D-7	03/31/2021	Mercury - Total	<0.0002	mg/l	7439-97-6
D-7	10/26/2021	Mercury - Total	<0.0002	mg/l	7439-97-6
D-7	02/10/2020	Molybdenum - Dissolved	< 0.001	mg/l	7439-98-7
D-7	10/26/2021	Molybdenum - Dissolved	<0.001	mg/l	7439-98-7
D-7	02/10/2020	Molybdenum - Total	0.0036	mg/l	7439-98-7
D-7	10/21/2020	Molybdenum - Total	0.0027	mg/l	7439-98-7
D-7	03/31/2021	Molybdenum - Total	<0.001	mg/l	7439-98-7
D-7	10/26/2021	Molybdenum - Total	<0.001	mg/l	7439-98-7
D-7	02/10/2020	Radium 226	2.06	pci/l	13982-63-3
D-7	10/21/2020	Radium 226	1.88	pci/l	13982-63-3
D-7	03/31/2021	Radium 226	0.467	pci/l	13982-63-3
D-7	10/26/2021	Radium 226	0.235	pci/l	13982-63-3
D-7	02/10/2020	Radium 228	3.00	pci/l	15262-20-1
D-7	10/21/2020	Radium 228	2.23	pci/l	15262-20-1
D-7	03/31/2021	Radium 228	0.735	pci/l	15262-20-1
D-7	10/26/2021	Radium 228	< 0.745	pci/l	15262-20-1
D-7	02/10/2020	Total Radium 226/228	5.06	pci/l	425
D-7	10/21/2020	Total Radium 226/228	4.11	pci/l	425
D-7	03/31/2021	Total Radium 226/228	1.202	pci/l	425
D-7	10/26/2021	Total Radium 226/228	0.235	pci/l	425
D-7	10/26/2021	Selenium - Dissolved	<0.001	mg/l	7782-49-2
D-7	10/21/2020	Selenium - Total	< 0.0010	mg/l	7782-49-2
D-7	03/31/2021	Selenium - Total	<0.001	mg/l	7782-49-2
D-7	10/26/2021	Selenium - Total	<0.001	mg/l	7782-49-2
D-7	02/10/2020	Thallium - Dissolved	<0.0002	mg/l	7440-28-0
D-7	10/26/2021	Thallium - Dissolved	<0.0002	mg/l	7440-28-0
D-7	02/10/2020	Thallium - Total	0.004	mg/l	7440-28-0
D-7	10/21/2020	Thallium - Total	0.0029	mg/l	7440-28-0
D-7	03/31/2021	Thallium - Total	<0.0002	mg/l	7440-28-0
D-7	10/26/2021	Thallium - Total	<0.0002	mg/l	7440-28-0

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



D-7 Well Stabilization Data

Well ID	Measurement Date	Purge Rate l/min	Field pH	Field Specific Conductivity umhos/cm	Field Temp deg c	Turbidity NTU
D-7	2/7/20 2:20 PM	1	7.68	1240	9.68	--*
D-7	2/7/20 2:30 PM	1	7.68	1240	9.68	--*
D-7	2/7/20 2:40 PM	1	7.68	1240	9.68	--*
D-7	2/7/20 2:50 PM	1	7.68	1240	9.68	--*
D-7	10/21/20 8:00 AM	1	8.76	1480	7.84	756
D-7	10/21/20 8:05 AM	1	8.77	1480	7.75	762
D-7	10/21/20 8:10 AM	1	8.78	1490	7.51	776
D-7	10/21/20 8:15 AM	1	8.79	1490	7.44	782
D-7	3/31/21 10:10 AM	1	7.17	1310	7.94	113
D-7	3/31/21 10:15 AM	1	7.00	1360	7.92	126
D-7	3/31/21 10:20 AM	1	7.05	1330	7.95	157
D-7	10/26/21 2:50 PM	1	7.29	360	12.17	129
D-7	10/26/21 3:00 PM	1	7.36	1130	12.56	76.4
D-7	10/26/21 3:10 PM	1	7.14	1300	12.56	86.1
D-7	10/26/21 3:20 PM	1	7.13	1280	12.59	85.1
D-7	10/26/21 3:25 PM		7.13	1270	12.62	77.8

--* = Turbidity was not measured



Appendix D – 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 5.11/3/2022 1:10:56 PM								
4	From File		C:\Users\bjanowiak\Documents\rosemount stas input file.xlsx								
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	Boron										
12											
13	General Statistics										
14	Total Number of Observations			239		Number of Distinct Observations			47		
15	Minimum			0.02		First Quartile			0.02		
16	Second Largest			0.45		Median			0.02		
17	Maximum			0.46		Third Quartile			0.0275		
18	Mean			0.0408		SD			0.0658		
19	Coefficient of Variation			1.615		Skewness			4.671		
20	Mean of logged Data			-3.578		SD of logged Data			0.653		
21											
22	Critical Values for Background Threshold Values (BTVs)										
23	Tolerance Factor K (For UTL)			1.818		d2max (for USL)			3.486		
24											
25	Normal GOF Test										
26	Shapiro Wilk Test Statistic			0.357		Normal GOF Test					
27	5% Shapiro Wilk P Value			0		Data Not Normal at 5% Significance Level					
28	Lilliefors Test Statistic			0.376		Lilliefors GOF Test					
29	5% Lilliefors Critical Value			0.0577		Data Not Normal at 5% Significance Level					
30	Data Not Normal at 5% Significance Level										
31											
32	Background Statistics Assuming Normal Distribution										
33	95% UTL with 95% Coverage		0.16		90% Percentile (z)			0.125			
34	95% UPL (t)		0.15		95% Percentile (z)			0.149			
35	95% USL		0.27		99% Percentile (z)			0.194			
36											
37	Gamma GOF Test										
38	A-D Test Statistic			46.27		Anderson-Darling Gamma GOF Test					
39	5% A-D Critical Value			0.772		Data Not Gamma Distributed at 5% Significance Level					
40	K-S Test Statistic			0.322		Kolmogorov-Smirnov Gamma GOF Test					
41	5% K-S Critical Value			0.0603		Data Not Gamma Distributed at 5% Significance Level					
42	Data Not Gamma Distributed at 5% Significance Level										
43											
44	Gamma Statistics										
45	k hat (MLE)		1.467		k star (bias corrected MLE)			1.451			
46	Theta hat (MLE)		0.0278		Theta star (bias corrected MLE)			0.0281			
47	nu hat (MLE)		701.2		nu star (bias corrected)			693.8			
48	MLE Mean (bias corrected)		0.0408		MLE Sd (bias corrected)			0.0338			
49											
50	Background Statistics Assuming Gamma Distribution										
51	95% Wilson Hilferty (WH) Approx. Gamma UPL		0.0998		90% Percentile			0.0856			
52	95% Hawkins Wixley (HW) Approx. Gamma UPL		0.0949		95% Percentile			0.107			
53	95% WH Approx. Gamma UTL with 95% Coverage		0.11		99% Percentile			0.157			
54	95% HW Approx. Gamma UTL with 95% Coverage		0.105								

A	B	C	D	E	F	G	H	I	J	K	L	
55	95% WH USL				0.252	95% HW USL				0.254		
56												
57	Lognormal GOF Test											
58	Shapiro Wilk Test Statistic				0.578	Shapiro Wilk Lognormal GOF Test						
59	5% Shapiro Wilk P Value				0	Data Not Lognormal at 5% Significance Level						
60	Lilliefors Test Statistic				0.305	Lilliefors Lognormal GOF Test						
61	5% Lilliefors Critical Value				0.0577	Data Not Lognormal at 5% Significance Level						
62	Data Not Lognormal at 5% Significance Level											
63												
64	Background Statistics assuming Lognormal Distribution											
65	95% UTL with 95% Coverage			0.0915	90% Percentile (z)			0.0645				
66	95% UPL (t)			0.0822	95% Percentile (z)			0.0817				
67	95% USL			0.272	99% Percentile (z)			0.127				
68												
69	Nonparametric Distribution Free Background Statistics											
70	Data do not follow a Discernible Distribution (0.05)											
71												
72	Nonparametric Upper Limits for Background Threshold Values											
73	Order of Statistic, r		232	95% UTL with 95% Coverage			0.22					
74	Approx, f used to compute achieved CC			1.526	Approximate Actual Confidence Coefficient achieved by UTL			0.914				
75					Approximate Sample Size needed to achieve specified CC			260				
76	95% Percentile Bootstrap UTL with 95% Coverage			0.229	95% BCA Bootstrap UTL with 95% Coverage			0.22				
77	95% UPL			0.15	90% Percentile			0.061				
78	90% Chebyshev UPL			0.239	95% Percentile			0.132				
79	95% Chebyshev UPL			0.328	99% Percentile			0.4				
80	95% USL			0.46								
81												
82	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.											
83	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers											
84	and consists of observations collected from clean unimpacted locations.											
85	The use of USL tends to provide a balance between false positives and false negatives provided the data											
86	represents a background data set and when many onsite observations need to be compared with the BTV.											
87												
88	Calcium											
89												
90	General Statistics											
91	Total Number of Observations			251	Number of Distinct Observations			132				
92	Minimum			65.1	First Quartile			91.1				
93	Second Largest			131	Median			97.9				
94	Maximum			132	Third Quartile			104				
95	Mean			98.47	SD			11.31				
96	Coefficient of Variation			0.115	Skewness			0.284				
97	Mean of logged Data			4.583	SD of logged Data			0.115				
98												
99	Critical Values for Background Threshold Values (BTVs)											
100	Tolerance Factor K (For UTL)			1.814	d2max (for USL)			3.5				
101												
102	Normal GOF Test											
103	Shapiro Wilk Test Statistic				0.968	Normal GOF Test						
104	5% Shapiro Wilk P Value				0.00204	Data Not Normal at 5% Significance Level						
105	Lilliefors Test Statistic				0.0853	Lilliefors GOF Test						
106	5% Lilliefors Critical Value				0.0563	Data Not Normal at 5% Significance Level						
107	Data Not Normal at 5% Significance Level											
108												

A	B	C	D	E	F	G	H	I	J	K	L	
109	Background Statistics Assuming Normal Distribution											
110	95% UTL with 95% Coverage		119								90% Percentile (z)	113
111	95% UPL (t)		117.2								95% Percentile (z)	117.1
112	95% USL		138.1								99% Percentile (z)	124.8
113												
114	Gamma GOF Test											
115	A-D Test Statistic		1.604								Anderson-Darling Gamma GOF Test	
116	5% A-D Critical Value		0.751								Data Not Gamma Distributed at 5% Significance Level	
117	K-S Test Statistic		0.0748								Kolmogorov-Smirnov Gamma GOF Test	
118	5% K-S Critical Value		0.0576								Data Not Gamma Distributed at 5% Significance Level	
119	Data Not Gamma Distributed at 5% Significance Level											
120												
121	Gamma Statistics											
122	k hat (MLE)		76.01								k star (bias corrected MLE)	75.1
123	Theta hat (MLE)		1.295								Theta star (bias corrected MLE)	1.311
124	nu hat (MLE)		38157								nu star (bias corrected)	37703
125	MLE Mean (bias corrected)		98.47								MLE Sd (bias corrected)	11.36
126												
127	Background Statistics Assuming Gamma Distribution											
128	95% Wilson Hilferty (WH) Approx. Gamma UPL		117.9								90% Percentile	113.3
129	95% Hawkins Wixley (HW) Approx. Gamma UPL		118								95% Percentile	117.9
130	95% WH Approx. Gamma UTL with 95% Coverage		120								99% Percentile	126.8
131	95% HW Approx. Gamma UTL with 95% Coverage		120.1									
132	95% WH USL		143.1								95% HW USL	143.9
133												
134	Lognormal GOF Test											
135	Shapiro Wilk Test Statistic		0.969								Shapiro Wilk Lognormal GOF Test	
136	5% Shapiro Wilk P Value		0.00427								Data Not Lognormal at 5% Significance Level	
137	Lilliefors Test Statistic		0.0708								Lilliefors Lognormal GOF Test	
138	5% Lilliefors Critical Value		0.0563								Data Not Lognormal at 5% Significance Level	
139	Data Not Lognormal at 5% Significance Level											
140												
141	Background Statistics assuming Lognormal Distribution											
142	95% UTL with 95% Coverage		120.6								90% Percentile (z)	113.4
143	95% UPL (t)		118.4								95% Percentile (z)	118.3
144	95% USL		146.5								99% Percentile (z)	128
145												
146	Nonparametric Distribution Free Background Statistics											
147	Data do not follow a Discernible Distribution (0.05)											
148												
149	Nonparametric Upper Limits for Background Threshold Values											
150	Order of Statistic, r		243								95% UTL with 95% Coverage	121
151	Approx, f used to compute achieved CC		1.421								Approximate Actual Confidence Coefficient achieved by UTL	0.884
152											Approximate Sample Size needed to achieve specified CC	285
153	95% Percentile Bootstrap UTL with 95% Coverage		121								95% BCA Bootstrap UTL with 95% Coverage	121
154	95% UPL		120								90% Percentile	115
155	90% Chebyshev UPL		132.5								95% Percentile	120
156	95% Chebyshev UPL		147.9								99% Percentile	127.5
157	95% USL		132									
158												
159	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.											
160	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers											
161	and consists of observations collected from clean unimpacted locations.											
162	The use of USL tends to provide a balance between false positives and false negatives provided the data											

	A	B	C	D	E	F	G	H	I	J	K	L
163	represents a background data set and when many onsite observations need to be compared with the BTV.											
164												
165	Chloride											
166												
167	General Statistics											
168	Total Number of Observations			393			Number of Distinct Observations			255		
169	Minimum			16.1			First Quartile			33.1		
170	Second Largest			150			Median			41.7		
171	Maximum			150			Third Quartile			48.8		
172	Mean			45.18			SD			20.19		
173	Coefficient of Variation			0.447			Skewness			2.63		
174	Mean of logged Data			3.739			SD of logged Data			0.359		
175												
176	Critical Values for Background Threshold Values (BTVs)											
177	Tolerance Factor K (For UTL)			1.778			d2max (for USL)			3.629		
178												
179	Normal GOF Test											
180	Shapiro Wilk Test Statistic			0.75			Normal GOF Test					
181	5% Shapiro Wilk P Value			0			Data Not Normal at 5% Significance Level					
182	Lilliefors Test Statistic			0.218			Lilliefors GOF Test					
183	5% Lilliefors Critical Value			0.0451			Data Not Normal at 5% Significance Level					
184	Data Not Normal at 5% Significance Level											
185												
186	Background Statistics Assuming Normal Distribution											
187	95% UTL with 95% Coverage			81.08			90% Percentile (z)			71.06		
188	95% UPL (t)			78.51			95% Percentile (z)			78.39		
189	95% USL			118.4			99% Percentile (z)			92.15		
190												
191	Gamma GOF Test											
192	A-D Test Statistic			9.968			Anderson-Darling Gamma GOF Test					
193	5% A-D Critical Value			0.756			Data Not Gamma Distributed at 5% Significance Level					
194	K-S Test Statistic			0.157			Kolmogorov-Smirnov Gamma GOF Test					
195	5% K-S Critical Value			0.0457			Data Not Gamma Distributed at 5% Significance Level					
196	Data Not Gamma Distributed at 5% Significance Level											
197												
198	Gamma Statistics											
199	k hat (MLE)			7.137			k star (bias corrected MLE)			7.084		
200	Theta hat (MLE)			6.331			Theta star (bias corrected MLE)			6.378		
201	nu hat (MLE)			5610			nu star (bias corrected)			5568		
202	MLE Mean (bias corrected)			45.18			MLE Sd (bias corrected)			16.98		
203												
204	Background Statistics Assuming Gamma Distribution											
205	95% Wilson Hilferty (WH) Approx. Gamma UPL			76			90% Percentile			67.85		
206	95% Hawkins Wixley (HW) Approx. Gamma UPL			75.92			95% Percentile			76.24		
207	95% WH Approx. Gamma UTL with 95% Coverage			79.08			99% Percentile			93.71		
208	95% HW Approx. Gamma UTL with 95% Coverage			79.11								
209	95% WH USL			133.7			95% HW USL			137.6		
210												
211	Lognormal GOF Test											
212	Shapiro Wilk Test Statistic			0.939			Shapiro Wilk Lognormal GOF Test					
213	5% Shapiro Wilk P Value			0			Data Not Lognormal at 5% Significance Level					
214	Lilliefors Test Statistic			0.127			Lilliefors Lognormal GOF Test					
215	5% Lilliefors Critical Value			0.0451			Data Not Lognormal at 5% Significance Level					
216	Data Not Lognormal at 5% Significance Level											

A	B	C	D	E	F	G	H	I	J	K	L
217											
218	Background Statistics assuming Lognormal Distribution										
219	95% UTL with 95% Coverage		79.7					90% Percentile (z)		66.67	
220	95% UPL (t)		76.13					95% Percentile (z)		75.97	
221	95% USL		155					99% Percentile (z)		97.05	
222											
223	Nonparametric Distribution Free Background Statistics										
224	Data do not follow a Discernible Distribution (0.05)										
225											
226	Nonparametric Upper Limits for Background Threshold Values										
227	Order of Statistic, r		380					95% UTL with 95% Coverage		97.6	
228	Approx, f used to compute achieved CC		1.429					Approximate Actual Confidence Coefficient achieved by UTL		0.929	
229								Approximate Sample Size needed to achieve specified CC		410	
230	95% Percentile Bootstrap UTL with 95% Coverage		95.68					95% BCA Bootstrap UTL with 95% Coverage		95.68	
231	95% UPL		83.01					90% Percentile		65	
232	90% Chebyshev UPL		105.8					95% Percentile		82.62	
233	95% Chebyshev UPL		133.3					99% Percentile		140.2	
234	95% USL		150								
235											
236	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.										
237	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers										
238	and consists of observations collected from clean unimpacted locations.										
239	The use of USL tends to provide a balance between false positives and false negatives provided the data										
240	represents a background data set and when many onsite observations need to be compared with the BTV.										
241											
242	Fluoride										
243											
244	General Statistics										
245	Total Number of Observations		253					Number of Distinct Observations		20	
246								Number of Missing Observations		3	
247	Minimum		0.05					First Quartile		0.1	
248	Second Largest		0.25					Median		0.1	
249	Maximum		0.25					Third Quartile		0.25	
250	Mean		0.136					SD		0.0721	
251	Coefficient of Variation		0.53					Skewness		0.833	
252	Mean of logged Data		-2.123					SD of logged Data		0.496	
253											
254	Critical Values for Background Threshold Values (BTVs)										
255	Tolerance Factor K (For UTL)		1.813					d2max (for USL)		3.503	
256											
257	Normal GOF Test										
258	Shapiro Wilk Test Statistic		0.712					Normal GOF Test			
259	5% Shapiro Wilk P Value		0					Data Not Normal at 5% Significance Level			
260	Lilliefors Test Statistic		0.321					Lilliefors GOF Test			
261	5% Lilliefors Critical Value		0.0561					Data Not Normal at 5% Significance Level			
262	Data Not Normal at 5% Significance Level										
263											
264	Background Statistics Assuming Normal Distribution										
265	95% UTL with 95% Coverage		0.267					90% Percentile (z)		0.228	
266	95% UPL (t)		0.255					95% Percentile (z)		0.255	
267	95% USL		0.389					99% Percentile (z)		0.304	
268											
269	Gamma GOF Test										
270	A-D Test Statistic		23.76					Anderson-Darling Gamma GOF Test			

A	B	C	D	E	F	G	H	I	J	K	L
271			5% A-D Critical Value		0.758		Data Not Gamma Distributed at 5% Significance Level				
272			K-S Test Statistic		0.291		Kolmogorov-Smirnov Gamma GOF Test				
273			5% K-S Critical Value		0.0578		Data Not Gamma Distributed at 5% Significance Level				
274	Data Not Gamma Distributed at 5% Significance Level										
275											
276	Gamma Statistics										
277			k hat (MLE)		4.07		k star (bias corrected MLE)				4.024
278			Theta hat (MLE)		0.0334		Theta star (bias corrected MLE)				0.0338
279			nu hat (MLE)		2059		nu star (bias corrected)				2036
280			MLE Mean (bias corrected)		0.136		MLE Sd (bias corrected)				0.0678
281											
282	Background Statistics Assuming Gamma Distribution										
283			95% Wilson Hilferty (WH) Approx. Gamma UPL		0.263		90% Percentile				0.227
284			95% Hawkins Wixley (HW) Approx. Gamma UPL		0.265		95% Percentile				0.263
285			95% WH Approx. Gamma UTL with 95% Coverage		0.28		99% Percentile				0.341
286			95% HW Approx. Gamma UTL with 95% Coverage		0.283						
287			95% WH USL		0.509		95% HW USL				0.538
288											
289	Lognormal GOF Test										
290			Shapiro Wilk Test Statistic		0.809		Shapiro Wilk Lognormal GOF Test				
291			5% Shapiro Wilk P Value		0		Data Not Lognormal at 5% Significance Level				
292			Lilliefors Test Statistic		0.27		Lilliefors Lognormal GOF Test				
293			5% Lilliefors Critical Value		0.0561		Data Not Lognormal at 5% Significance Level				
294	Data Not Lognormal at 5% Significance Level										
295											
296	Background Statistics assuming Lognormal Distribution										
297			95% UTL with 95% Coverage		0.294		90% Percentile (z)				0.226
298			95% UPL (t)		0.272		95% Percentile (z)				0.271
299			95% USL		0.681		99% Percentile (z)				0.38
300											
301	Nonparametric Distribution Free Background Statistics										
302	Data do not follow a Discernible Distribution (0.05)										
303											
304	Nonparametric Upper Limits for Background Threshold Values										
305			Order of Statistic, r		245		95% UTL with 95% Coverage				0.25
306			Approx, f used to compute achieved CC		1.433		Approximate Actual Confidence Coefficient achieved by UTL				0.889
307							Approximate Sample Size needed to achieve specified CC				285
308			95% Percentile Bootstrap UTL with 95% Coverage		0.25		95% BCA Bootstrap UTL with 95% Coverage				0.25
309			95% UPL		0.25		90% Percentile				0.25
310			90% Chebyshev UPL		0.353		95% Percentile				0.25
311			95% Chebyshev UPL		0.451		99% Percentile				0.25
312			95% USL		0.25						
313											
314	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.										
315	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers										
316	and consists of observations collected from clean unimpacted locations.										
317	The use of USL tends to provide a balance between false positives and false negatives provided the data										
318	represents a background data set and when many onsite observations need to be compared with the BTV.										
319											
320	Sulfate as SO4										
321											
322	General Statistics										
323			Total Number of Observations		400		Number of Distinct Observations				224
324							Number of Missing Observations				1

A	B	C	D	E	F	G	H	I	J	K	L
325				Minimum	2					First Quartile	26.1
326				Second Largest	67					Median	29.3
327				Maximum	67.3					Third Quartile	35.25
328				Mean	31.6					SD	9.939
329				Coefficient of Variation	0.314					Skewness	0.734
330				Mean of logged Data	3.398					SD of logged Data	0.363
331											
332	Critical Values for Background Threshold Values (BTVs)										
333				Tolerance Factor K (For UTL)	1.777					d2max (for USL)	3.634
334											
335	Normal GOF Test										
336				Shapiro Wilk Test Statistic	0.938					Normal GOF Test	
337				5% Shapiro Wilk P Value	0					Data Not Normal at 5% Significance Level	
338				Lilliefors Test Statistic	0.12					Lilliefors GOF Test	
339				5% Lilliefors Critical Value	0.0447					Data Not Normal at 5% Significance Level	
340	Data Not Normal at 5% Significance Level										
341											
342	Background Statistics Assuming Normal Distribution										
343				95% UTL with 95% Coverage	49.27					90% Percentile (z)	44.34
344				95% UPL (t)	48.01					95% Percentile (z)	47.95
345				95% USL	67.72					99% Percentile (z)	54.73
346											
347	Gamma GOF Test										
348				A-D Test Statistic	6.597					Anderson-Darling Gamma GOF Test	
349				5% A-D Critical Value	0.755					Data Not Gamma Distributed at 5% Significance Level	
350				K-S Test Statistic	0.103					Kolmogorov-Smirnov Gamma GOF Test	
351				5% K-S Critical Value	0.0452					Data Not Gamma Distributed at 5% Significance Level	
352	Data Not Gamma Distributed at 5% Significance Level										
353											
354	Gamma Statistics										
355				k hat (MLE)	9.188					k star (bias corrected MLE)	9.121
356				Theta hat (MLE)	3.44					Theta star (bias corrected MLE)	3.465
357				nu hat (MLE)	7351					nu star (bias corrected)	7297
358				MLE Mean (bias corrected)	31.6					MLE Sd (bias corrected)	10.46
359											
360	Background Statistics Assuming Gamma Distribution										
361				95% Wilson Hilferty (WH) Approx. Gamma UPL	50.45					90% Percentile	45.54
362				95% Hawkins Wixley (HW) Approx. Gamma UPL	51.14					95% Percentile	50.55
363				95% WH Approx. Gamma UTL with 95% Coverage	52.26					99% Percentile	60.88
364				95% HW Approx. Gamma UTL with 95% Coverage	53.08						
365				95% WH USL	84.03					95% HW USL	88.45
366											
367	Lognormal GOF Test										
368				Shapiro Wilk Test Statistic	0.869					Shapiro Wilk Lognormal GOF Test	
369				5% Shapiro Wilk P Value	0					Data Not Lognormal at 5% Significance Level	
370				Lilliefors Test Statistic	0.129					Lilliefors Lognormal GOF Test	
371				5% Lilliefors Critical Value	0.0447					Data Not Lognormal at 5% Significance Level	
372	Data Not Lognormal at 5% Significance Level										
373											
374	Background Statistics assuming Lognormal Distribution										
375				95% UTL with 95% Coverage	57					90% Percentile (z)	47.61
376				95% UPL (t)	54.44					95% Percentile (z)	54.33
377				95% USL	111.8					99% Percentile (z)	69.58
378											

A	B	C	D	E	F	G	H	I	J	K	L
379	Nonparametric Distribution Free Background Statistics										
380	Data do not follow a Discernible Distribution (0.05)										
381											
382	Nonparametric Upper Limits for Background Threshold Values										
383	Order of Statistic, r	386	95% UTL with 95% Coverage							53.5	
384	Approx, f used to compute achieved CC	1.354	Approximate Actual Confidence Coefficient achieved by UTL							0.901	
385			Approximate Sample Size needed to achieve specified CC							434	
386	95% Percentile Bootstrap UTL with 95% Coverage	53.56	95% BCA Bootstrap UTL with 95% Coverage							53.52	
387		95% UPL	51.67	90% Percentile							46.22
388		90% Chebyshev UPL	61.46	95% Percentile							51.13
389		95% Chebyshev UPL	74.98	99% Percentile							59.44
390		95% USL	67.3								
391											
392	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.										
393	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers										
394	and consists of observations collected from clean unimpacted locations.										
395	The use of USL tends to provide a balance between false positives and false negatives provided the data										
396	represents a background data set and when many onsite observations need to be compared with the BTV.										
397											
398	Total Dissolved Solids										
399											
400	General Statistics										
401	Total Number of Observations	393	Number of Distinct Observations							171	
402			Number of Missing Observations							6	
403	Minimum	273	First Quartile							397	
404	Second Largest	614	Median							429	
405	Maximum	614	Third Quartile							467	
406	Mean	435.1	SD							59.32	
407	Coefficient of Variation	0.136	Skewness							0.296	
408	Mean of logged Data	6.066	SD of logged Data							0.137	
409											
410	Critical Values for Background Threshold Values (BTVs)										
411	Tolerance Factor K (For UTL)	1.778	d2max (for USL)							3.629	
412											
413	Normal GOF Test										
414	Shapiro Wilk Test Statistic	0.973	Normal GOF Test								
415	5% Shapiro Wilk P Value	0.0015	Data Not Normal at 5% Significance Level								
416	Lilliefors Test Statistic	0.0752	Lilliefors GOF Test								
417	5% Lilliefors Critical Value	0.0451	Data Not Normal at 5% Significance Level								
418	Data Not Normal at 5% Significance Level										
419											
420	Background Statistics Assuming Normal Distribution										
421	95% UTL with 95% Coverage	540.6	90% Percentile (z)							511.1	
422		95% UPL (t)	533	95% Percentile (z)							532.7
423		95% USL	650.4	99% Percentile (z)							573.1
424											
425	Gamma GOF Test										
426	A-D Test Statistic	1.626	Anderson-Darling Gamma GOF Test								
427	5% A-D Critical Value	0.752	Data Not Gamma Distributed at 5% Significance Level								
428	K-S Test Statistic	0.0589	Kolmogorov-Smirnov Gamma GOF Test								
429	5% K-S Critical Value	0.0455	Data Not Gamma Distributed at 5% Significance Level								
430	Data Not Gamma Distributed at 5% Significance Level										
431											
432	Gamma Statistics										
433											

A	B	C	D	E	F	G	H	I	J	K	L
433				k hat (MLE)	53.82				k star (bias corrected MLE)		53.41
434				Theta hat (MLE)	8.084				Theta star (bias corrected MLE)		8.146
435				nu hat (MLE)	42306				nu star (bias corrected)		41984
436				MLE Mean (bias corrected)	435.1				MLE Sd (bias corrected)		59.53
437											
438	Background Statistics Assuming Gamma Distribution										
439				95% Wilson Hilferty (WH) Approx. Gamma UPL	537.6				90% Percentile		512.9
440				95% Hawkins Wixley (HW) Approx. Gamma UPL	538.3				95% Percentile		537.4
441				95% WH Approx. Gamma UTL with 95% Coverage	546.3				99% Percentile		585.5
442				95% HW Approx. Gamma UTL with 95% Coverage	547.2						
443				95% WH USL	684.5				95% HW USL		690.1
444											
445	Lognormal GOF Test										
446				Shapiro Wilk Test Statistic	0.975				Shapiro Wilk Lognormal GOF Test		
447				5% Shapiro Wilk P Value	0.00769				Data Not Lognormal at 5% Significance Level		
448				Lilliefors Test Statistic	0.0568				Lilliefors Lognormal GOF Test		
449				5% Lilliefors Critical Value	0.0451				Data Not Lognormal at 5% Significance Level		
450	Data Not Lognormal at 5% Significance Level										
451											
452	Background Statistics assuming Lognormal Distribution										
453				95% UTL with 95% Coverage	550.3				90% Percentile (z)		514
454				95% UPL (t)	540.7				95% Percentile (z)		540.3
455				95% USL	709.5				99% Percentile (z)		593.3
456											
457	Nonparametric Distribution Free Background Statistics										
458	Data do not follow a Discernible Distribution (0.05)										
459											
460	Nonparametric Upper Limits for Background Threshold Values										
461				Order of Statistic, r	380				95% UTL with 95% Coverage		556
462				Approx, f used to compute achieved CC	1.429				Approximate Actual Confidence Coefficient achieved by UTL		0.929
463									Approximate Sample Size needed to achieve specified CC		410
464				95% Percentile Bootstrap UTL with 95% Coverage	556				95% BCA Bootstrap UTL with 95% Coverage		555.4
465				95% UPL	545.3				90% Percentile		516
466				90% Chebyshev UPL	613.3				95% Percentile		543.2
467				95% Chebyshev UPL	694				99% Percentile		591.5
468				95% USL	614						
469											
470	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.										
471	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers										
472	and consists of observations collected from clean unimpacted locations.										
473	The use of USL tends to provide a balance between false positives and false negatives provided the data										
474	represents a background data set and when many onsite observations need to be compared with the BTV.										
475											

A	B	C	D	E	F	G	H	I	J	K	L
1	Background Statistics for Uncensored Full Data Sets										
2	User Selected Options										
3	Date/Time of Computation		ProUCL 5.11/3/2022 1:17:44 PM								
4	From File		C:\Users\bjanowiak\Documents\rosemount stas input file.xlsx								
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			173		Number of Distinct Observations			1		
15	Minimum			0.001		First Quartile			0.001		
16	Second Largest			0.001		Median			0.001		
17	Maximum			0.001		Third Quartile			0.001		
18	Mean			0.001		SD			6.524E-19		
19	Coefficient of Variation			6.524E-16		Skewness			-1.009		
20											
21	Warning: There is only one distinct observation value in this data set - resulting in '0' variance!										
22	ProUCL (or any other software) should not be used on such a data set!										
23	The data set for variable Antimony was not processed!										
24											
25	If possible, compute and collect Data Quality Objectives (DQOs) based sample size and analytical results.										
26	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).										
27											
28											
29	Arsenic										
30											
31	General Statistics										
32	Total Number of Observations			172		Number of Distinct Observations			1		
33	Minimum			0.001		First Quartile			0.001		
34	Second Largest			0.001		Median			0.001		
35	Maximum			0.001		Third Quartile			0.001		
36	Mean			0.001		SD			6.524E-19		
37	Coefficient of Variation			6.524E-16		Skewness			-1.009		
38											
39	Warning: There is only one distinct observation value in this data set - resulting in '0' variance!										
40	ProUCL (or any other software) should not be used on such a data set!										
41	The data set for variable Arsenic was not processed!										
42											
43	If possible, compute and collect Data Quality Objectives (DQOs) based sample size and analytical results.										
44	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).										
45											
46											
47	Barium										
48											
49	General Statistics										
50	Total Number of Observations			188		Number of Distinct Observations			44		
51	Minimum			0.032		First Quartile			0.05		
52	Second Largest			0.085		Median			0.054		
53	Maximum			0.088		Third Quartile			0.062		
54	Mean			0.0564		SD			0.00975		

	A	B	C	D	E	F	G	H	I	J	K	L
55	Coefficient of Variation					0.173	Skewness					0.532
56	Mean of logged Data					-2.89	SD of logged Data					0.172
57												
58	Critical Values for Background Threshold Values (BTVs)											
59	Tolerance Factor K (For UTL)					1.842	d2max (for USL)					3.413
60												
61	Normal GOF Test											
62	Shapiro Wilk Test Statistic					0.968	Normal GOF Test					
63	5% Shapiro Wilk P Value					0.0128	Data Not Normal at 5% Significance Level					
64	Lilliefors Test Statistic					0.101	Lilliefors GOF Test					
65	5% Lilliefors Critical Value					0.065	Data Not Normal at 5% Significance Level					
66	Data Not Normal at 5% Significance Level											
67												
68	Background Statistics Assuming Normal Distribution											
69	95% UTL with 95% Coverage					0.0743	90% Percentile (z)					0.0689
70	95% UPL (t)					0.0725	95% Percentile (z)					0.0724
71	95% USL					0.0897	99% Percentile (z)					0.0791
72												
73	Gamma GOF Test											
74	A-D Test Statistic					0.994	Anderson-Darling Gamma GOF Test					
75	5% A-D Critical Value					0.751	Data Not Gamma Distributed at 5% Significance Level					
76	K-S Test Statistic					0.0818	Kolmogorov-Smirnov Gamma GOF Test					
77	5% K-S Critical Value					0.0666	Data Not Gamma Distributed at 5% Significance Level					
78	Data Not Gamma Distributed at 5% Significance Level											
79												
80	Gamma Statistics											
81	k hat (MLE)					34.3	k star (bias corrected MLE)					33.76
82	Theta hat (MLE)					0.00164	Theta star (bias corrected MLE)					0.00167
83	nu hat (MLE)					12897	nu star (bias corrected)					12692
84	MLE Mean (bias corrected)					0.0564	MLE Sd (bias corrected)					0.0097
85												
86	Background Statistics Assuming Gamma Distribution											
87	95% Wilson Hilferty (WH) Approx. Gamma UPL					0.0733	90% Percentile					0.0691
88	95% Hawkins Wixley (HW) Approx. Gamma UPL					0.0734	95% Percentile					0.0732
89	95% WH Approx. Gamma UTL with 95% Coverage					0.0754	99% Percentile					0.0814
90	95% HW Approx. Gamma UTL with 95% Coverage					0.0756						
91	95% WH USL					0.0954	95% HW USL					0.0963
92												
93	Lognormal GOF Test											
94	Shapiro Wilk Test Statistic					0.984	Shapiro Wilk Lognormal GOF Test					
95	5% Shapiro Wilk P Value					0.594	Data appear Lognormal at 5% Significance Level					
96	Lilliefors Test Statistic					0.0709	Lilliefors Lognormal GOF Test					
97	5% Lilliefors Critical Value					0.065	Data Not Lognormal at 5% Significance Level					
98	Data appear Approximate Lognormal at 5% Significance Level											
99												
100	Background Statistics assuming Lognormal Distribution											
101	95% UTL with 95% Coverage					0.0762	90% Percentile (z)					0.0692
102	95% UPL (t)					0.0738	95% Percentile (z)					0.0737
103	95% USL					0.0998	99% Percentile (z)					0.0828
104												
105	Nonparametric Distribution Free Background Statistics											
106	Data appear Approximate Lognormal at 5% Significance Level											
107												
108	Nonparametric Upper Limits for Background Threshold Values											

A	B	C	D	E	F	G	H	I	J	K	L
109	Order of Statistic, r				183	95% UTL with 95% Coverage				0.077	
110	Approx, f used to compute achieved CC				1.605	Approximate Actual Confidence Coefficient achieved by UTL				0.912	
111						Approximate Sample Size needed to achieve specified CC				208	
112	95% Percentile Bootstrap UTL with 95% Coverage				0.0767	95% BCA Bootstrap UTL with 95% Coverage				0.076	
113	95% UPL				0.0741	90% Percentile				0.07	
114	90% Chebyshev UPL				0.0857	95% Percentile				0.0727	
115	95% Chebyshev UPL				0.099	99% Percentile				0.0824	
116	95% USL				0.088						

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

124	Beryllium										
125											
126	General Statistics										
127	Total Number of Observations				173	Number of Distinct Observations				1	
128	Minimum				7.0000E-4	First Quartile				7.0000E-4	
129	Second Largest				7.0000E-4	Median				7.0000E-4	
130	Maximum				7.0000E-4	Third Quartile				7.0000E-4	
131	Mean				7.0000E-4	SD				2.610E-18	
132	Coefficient of Variation				3.728E-15	Skewness				-1.009	

Warning: There is only one distinct observation value in this data set - resulting in '0' variance!

ProUCL (or any other software) should not be used on such a data set!

The data set for variable Beryllium was not processed!

If possible, compute and collect Data Quality Objectives (DQOs) based sample size and analytical results.

The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

142	Cadmium										
143											
144	General Statistics										
145	Total Number of Observations				173	Number of Distinct Observations				1	
146	Minimum				5.0000E-4	First Quartile				5.0000E-4	
147	Second Largest				5.0000E-4	Median				5.0000E-4	
148	Maximum				5.0000E-4	Third Quartile				5.0000E-4	
149	Mean				5.0000E-4	SD				3.262E-19	
150	Coefficient of Variation				6.524E-16	Skewness				-1.009	

Warning: There is only one distinct observation value in this data set - resulting in '0' variance!

ProUCL (or any other software) should not be used on such a data set!

The data set for variable Cadmium was not processed!

If possible, compute and collect Data Quality Objectives (DQOs) based sample size and analytical results.

The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

160	Chromium										
161											
162	General Statistics										

A	B	C	D	E	F	G	H	I	J	K	L
163	Total Number of Observations				149	Number of Distinct Observations				24	
164	Minimum				0.004	First Quartile				0.004	
165	Second Largest				0.049	Median				0.004	
166	Maximum				0.049	Third Quartile				0.004	
167	Mean				0.00586	SD				0.00695	
168	Coefficient of Variation				1.187	Skewness				4.757	
169	Mean of logged Data				-5.355	SD of logged Data				0.489	
170											
171	Critical Values for Background Threshold Values (BTVs)										
172	Tolerance Factor K (For UTL)				1.869	d2max (for USL)				3.341	
173											
174	Normal GOF Test										
175	Shapiro Wilk Test Statistic				0.31	Normal GOF Test					
176	5% Shapiro Wilk P Value				0	Data Not Normal at 5% Significance Level					
177	Lilliefors Test Statistic				0.431	Lilliefors GOF Test					
178	5% Lilliefors Critical Value				0.073	Data Not Normal at 5% Significance Level					
179	Data Not Normal at 5% Significance Level										
180											
181	Background Statistics Assuming Normal Distribution										
182	95% UTL with 95% Coverage				0.0188	90% Percentile (z)				0.0148	
183	95% UPL (t)				0.0174	95% Percentile (z)				0.0173	
184	95% USL				0.0291	99% Percentile (z)				0.022	
185											
186	Gamma GOF Test										
187	A-D Test Statistic				41.54	Anderson-Darling Gamma GOF Test					
188	5% A-D Critical Value				0.763	Data Not Gamma Distributed at 5% Significance Level					
189	K-S Test Statistic				0.454	Kolmogorov-Smirnov Gamma GOF Test					
190	5% K-S Critical Value				0.0776	Data Not Gamma Distributed at 5% Significance Level					
191	Data Not Gamma Distributed at 5% Significance Level										
192											
193	Gamma Statistics										
194	k hat (MLE)				2.489	k star (bias corrected MLE)				2.443	
195	Theta hat (MLE)				0.00235	Theta star (bias corrected MLE)				0.0024	
196	nu hat (MLE)				741.6	nu star (bias corrected)				728	
197	MLE Mean (bias corrected)				0.00586	MLE Sd (bias corrected)				0.00375	
198											
199	Background Statistics Assuming Gamma Distribution										
200	95% Wilson Hilferty (WH) Approx. Gamma UPL				0.0125	90% Percentile				0.0109	
201	95% Hawkins Wixley (HW) Approx. Gamma UPL				0.012	95% Percentile				0.0131	
202	95% WH Approx. Gamma UTL with 95% Coverage				0.0138	99% Percentile				0.0178	
203	95% HW Approx. Gamma UTL with 95% Coverage				0.0133						
204	95% WH USL				0.0256	95% HW USL				0.0252	
205											
206	Lognormal GOF Test										
207	Shapiro Wilk Test Statistic				0.398	Shapiro Wilk Lognormal GOF Test					
208	5% Shapiro Wilk P Value				0	Data Not Lognormal at 5% Significance Level					
209	Lilliefors Test Statistic				0.452	Lilliefors Lognormal GOF Test					
210	5% Lilliefors Critical Value				0.073	Data Not Lognormal at 5% Significance Level					
211	Data Not Lognormal at 5% Significance Level										
212											
213	Background Statistics assuming Lognormal Distribution										
214	95% UTL with 95% Coverage				0.0118	90% Percentile (z)				0.00885	
215	95% UPL (t)				0.0107	95% Percentile (z)				0.0106	
216	95% USL				0.0242	99% Percentile (z)				0.0148	

A	B	C	D	E	F	G	H	I	J	K	L
217											
218	Nonparametric Distribution Free Background Statistics										
219	Data do not follow a Discernible Distribution (0.05)										
220											
221	Nonparametric Upper Limits for Background Threshold Values										
222	Order of Statistic, r			145	95% UTL with 95% Coverage			0.028			
223	Approx, f used to compute achieved CC			1.526	Approximate Actual Confidence Coefficient achieved by UTL			0.871			
224					Approximate Sample Size needed to achieve specified CC			181			
225	95% Percentile Bootstrap UTL with 95% Coverage			0.028	95% BCA Bootstrap UTL with 95% Coverage			0.028			
226	95% UPL			0.019	90% Percentile			0.00672			
227	90% Chebyshev UPL			0.0268	95% Percentile			0.0158			
228	95% Chebyshev UPL			0.0363	99% Percentile			0.0437			
229	95% USL			0.049							
230											
231	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.										
232	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers										
233	and consists of observations collected from clean unimpacted locations.										
234	The use of USL tends to provide a balance between false positives and false negatives provided the data										
235	represents a background data set and when many onsite observations need to be compared with the BTV.										
236											
237	Cobalt										
238											
239	General Statistics										
240	Total Number of Observations			183	Number of Distinct Observations			17			
241					Number of Missing Observations			3			
242	Minimum			3.0000E-4	First Quartile			3.0000E-4			
243	Second Largest			5.4000E-4	Median			3.0000E-4			
244	Maximum			5.8000E-4	Third Quartile			3.0000E-4			
245	Mean			3.1503E-4	SD			4.8673E-5			
246	Coefficient of Variation			0.155	Skewness			3.877			
247	Mean of logged Data			-8.072	SD of logged Data			0.123			
248											
249	Critical Values for Background Threshold Values (BTVs)										
250	Tolerance Factor K (For UTL)			1.845	d2max (for USL)			3.405			
251											
252	Normal GOF Test										
253	Shapiro Wilk Test Statistic			0.359	Normal GOF Test						
254	5% Shapiro Wilk P Value			0	Data Not Normal at 5% Significance Level						
255	Lilliefors Test Statistic			0.468	Lilliefors GOF Test						
256	5% Lilliefors Critical Value			0.0659	Data Not Normal at 5% Significance Level						
257	Data Not Normal at 5% Significance Level										
258											
259	Background Statistics Assuming Normal Distribution										
260	95% UTL with 95% Coverage			4.0483E-4	90% Percentile (z)			3.7740E-4			
261	95% UPL (t)			3.9572E-4	95% Percentile (z)			3.9509E-4			
262	95% USL			4.8077E-4	99% Percentile (z)			4.2826E-4			
263											
264	Gamma GOF Test										
265	A-D Test Statistic			50.23	Anderson-Darling Gamma GOF Test						
266	5% A-D Critical Value			0.75	Data Not Gamma Distributed at 5% Significance Level						
267	K-S Test Statistic			0.474	Kolmogorov-Smirnov Gamma GOF Test						
268	5% K-S Critical Value			0.0678	Data Not Gamma Distributed at 5% Significance Level						
269	Data Not Gamma Distributed at 5% Significance Level										
270											

	A	B	C	D	E	F	G	H	I	J	K	L
271	Gamma Statistics											
272	k hat (MLE)				57.27		k star (bias corrected MLE)				56.34	
273	Theta hat (MLE)				5.5004E-6		Theta star (bias corrected MLE)				5.5917E-6	
274	nu hat (MLE)				20962		nu star (bias corrected)				20620	
275	MLE Mean (bias corrected)				3.1503E-4		MLE Sd (bias corrected)				4.1971E-5	
276												
277	Background Statistics Assuming Gamma Distribution											
278	95% Wilson Hilferty (WH) Approx. Gamma UPL				3.8706E-4		90% Percentile				3.6987E-4	
279	95% Hawkins Wixley (HW) Approx. Gamma UPL				3.8602E-4		95% Percentile				3.8709E-4	
280	95% WH Approx. Gamma UTL with 95% Coverage				3.9609E-4		99% Percentile				4.2080E-4	
281	95% HW Approx. Gamma UTL with 95% Coverage				3.9503E-4							
282	95% WH USL				4.7674E-4		95% HW USL				4.7626E-4	
283												
284	Lognormal GOF Test											
285	Shapiro Wilk Test Statistic				0.378		Shapiro Wilk Lognormal GOF Test					
286	5% Shapiro Wilk P Value				0		Data Not Lognormal at 5% Significance Level					
287	Lilliefors Test Statistic				0.475		Lilliefors Lognormal GOF Test					
288	5% Lilliefors Critical Value				0.0659		Data Not Lognormal at 5% Significance Level					
289	Data Not Lognormal at 5% Significance Level											
290												
291	Background Statistics assuming Lognormal Distribution											
292	95% UTL with 95% Coverage				3.9190E-4		90% Percentile (z)				3.6564E-4	
293	95% UPL (t)				3.8297E-4		95% Percentile (z)				3.8236E-4	
294	95% USL				4.7487E-4		99% Percentile (z)				4.1582E-4	
295												
296	Nonparametric Distribution Free Background Statistics											
297	Data do not follow a Discernible Distribution (0.05)											
298												
299	Nonparametric Upper Limits for Background Threshold Values											
300	Order of Statistic, r				178		95% UTL with 95% Coverage				5.1000E-4	
301	Approx, f used to compute achieved CC				1.561		Approximate Actual Confidence Coefficient achieved by UTL				0.899	
302							Approximate Sample Size needed to achieve specified CC				208	
303	95% Percentile Bootstrap UTL with 95% Coverage				5.0800E-4		95% BCA Bootstrap UTL with 95% Coverage				5.0800E-4	
304	95% UPL				4.0800E-4		90% Percentile				3.4000E-4	
305	90% Chebyshev UPL				4.6145E-4		95% Percentile				3.9900E-4	
306	95% Chebyshev UPL				5.2777E-4		99% Percentile				5.4000E-4	
307	95% USL				5.8000E-4							
308												
309	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.											
310	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers											
311	and consists of observations collected from clean unimpacted locations.											
312	The use of USL tends to provide a balance between false positives and false negatives provided the data											
313	represents a background data set and when many onsite observations need to be compared with the BTV.											
314												
315	Lead											
316												
317	General Statistics											
318	Total Number of Observations				173		Number of Distinct Observations				1	
319	Minimum				0.01		First Quartile				0.01	
320	Second Largest				0.01		Median				0.01	
321	Maximum				0.01		Third Quartile				0.01	
322	Mean				0.01		SD				6.959E-18	
323	Coefficient of Variation				6.959E-16		Skewness				-1.009	
324												

A	B	C	D	E	F	G	H	I	J	K	L
325	Warning: There is only one distinct observation value in this data set - resulting in '0' variance!										
326	ProUCL (or any other software) should not be used on such a data set!										
327	The data set for variable Lead was not processed!										
328											
329	If possible, compute and collect Data Quality Objectives (DQOs) based sample size and analytical results.										
330	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).										
331											
332											
333	Lithium										
334											
335	General Statistics										
336	Total Number of Observations				173		Number of Distinct Observations				1
337	Minimum				0.03		First Quartile				0.03
338	Second Largest				0.03		Median				0.03
339	Maximum				0.03		Third Quartile				0.03
340	Mean				0.03		SD				6.959E-18
341	Coefficient of Variation				2.320E-16		Skewness				1.009
342											
343	Warning: There is only one distinct observation value in this data set - resulting in '0' variance!										
344	ProUCL (or any other software) should not be used on such a data set!										
345	The data set for variable Lithium was not processed!										
346											
347	If possible, compute and collect Data Quality Objectives (DQOs) based sample size and analytical results.										
348	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).										
349											
350											
351	Mercury										
352											
353	General Statistics										
354	Total Number of Observations				172		Number of Distinct Observations				1
355	Minimum				2.0000E-4		First Quartile				2.0000E-4
356	Second Largest				2.0000E-4		Median				2.0000E-4
357	Maximum				2.0000E-4		Third Quartile				2.0000E-4
358	Mean				2.0000E-4		SD				5.709E-19
359	Coefficient of Variation				2.854E-15		Skewness				1.009
360											
361	Warning: There is only one distinct observation value in this data set - resulting in '0' variance!										
362	ProUCL (or any other software) should not be used on such a data set!										
363	The data set for variable Mercury was not processed!										
364											
365	If possible, compute and collect Data Quality Objectives (DQOs) based sample size and analytical results.										
366	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).										
367											
368											
369	MOLYBDENUM										
370											
371	General Statistics										
372	Total Number of Observations				173		Number of Distinct Observations				1
373	Minimum				0.001		First Quartile				0.001
374	Second Largest				0.001		Median				0.001
375	Maximum				0.001		Third Quartile				0.001
376	Mean				0.001		SD				6.524E-19
377	Coefficient of Variation				6.524E-16		Skewness				-1.009
378											

A	B	C	D	E	F	G	H	I	J	K	L	
379	Warning: There is only one distinct observation value in this data set - resulting in '0' variance!											
380	ProUCL (or any other software) should not be used on such a data set!											
381	The data set for variable MOLYBDENUM was not processed!											
382												
383	If possible, compute and collect Data Quality Objectives (DQOs) based sample size and analytical results.											
384	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
385												
386												
387	Radium (226)											
388												
389	General Statistics											
390	Total Number of Observations			143	Number of Distinct Observations			112				
391	Minimum			0.0616	First Quartile			0.0921				
392	Second Largest			0.368	Median			0.115				
393	Maximum			0.372	Third Quartile			0.151				
394	Mean			0.143	SD			0.0778				
395	Coefficient of Variation			0.545	Skewness			1.431				
396	Mean of logged Data			-2.064	SD of logged Data			0.463				
397												
398	Critical Values for Background Threshold Values (BTVs)											
399	Tolerance Factor K (For UTL)			1.874	d2max (for USL)			3.328				
400												
401	Normal GOF Test											
402	Shapiro Wilk Test Statistic			0.781	Normal GOF Test							
403	5% Shapiro Wilk P Value			0	Data Not Normal at 5% Significance Level							
404	Lilliefors Test Statistic			0.233	Lilliefors GOF Test							
405	5% Lilliefors Critical Value			0.0745	Data Not Normal at 5% Significance Level							
406	Data Not Normal at 5% Significance Level											
407												
408	Background Statistics Assuming Normal Distribution											
409	95% UTL with 95% Coverage		0.289	90% Percentile (z)		0.242						
410	95% UPL (t)		0.272	95% Percentile (z)		0.271						
411	95% USL		0.402	99% Percentile (z)		0.324						
412												
413	Gamma GOF Test											
414	A-D Test Statistic			6.562	Anderson-Darling Gamma GOF Test							
415	5% A-D Critical Value			0.756	Data Not Gamma Distributed at 5% Significance Level							
416	K-S Test Statistic			0.179	Kolmogorov-Smirnov Gamma GOF Test							
417	5% K-S Critical Value			0.0786	Data Not Gamma Distributed at 5% Significance Level							
418	Data Not Gamma Distributed at 5% Significance Level											
419												
420	Gamma Statistics											
421	k hat (MLE)		4.411	k star (bias corrected MLE)		4.323						
422	Theta hat (MLE)		0.0324	Theta star (bias corrected MLE)		0.033						
423	nu hat (MLE)		1262	nu star (bias corrected)		1236						
424	MLE Mean (bias corrected)		0.143	MLE Sd (bias corrected)		0.0687						
425												
426	Background Statistics Assuming Gamma Distribution											
427	95% Wilson Hilferty (WH) Approx. Gamma UPL		0.271	90% Percentile		0.235						
428	95% Hawkins Wixley (HW) Approx. Gamma UPL		0.271	95% Percentile		0.271						
429	95% WH Approx. Gamma UTL with 95% Coverage		0.294	99% Percentile		0.349						
430	95% HW Approx. Gamma UTL with 95% Coverage		0.295									
431	95% WH USL		0.485	95% HW USL		0.505						
432												

A	B	C	D	E	F	G	H	I	J	K	L
433	Lognormal GOF Test										
434	Shapiro Wilk Test Statistic			0.894		Shapiro Wilk Lognormal GOF Test					
435	5% Shapiro Wilk P Value			1.887E-15		Data Not Lognormal at 5% Significance Level					
436	Lilliefors Test Statistic			0.144		Lilliefors Lognormal GOF Test					
437	5% Lilliefors Critical Value			0.0745		Data Not Lognormal at 5% Significance Level					
438	Data Not Lognormal at 5% Significance Level										
439											
440	Background Statistics assuming Lognormal Distribution										
441	95% UTL with 95% Coverage		0.302		90% Percentile (z)				0.23		
442	95% UPL (t)		0.274		95% Percentile (z)				0.272		
443	95% USL		0.592		99% Percentile (z)				0.372		
444											
445	Nonparametric Distribution Free Background Statistics										
446	Data do not follow a Discernible Distribution (0.05)										
447											
448	Nonparametric Upper Limits for Background Threshold Values										
449	Order of Statistic, r		139		95% UTL with 95% Coverage				0.342		
450	Approx, f used to compute achieved CC			1.463		Approximate Actual Confidence Coefficient achieved by UTL				0.847	
451						Approximate Sample Size needed to achieve specified CC				181	
452	95% Percentile Bootstrap UTL with 95% Coverage		0.342		95% BCA Bootstrap UTL with 95% Coverage				0.342		
453	95% UPL		0.306		90% Percentile				0.285		
454	90% Chebyshev UPL		0.377		95% Percentile				0.305		
455	95% Chebyshev UPL		0.483		99% Percentile				0.365		
456	95% USL		0.372								
457											
458	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.										
459	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers										
460	and consists of observations collected from clean unimpacted locations.										
461	The use of USL tends to provide a balance between false positives and false negatives provided the data										
462	represents a background data set and when many onsite observations need to be compared with the BTV.										
463											
464	Radium 228										
465											
466	General Statistics										
467	Total Number of Observations			143		Number of Distinct Observations				118	
468						Number of Missing Observations				17	
469	Minimum			0.263		First Quartile				0.365	
470	Second Largest			1		Median				0.425	
471	Maximum			1		Third Quartile				0.545	
472	Mean			0.492		SD				0.194	
473	Coefficient of Variation			0.394		Skewness				1.427	
474	Mean of logged Data			-0.774		SD of logged Data				0.344	
475											
476	Critical Values for Background Threshold Values (BTVs)										
477	Tolerance Factor K (For UTL)			1.874		d2max (for USL)				3.328	
478											
479	Normal GOF Test										
480	Shapiro Wilk Test Statistic			0.81		Normal GOF Test					
481	5% Shapiro Wilk P Value			0		Data Not Normal at 5% Significance Level					
482	Lilliefors Test Statistic			0.183		Lilliefors GOF Test					
483	5% Lilliefors Critical Value			0.0745		Data Not Normal at 5% Significance Level					
484	Data Not Normal at 5% Significance Level										
485											
486	Background Statistics Assuming Normal Distribution										

A	B	C	D	E	F	G	H	I	J	K	L
487			95% UTL with 95% Coverage		0.855					90% Percentile (z)	0.74
488				95% UPL (t)	0.813					95% Percentile (z)	0.81
489				95% USL	1.136					99% Percentile (z)	0.942
490											
491	Gamma GOF Test										
492			A-D Test Statistic		4.568		Anderson-Darling Gamma GOF Test				
493			5% A-D Critical Value		0.753		Data Not Gamma Distributed at 5% Significance Level				
494			K-S Test Statistic		0.137		Kolmogorov-Smirnov Gamma GOF Test				
495			5% K-S Critical Value		0.0784		Data Not Gamma Distributed at 5% Significance Level				
496	Data Not Gamma Distributed at 5% Significance Level										
497											
498	Gamma Statistics										
499			k hat (MLE)		8.002					k star (bias corrected MLE)	7.839
500			Theta hat (MLE)		0.0615					Theta star (bias corrected MLE)	0.0627
501			nu hat (MLE)		2289					nu star (bias corrected)	2242
502			MLE Mean (bias corrected)		0.492					MLE Sd (bias corrected)	0.176
503											
504	Background Statistics Assuming Gamma Distribution										
505			95% Wilson Hilferty (WH) Approx. Gamma UPL		0.812					90% Percentile	0.726
506			95% Hawkins Wixley (HW) Approx. Gamma UPL		0.813					95% Percentile	0.812
507			95% WH Approx. Gamma UTL with 95% Coverage		0.865					99% Percentile	0.989
508			95% HW Approx. Gamma UTL with 95% Coverage		0.868						
509				95% WH USL	1.29					95% HW USL	1.322
510											
511	Lognormal GOF Test										
512			Shapiro Wilk Test Statistic		0.911		Shapiro Wilk Lognormal GOF Test				
513			5% Shapiro Wilk P Value		7.199E-12		Data Not Lognormal at 5% Significance Level				
514			Lilliefors Test Statistic		0.113		Lilliefors Lognormal GOF Test				
515			5% Lilliefors Critical Value		0.0745		Data Not Lognormal at 5% Significance Level				
516	Data Not Lognormal at 5% Significance Level										
517											
518	Background Statistics assuming Lognormal Distribution										
519			95% UTL with 95% Coverage		0.879					90% Percentile (z)	0.717
520				95% UPL (t)	0.817					95% Percentile (z)	0.813
521				95% USL	1.451					99% Percentile (z)	1.028
522											
523	Nonparametric Distribution Free Background Statistics										
524	Data do not follow a Discernible Distribution (0.05)										
525											
526	Nonparametric Upper Limits for Background Threshold Values										
527			Order of Statistic, r		139					95% UTL with 95% Coverage	1
528			Approx, f used to compute achieved CC		1.463		Approximate Actual Confidence Coefficient achieved by UTL				0.847
529							Approximate Sample Size needed to achieve specified CC				181
530			95% Percentile Bootstrap UTL with 95% Coverage		1					95% BCA Bootstrap UTL with 95% Coverage	1
531				95% UPL	1					90% Percentile	0.762
532				90% Chebyshev UPL	1.075					95% Percentile	1
533				95% Chebyshev UPL	1.339					99% Percentile	1
534				95% USL	1						
535											
536	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.										
537	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers										
538	and consists of observations collected from clean unimpacted locations.										
539	The use of USL tends to provide a balance between false positives and false negatives provided the data										
540	represents a background data set and when many onsite observations need to be compared with the BTV.										

	A	B	C	D	E	F	G	H	I	J	K	L
541												
542	Selenium											
543												
544	General Statistics											
545	Total Number of Observations				153		Number of Distinct Observations				4	
546							Number of Missing Observations				18	
547	Minimum				0.001		First Quartile				0.001	
548	Second Largest				0.0014		Median				0.001	
549	Maximum				0.0014		Third Quartile				0.001	
550	Mean				0.00101		SD				5.6683E-5	
551	Coefficient of Variation				0.0559		Skewness				5.069	
552	Mean of logged Data				-6.895		SD of logged Data				0.0495	
553												
554	Critical Values for Background Threshold Values (BTVs)											
555	Tolerance Factor K (For UTL)				1.865		d2max (for USL)				3.349	
556												
557	Normal GOF Test											
558	Shapiro Wilk Test Statistic				0.294		Normal GOF Test					
559	5% Shapiro Wilk P Value				0		Data Not Normal at 5% Significance Level					
560	Lilliefors Test Statistic				0.515		Lilliefors GOF Test					
561	5% Lilliefors Critical Value				0.072		Data Not Normal at 5% Significance Level					
562	Data Not Normal at 5% Significance Level											
563												
564	Background Statistics Assuming Normal Distribution											
565	95% UTL with 95% Coverage		0.00112		90% Percentile (z)		0.00109					
566	95% UPL (t)		0.00111		95% Percentile (z)		0.00111					
567	95% USL		0.0012		99% Percentile (z)		0.00115					
568												
569	Gamma GOF Test											
570	A-D Test Statistic				47.48		Anderson-Darling Gamma GOF Test					
571	5% A-D Critical Value				0.75		Data Not Gamma Distributed at 5% Significance Level					
572	K-S Test Statistic				0.518		Kolmogorov-Smirnov Gamma GOF Test					
573	5% K-S Critical Value				0.0755		Data Not Gamma Distributed at 5% Significance Level					
574	Data Not Gamma Distributed at 5% Significance Level											
575												
576	Gamma Statistics											
577	k hat (MLE)		379		k star (bias corrected MLE)		371.6					
578	Theta hat (MLE)		2.6766E-6		Theta star (bias corrected MLE)		2.7300E-6					
579	nu hat (MLE)		115970		nu star (bias corrected)		113698					
580	MLE Mean (bias corrected)		0.00101		MLE Sd (bias corrected)		5.2624E-5					
581												
582	Background Statistics Assuming Gamma Distribution											
583	95% Wilson Hilferty (WH) Approx. Gamma UPL		0.0011		90% Percentile		0.00108					
584	95% Hawkins Wixley (HW) Approx. Gamma UPL		0.0011		95% Percentile		0.0011					
585	95% WH Approx. Gamma UTL with 95% Coverage		0.00111		99% Percentile		0.00114					
586	95% HW Approx. Gamma UTL with 95% Coverage		0.00111									
587	95% WH USL		0.0012		95% HW USL		0.0012					
588												
589	Lognormal GOF Test											
590	Shapiro Wilk Test Statistic				0.303		Shapiro Wilk Lognormal GOF Test					
591	5% Shapiro Wilk P Value				0		Data Not Lognormal at 5% Significance Level					
592	Lilliefors Test Statistic				0.518		Lilliefors Lognormal GOF Test					
593	5% Lilliefors Critical Value				0.072		Data Not Lognormal at 5% Significance Level					
594	Data Not Lognormal at 5% Significance Level											

	A	B	C	D	E	F	G	H	I	J	K	L	
595													
596	Background Statistics assuming Lognormal Distribution												
597	95% UTL with 95% Coverage				0.00111					90% Percentile (z)		0.00108	
598	95% UPL (t)				0.0011					95% Percentile (z)		0.0011	
599	95% USL				0.0012					99% Percentile (z)		0.00114	
600													
601	Nonparametric Distribution Free Background Statistics												
602	Data do not follow a Discernible Distribution (0.05)												
603													
604	Nonparametric Upper Limits for Background Threshold Values												
605	Order of Statistic, r			149					95% UTL with 95% Coverage		0.0012		
606	Approx, f used to compute achieved CC			1.568	Approximate Actual Confidence Coefficient achieved by UTL				0.885				
607					Approximate Sample Size needed to achieve specified CC				181				
608	95% Percentile Bootstrap UTL with 95% Coverage				0.0012	95% BCA Bootstrap UTL with 95% Coverage				0.0011			
609	95% UPL				0.0011	90% Percentile				0.001			
610	90% Chebyshev UPL				0.00118	95% Percentile				0.0011			
611	95% Chebyshev UPL				0.00126	99% Percentile				0.0013			
612	95% USL				0.0014								
613													
614	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.												
615	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers												
616	and consists of observations collected from clean unimpacted locations.												
617	The use of USL tends to provide a balance between false positives and false negatives provided the data												
618	represents a background data set and when many onsite observations need to be compared with the BTV.												
619													
620	Thallium												
621													
622	General Statistics												
623	Total Number of Observations			173	Number of Distinct Observations				1				
624	Minimum			2.0000E-4	First Quartile				2.0000E-4				
625	Second Largest			2.0000E-4	Median				2.0000E-4				
626	Maximum			2.0000E-4	Third Quartile				2.0000E-4				
627	Mean			2.0000E-4	SD				5.709E-19				
628	Coefficient of Variation			2.854E-15	Skewness				1.009				
629													
630	Warning: There is only one distinct observation value in this data set - resulting in '0' variance!												
631	ProUCL (or any other software) should not be used on such a data set!												
632	The data set for variable Thallium was not processed!												
633													
634	If possible, compute and collect Data Quality Objectives (DQOs) based sample size and analytical results.												
635	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).												
636													
637													

Box Plot for pH

