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ANNUAL GROUNDWATER MONITORING REPORT FOR 2016-2017

COLORADO SPRINGS UTILITIES' CLEAR SPRING RANCH
Coal Combustion Residuals Landfill
El Paso County, Colorado

January 31, 2018

Prepared For:
40 CFR Part 257.90(e)
and
Colorado Department of Public Health & Environment
Hazardous Materials & Waste Management Division
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Attention:
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1.0 INTRODUCTION

This annual report summarizes the groundwater monitoring activities performed during 2016 and 2017 in association with the Coal Combustion Residuals (CCR) Landfill at Colorado Springs Utilities' (Utilities') Clear Spring Ranch (CSR), located west-southwest of the intersection of Interstate 25 and Ray Nixon Road (Exit 125) in El Paso County, Colorado.

The CCR Landfill is regulated by the U.S. Environmental Protection Agency (EPA), the Colorado Department of Public Health & Environment (CDPHE), and El Paso County. The land-use is authorized via a Certificate of Designation (CD) obtained from El Paso County (CD #004-001).

The groundwater monitoring activities were performed for compliance with the EPA's Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments (40 CFR §257.50 through 257.107) (CCR Rule) and the CDPHE's Regulations Pertaining to Solid Waste Sites & Facilities (6 CCR 1007-2 / Part 1 / Section 2.2 / Ground Water Monitoring).

The groundwater monitoring activities were conducted in general accordance with the Professional Engineer certified and CDPHE approved[1] Coal Combustion Residuals Landfill Groundwater Detection Monitoring Plan.[2]

This report fulfills the EPA's, CDPHE's, and El Paso County's annual reporting requirements.

1.1 Groundwater Classification and Management

From its inception in the late 1970's, the CCR Landfill has been designed and operated to protect the Fountain Creek Alluvial Aquifer, which is located ~0.5 mile down-gradient of the CSR Retention Dam. The Fountain Creek Alluvial Aquifer is the closest aquifer to the CCR Landfill that could be used for drinking water purposes. There are no drinking water wells located within the CSR CD Area, in which the CCR Landfill is located, and no reasonable potential for future domestic or agricultural uses of groundwater within the CD Area; as this area is owned and controlled by Utilities.

Previously evaluated groundwater quality data indicates that groundwater up-gradient of and underlying the CSR CD Area, in which the CCR Landfill is located, has a total dissolved solids (TDS) concentration exceeding 10,000 mg/l. The CDPHE's Water Quality Control Commission, under Regulation 41 – The Basic Standards for Groundwater[3], has not established use classifications or site specific numerical standards for groundwater quality beneath the CCR Landfill site; other than applicable "Statewide" standards. Regulation 41 - Section 41.4(B) describes the criteria that shall be used to identify classifications for groundwater, and Section 41.4(B)(5)(a) indicates that when TDS levels are equal to or in excess of 10,000 mg/l, groundwater within the specified area shall be classified "Limited Use and Quality" (i.e., assuming concurrence that the criteria specified in Sections 41.4(B)(1-4) are not met). Limited Use and Quality is the lowest classification possible. Regulation 41 - Section 41.5 (B) does not list any numeric standards as applying to this classification, and the "Interim Narrative Standard" in Section 41.5(C)(6)(b)(i) is not

[1] E-Mail from Jill Parisi / CDPHE to Patti Zietlow / Colorado Springs Utilities Re: Clear Spring Ranch CCR Landfill Groundwater Detection Monitoring Plan. November 14, 2017.

[2] AECOM. Coal Combustion Residuals Landfill Groundwater Detection Monitoring Plan, Clear Spring Ranch, El Paso County, Colorado. Revision 0. October 2017.

[3] Regulation 41 – The Basic Standards for Ground Water. CDPHE - Water Quality Control Commission. 5 CCR-1002-41. Effective December 30, 2016.

applicable to unassigned groundwater having a TDS concentration in excess of 10,000 mg/l. Similarly, the EPA, in their Guidelines for Groundwater Classification Under the EPA Groundwater Protection Strategy[4] (Guidelines), classifies groundwater with TDS concentrations greater than or equal to 10,000 mg/l as Class III drinking water. Class III is defined as "groundwater not a potential source of drinking water and/or limited beneficial use."

To protect the Fountain Creek Alluvial Aquifer, groundwater associated with the CCR Landfill is managed via a retention dam and pump back system. The Retention Dam was constructed down-gradient of the CCR Landfill in 1978 to prevent the off-site migration of surface water and groundwater. The dam has a bentonite core and is keyed into the underlying Pierre Shale bedrock. To improve the dam's performance, in the 1990s, Utilities installed a bentonite barrier wall along the up-gradient toe of the dam, and a french drain & pump back system down-gradient of the dam. The french drain captures water seepage through the dam. The drain extends for ~525 feet along the southern portion of the dam. The french drain's collection trench is gravel filled and slopes towards a sump located at the northern end of the trench. An extraction well and pump remove water collected in the sump and pump it back to the up-gradient retention dam pond. The dam is registered with and inspected by the Office of the State Engineer - Division of Water Resources - Dam Safety Branch (Dam I.D. #100401). A site plan is presented in Appendix A.

2.0 GROUNDWATER FLOW ANALYSIS & GEOLOGIC PROFILE

The CCR Landfill is located within a small, west-east trending topographic depression that is underlain with, and bounded to the north and south, by Pierre Shale. A 1993 Brown and Caldwell investigation of CSR involving laboratory hydraulic conductivity tests on cores of un-weathered Pierre Shale indicated that the Pierre Shale is essentially impermeable[5]. The surficial geology consists of ~4 to ~50 feet of alluvial sediments[6] deposited on top of the Pierre Shale.

A figure of the site showing the potentiometric groundwater surface, interpolated elevations of the underlying Pierre Shale bedrock, and the estimated boundary of the Fountain Creek Alluvial Aquifer is presented in Appendix A.

The groundwater surface was prepared using 1st Quarter 2017 groundwater elevation measurements. The bedrock elevations were obtained from historical on-site exploratory and monitoring well boring logs. To aid in the *visualization* of the aquifer boundary, wherever a groundwater contour intersects a bedrock contour at the same elevation, the groundwater contour was cut at that theoretical intersection. For example, where the groundwater contour with an elevation of 5,400 feet intersects the bedrock contour with the same elevation, the water level generally would not be higher on the ridge than 5,400 feet.

The groundwater surface data suggest that groundwater beneath the CCR Landfill generally flows in a southeasterly direction towards the Retention Dam.

[4] U.S. EPA. Guidelines for Groundwater Classification Under the EPA Groundwater Protection Strategy. Office of Groundwater Protection. June 1988.

[5] Haley and Aldrich. Hannah Ranch Dam Seepage Analysis Preliminary Engineering Report. April 1994.

[6] Layne Western. Ash Disposal Site, R.D. Nixon Power Plant. Carl Nuzman, Bruce Maxwell and Carl Larson. August 1977.

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3.0 GROUNDWATER QUALITY SAMPLING & ANALYSIS

3.1 Monitoring Well Installation and Abandonment

Eight groundwater monitoring wells (SC-8 through SC-14, FC-3A, & FC-3B) were installed during June 2016 to facilitate compliance with the CCR Rule's groundwater monitoring requirements (§257.91 - Groundwater Monitoring Systems). The boring logs for these and the other wells in the Detection Monitoring Program are contained in the CCR Landfill Groundwater Detection Monitoring Plan. No CCR Landfill groundwater monitoring wells were decommissioned during 2016-2017. The locations of the monitoring wells are depicted on the figure presented in Appendix A.

3.2 Detection Monitoring

In 2016 and 2017, Utilities collected groundwater samples and recorded groundwater elevations from five up-gradient wells (CC-1, FC-1, FC-2, FC-3A, & FC-3B), four down-gradient wells (SC-10, SC-11, SC-12, & SC-13), and one cross gradient well (SC-14) in accordance with the CCR Landfill Groundwater Detection Monitoring Plan.

In accordance with §257.94(b) (Detection Monitoring Program) of the CCR Rule[7], a minimum of eight independent samples were collected from each background and down-gradient well and analyzed using EPA and/or industry accepted methods for the constituents listed in Appendix III and IV of the CCR Rule. These constituents included antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chloride, chromium, cobalt, fluoride, lead, lithium, mercury, molybdenum, pH, radium 226, radium 228, selenium, sulfate, thallium, and total dissolved solids. The laboratory analytical results and sampling dates are summarized in the table presented in Appendix C. Copies of the analytical reports and chain of custody documentation are presented in Appendix D. The analytical reports specify the analytical method used for each analyte.

3.3 Assessment Monitoring

As discussed in Section 4.0 (Transition to Assessment Monitoring), Utilities conducted the first round of Assessment Monitoring sampling in November 2017. The samples were collected from the wells comprising the Detection Monitoring Well network and were analyzed using EPA and/or industry accepted methods for the CCR Rule's Appendix IV parameters, as required by §257.95(b) (Assessment Monitoring). The laboratory analytical results and sampling dates are summarized in the table presented in Appendix C. Copies of the analytical reports and chain of custody documentation are presented in Appendix D. The analytical reports specify the analytical method used for each analyte.

3.4 Quality Assurance / Quality Control

Quality assurance and quality control (QA / QC) measures were implemented to ensure the reliability and validity of field and analytical data. Appendix D contains copies of the laboratory analytical reports along with QA / QC data. The QA / QC data includes duplicate samples (identified as Well ID_Dup), equipment / decontamination blanks (identified by Equip-Blk), method blanks (identified as LRB – Lab Reagent Blank) and laboratory control sample results. The sample duplicates show consistency in the lab work performed. No significant anomalies were reported within the laboratory's QA / QC reports.

[7] §257.94(b) Detection Monitoring Program. "For existing CCR Landfills and surface impoundments, a minimum of eight independent samples from each background and down-gradient well must be collected and analyzed for the constituents listed in appendix III and IV to this part no later than October 17, 2017."

3.5 Statistical Analysis Results Summary

The methods used to statistically analyze the Detection Monitoring groundwater data, the rationale for the analytical methods, and the results of the statistical analysis are presented in Appendix B. The statistical analysis suggests that boron concentrations at down-gradient groundwater monitoring wells SC-11 & SC-12, and calcium concentrations at down-gradient ground monitoring well SC-11 exhibit a statistically significant increase over background concentrations.

4.0 TRANSITION TO ASSESSMENT MONITORING

After completion of the initial eight rounds of detection monitoring sampling, preliminary statistical analysis of the resulting groundwater data was conducted. The preliminary results suggested that boron was present in down-gradient wells SC-11 and SC-12 at statistically significantly higher concentrations than background.

In response, Utilities proactively conducted the first round of Assessment Monitoring sampling in November 2017, as required by §257.95(b) [8] of the CCR Rule and §2.2.1 (D) of the CDPHE's Solid Waste Regulations[9]. The samples were collected from the wells comprising the Detection Monitoring Well network and were analyzed using EPA and/or industry accepted methods for the CCR Rule's Appendix IV parameters, as required by §257.95(b) (Assessment Monitoring). The final statistical analysis of groundwater data conducted for the purposes of this Annual Report confirmed the preliminary findings that boron concentrations at down-gradient groundwater monitoring wells SC-11 and SC-12 exhibited a statistically significant increase over background concentrations. In addition, the final statistical analysis also suggested that calcium at down-gradient ground monitoring well SC-11 was also present at concentrations statistically significantly higher than background. Because of these findings, Utilities' CCR Landfill has entered Assessment Monitoring.

Utilities will be conducting another round of Assessment Monitoring sampling to comply with §Appendix B5 (E)(2)[10] of CDPHE's Solid Waste Regulations and §257.95(d)(1) of the CCR Rule, which states "*Within 90 days of obtaining the results* (of the initial assessment monitoring sampling event) *and on at least a semiannual basis thereafter, resample all wells that were installed pursuant to the requirements of §257.91 (*Groundwater Monitoring System*), conduct analysis for all parameters in Appendix III to this part and for those constituents in Appendix IV to this part that are detected in response to paragraph (b) of this section and record their concentrations in the facility operating record."* The samples will be analyzed for the CCR Rule's Appendix III and IV parameters listed in Section 3.2. Once the laboratory results for the second Assessment Monitoring sampling event are received, Utilities will create the groundwater protection standards in accordance with §257.95(d)(2)[11] of the CCR Rule.

[8] §257.95(b) Assessment Monitoring Program. "Within 90 days of trigging an assessment monitoring program, and annually thereafter, the owner or operator of the CCR Unit must sample and analyze groundwater for all constituents listed in Appendix IV to this part."

[9] §2.2.1(D) Groundwater Monitoring "If statistically significant increases over background have been determined, in conformance with Appendix B Section B3, assessment monitoring shall be implemented in conformance with Appendix B, Section B5."

[10] Appendix B(5)(E)(2) requires that after obtaining the results from the initial assessment monitoring sampling, facilities must, within 90 days and on a semiannual basis thereafter, resample all wells for the assessment monitoring parameters.

[11] 257.95(d)(2) states that facilities must "Establish groundwater protection standards for all constituents detected pursuant to paragraph (b) or (d) of this section."

5.0 SUMMARY OF FINDINGS

Comparison of the groundwater flow to those historically measured shows de minimus differences in the groundwater flow regime beneath the site. Groundwater associated with the CCR Landfill continues to flow to the southeast towards the Retention Dam, which inhibits its migration off-site.

Statistical analysis suggests that boron concentrations at down-gradient groundwater monitoring wells SC-11 & SC-12 and calcium concentrations at down-gradient ground monitoring well SC-11 exhibit a statistically significant increase over background concentrations; therefore, the CCR Landfill has entered Assessment Monitoring.

5.1 Risk

Even with entering Assessment Monitoring, Utilities believes that the risk posed by the CCR Landfill to human health and the environment via the groundwater exposure pathway continues to be low for the following reasons:

- Groundwater underlying the CSR CD Area (which includes the CCR Landfill) is not used for domestic or agricultural purposes. There are no drinking water or agricultural wells within the CD Area and no reasonable potential for future domestic or agricultural uses of groundwater within this area, since it is owned and controlled by Utilities. The high TDS of groundwater up-gradient of and beneath the CD Area also discourages its use for domestic or agricultural purposes (Section 1.1).

- The CSR Retention Dam inhibits the off-site migration of groundwater associated with the CCR Landfill (see Section 1.1); therefore, limiting the potential for exposure. In general, the Retention Dam hydrologically disconnects the CCR Landfill associated groundwater from the down-gradient Fountain Creek Alluvial Aquifer (i.e., the closest drinking water source).

- No Colorado or federal groundwater human health standards (MCLs) exist for boron or calcium. This implies that these constituents generally pose a low risk to human health.

5.2 Activities for 2018

For 2018, Utilities plans to continue with Assessment Monitoring, and to develop groundwater protection standards in accordance with §257.95(d)(2)[12] of the CCR Rule, as discussed in Section 4.

◆◆◆◆◆◆◆◆◆◆◆

Report Distribution List:

- Jill Parisi / Colorado Department of Public Health & Environment
- Mark Gebhart / El Paso County Planning Department
- Bill Maher / Colorado Springs Utilities - Nixon Power Plant
- Utilities CCR Landfill Website
- EVS File: 550-688-7

[12] 257.95(d)(2) states that facilities must "Establish groundwater protection standards for all constituents detected pursuant to paragraph (b) or (d) of this section."

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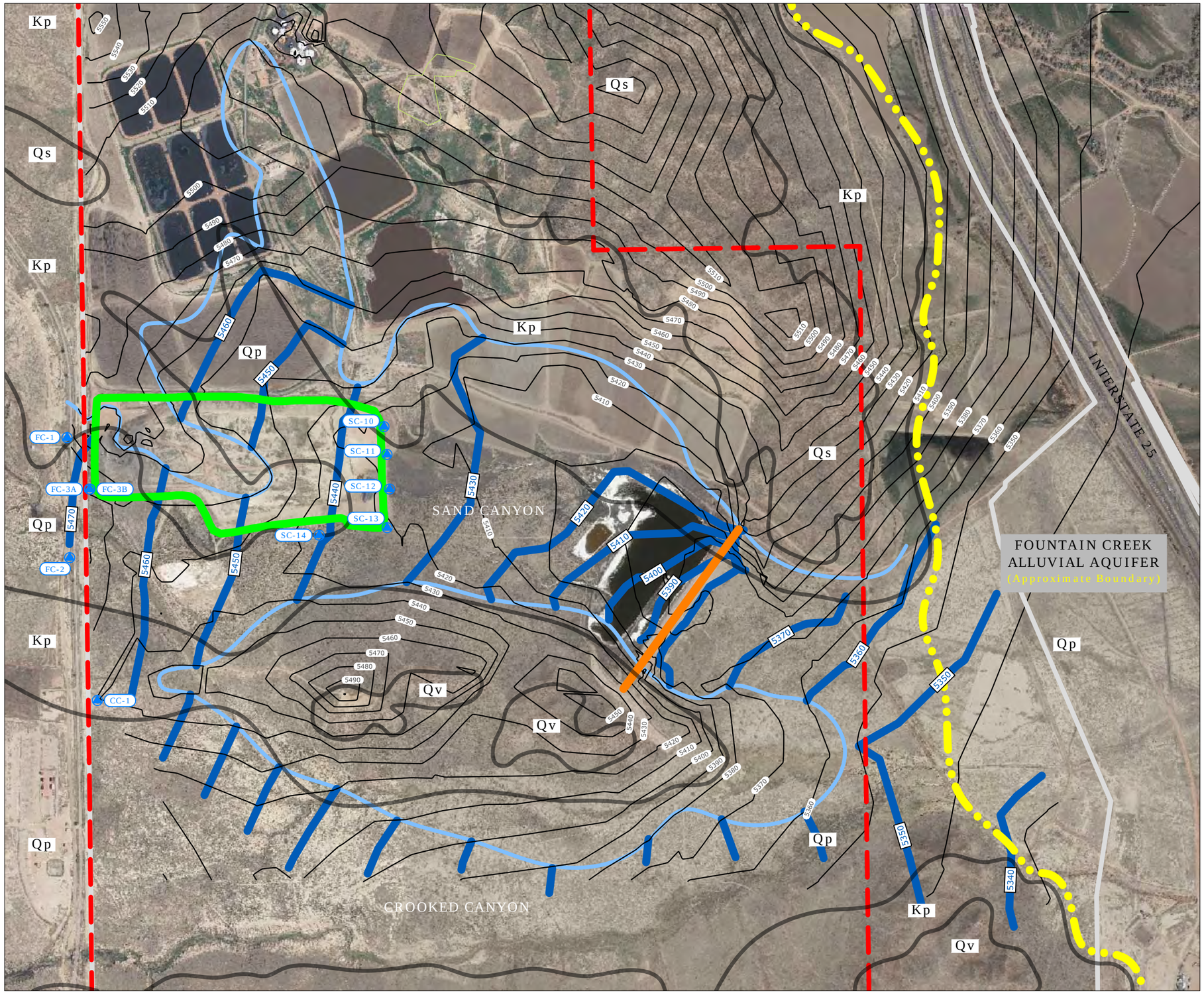
APPENDIX A

Site Plan & Groundwater Elevation Contours



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Orientation:

Legend:

- Coal Combustion Residuals (CCR) Landfill
- Retention Dam
- Boundary - Clear Spring Ranch Property
- Boundary - Certificate of Designation
- Boundary - Fountain Creek Alluvial Aquifer
- Boundary - Ground Water Zone Interpolation
- Boundary - Surficial Geologic Mapping **
  - Kp - Pierre Shale Bedrock
  - Qp - Piney Creek Alluvium
  - Qs - Slocum Alluvium
  - Qv - Verdos Alluvium
- Contour - Ground Water Surface Elevation *
- Contour - Bedrock Surface ***
- ## Contour - Elevation - Feet
- Ground Water Monitoring Well Location
- ## Ground Water Monitoring Well ID

Notes:

* Ground Water Elevation Measurements Collected From Select Wells on January 18,19,23,24 2017.

** USGS Geologic Map of the Pueblo Quadrangle by Scott, Taylor, Epis, & Wobus, 1976.

*** Interpolation Based Upon On-Site Exploratory Borehole Measurements.

Scale:

0 1,000 Feet 2,000 Feet

1 Inch = 1,000 Feet

SITE PLAN & GROUND WATER ELEVATION CONTOURS 2017

Clear Spring Ranch
Coal Combustion Residuals Landfill
El Paso County

Project No: 550-504-7	Figure Number 1
Prepared By: Environmental Services	
Date: January 30, 2018	

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APPENDIX B

Statistical Analysis Report

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STATISTICAL ANALYSIS REPORT

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Exploratory Statistical Analysis

There is no single method of statistical analysis appropriate for each chemical dataset. It is most prudent — as well as consistent with EPA regulation and guidance — to use a suite of statistical methods that are dependent on the data and their distributions. The statistical analyses can be based on an interwell and/or an intrawell approach. The statistical algorithms used for the interwell and intrawell approaches are chosen based on the constituent data and their distributions as well as consideration of natural seasonally- or spatially-varying constituent concentrations.

Eight rounds of background and detection groundwater monitoring data were concurrently collected and analyzed for the 40 CFR 257 Appendices III and IV constituents. These background data were used to represent groundwater quality up-gradient or lateral to the CCR Landfill. The detection monitoring data collected at the down-gradient compliance wells was then used to determine if the CCR Landfill has impacted groundwater quality. The eight rounds of groundwater sampling and analysis were completed prior to the October 17, 2017 deadline established in the CCR Rule (40 CFR §257.94).

An exploratory statistical analysis was conducted after the eight rounds of baseline data were obtained to assess the constituent data and determine the most appropriate statistical approach for the data. Steps taken to examine statistical usability included (1) performing QA/QC checks on the data to identify any data anomalies, input errors, etc.; (2) computing the percentage of non-detects and considering the pattern of non-detects and their reporting limits over time; and (3) flagging and testing any outliers that might distort or invalidate the statistical results. Outlier testing was conducted with a combination of techniques. First, Tukey's box plot procedure was used to initially flag potential outliers. Each potential outlier was identified and visually confirmed on time series plots and then formally assessed using Rosner's outlier test. Any confirmed statistical outliers were flagged in the database and removed from subsequent statistical analysis.

To account for non-detect measurements when testing for outliers, special adjustments were made to both Tukey's box plot method as well as Rosner's test. For the box plots, each ND was temporarily replaced by a random value between zero and its reporting limit prior to constructing each box plot. This adjustment better approximates the true variability associated with datasets containing non-detects, and prevents the flagging of potential outliers solely due to underestimating the width of the box plot. With Rosner's test, non-detects can cause both the standard critical points of the test as well as the test statistics to be in error or biased (Cameron, 2016). Instead, all NDs were first imputed to fit the underlying model of the remaining data and accurate critical points were constructed under Monte Carlo simulation, prior to running Rosner's test.

The data were also modeled to determine the most appropriate statistical distribution for each monitoring parameter using goodness-of-fit graphics and tests. A series of possible data transformations was considered to determine if each dataset could be adequately normalized (i.e., testing as normal on the transformed scale). Normalized data can be assessed via parametric tests, while non-normalized data must be handled via nonparametric methods. For each possible transformation, probability plots were constructed of the transformed values and Filliben's probability plot correlation coefficient test run to formally check normality. Datasets were subsequently utilized for parametric analysis if they could be normalized, or nonparametric analysis if not.

The statistical analysis also considered hydrogeologic conditions at the site, along with time series plots to document any trends or seasonal variations, and areal maps to determine if spatial variations in constituent concentrations were present and significant. The statistical evaluation demonstrated that an interwell statistical approach is the best initial statistical strategy.

Interwell Prediction limits

Based on their flexibility, prominence in EPA's Unified Guidance, and ease of implementation and interpretation, interwell prediction limits were constructed on the pooled up-gradient background data from the Ash Landfill site for the Appendix III monitoring parameters. As noted above, parametric prediction limits were computed for background data that could be normalized, while nonparametric limits were computed on data that could not be normalized.

Parametric upper prediction limits all have a general equation of the form:

$$PL = \bar{x} + \kappa s$$

The kappa multiplier in this formula depends on several factors: (1) background sample size, (2) desired confidence level/false positive rate, (3) size and configuration of monitoring network, (4) number of annual tests per prediction limit, (4) number of new measurements to be tested (predicted), and (5) retesting strategy. For the grouped up-gradient background data at the Ash Landfill, there were at least 48 measurements per Appendix III constituent available for testing five down-gradient wells on a semi-annual basis using a 1-of-2 retesting strategy. The kappa multiplier was chosen for each constituent to maintain an annual site-wide false positive rate (SWFPR) of at most 10%, as recommended by EPA's Unified Guidance (2009).

Parametric upper prediction limits were computed for calcium and pH (for the latter, a lower prediction limit was also computed) and are summarized in Table 1 (see the following attachments).

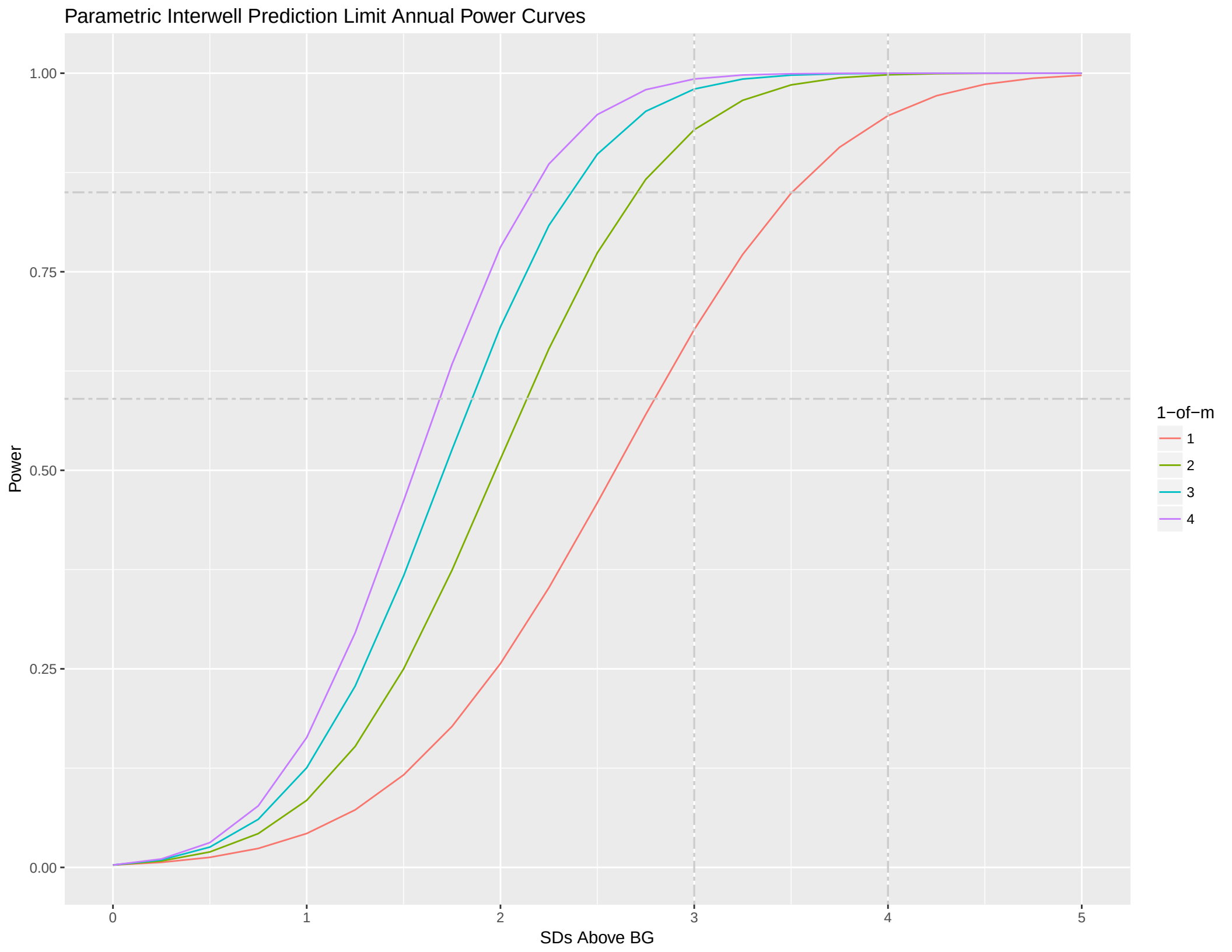
Nonparametric prediction limits were computed for boron, chloride, fluoride, sulfate, and total dissolved solids (TDS), since the up-gradient background for these constituents could not be adequately normalized. These limits are also summarized in Table 1. The nonparametric upper limit was chosen as the maximum observed background value within the pooled data. Using a 1-of-2 retesting plan and a minimum of 48 background measurements, under the network and testing configuration described above, sufficient false positive rate control was achieved to meet the 10% target SWFPR.

Summary tables of the statistical power results for the parametric and nonparametric cases are provided (see the following attachments). Full power curves for both methods are shown in Figures 1 (parametric) and 2 (nonparametric). The 1-of-2 retesting plan enables prediction limits that meet EPA's benchmarks for sufficient statistical power while involving the least degree of retesting effort.

To ensure that the prediction limits pass the 'smell test,' a parallel procedure was also run to compute what are known as bootstrap prediction limits. The bootstrap is a well-known and well-studied statistical resampling algorithm that offers an alternative way to estimate statistical quantities. It is computer intensive rather than formula-based and has many variants. The percentile method — the simplest bootstrap variant — is nonparametric and so does not require any data modeling or goodness-of-fit testing. The bootstrap prediction limits are tabled (see the following attachments). These limits were not used to formally test for statistically significant increases (SSI), but rather to confirm the basic validity of the parametric and nonparametric limits. In general, the bootstrap limits were quite similar to the parametric and nonparametric prediction limits described above, and they would have given essentially the same results in terms of statistical exceedances during detection monitoring. Thus, the prediction limit test results appear to be statistically robust and reliable.

Prediction limit comparison results

Comparison of the Appendix III groundwater monitoring results to the Site UPLs (Table 1) indicates that boron at monitoring wells SC-11 and SC-12 and calcium at monitoring well SC-11 are the only constituents that exhibit a statistically significant increase (SSI) over background (Table 2). These findings were made using eight rounds of groundwater monitoring data collected from June 22, 2016 to March 1, 2017 at background wells CC-1, FC-1, FC-2, FC-3A, and FC-3B and at down-gradient compliance wells SC-10, SC-11, SC-12, SC-13, and SC-14. These SSIs are the result of down-gradient compliance well boron and calcium concentrations in groundwater exceeding their respective background UPL confirmed by a subsequent retesting sampling event where the constituent concentrations also exceeded their UPL. As such, for eight sampling events a maximum of 4 SSIs are possible for a 1 of 2 retesting scheme. These findings indicate per 40 CFR §257.94(e)(1) that an assessment monitoring program meeting the requirements of 40 CFR §257.95 be established at this site or an alternate source demonstration [40 CFR §257.94(e)(2)] be completed within 90 days of this SSI determination.


Parametric Interwell Prediction Limit Annual Power Curves
Power
1.00
0.75
0.50
0.25
0.00
0
1
2
3
4
5
SDs Above BG
1−of−m
1
2
3
4

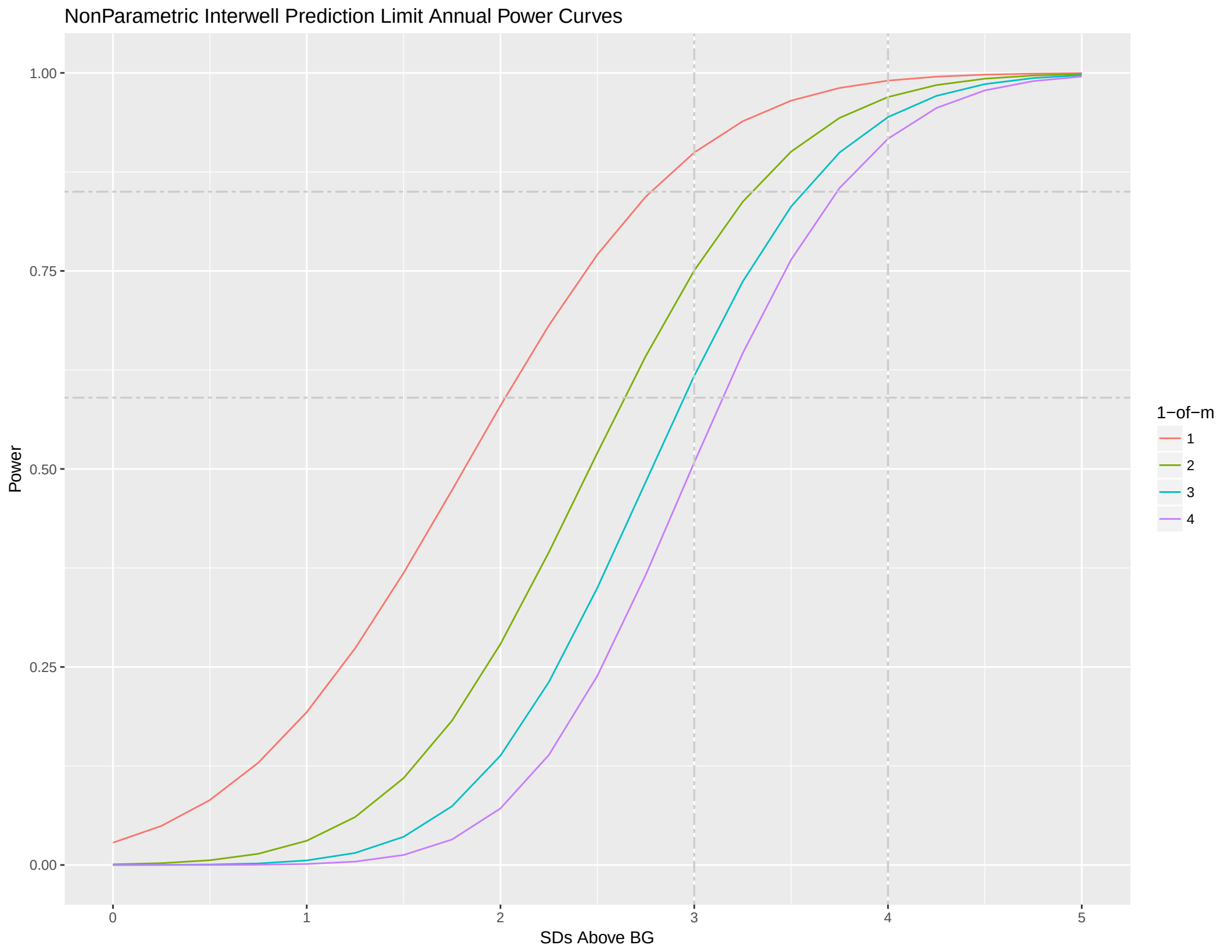

NonParametric Interwell Prediction Limit Annual Power Curves
Power
1.00
0.75
0.50
0.25
0.00
0
1
2
3
4
5
SDs Above BG
1−of−m
1
2
3
4

Table 1 Interwell Prediction Limits

Parameter	Parametric (Transformation) or Nonparametric	Number Background Samples	Percentage Nondetects	Number Downgradient Wells	Number Parameters	Sampling Frequency	Retesting Plan	Lower Prediction Limit	Upper Prediction Limit	Alpha Achieved
B	Nonparametric	69	0	5	7	Semiannual	1 of 2		1.73	0.0056
Ca	Parametric (Fourth Power)	48	0	5	7	Semiannual	1 of 2		466	0.0149
Cl	Nonparametric	69	0	5	7	Semiannual	1 of 2		1680	0.0056
F	Nonparametric	48	0	5	7	Semiannual	1 of 2		1.21	0.0111
pH	Parametric (Lognormal)	58	0	5	7	Semiannual	1 of 2	6.70	7.65	0.0100
SO4	Nonparametric	69	0	5	7	Semiannual	1 of 2		17600	0.0056
TDS	Nonparametric	69	0	5	7	Semiannual	1 of 2		31400	0.0056

type	nbg	coc	w	ne	DQR	j	plan.1ofm	target.alph	alph	meet.target	pow.3SD	pow.4SD	pow.rating
NPPL	69	7	5	2	0	69	1	0.01493879	0.12658228	No	0.899	0.99	EXC
NPPL	69	7	5	2	0	69	2	0.01493879	0.00398339	Yes	0.751	0.97	EXC
NPPL	69	7	5	2	0	69	3	0.01493879	1.67E-04	Yes	0.618	0.944	EXC
NPPL	69	7	5	2	0	69	4	0.01493879	9.19E-06	Yes	0.508	0.917	GOOD

Footnotes:
type = type of prediction limit (NPPL = nonparametric prediction limit)
nbg = background sample size
coc = number of constituents on monitoring list
w = number of downgradient wells in network
ne= number of annual statistical evaluations
DQR = number of constituents with 100% non-detects, thus treated under EPA's Double Quantification Rule (DQR)
j = rank of nonparametric prediction limit order statistic
plan.1ofm = type of retesting plan
target.alph = maximum per-constituent false positive rate needed to meet SWFPR = 10%
alph = achieved per-constituent false positive rate
pow.3SD = expected statistical power at 3 standard deviations above background average level
pow.4SD = expected statistical power at 4 standard deviations above background average level
pow.rating = comparison of expected power vs. EPA statistical power benchmarks

type	nbg	coc	w	ne	DQR	plan.1ofm	kap	two.sided	target.alpha	pow.3SD	pow.4SD	pow.rating
INTERWELL PL	48	7	5	2	0	1	3.157	FALSE	0.014938795	0.677	0.947	EXC
INTERWELL PL	48	7	5	2	0	2	1.882	FALSE	0.014938795	0.929	0.998	EXC
INTERWELL PL	48	7	5	2	0	3	1.293	FALSE	0.014938795	0.98	1	EXC
INTERWELL PL	48	7	5	2	0	4	0.93	FALSE	0.014938795	0.993	1	EXC

Footnotes:
type = type of prediction limit (INTERWELL PL= interwell parametric prediction limit)
nbg = background sample size
coc = number of constituents on monitoring list
w = number of downgradient wells in network
ne= number of annual statistical evaluations
DQR = number of constituents with 100% non-detects, thus treated under EPA's Double Quantification Rule (DQR)
kap = kappa multiplier for parametric prediction limit formula
plan.1ofm = type of retesting plan
kap = kappa multiplier for parametric prediction limit formula
two.sided = is the prediction limit a two-sided interval or a one-sided limit
target.alph = maximum per-constituent false positive rate needed to meet SWFPR = 10%
pow.3SD = expected statistical power at 3 standard deviations above background average level
pow.4SD = expected statistical power at 4 standard deviations above background average level
pow.rating = comparison of expected power vs. EPA statistical power benchmarks

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APPENDIX C

Analytical Results of Groundwater Samples

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CCR LANDFILL
Analytical Results of Groundwater Samples (2016-2017)
Constituents - Antimony to Fluoride

Monitoring Well ID	Well Purpose	Sample Date & Purpose	Antimony T (mg/L)	Arsenic T (mg/L)	Barium T (mg/L)	Beryllium T (mg/l)	Boron T (mg/l)	Cadmium T (mg/l)	Calcium T (mg/l)	Chloride T (mg/l)	Chromium T (mg/l)	Cobalt T (mg/l)	Fluoride T (mg/l)
CC-1	Up-Gradient	06/22/2016 DM	*<0.0002*	*0.0109*	*0.00568*	*<0.002*	*1.07*	*<0.005*	*464.5*	*1535*	*<0.01*	*<0.005*	*0.43*
		08/02/2016 DM	<0.0002	0.0105	0.00512	<0.002	1.03	<0.005	438	1540	<0.01	<0.005	0.21
		09/19/2016 DM	<0.0002	0.0089	0.00542	<0.002	1.05	<0.005	483	1530	<0.01	<0.005	0.22
		10/12/2016 DM	0.0004	0.0071	0.00593	<0.002	1.1	<0.005	398	1500	<0.01	<0.005	0.21
		11/15/2016 DM	0.0015	0.0054	0.00608	<0.002	1.12	<0.005	416	1550	<0.01	<0.005	0.2
		01/18/2017 DM	*<0.0005*	*0.00255*	*0.005675*	*<0.002*	*1.125*	*<0.005*	*431.5*	*1680*	*<0.01*	*<0.005*	*0.2*
		02/14/2017 DM	*<0.0005*	*0.00495*	*0.006005*	*<0.002*	*1.115*	*<0.005*	*431.5*	*1515*	*<0.01*	*<0.005*	*0.22*
		02/28/2017 DM	<0.0005	0.011	<0.005	<0.002	1.03	<0.005	379	1560	<0.01	<0.005	0.22
		11/13/2017 AM	<0.0005	0.008	0.004	<0.0002	na	<0.0005	na	na	0.0064	<0.005	0.45
FC-1	Up-Gradient	06/22/2016 DM	<0.0002	0.0042	0.0094	<0.002	0.976	<0.005	404	772	<0.01	<0.005	0.12
		08/02/2016 DM	*<0.0002*	*0.0025*	*0.008725*	*<0.002*	*0.9285*	*<0.005*	*410*	*761.5*	*<0.01*	*<0.005*	*0.12*
		09/19/2016 DM	<0.0002	0.0094	0.00928	<0.002	0.932	<0.005	388	760	<0.01	<0.005	0.13
		10/12/2016 DM	<0.0002	0.0023	0.00905	<0.002	0.931	<0.005	389	750	<0.01	<0.005	0.12
		11/15/2016 DM	0.0016	0.0036	0.0102	<0.002	1.03	<0.005	381	712	<0.01	<0.005	0.13
		01/18/2017 DM	<0.0005	0.0061	0.00929	<0.002	0.98	<0.005	438	741	<0.01	<0.005	0.13
		02/14/2017 DM	<0.0005	<0.001	0.01	<0.002	0.972	<0.005	408	738	<0.01	<0.005	0.13
		02/28/2017 DM	*<0.0005*	0.00625	*0.009*	*<0.002*	*0.9495*	*<0.005*	*376.5*	*769*	*<0.01*	*<0.005*	*0.13*
		11/13/2017 AM	<0.0005	0.0041	0.0082	<0.0002	na	<0.0005	na	na	0.006	<0.005	0.2
FC-2	Up-Gradient	06/22/2016 DM	<0.0002	0.0025	0.00503	<0.002	0.901	<0.005	405	132	<0.01	<0.005	0.51
		08/02/2016 DM	<0.0002	0.0016	<0.005	<0.002	0.901	<0.005	440	128	<0.01	<0.005	0.5
		09/19/2016 DM	*<0.0002*	*0.0036*	*0.00525*	*<0.002*	*0.937*	*<0.005*	*393.5*	*130*	<0.01	*<0.005*	*0.985*
		10/12/2016 DM	<0.0002	<0.001	0.00536	<0.002	0.923	<0.005	390	124	<0.01	<0.005	0.52
		11/15/2016 DM	<0.0002	<0.001	0.00516	<0.002	0.936	<0.005	389	127	<0.01	<0.005	0.51
		01/18/2017 DM	<0.0005	0.0011	0.00539	<0.002	0.946	<0.005	438	125	<0.01	<0.005	0.52
		02/14/2017 DM	<0.0005	<0.001	0.00566	<0.002	0.934	<0.005	413	123	<0.01	<0.005	0.55
		02/28/2017 DM	<0.0005	0.0076	0.0054	<0.002	0.956	<0.005	381	122	<0.01	<0.005	0.53
		11/13/2017 AM	*<0.0005*	*0.0022*	*0.00435*	*<0.0002*	na	*<0.0005*	na	na	*0.0051*	*<0.005*	0.7
FC-3A	Up-Gradient	06/23/2016 DM	0.00021	0.0031	0.034	<0.002	1.31	<0.005	440	92.5	<0.01	<0.005	0.46
		08/02/2016 DM	<0.0002	0.0021	0.0202	<0.002	1.08	<0.005	417	91	<0.01	<0.005	0.46
		09/19/2016 DM	<0.0002	0.0029	0.0218	<0.002	1.2	<0.005	433	96.3	<0.01	<0.005	0.48
		10/12/2016 DM	*0.00026*	*0.00245*	*0.03735*	*<0.002*	*1.175*	*<0.005*	*398*	*99.55*	*<0.01*	*<0.005*	*0.465*
		11/15/2016 DM	*0.0015*	*0.0018*	*0.01735*	*<0.002*	*1.185*	*<0.005*	*385*	*101.5*	*<0.01*	*<0.005*	*0.46*
		01/18/2017 DM	0.00055	<0.001	0.0164	<0.002	1.19	<0.005	445	104	<0.01	<0.005	0.46
		02/14/2017 DM	<0.0005	<0.001	0.0167	<0.002	1.14	<0.005	420	107	<0.01	<0.005	0.48

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Monitoring Well ID	Well Purpose	Sample Date & Purpose	Antimony T (mg/L)	Arsenic T (mg/L)	Barium T (mg/L)	Beryllium T (mg/l)	Boron T (mg/l)	Cadmium T (mg/l)	Calcium T (mg/l)	Chloride T (mg/l)	Chromium T (mg/l)	Cobalt T (mg/l)	Fluoride T (mg/l)
		02/28/2017 DM	<0.0005	0.0069	0.0148	<0.002	1.14	<0.005	390	107	<0.01	<0.005	0.47
		11/13/2017 AM	<0.0005	0.0022	0.0259	<0.0002	na	<0.0005	na	na	0.0062	<0.005	0.56
		06/27/2016 DM	0.00065	0.0026	0.0336	<0.002	1.09	<0.005	453	319	<0.01	0.00738	0.55
FC-3B	Up-Gradient	08/02/2016 DM	0.00061	0.0031	0.0253	<0.002	1.28	<0.005	412	504	<0.01	0.005	0.48
		09/19/2016 DM	<0.0002	0.0051	0.0183	<0.002	1.46	<0.005	424	594	<0.01	<0.005	0.48
		10/12/2016 DM	0.00032	0.0056	0.0184	<0.002	1.53	<0.005	405	687	<0.01	<0.005	0.51
		11/15/2016 DM	0.0015	0.007	0.0652	<0.002	1.68	<0.005	331	676	<0.01	0.00736	0.46
		01/18/2017 DM	<0.0005	0.0057	0.0244	<0.002	1.66	<0.005	282	631	<0.01	0.00778	0.56
		02/14/2017 DM	0.00066	0.004	0.023	<0.002	1.59	<0.005	296	732	<0.01	0.00796	0.51
		02/28/2017 DM	<0.0005	0.0081	0.0208	<0.002	1.73	<0.005	325	818	<0.01	0.00553	0.42
		11/13/2017 AM	<0.0005	0.0064	0.0154	<0.0002	na	<0.0005	na	na	0.0086	0.0118	0.48
		06/22/2016 DM	<0.0002	0.0083	0.0184	<0.002	1.2	<0.005	424	638	<0.01	<0.005	0.59
		08/03/2016 DM	*<0.0002*	*0.00625*	*0.0138*	*<0.002*	*1.23*	<0.005	*440*	*633.5*	*<0.01*	*<0.005*	*0.585*
		09/20/2016 DM	<0.0002	0.0073	0.013	<0.002	1.25	<0.005	453	688	<0.01	<0.005	0.56
		10/13/2016 DM	0.00025	0.0051	0.0141	<0.002	1.28	<0.005	423	649	<0.01	<0.005	0.61
SC-10	Down-Gradient	11/16/2016 DM	0.0012	0.003	0.0178	<0.002	1.34	<0.005	420	675	<0.01	<0.005	0.57
		01/19/2017 DM	<0.0005	0.0039	0.0216	<0.002	1.29	<0.005	522	672	<0.01	<0.005	0.56
		02/15/2017 DM	*0.00054*	*0.0054*	*0.0145*	*<0.002*	*1.3*	*<0.005*	*474.5*	*697.5*	*<0.01*	*<0.005*	0.575
		03/01/2017 DM	<0.0005	0.0126	0.0105	<0.002	1.27	<0.005	386	691	<0.01	<0.005	0.57
		11/14/2017 AM	<0.0005	0.0095	0.014	<0.0002	na	<0.0005	na	na	0.0061	<0.005	0.82
		06/22/2016 DM	<0.0002	0.0093	0.017	<0.002	1.75	<0.005	492	1100	<0.01	<0.005	0.56
		08/03/2016 DM	<0.0002	0.0095	0.0165	<0.002	1.7	<0.005	465	1100	<0.01	<0.005	0.54
		09/20/2016 DM	*<0.0002*	*0.00825*	*0.009275*	*<0.002*	*1.935*	*<0.005*	*0.537*	*1145*	*<0.01*	*<0.005*	*0.53*
SC-11	Down-Gradient	10/13/2016 DM	0.0002	0.0062	0.0225	<0.002	1.94	<0.005	486	1120	<0.01	<0.005	0.57
		11/16/2016 DM	0.00094	<0.001	0.016	<0.002	2.03	<0.005	463	1140	<0.01	<0.005	0.53
		01/19/2017 DM	<0.0005	0.0033	0.0117	<0.002	1.98	<0.005	527	1140	<0.01	<0.005	0.53
		02/15/2017 DM	<0.0005	0.0046	0.0156	<0.002	1.99	<0.005	531	1140	<0.01	<0.005	0.55
		03/01/2017 DM	<0.0005	0.0111	0.00732	<0.002	1.96	<0.005	435	1130	<0.01	<0.005	0.54
		11/14/2017 AM	*<0.0005*	*0.0089*	*0.01395*	*<0.002*	na	*<0.0005*	na	na	*0.0075*	*<0.005*	*0.765*
		06/22/2016 DM	<0.0002	0.0017	0.0112	<0.002	3.68	<0.005	397	284	<0.01	<0.005	0.79
		08/03/2016 DM	<0.0002	0.0014	0.0133	<0.002	3.65	<0.005	390	296	<0.01	<0.005	0.82
		09/20/2016 DM	<0.0002	0.0026	0.0101	<0.002	3.89	<0.005	402	317	<0.01	<0.005	0.82
		10/13/2016 DM	*<0.0002*	*0.00285*	*0.01415*	*<0.002*	*3.9*	*<0.005*	*399*	*308.5*	*<0.01*	*<0.005*	*0.885*
SC-12	Down-Gradient	11/16/2016 DM	0.00093	0.0016	0.0178	<0.002	4	<0.005	371	326	<0.01	<0.005	0.84
		01/19/2017 DM	<0.0005	<0.001	0.0108	<0.002	4.02	<0.005	445	324	<0.01	<0.005	0.84
		02/15/2017 DM	<0.0005	<0.001	0.0127	<0.002	4.02	<0.005	408	320	<0.01	<0.005	0.85
		03/01/2017 DM	*<0.0005*	*0.0067*	*0.01562*	*<0.002*	*4.015*	*<0.005*	*361*	*312.5*	*<0.01*	*<0.005*	*0.84*
		11/14/2017 AM	<0.0005	0.0027	0.0063	<0.0002	na	<0.0005	na	na	0.0069	<0.005	1.27

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Monitoring Well ID	Well Purpose	Sample Date & Purpose	Antimony T (mg/L)	Arsenic T (mg/L)	Barium T (mg/L)	Beryllium T (mg/l)	Boron T (mg/l)	Cadmium T (mg/l)	Calcium T (mg/l)	Chloride T (mg/l)	Chromium T (mg/l)	Cobalt T (mg/l)	Fluoride T (mg/l)
SC-13	Down-Gradient	06/22/2016 DM	<0.0002	0.0019	0.00979	<0.002	1.57	<0.005	438	168	<0.01	<0.005	0.83
		08/03/2016 DM	<0.0002	<0.001	0.00703	<0.002	1.52	<0.005	396	160	<0.01	<0.005	0.82
		09/20/2016 DM	0.0002	0.0013	0.00736	<0.002	1.63	<0.005	405	150	<0.01	<0.005	1.22
		10/13/2016 DM	<0.0002	0.0015	0.00797	<0.002	1.63	<0.005	392	154	<0.01	<0.005	0.9
		11/16/2016 DM	*0.00059*	*<0.001*	*0.00927*	*<0.002*	*1.705*	*<0.005*	*362*	*163*	*<0.01*	*<0.005*	*0.84*
		01/19/2017 DM	<0.0005	<0.001	0.00775	<0.002	1.65	<0.005	433	162	<0.01	<0.005	0.86
		02/15/2017 DM	<0.0005	<0.001	0.00742	<0.002	1.67	<0.005	458	165	<0.01	<0.005	0.86
		03/01/2017 DM	<0.0005	0.0057	0.00603	<0.002	1.61	<0.005	354	163	<0.01	<0.005	0.84
		11/14/2017 AM	0.0071	0.0018	0.006	0.00021	na	<0.0005	na	na	0.0029	<0.005	1.21
SC-14	Cross-Gradient	06/22/2016 DM	0.00021	0.0022	0.024	<0.002	1.52	<0.005	418	170	<0.01	<0.005	0.73
		08/03/2016 DM	<0.0002	<0.001	0.0131	<0.002	1.46	<0.005	325	171	<0.01	<0.005	0.72
		09/20/2016 DM	0.00022	<0.001	0.0109	<0.002	1.61	<0.005	409	171	<0.01	<0.005	0.7
		10/13/2016 DM	<0.0002	<0.001	0.0163	<0.002	1.63	<0.005	392	81.2	<0.01	<0.005	0.77
		11/16/2016 DM	<0.0002	<0.001	0.0136	<0.002	1.71	<0.005	367	170	<0.01	<0.005	0.72
		01/19/2017 DM	<0.0005	<0.001	0.0905	<0.002	1.67	<0.005	439	162	<0.01	<0.005	0.74
		02/15/2017 DM	<0.0005	<0.001	0.00766	<0.002	1.64	<0.005	424	160	<0.01	<0.005	0.74
		03/01/2017 DM	<0.0005	0.003	0.0063	<0.002	1.64	<0.005	367	76.5	<0.01	<0.005	0.74
		11/14/2017 AM	<0.0005	0.0011	0.0052	<0.0002	na	<0.0005	na	na	0.0066	<0.005	1.06

<	Indicates that the compound was not detected above the stated laboratory reporting limit.
AM	Assessment Monitoring.
DM	Detection Monitoring.
na	Not analyzed.
T	Total recoverable concentration.
Italics	Average of duplicate samples collected.

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CCR LANDFILL
Analytical Results of Groundwater Samples (2016-2017)
Constituents – Lead to TDS

Monitoring Well ID	Well Purpose	Sample Date & Purpose	Lead T (mg/L)	Lithium T (mg/L)	Mercury T (mg/L)	Molybdenum T (mg/l)	pH	Radium 226 (pCi/L)	Radium 228 (pCi/l)	Selenium T (mg/l)	Sulfate T (mg/l)	Thallium T (mg/l)	TDS
CC-1	Up-Gradient	06/22/2016 DM	*<0.0002*	*0.671*	*0.0000047*	*<0.005*	7	*0.413*	*0.904*	*0.1985*	*17200*	*0.000455*	*30950*
		08/02/2016 DM	<0.0002	0.731	0.000006	<0.005	6.8	*0.333*	*0.7735*	0.186	17200	0.00045	31100
		09/19/2016 DM	<0.0002	0.779	0.000006	<0.005	6.7	<0.155	0.563	0.157	17300	<0.0002	30500
		10/12/2016 DM	<0.0002	0.825	0.000006	<0.005	6.9	<0.288	1.26	0.138	16600	<0.0002	31400
		11/15/2016 DM	0.0052	0.822	0.000006	<0.005	6.9	<0.308	1.2	0.145	17400	0.0063	30600
		01/18/2017 DM	*0.0035*	*0.791*	*0.0000075*	*<0.005*	6.9	*0.569*	*0.925*	*0.1385*	*17550*	*0.0014*	*31200*
		02/14/2017 DM	*0.0028*	*0.73*	*0.000006*	*<0.005*	6.9	0.631	1.21	*0.1415*	*16800*	*0.00385*	*30450*
		02/28/2017 DM	0.0049	0.641	0.000006	<0.005	6.9	*<0.3165*	*1.435*	0.143	17400	0.0014	30800
		11/13/2017 AM	<0.0005	0.63	0.000006	<0.0002	7	2.9	<4.52	0.135	na	<0.0005	na
FC-1	Up-Gradient	06/22/2016 DM	<0.0002	0.904	0.0000013	<0.005	7	0.295	1.18	0.016	13200	0.0002	22300
		08/02/2016 DM	*<0.0002*	*0.984*	*0.000002*	*<0.005*	7.1	0.31	1.07	*0.0098*	*13000*	*<0.0002*	*22000*
		09/19/2016 DM	0.00032	1.01	0.000002	<0.005	7.1	0.416	1.72	0.0028	13000	0.00027	21900
		10/12/2016 DM	<0.0002	1.03	0.000002	<0.005	7.1	0.433	1.48	0.0167	12800	<0.0002	23200
		11/15/2016 DM	0.0037	1.16	0.000002	<0.005	7.1	0.588	1.54	0.0136	13600	0.0061	22100
		01/18/2017 DM	<0.0005	1.08	0.000002	<0.005	7.1	0.494	1.38	0.0254	13700	<0.0005	22200
		02/14/2017 DM	0.0027	1	0.000002	<0.005	7.1	*0.725*	*1.585*	0.0141	13200	0.0037	22100
		02/28/2017 DM	*0.0081*	*0.9125*	*0.000002*	*<0.005*	7.2	0.348	1.28	*0.00375*	*13100*	*0.0011*	*22100*
		11/13/2017 AM	<0.0005	0.894	0.000002	0.0015	7.2	3.98	<4.93	0.015	na	<0.0005	na
FC-2	Up-Gradient	06/22/2016 DM	0.0002	0.269	0.0000028	<0.005	7.4	<0.184	<0.491	0.0471	7080	<0.0002	11200
		08/02/2016 DM	<0.0002	0.305	0.000004	<0.005	7.2	<0.199	<0.391	0.0412	7000	<0.0002	10900
		09/19/2016 DM	*<0.0002*	*0.306*	0.000003	*<0.005*	7.2	<0.227	<0.499	*0.04895*	*7030*	*0.000545*	*11250*
		10/12/2016 DM	<0.0002	0.307	0.000004	<0.005	7.2	<0.325	<0.37	<0.001	6910	<0.0002	11600
		11/15/2016 DM	<0.0002	0.325	0.000004	<0.005	7.3	<0.32	0.694	0.0356	6910	<0.0002	11300
		01/18/2017 DM	<0.0005	0.318	0.000005	<0.005	7.3	<0.256	0.343	0.0452	7040	<0.0005	11200
		02/14/2017 DM	0.0018	0.298	0.000004	<0.005	7.3	<0.425	0.51	0.0388	6840	0.0036	11200
		02/28/2017 DM	0.0089	0.275	0.000004	<0.005	7.3	<0.42	<0.472	0.0367	6940	0.0011	11300
		11/13/2017 AM	*<0.0005*	*0.2665*	*0.0000035*	*0.0014*	7.3	*1.715*	*<.3.355*	*0.0381*	na	*<0.0005*	na
FC-3A	Up-Gradient	06/23/2016 DM	0.0052	0.303	0.0000054	<0.005	7.7	0.368	0.953	0.0393	5870	<0.0002	9460
		08/02/2016 DM	0.0015	0.311	0.000007	0.00838	7.5	<0.26	<0.367	0.0382	5650	<0.0002	9140
		09/19/2016 DM	0.001	0.343	0.000004	0.0122	7.5	<0.211	<0.548	0.0364	5800	<0.0002	9320
		10/12/2016 DM	*0.000835*	*0.3455*	*0.000005*	*0.009175*	7.5	<0.368	0.432	*0.04245*	*5635*	*<0.0002*	*9470*
		11/15/2016 DM	*0.0031*	*0.3375*	*0.000002*	*0.01065*	7.6	<0.419	<0.371	*0.0355*	*5735*	*0.0057*	*9320*
		01/18/2017 DM	0.0035	0.343	0.000002	0.00969	7.6	<0.244	0.495	0.039	5880	0.00069	9180
		02/14/2017 DM	0.0017	0.312	0.000002	0.0104	7.6	<0.38	0.593	0.0352	5720	0.0034	9310

Monitoring Well ID	Well Purpose	Sample Date & Purpose	Lead T (mg/L)	Lithium T (mg/L)	Mercury T (mg/L)	Molybdenum T (mg/l)	pH	Radium 226 (pCi/L)	Radium 228 (pCi/l)	Selenium T (mg/l)	Sulfate T (mg/l)	Thallium T (mg/l)	TDS
		02/28/2017 DM	0.009	0.283	0.000002	0.0109	7.5	<0.307	0.582	0.0263	5820	0.0011	9490
		11/13/2017 AM	0.00091	0.288	0.000004	0.005	7.6	1.87	<3.41	0.0552	na	<0.0005	na
		06/27/2016 DM	0.0039	0.232	0.000013	0.0201	7.5	0.486	0.625	0.0057	4820	<0.0002	7770
FC-3B	Up-Gradient	08/02/2016 DM	0.0021	0.274	0.000006	0.0198	7.2	<0.235	1.66	0.0069	5240	<0.0002	9200
		09/19/2016 DM	0.00042	0.295	0.000003	0.00609	6.9	<0.484	<0.508	0.0112	5380	<0.0002	9410
		10/12/2016 DM	<0.0002	0.315	0.000003	0.00525	7	0.283	<0.425	0.0115	4940	<0.0002	9450
		11/15/2016 DM	0.0065	0.344	0.000009	0.0117	7	<0.397	0.488	0.0106	5370	0.0056	9630
		01/18/2017 DM	0.0035	0.335	0.000008	<0.005	7	0.357	<0.505	0.0067	4590	0.00098	9250
		02/14/2017 DM	0.00099	0.334	0.000004	0.00716	7	0.618	0.748	0.0092	4470	0.0062	9350
		02/28/2017 DM	0.0089	0.326	0.000005	0.00842	7	<0.389	<0.439	0.0011	4640	0.00091	9410
		11/13/2017 AM	<0.0005	0.31	0.000007	0.0042	7.5	<0.57	<3.88	0.0107	na	<0.0005	na
		06/22/2016 DM	0.0041	0.601	0.000036	0.0113	7.5	0.412	0.845	0.212	10300	<0.0002	17700
		08/03/2016 DM	*0.0017*	*0.661*	*0.0000105*	*0.008055*	7.1	0.227	0.419	*0.216*	*10150*	*<0.0002*	*17900*
		09/20/2016 DM	0.00091	0.728	0.000016	0.00911	7.1	<0.202	<0.52	0.201	10400	<0.0002	18200
		10/13/2016 DM	0.00044	0.761	0.00001	0.00767	7.4	<0.307	<0.341	0.194	9980	<0.0002	18200
SC-10	Down-Gradient	11/16/2016 DM	0.0063	0.786	0.00001	0.0074	7.3	<0.312	<0.443	0.201	10000	0.0077	18100
		01/19/2017 DM	0.0041	0.858	0.000011	0.00614	7.4	0.333	<0.52	0.22	10200	0.00091	18200
		02/15/2017 DM	*0.00275*	*0.671*	*0.000009*	*0.006325*	7.4	0.529	0.371	*0.220*	*10020*	*0.00385*	*17700*
		03/01/2017 DM	0.0046	0.637	0.000009	0.00646	7.4	<0.384	<0.48	0.224	10200	0.00082	18100
		11/13/2017 AM	0.0011	0.632	0.00001	0.0026	7.4	3.15	<4.02	0.168	na	<0.0005	na
		06/22/2016 DM	0.0076	0.475	0.000067	<0.005	7.1	0.705	1.59	0.168	7770	<0.0002	14200
		08/03/2016 DM	0.0043	0.497	0.000014	<0.005	7	0.274	<0.468	0.155	7690	<0.0002	14700
		09/20/2016 DM	*<0.0002*	*0.593*	*0.0000095*	*<0.005*	7.2	<0.19	<0.721	*0.188*	*8035*	*<0.0002*	*15450*
		10/13/2016 DM	0.0006	0.611	0.00001	<0.005	7.3	<0.279	<0.394	0.168	7730	<0.0002	14400
SC-11	Down-Gradient	11/16/2016 DM	0.0063	0.622	0.00001	<0.005	7.3	<0.238	<0.334	0.163	7710	0.0063	14900
		01/19/2017 DM	0.0025	0.619	0.00001	<0.005	7.3	0.253	<0.331	0.196	7910	0.0012	14300
		02/15/2017 DM	0.0028	0.542	0.000008	<0.005	7.3	0.369	0.38	0.194	7730	0.0038	15000
		03/01/2017 DM	0.0059	0.5	0.000009	<0.005	7.3	<0.281	0.632	0.189	7820	0.00077	15000
		11/14/2017 AM	*0.00073*	*0.519*	*0.0000075*	*0.00185*	7.3	*2.015*	*<4.105*	*0.213*	na	*<0.0005*	na
		06/22/2016 DM	0.00043	0.422	0.0000045	0.0128	7.2	<0.169	<0.337	0.0203	9800	<0.0002	16200
		08/03/2016 DM	0.0016	0.47	0.000006	0.0103	7.1	0.298	<0.46	0.0197	10200	<0.0002	16700
		09/20/2016 DM	<0.0002	0.53	0.000005	0.00983	7.3	<0.159	<0.558	0.0252	10600	<0.0002	17100
		10/13/2016 DM	*<0.0002*	*0.546*	*0.000003*	*0.0101*	7.3	<0.435	<0.439	*0.05055*	*10200*	*<0.0002*	*16500*
SC-12	Down-Gradient	11/16/2016 DM	0.0038	0.572	0.000004	0.00951	7.4	<0.3	<0.327	0.0237	10400	0.006	17200
		01/19/2017 DM	0.0017	0.558	0.000004	0.00866	7.4	<0.368	<0.418	0.0337	10800	0.0014	17200
		02/15/2017 DM	0.0021	0.472	0.000003	0.00909	7.4	0.459	<0.395	0.03	10500	0.0038	17000
		03/01/2017 DM	*0.0064*	*0.898*	*0.000003*	*0.00905*	7.4	<0.271	<0.439	*0.02355*	*10500*	*0.00076*	*17200*
		11/14/2017 AM	<0.0005	0.443	0.000004	0.0067	7.4	1.52	<4.84	0.0252	na	<0.0005	na

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Monitoring Well ID	Well Purpose	Sample Date & Purpose	Lead T (mg/L)	Lithium T (mg/L)	Mercury T (mg/L)	Molybdenum T (mg/l)	pH	Radium 226 (pCi/L)	Radium 228 (pCi/l)	Selenium T (mg/l)	Sulfate T (mg/l)	Thallium T (mg/l)	TDS
SC-13	Down-Gradient	06/22/2016 DM	0.00052	0.394	0.0000036	<0.005	7.1	<0.167	<0.374	0.0311	9790	<0.0002	15800
		08/03/2016 DM	<0.0002	0.384	0.000002	<0.005	7.2	<0.169	<0.378	0.0236	9560	<0.0002	15600
		09/20/2016 DM	<0.0002	0.429	0.000003	<0.005	7.3	<0.137	<0.759	0.0228	9340	<0.0002	15000
		10/13/2016 DM	<0.0002	0.437	0.000002	<0.005	7.3	<0.243	<0.367	0.0558	9080	<0.0002	14700
		11/16/2016 DM	*0.00145*	*0.4445*	*0.000002*	*<0.005*	7.3	<0.265	<0.417	*0.00765*	*9070*	*0.00295*	*14650*
		01/19/2017 DM	0.0015	0.433	0.000003	<0.005	7.3	0.451	<0.42	0.0202	9020	0.0015	14400
		02/15/2017 DM	0.0015	0.379	0.000002	<0.005	7.3	0.388	<0.386	0.0164	8840	0.0038	14400
		03/01/2017 DM	0.0068	0.343	0.000003	<0.005	7.4	<0.258	<0.378	0.0177	8570	0.00077	14400
		11/14/2017 AM	<0.0005	0.345	0.000002	0.0036	7.3	2.21	<4.68	0.0236	na	<0.0005	na
SC-14	Cross-Gradient	06/22/2016 DM	0.0046	0.363	0.000012	0.0079	7.4	0.327	0.459	0.0031	8290	<0.0002	13400
		08/03/2016 DM	0.0007	0.353	0.000003	0.00734	7.2	<0.193	0.541	0.0035	8270	<0.0002	13300
		09/20/2016 DM	<0.0002	0.406	0.000003	0.00819	7.2	0.241	<0.724	0.0062	8370	<0.0002	13300
		10/13/2016 DM	<0.0002	0.415	0.000002	0.00848	7.3	<0.256	<0.651	0.0192	8180	<0.0002	13200
		11/16/2016 DM	0.0016	0.422	0.000002	0.00897	7.2	<0.329	<0.41	<0.001	8330	0.0024	26700
		01/19/2017 DM	0.0016	0.407	0.000002	0.00798	7.3	0.31	<0.374	0.0013	8450	0.0014	13500
		02/15/2017 DM	0.0015	0.365	0.000002	0.00821	7.3	<0.291	<0.504	0.0033	8270	0.0035	13400
		03/01/2017 DM	0.0064	0.338	<0.000002	0.00869	7.3	<0.379	<0.49	<0.001	8360	0.00075	13400
		11/14/2017 AM	<0.0005	0.336	0.000002	0.0072	7.3	2.4	<4.01	0.0046	na	<0.0005	na

< Indicates that the compound was not detected above the stated laboratory reporting limit.
AM Assessment Monitoring.
DM Detection Monitoring.
na Not analyzed.
T Total recoverable concentration.
Italics Average of duplicate samples collected.

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APPENDIX D

Laboratory Analytical Results

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LABORATORY SERVICES
719-448-4800
www.csu.org

Report Date: January 31, 2018

This report contains test results for the following samples:

252406	22-Jun-2016 11:01	Crooked Canyon Well #1
252407	22-Jun-2016 11:01	Crooked Canyon Well #1
252408	22-Jun-2016 09:04	Fort Carson Well #1
252409	22-Jun-2016 09:31	Fort Carson Well #2
252410	23-Jun-2016 09:22	Fort Carson Well #3A
252411	27-Jun-2016 12:38	Fort Carson Well #3B
252412	22-Jun-2016 14:17	Sand Canyon Well #10
252413	22-Jun-2016 13:47	Sand Canyon Well #11
252414	22-Jun-2016 13:14	Sand Canyon Well #12
252415	22-Jun-2016 12:43	Sand Canyon Well #13
252418	22-Jun-2016 11:55	Sand Canyon Well #14
252419	22-Jun-2016 11:07	Equipment Blank
252667	27-Jun-2016 11:11	Fort Carson Well #3A
252668	27-Jun-2016 11:21	Sand Canyon Well #8
252669	27-Jun-2016 11:27	Equipment Blank

Colorado Springs Utilities Laboratory Services Section certifies that the test results meet all approved method And Laboratory's Quality Assurance Plan requirements unless otherwise noted.

Comments: _____

Report Approved By: _____ 1/31/2018
Sandy A. Williams - Environmental Scientist Lead — Date

Sample Site: Crooked Canyon Well #1
Site Identity: CC_1
Sample Number: 252406
Date/Time Sampled: 22-JUN-2016 11:01
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2540_C	Total Dissolved Solids	31000	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.21	mg/L	0.10	T
	EPA_300_0	Chloride	1530	mg/L	0.25	D
		Sulfate	17200	mg/L	0.25	D
*	EPA_1631	Mercury (Total)	0.0047	ug/L	0.0005	
	EPA_200_7	Barium (Total Recoverable)	5.70	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1060	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	472000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	674	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	10.8	ug/L	1.0	D
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	198	ug/L	1.0	D
		Thallium (Total Recoverable)	0.46	ug/L	0.20	D
*	EPA_903_1	Radium 226	0.418	pCi/L	0.166	J
*	EPA_904_0	Radium 228	0.889	pCi/L	0.544	J
	NA	Depth to Water	14.07	ft.		
+	SM_2510_B	Conductivity	13100	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.2	degrees C		
+	SM_4500HB	pH	7.0	SU	2.0	

Sample Site: Crooked Canyon Well #1
Site Identity: CC_1
Sample Number: 252407
Date/Time Sampled: 22-JUN-2016 11:01
Comp/Grab: GRAB
Sample Comments: Duplicate

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2540_C	Total Dissolved Solids	30900	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.22	mg/L	0.10	T
	EPA_300_0	Chloride	1540	mg/L	0.25	D
		Sulfate	17200	mg/L	0.25	D
*	EPA_1631	Mercury (Total)	0.0047	ug/L	0.0005	
	EPA_200_7	Barium (Total Recoverable)	5.66	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1080	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	457000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	668	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	11.0	ug/L	1.0	D
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	199	ug/L	1.0	D
		Thallium (Total Recoverable)	0.45	ug/L	0.20	D
*	EPA_903_1	Radium 226	0.408	pCi/L	0.197	J
*	EPA_904_0	Radium 228	0.919	pCi/L	0.538	J

Sample Site: Fort Carson Well #1
Site Identity: FC_1
Sample Number: 252408
Date/Time Sampled: 22-JUN-2016 09:04
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2540_C	Total Dissolved Solids	22300	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.12	mg/L	0.10	T
	EPA_300_0	Chloride	772	mg/L	0.25	D
		Sulfate	13200	mg/L	0.25	D
*	EPA_1631	Mercury (Total)	0.0013	ug/L	0.0005	
	EPA_200_7	Barium (Total Recoverable)	9.54	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	976	ug/L	20.0	T
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	404000	ug/L	100	T1/D
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	904	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	4.2	ug/L	1.0	D
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	16.0	ug/L	1.0	D
		Thallium (Total Recoverable)	0.20	ug/L	0.20	D
*	EPA_903_1	Radium 226	0.295	pCi/L	0.188	J
*	EPA_904_0	Radium 228	1.18	pCi/L	0.58	
	NA	Depth to Water	15.53	ft.		
+	SM_2510_B	Conductivity	21700	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.4	degrees C		
+	SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Fort Carson Well #2
Site Identity: FC_2
Sample Number: 252409
Date/Time Sampled: 22-JUN-2016 09:31
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2540_C	Total Dissolved Solids	11200	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.51	mg/L	0.10	T
	EPA_300_0	Chloride	132	mg/L	0.25	D
		Sulfate	7080	mg/L	0.25	D
*	EPA_1631	Mercury (Total)	0.0028	ug/L	0.0005	
	EPA_200_7	Barium (Total Recoverable)	5.03	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	901	ug/L	20.0	T
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	405000	ug/L	100	T1/D
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	269	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	2.5	ug/L	1.0	D
		Lead (Total Recoverable)	0.20	ug/L	0.20	D
		Selenium (Total Recoverable)	47.1	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	<0.184	pCi/L	0.184	
*	EPA_904_0	Radium 228	<0.491	pCi/L	0.491	
	NA	Depth to Water	13.49	ft.		
+	SM_2510_B	Conductivity	5810	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	12.9	degrees C		
+	SM_4500HB	pH	7.4	SU	2.0	

Sample Site: Fort Carson Well #3A
Site Identity: FC_3A
Sample Number: 252410
Date/Time Sampled: 23-JUN-2016 09:22
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2540_C	Total Dissolved Solids	9460	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.46	mg/L	0.10	T
	EPA_300_0	Chloride	92.5	mg/L	0.25	D
		Sulfate	5870	mg/L	0.25	D
	EPA_200_7	Barium (Total Recoverable)	34.0	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1310	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	440000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	303	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	0.21	ug/L	0.20	D
		Arsenic (Total Recoverable)	3.1	ug/L	1.0	D
		Lead (Total Recoverable)	5.2	ug/L	0.20	D
		Selenium (Total Recoverable)	39.3	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	0.368	pCi/L	0.227	J
*	EPA_904_0	Radium 228	0.953	pCi/L	0.489	J
	NA	Depth to Water	17.91	ft.		
+	SM_2510_B	Conductivity	9350	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	12.8	degrees C		
+	SM_4500HB	pH	7.7	SU	2.0	

Sample Site: Fort Carson Well #3B
Site Identity: FC_3B
Sample Number: 252411
Date/Time Sampled: 27-JUN-2016 12:38
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2540_C	Total Dissolved Solids	7770	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.55	mg/L	0.10	
	EPA_300_0	Chloride	319	mg/L	0.25	D
		Sulfate	4820	mg/L	0.25	D
*	EPA_1631	Mercury (Total)	0.013	ug/L	0.003	
	EPA_200_7	Barium (Total Recoverable)	33.6	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1090	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	453000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	7.38	ug/L	5.00	
		Lithium (Total Recoverable)	232	ug/L	10.0	
		Molybdenum (Total Recoverable)	20.1	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	0.65	ug/L	0.20	D
		Arsenic (Total Recoverable)	2.6	ug/L	1.0	D
		Lead (Total Recoverable)	3.9	ug/L	0.20	D
		Selenium (Total Recoverable)	5.7	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	0.486	pCi/L	0.244	J
*	EPA_904_0	Radium 228	0.625	pCi/L	0.488	J
	NA	Depth to Water	48.85	ft.		
+	SM_2510_B	Conductivity	2920	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	14.6	degrees C		
+	SM_4500HB	pH	7.5	SU	2.0	

Sample Site: Sand Canyon Well #10
Site Identity: SC_10
Sample Number: 252412
Date/Time Sampled: 22-JUN-2016 14:17
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2540_C	Total Dissolved Solids	17700	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.59	mg/L	0.10	T
	EPA_300_0	Chloride	638	mg/L	0.25	D
		Sulfate	10300	mg/L	0.25	D
*	EPA_1631	Mercury (Total)	0.036	ug/L	0.005	
	EPA_200_7	Barium (Total Recoverable)	18.4	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1200	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	424000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	601	ug/L	10.0	
		Molybdenum (Total Recoverable)	11.3	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	8.3	ug/L	1.0	D
		Lead (Total Recoverable)	4.1	ug/L	0.20	D
		Selenium (Total Recoverable)	212	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	0.412	pCi/L	0.264	J
*	EPA_904_0	Radium 228	0.845	pCi/L	0.429	J
	NA	Depth to Water	11.43	ft.		
+	SM_2510_B	Conductivity	8590	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	14.7	degrees C		
+	SM_4500HB	pH	7.5	SU	2.0	

Sample Site: Sand Canyon Well #11
Site Identity: SC_11
Sample Number: 252413
Date/Time Sampled: 22-JUN-2016 13:47
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2540_C	Total Dissolved Solids	14200	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.56	mg/L	0.10	T
	EPA_300_0	Chloride	1100	mg/L	0.25	D
		Sulfate	7770	mg/L	0.25	D
*	EPA_1631	Mercury (Total)	0.067	ug/L	0.005	
	EPA_200_7	Barium (Total Recoverable)	17.0	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1750	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	492000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	475	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	9.3	ug/L	1.0	D
		Lead (Total Recoverable)	7.6	ug/L	0.20	D
		Selenium (Total Recoverable)	168	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	0.705	pCi/L	0.298	J
*	EPA_904_0	Radium 228	1.59	pCi/L	0.42	
	NA	Depth to Water	8.40	ft.		
+	SM_2510_B	Conductivity	10400	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.6	degrees C		
+	SM_4500HB	pH	7.1	SU	2.0	

Sample Site: Sand Canyon Well #12
Site Identity: SC_12
Sample Number: 252414
Date/Time Sampled: 22-JUN-2016 13:14
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2540_C	Total Dissolved Solids	16200	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.79	mg/L	0.10	T
	EPA_300_0	Chloride	284	mg/L	0.25	D
		Sulfate	9800	mg/L	0.25	D
*	EPA_1631	Mercury (Total)	0.0045	ug/L	0.0005	
	EPA_200_7	Barium (Total Recoverable)	11.2	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	3680	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	397000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	422	ug/L	10.0	
		Molybdenum (Total Recoverable)	12.8	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	
		Arsenic (Total Recoverable)	1.7	ug/L	1.0	D
		Lead (Total Recoverable)	0.43	ug/L	0.20	D
		Selenium (Total Recoverable)	20.3	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	<0.169	pCi/L	0.169	
*	EPA_904_0	Radium 228	<0.337	pCi/L	0.337	
	NA	Depth to Water	9.29	ft.		
+	SM_2510_B	Conductivity	7230	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.1	degrees C		
+	SM_4500HB	pH	7.2	SU	2.0	

Sample Site: Sand Canyon Well #13
Site Identity: SC_13
Sample Number: 252415
Date/Time Sampled: 22-JUN-2016 12:43
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2540_C	Total Dissolved Solids	15800	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.83	mg/L	0.10	T
	EPA_300_0	Chloride	168	mg/L	0.25	D
		Sulfate	9790	mg/L	0.25	D
*	EPA_1631	Mercury (Total)	0.0036	ug/L	0.0005	
	EPA_200_7	Barium (Total Recoverable)	9.79	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1570	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	438000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	394	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	1.9	ug/L	1.0	D
		Lead (Total Recoverable)	0.52	ug/L	0.20	D
		Selenium (Total Recoverable)	31.1	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	<0.167	pCi/L	0.167	
*	EPA_904_0	Radium 228	<0.374	pCi/L	0.374	
	NA	Depth to Water	9.92	ft.		
+	SM_2510_B	Conductivity	6750	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	12.4	degrees C		
+	SM_4500HB	pH	7.1	SU	2.0	

Sample Site: Sand Canyon Well #14
Site Identity: SC_14
Sample Number: 252418
Date/Time Sampled: 22-JUN-2016 11:55
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2540_C	Total Dissolved Solids	13400	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.73	mg/L	0.10	T
	EPA_300_0	Chloride	170	mg/L	0.25	D
		Sulfate	8290	mg/L	0.25	D
*	EPA_1631	Mercury (Total)	0.012	ug/L	0.003	
	EPA_200_7	Barium (Total Recoverable)	24.0	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1520	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	418000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	363	ug/L	10.0	
		Molybdenum (Total Recoverable)	7.90	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	0.21	ug/L	0.20	D
		Arsenic (Total Recoverable)	2.2	ug/L	1.0	D
		Lead (Total Recoverable)	4.6	ug/L	0.20	D
		Selenium (Total Recoverable)	3.1	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	0.327	pCi/L	0.180	J
*	EPA_904_0	Radium 228	0.459	pCi/L	0.429	J
	NA	Depth to Water	9.94	ft.		
+	SM_2510_B	Conductivity	5900	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	11.7	degrees C		
+	SM_4500HB	pH	7.4	SU	2.0	

Sample Site: Equipment Blank
Site Identity: EQUIP_BLK
Sample Number: 252419
Date/Time Sampled: 22-JUN-2016 11:07
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2540_C	Total Dissolved Solids	<10	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	<0.10	mg/L	0.10	T
	EPA_300_0	Chloride	<0.25	mg/L	0.25	
		Sulfate	<0.25	mg/L	0.25	
*	EPA_1631	Mercury (Total)	<0.0005	ug/L	0.0005	J
	EPA_200_7	Barium (Total Recoverable)	<5.00	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	<20.0	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	<100	ug/L	100	
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	<10.0	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	Pending	ug/L	0.20	
		Arsenic (Total Recoverable)	Pending	ug/L	1.0	
		Lead (Total Recoverable)	Pending	ug/L	0.20	
		Selenium (Total Recoverable)	Pending	ug/L	1.0	
		Thallium (Total Recoverable)	Pending	ug/L	0.20	

Sample Site: Fort Carson Well #3A
Site Identity: FC_3A
Sample Number: 252667
Date/Time Sampled: 27-JUN-2016 11:11
Comp/Grab: GRAB
Sample Comments: Hg recollect

	Method	Analyte	Result	Units	RL	Qualifier
*	EPA_1631	Mercury (Total)	0.0054	ug/L	0.0005	

Sample Site: Sand Canyon Well #8
Site Identity: SC_8
Sample Number: 252668
Date/Time Sampled: 27-JUN-2016 11:21
Comp/Grab: GRAB
Sample Comments: Hg recollect

	Method	Analyte	Result	Units	RL	Qualifier
*	EPA_1631	Mercury (Total)	0.0038	ug/L	0.0005	

Sample Site: Equipment Blank
Site Identity: EQUIP_BLK
Sample Number: 252669
Date/Time Sampled: 27-JUN-2016 11:27
Comp/Grab: GRAB
Sample Comments: Hg recollect

Method	Analyte	Result	Units	RL	Qualifier
* EPA_1631	Mercury (Total)	<0.0005	ug/L	0.0005	

Analysis Information:

*: Analysis performed by an external contract laboratory.
+: Analysis performed in the Field.
^: The Reporting Limit for the total analytes is less than two times the method Detection Limit (MDL). The associated concentration value reported is an approximation of the analyte.
#: Total value is a result of a calculation.
~: Sample was not distilled prior to analysis.
**: This analysis is not listed in 40 CFR Part 136.

Data Qualifiers:

D - Sample required dilution. The associated analyte concentration value reported has dilution factor applied. Reporting Limit does not reflect dilution factor.
D1 - To minimize matrix effects, the sample required dilution. The result is below the Reporting Limit, but within the method defined instrument detection.
J - Analysis confirms the presence of the analyte at a concentration which is less than the established Reporting Limit(RL), but greater than the Method Detection Limit(MDL). The associated concentration value reported is approx.
T - The matrix spike recovery for the sample batch is outside the established range. The performance of the method is shown to be in control. The recovery is matrix related, not method related.
T1 - The analyte concentration in the sample is disproportionate to the spike level. The performance of the method was shown to be in control.

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Grab Samples

Coal Combustion Residuals

Sample Date: 6/22/16

Sampler: Hetzel

LOCATION	# Bottles	LIMS #	Sample Time	pH, Field (su) SM 4500 H	Temperature, Field (°C) SM 2550 B	Conductivity, Field (umhos/cm) SM 2510 B	Depth to Water (feet)	Total Dissolved Solids SM 2540 C Field Filtered	Fluoride SM 4500 F C	Chloride & Sulfate EPA 300.0 Field Filtered	EPA 200.7 (Ba, Be, B, Cd, Ca, Cr, Co, Li & Mo - Total Recoverable)	EPA 200.8 (Sb, As, Pb, Tl & Se - Total Recoverable)	Mercury, EPA 1631 (not collecte using clean-hands/dirty-hands)	Radium 226 & Radium 228 (sent to TA Richland) SM 4500 S2 D	Comments
				Please mark boxes that apply.											
CC_1	7	252406	1101	6.95	13.2	13,100	14.07	x	x	x	x	x	x	x	
CC_1 Duplicate	5	252407	1101					x	x	x	x	x	x	X	
FC_1	7	252408	904	7.29	13.4	21,700	15.53	x	x	x	x	x	x	x	
FC_2	7	252409	931	7.42	12.9	5,810	13.49	x	x	x	x	x	x	x	
FC_3A	7	252410						x	x	x	x	x	x	x	
FC_3B	7	252411						x	x	x	x	x	x	x	
SC_10	7	252412	1417	7.47	14.7	8590	11.43	x	x	x	x	x	x	x	
SC_11	7	252413	1347	7.12	13.6	10,430	8.40	x	x	x	x	x	x	x	
SC_12	7	252414	1314	7.15	13.1	7230	9.29	x	x	x	x	x	x	x	
SC_13	7	252415	1243	7.10	12.4	6750	9.92	x	x	x	x	x	x	x	
SC_8	7	252416						x	x	x	x	x	*	x	
SC_9	7	252417	1501	7.35	14.0	8710	15.10	x	x	x	x	x	x	x	
SC_14	7	252418	1155	7.41	11.7	5900	9.94	x	x	x	x	x	x	x	
EQUIP_BLK	5	252419	1107					x	x	x	x	x	x		
Total # of Bottles															

Signature/Print last name — Date/Time

Relinquished by: Hetzel Hetzel 6-22-16 @ 1545

Received by: Brown 6/22/16 @ 1545

Additional Comments / Sample Rejections/ Actions

Sample Template: CCR_LAND
Project ID: CCR_LAND
Test Schedule: CCR_LAND

@ KAW 6/24/16

* Hg bottle broke in transit. Resampled. WAG 6-27-16

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Grab Samples

Coal Combustion Residuals

Sample Date: 6-23-16

Sampler: I. Hetzel

LOCATION	# Bottles	LIMS #	Sample Time	pH, Field (su) SM 4500 H	Temperature, Field (°C) SM 2550 B	Conductivity, Field (umhos/cm) SM 2510 B	Depth to Water (feet)	Total Dissolved Solids SM 2540 C Field Filtered	Fluoride SM 4500 F C	Chloride & Sulfate EPA 300.0 Field Filtered	EPA 200.7 (Ba, Be, B, Cd, Ca, Cr, Co, Li & Mo - Total Recoverable)	EPA 200.8 (Sb, As, Pb, Tl & Se - Total Recoverable)	Mercury, EPA 1631 (not collecte using clean-hands/dirty-hands)	Radium 226 & Radium 228 (sent to TA Richland) SM 4500 S2 D	Comments
				Please mark boxes that apply.											
FC_3A	7	252410	922	7.74	12.8	9350	17.91	X	X	X	X	X	X*	X	
FC_3B	7	252411		~~7.52~~	~~14.6~~	~~2920~~	~~48.85~~	X	X	X	X	X	X	X	well near pond NO Sample
SC_8	7	252416	844	7.08	13.9	13,370	5.35	X	X	X	X	X	X	X	
Total # of Bottles															

Additional Comments / Sample Rejections/ Actions

Sample Template: CCR_LAND
Project ID: CCR_LAND
Test Schedule: CCR_LAND

Signature/Print last name

Relinquished by I. Hetzel — Date/Time 6-23-16 @ 1114

Received by Ryan Winkelblack Winkelblack — 6/23/16 @ 1114

* Hg bottle broke in transit. Resampled. WAhg 6-27-16

Austin: BAB 6/24/16

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Laboratory Services
Grab Samples

Coal Combustion Residuals

Sample Date: 6-27-16

Sampler: T. HETZEL

LOCATION	# Bottles	LIMS #	Sample Time	pH, Field (su) SM 4500 H	Temperature, Field (°C) SM 2550 B	Conductivity, Field (umhos/cm) SM 2510 B	Depth to Water (feet)	Total Dissolved Solids SM 2540 C Field Filtered	Fluoride SM 4500 F C	Chloride & Sulfate EPA 300.0 Field Filtered	EPA 200.7 (Ba, Be, B, Cd, Ca, Cr, Co, Li & Mo - Total Recoverable)	EPA 200.8 (Sb, As, Pb, Tl & Se - Total Recoverable)	Mercury, EPA 1631 (not collecte using clean-hands/dirty-hands)	Radium 226 & Radium 228 (sent to TA Richland) SM 4500 S2 D	Comments
				Please mark boxes that apply.											
FC_3B	7	252411	1238	7.52	14.6	2920	48.85	X	X	X	X	X	X	X	
Total # of Bottles	7														

Additional Comments / Sample Rejections/ Actions

Sample Template: CCR_LAND
Project ID: CCR_LAND
Test Schedule: CCR_LAND

	Signature/Print last name		Date/Time
Relinquished by		HETZEL	6-27-16 @ 1315
Received by		Winkelbloch	6/27/16 @ 1315

Anth BB 4/28/16

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Grab Samples

Coal Combustion Residuals

Sample Date: 6-27-16

Sampler: Hetzel

LOCATION	# Bottles	LIMS #	Sample Time	pH, Field (su) SM 4500 H	Temperature, Field (°C) SM 2550 B	Conductivity, Field (umhos/cm) SM 2510 B	Depth to Water (feet)	Mercury, EPA 1631 (not collecte using clean-hands/dirty-hands)	Comments
				Please mark boxes that apply.					
FC_3A	1	252667	1111					X	
SC_8	1	252668	1121					X	
EQUIP_BLK	1	252669	1127					X	
Total # of Bottles	3								

Additional Comments / Sample Rejections/ Actions

Sample Template: CCR_LAND
Project ID: CCR_LAND
Test Schedule: CCR_LAND

Signature/Print last name

Relinquished by Hetzel 6-27-16 @1315

Received by Winkelblech 6/27/16 @1315

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Laboratory Services Section
QC Report

Coal Combustion Rule Landfill
June 2016

Quality Assurance Officer Approval: _____ Date: 9-8-16

QC Narrative

This report is for sample numbers 252406-252419.

Total Dissolved Solids by Standard Methods 2540 C

There are no anomalies to report for this analysis.

Fluoride by Standard Methods 4500 F C

The matrix spike recovery for the sample batch is outside the established range. The performance of the method is shown to be in control. The recovery is matrix related, not method related. Associated samples 252406-252410 and 252412-252419 are qualified.

Anions by EPA Method 300.0

There are no anomalies to report for this analysis.

EPA 200.7

The matrix spike recovery for the sample batch is outside the established range for Total Recoverable Boron. The performance of the method is shown to be in control. The recovery is matrix related, not method related. Associated samples 252408 and 252409 are qualified.

The analyte concentration in the sample is disproportionate to the spike level for Total Recoverable Calcium. The performance of the method was shown to be in control. Associated samples 252406-252418 are qualified.

EPA 200.8

There are no anomalies to report for this analysis.

Method: Total Dissolved Solids by Standard Methods 2540 C
Batch Analysis date: 06/24/16
Sampled date: 06/22/16 for LIMS 252406-252409 and 252412-252415 and 252416-252419
Sampled date: 06/23/16 for LIMS 252410 and 252416

Matrix QC performed on LIMS # 252406 & 252410

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Total Dissolved Solids	102	84 - 110		
Duplicate	Total Dissolved Solids (252406)			<1	<10
Duplicate	Total Dissolved Solids (252410)			1	<10

Method: Total Dissolved Solids by Standard Methods 2540 C
Batch Analysis date: 06/29/16
Sampled date: 06/27/16 for LIMS 252411

Matrix QC performed on LIMS # 252411

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Total Dissolved Solids	100	84 - 110		
Duplicate	Total Dissolved Solids			1	<10

Method: Fluoride by Standard Methods 4500 F C
Batch Analysis date: 06/24/16
Sampled date: 06/22/16 for LIMS 252406-252409 and 252412-252415 and 252416-252419
Sampled date: 06/23/16 for LIMS 252410 and 252416

Matrix QC performed on LIMS # 252406 & 252415

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Fluoride (Total)	99	90 - 110		
QCS	Fluoride (Total)	100	90 - 110		
MS	Fluoride (Total) (252406)	***44**	80 - 120		
MSD	Fluoride (Total) (252406)			<1	<20
MS	Fluoride (Total) (252415)	***62**	80 - 120		
MSD	Fluoride (Total) (252415)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Fluoride (Total)	<0.10 mg/L	0.10 mg/L

***See Narrative**

Method: Fluoride by Standard Methods 4500 F C
Batch Analysis date: 07/4/16
Sampled date: 06/27/16 for LIMS 252411

Matrix QC performed on LIMS # 252411

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Fluoride (Total)	99	90 - 110		
QCS	Fluoride (Total)	100	90 - 110		
MS	Fluoride (Total)	82	80 - 120		
MSD	Fluoride (Total)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Fluoride (Total)	<0.10 mg/L	0.10 mg/L

Method: Anions by EPA Method 300.0
Batch Analysis date: 06/24/16 and 06/25/16
Sampled date: 06/22/16 for 252414-252416, 252418 and 252419

Matrix QC performed on LIMS # 252416

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Chloride	97	90-110		
LFB	Chloride	100	90-110	<1	<20
FD	Chloride			<1	<20
MS	Chloride	99	80-120		
MRL	Sulfate	103	90-110		
LFB	Sulfate	100	90-110	<1	<20
FD	Sulfate			<1	<20
MS	Sulfate	98	80-120		

QC Type	Analyte	Concentration	Limit
LRB	Chloride	<0.25 mg/L	0.25 mg/L
LRB	Sulfate	<0.25 mg/L	0.25 mg/L

Method: Anions by EPA Method 300.0
Batch Analysis date: 06/27/16 and 06/28/16
Sampled date: 06/22/16 for 252406-252410
Sampled date: 06/22/16 for 252406-252410, 252412, 252413 and 252417

Matrix QC performed on LIMS # 252406

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Chloride	95	90-110		
LFB	Chloride	101	90-110	<1	<20
FD	Chloride			<1	<20
MS	Chloride	98	80-120		
MRL	Sulfate	96	90-110		
LFB	Sulfate	102	90-110	<1	<20
FD	Sulfate			<1	<20
MS	Sulfate	101	80-120		

QC Type	Analyte	Concentration	Limit
LRB	Chloride	<0.25 mg/L	0.25 mg/L
LRB	Sulfate	<0.25 mg/L	0.25 mg/L

Method: Anions by EPA Method 300.0
Batch Analysis date: 07/05/16 and 07/06/16
Sampled date: 06/27/16 for 252411

Matrix QC performed on LIMS # 252571 and 252819 for chloride and 252819 for sulfate

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Chloride	96	90-110		
LFB	Chloride	100	90-110	<1	<20
FD	Chloride (252571)			1	<20
MS	Chloride (252571)	100	80-120		
FD	Chloride (252819)			10	<20
MS	Chloride (252819)	100	80-120		
MRL	Sulfate	96	90-110		
LFB	Sulfate	100	90-110	<1	<20
FD	Sulfate			1	<20
MS	Sulfate	91	80-120		

QC Type	Analyte	Concentration	Limit
LRB	Chloride	<0.25 mg/L	0.25 mg/L
LRB	Sulfate	<0.25 mg/L	0.25 mg/L

Method: EPA 200.7
Batch Analysis date: 07/05/16
Sampled date: 06/22/16 for samples 252408, 252409 & 252419

Matrix QC performed on LIMS # 252409

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Barium (Total Recoverable)	95	60-140		
LFB	Barium (Total Recoverable)	104	85-115		
MS	Barium (Total Recoverable)	110	70-130		
MSD	Barium (Total Recoverable)			5	<20
MRL	Beryllium (Total Recoverable)	104	60-140		
LFB	Beryllium (Total Recoverable)	104	85-115		
MS	Beryllium (Total Recoverable)	110	70-130		
MSD	Beryllium (Total Recoverable)			5	<20
MRL	Boron (Total Recoverable)	114	60-140		
LFB	Boron (Total Recoverable)	102	85-115		
MS	Boron (Total Recoverable)	***161**	70-130		
MSD	Boron (Total Recoverable)			9	<20
MRL	Cadmium (Total Recoverable)	96	60-140		
LFB	Cadmium (Total Recoverable)	100	85-115		
MS	Cadmium (Total Recoverable)	99	70-130		
MSD	Cadmium (Total Recoverable)			3	<20
MRL	Calcium (Total Recoverable)	102	60-140		
LFB	Calcium (Total Recoverable)	100	85-115		
MS	Calcium (Total Recoverable)	***385**	70-130		
MSD	Calcium (Total Recoverable)			5	<20
MRL	Chromium (Total Recoverable)	110	60-140		
LFB	Chromium (Total Recoverable)	100	85-115		
MS	Chromium (Total Recoverable)	105	70-130		
MSD	Chromium (Total Recoverable)			1	<20
MRL	Cobalt (Total Recoverable)	107	60-140		
LFB	Cobalt (Total Recoverable)	99	85-115		
MS	Cobalt (Total Recoverable)	97	70-130		
MSD	Cobalt (Total Recoverable)			<1	<20
MRL	Lithium (Total Recoverable)	91	60-140		
LFB	Lithium (Total Recoverable)	102	85-115		
MS	Lithium (Total Recoverable)	123	70-130		
MSD	Lithium (Total Recoverable)			4	<20
MRL	Molybdenum (Total Recoverable)	89	60-140		
LFB	Molybdenum (Total Recoverable)	98	85-115		
MS	Molybdenum (Total Recoverable)	94	70-130		
MSD	Molybdenum (Total Recoverable)			4	<20

QC Type	Analyte	Concentration	Limit
LRB	Barium (Total Recoverable)	<0.653 ug/L	0.653 ug/L
LRB	Beryllium (Total Recoverable)	<0.414 ug/L	0.414 ug/L
LRB	Boron (Total Recoverable)	<8.84 ug/L	8.84 ug/L

LRB	Cadmium (Total Recoverable)	<0.774 ug/L	0.774 ug/L
LRB	Calcium (Total Recoverable)	<20.3 ug/L	20.3 ug/L
LRB	Chromium (Total Recoverable)	<2.35 ug/L	2.35 ug/L
LRB	Cobalt (Total Recoverable)	<0.719 ug/L	0.719 ug/L
LRB	Lithium (Total Recoverable)	<5.83 ug/L	5.83 ug/L
LRB	Molybdenum (Total Recoverable)	<1.03 ug/L	1.03 ug/L

***See Narrative**

Method: EPA 200.7
Digestion date: 07/06/16
Batch Analysis date: 07/11/16
Sampled date: 06/22/16 for samples 252406, 252407, 252412-252415, 252417 and 252418
Sampled date: 06/23/16 for samples 252410 and 252416
Sampled date: 06/23/16 for sample 252411

Matrix QC performed on LIMS # 252406 & 252417

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Barium (Total Recoverable)	102	60-140		
LFB	Barium (Total Recoverable)	102	85-115		
MS	Barium (Total Recoverable) (252406)	107	70-130		
MSD	Barium (Total Recoverable) (252406)			4	<20
MS	Barium (Total Recoverable) ((252417))	103	70-130		
MSD	Barium (Total Recoverable) (252417)			2	<20
MRL	Beryllium (Total Recoverable)	97	60-140		
LFB	Beryllium (Total Recoverable)	102	85-115		
MS	Beryllium (Total Recoverable) (252406)	99	70-130		
MSD	Beryllium (Total Recoverable) (252406)			6	<20
MS	Beryllium (Total Recoverable) (252417)	96	70-130		
MSD	Beryllium (Total Recoverable) (252417)			1	<20
MRL	Boron (Total Recoverable)	97	60-140		
LFB	Boron (Total Recoverable)	101	85-115		
MS	Boron (Total Recoverable) (252406)	96	70-130		
MSD	Boron (Total Recoverable) (252406)			5	<20
MS	Boron (Total Recoverable) (252417)	88	70-130		
MSD	Boron (Total Recoverable) (252417)			<1	<20

MRL	Cadmium (Total Recoverable)	99	60-140		
LFB	Cadmium (Total Recoverable)	98	85-115		
MS	Cadmium (Total Recoverable) (252406)	126	70-130		
MSD	Cadmium (Total Recoverable) (252406)			4	<20
MS	Cadmium (Total Recoverable) (252417)	115	70-130		
MSD	Cadmium (Total Recoverable) (252417)			1	<20
MRL	Calcium (Total Recoverable)	114	60-140		
LFB	Calcium (Total Recoverable)	100	85-115		
MS	Calcium (Total Recoverable) (252406)	***-500**	70-130		
MSD	Calcium (Total Recoverable) (252406)			4	<20
MS	Calcium (Total Recoverable) (252417)	***-83**	70-130		
MSD	Calcium (Total Recoverable) (252417)			3	<20
MRL	Chromium (Total Recoverable)	104	60-140		
LFB	Chromium (Total Recoverable)	101	85-115		
MS	Chromium (Total Recoverable) (252406)	93	70-130		
MSD	Chromium (Total Recoverable) (252406)			3	<20
MS	Chromium (Total Recoverable) (252417)	93	70-130		
MSD	Chromium (Total Recoverable) (252417)			<1	<20
MRL	Cobalt (Total Recoverable)	98	60-140		
LFB	Cobalt (Total Recoverable)	100	85-115		
MS	Cobalt (Total Recoverable) (252406)	80	70-130		
MSD	Cobalt (Total Recoverable) (252406)			3	<20
MS	Cobalt (Total Recoverable) (252417)	82	70-130		
MSD	Cobalt (Total Recoverable) (252417)			1	<20
MRL	Lithium (Total Recoverable)	84	60-140		
LFB	Lithium (Total Recoverable)	102	85-115		
MS	Lithium (Total Recoverable) (252406)	122	70-130		
MSD	Lithium (Total Recoverable) (252406)			4	<20
MS	Lithium (Total Recoverable) (252417)	116	70-130		
MSD	Lithium (Total Recoverable)			1	<20

	(252417)				
MRL	Molybdenum (Total Recoverable)	90	60-140		
LFB	Molybdenum (Total Recoverable)	100	85-115		
MS	Molybdenum (Total Recoverable) (252406)	90	70-130		
MSD	Molybdenum (Total Recoverable) (252406)			2	<20
MS	Molybdenum (Total Recoverable) (252417)	91	70-130		
MSD	Molybdenum (Total Recoverable) (252417)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Barium (Total Recoverable)	<0.653 ug/L	0.653 ug/L
LRB	Beryllium (Total Recoverable)	<0.414 ug/L	0.414 ug/L
LRB	Boron (Total Recoverable)	<8.84 ug/L	8.84 ug/L
LRB	Cadmium (Total Recoverable)	<0.774 ug/L	0.774 ug/L
LRB	Calcium (Total Recoverable)	<20.3 ug/L	20.3 ug/L
LRB	Chromium (Total Recoverable)	<2.35 ug/L	2.35 ug/L
LRB	Cobalt (Total Recoverable)	<0.719 ug/L	0.719 ug/L
LRB	Lithium (Total Recoverable)	<5.83 ug/L	5.83 ug/L
LRB	Molybdenum (Total Recoverable)	<1.03 ug/L	1.03 ug/L

***See Narrative**

Method: EPA 200.8
Batch Analysis date: 07/11/16
Digestion date: 07/09/16
Sampled date: 06/22/16 for 252406

Matrix QC performed on LIMS # 252406

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Antimony (Total Recoverable)	109	60-140		
LFB	Antimony (Total Recoverable)	98	85-115		
MS	Antimony (Total Recoverable)	95	70-130		
MSD	Antimony (Total Recoverable)			2	<20
MRL	Arsenic (Total Recoverable)	99	60-140		
LFB	Arsenic (Total Recoverable)	102	85-115		
MS	Arsenic (Total Recoverable)	87	70-130		
MSD	Arsenic (Total Recoverable)			3	<20
MRL	Lead (Total Recoverable)	103	60-140		
LFB	Lead (Total Recoverable)	98	85-115		
MS	Lead (Total Recoverable)	107	70-130		
MSD	Lead (Total Recoverable)			1	<20
MRL	Selenium (Total Recoverable)	92	60-140		
LFB	Selenium (Total Recoverable)	112	85-115		
MS	Selenium (Total Recoverable)	92	70-130		
MSD	Selenium (Total Recoverable)			2	<20

MRL	Thallium (Total Recoverable)	99	60-140		
LFB	Thallium (Total Recoverable)	97	85-115		
MS	Thallium (Total Recoverable)	109	70-130		
MSD	Thallium (Total Recoverable)			1	<20

QC Type	Analyte	Concentration	Limit
LRB	Antimony (Total Recoverable)	<0.045 ug/L	0.045 ug/L
LRB	Arsenic (Total Recoverable)	<0.15 ug/L	0.15 ug/L
LRB	Lead (Total Recoverable)	<0.054 ug/L	0.054 ug/L
LRB	Selenium (Total Recoverable)	<0.22 ug/L	0.22 ug/L
LRB	Thallium (Total Recoverable)	<0.056 ug/L	0.056 ug/L

Method: EPA 200.8
Batch Analysis date: 07/11/16 for Sb, Pb and Tl
Batch Analysis date: 07/12/16 for As and Se
Digestion date: 07/09/16
Sampled date: 06/22/16 for 252407-252409

Matrix QC performed on LIMS # 252409

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Antimony (Total Recoverable)	106	60-140		
LFB	Antimony (Total Recoverable)	97	85-115		
MS	Antimony (Total Recoverable)	94	70-130		
MSD	Antimony (Total Recoverable)			<1	<20
MRL	Arsenic (Total Recoverable)	95	60-140		
LFB	Arsenic (Total Recoverable)	101	85-115		
MS	Arsenic (Total Recoverable)	86	70-130		
MSD	Arsenic (Total Recoverable)			2	<20
MRL	Lead (Total Recoverable)	100	60-140		
LFB	Lead (Total Recoverable)	97	85-115		
MS	Lead (Total Recoverable)	108	70-130		
MSD	Lead (Total Recoverable)			<1	<20
MRL	Selenium (Total Recoverable)	104	60-140		
LFB	Selenium (Total Recoverable)	110	85-115		
MS	Selenium (Total Recoverable)	93	70-130		
MSD	Selenium (Total Recoverable)			1	<20
MRL	Thallium (Total Recoverable)	97	60-140		
LFB	Thallium (Total Recoverable)	97	85-115		
MS	Thallium (Total Recoverable)	110	70-130		
MSD	Thallium (Total Recoverable)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Antimony (Total Recoverable)	<0.045 ug/L	0.045 ug/L
LRB	Arsenic (Total Recoverable)	<0.15 ug/L	0.15 ug/L
LRB	Lead (Total Recoverable)	<0.054 ug/L	0.054 ug/L
LRB	Selenium (Total Recoverable)	<0.22 ug/L	0.22 ug/L
LRB	Thallium (Total Recoverable)	<0.056 ug/L	0.056 ug/L

Method: EPA 200.8
Batch Analysis date: 07/12/16
Digestion date: 07/09/16
Sampled date: 06/22/16 for 252412-252415 and 252417-252419
Sampled date: 06/23/16 for 252410 and 252416
Sampled date: 06/27/16 for 252411

Matrix QC performed on LIMS # 252417

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Antimony (Total Recoverable)	101	60-140		
LFB	Antimony (Total Recoverable)	99	85-115		
MS	Antimony (Total Recoverable)	96	70-130		
MSD	Antimony (Total Recoverable)			<1	<20
MRL	Arsenic (Total Recoverable)	101	60-140		
LFB	Arsenic (Total Recoverable)	99	85-115		
MS	Arsenic (Total Recoverable)	83	70-130		
MSD	Arsenic (Total Recoverable)			1	<20
MRL	Lead (Total Recoverable)	103	60-140		
LFB	Lead (Total Recoverable)	98	85-115		
MS	Lead (Total Recoverable)	107	70-130		
MSD	Lead (Total Recoverable)			<1	<20
MRL	Selenium (Total Recoverable)	102	60-140		
LFB	Selenium (Total Recoverable)	103	85-115		
MS	Selenium (Total Recoverable)	122	70-130		
MSD	Selenium (Total Recoverable)			<1	<20
MRL	Thallium (Total Recoverable)	99	60-140		
LFB	Thallium (Total Recoverable)	99	85-115		
MS	Thallium (Total Recoverable)	108	70-130		
MSD	Thallium (Total Recoverable)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Antimony (Total Recoverable)	<0.045 ug/L	0.045 ug/L
LRB	Arsenic (Total Recoverable)	<0.15 ug/L	0.15 ug/L
LRB	Lead (Total Recoverable)	<0.054 ug/L	0.054 ug/L
LRB	Selenium (Total Recoverable)	<0.22 ug/L	0.22 ug/L
LRB	Thallium (Total Recoverable)	<0.056 ug/L	0.056 ug/L

FD – Field Duplicate
LFB – Laboratory Fortified Blank
LRB – Laboratory Reagent Blank (Method Blank)
QCS – Quality Control Sample
MRL – Minimum Reporting Limit (Verification)
MS – Matrix Spike
MSD – Matrix Spike Duplicate
Underline – Data was outside the limit

Colorado Springs Utilities

It's how we're all connected

LABORATORY SERVICES
719-448-4800
www.csu.org

Report Date: January 31, 2018

This report contains test results for the following samples:

254080	02-Aug-2016 12:33	Crooked Canyon Well #1
254081	02-Aug-2016 08:54	Fort Carson Well #1
254082	02-Aug-2016 08:54	Fort Carson Well #1
254083	02-Aug-2016 09:28	Fort Carson Well #2
254084	02-Aug-2016 11:27	Fort Carson Well #3A
254085	02-Aug-2016 10:35	Fort Carson Well #3B
254086	02-Aug-2016 10:50	Equipment Blank
254087	03-Aug-2016 12:42	Sand Canyon Well #10
254088	03-Aug-2016 12:42	Sand Canyon Well #10
254089	03-Aug-2016 11:51	Sand Canyon Well #11
254090	03-Aug-2016 11:08	Sand Canyon Well #12
254091	03-Aug-2016 10:17	Sand Canyon Well #13
254094	03-Aug-2016 09:32	Sand Canyon Well #14
254095	03-Aug-2016 09:41	Equipment Blank
257951	02-Aug-2016 12:33	Crooked Canyon Well #1

Colorado Springs Utilities Laboratory Services Section certifies that the test results meet all approved method And Laboratory's Quality Assurance Plan requirements unless otherwise noted.

Comments: _____

_____

_____

Report Approved By: _____ 1/31/2018
Sandy A. Williams - Environmental Scientist Lead — Date

Sample Site: Crooked Canyon Well #1
Site Identity: CC_1
Sample Number: 254080
Date/Time Sampled: 02-AUG-2016 12:33
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	2.1	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	31100	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.21	mg/L	0.10	T
	EPA_300_0	Chloride	1540	mg/L	0.25	D
		Sulfate	17200	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.006	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	5.12	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1030	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	438000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	731	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	10.5	ug/L	1.0	D
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	186	ug/L	1.0	D
		Thallium (Total Recoverable)	0.45	ug/L	0.20	D
*	ASTM_5174	Uranium (Total)	61.8	ug/L	1.0	
*	EPA_903_1	Radium 226	<0.266	pCi/L	0.266	
*	EPA_904_0	Radium 228	<0.558	pCi/L	0.558	
	NA	Depth to Water	13.95	ft.		
+	SM_2510_B	Conductivity	13700	umhos/cm	1	

Method	Analyte	Result	Units	RL	Qualifier
+ SM_2550_B	Temperature Centigrade (Field)	13.2	degrees C		
+ SM_4500HB	pH	6.8	SU	2.0	

Sample Site: Fort Carson Well #1
Site Identity: FC_1
Sample Number: 254081
Date/Time Sampled: 02-AUG-2016 08:54
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	0.15	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	22300	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.12	mg/L	0.10	T
	EPA_300_0	Chloride	761	mg/L	0.25	D
		Sulfate	13000	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	8.78	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	930	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	404000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	984	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	2.7	ug/L	1.0	D
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	10.4	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	ASTM_5174	Uranium (Total)	116	ug/L	1.0	
*	EPA_903_1	Radium 226	0.310	pCi/L	0.204	J
*	EPA_904_0	Radium 228	1.07	pCi/L	0.49	
	NA	Depth to Water	15.57	ft.		
+	SM_2510_B	Conductivity	21000	umhos/cm	1	

Method	Analyte	Result	Units	RL	Qualifier
+ SM_2550_B	Temperature Centigrade (Field)	13.5	degrees C		
+ SM_4500HB	pH	7.0	SU	2.0	

Sample Site: Fort Carson Well #1
Site Identity: FC_1
Sample Number: 254082
Date/Time Sampled: 02-AUG-2016 08:54
Comp/Grab: GRAB
Sample Comments: Field duplicate

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	0.15	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	21700	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.12	mg/L	0.10	T
	EPA_300_0	Chloride	762	mg/L	0.25	D
		Sulfate	13000	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	8.67	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	927	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	416000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	984	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	2.3	ug/L	1.0	D
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	9.2	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
	NA	Depth to Water	15.57	ft.		
+	SM_2510_B	Conductivity	21000	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.5	degrees C		
+	SM_4500HB	pH	7.0	SU	2.0	

Sample Site: Fort Carson Well #2
Site Identity: FC_2
Sample Number: 254083
Date/Time Sampled: 02-AUG-2016 09:28
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	0.34	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	10900	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.50	mg/L	0.10	T
	EPA_300_0	Chloride	128	mg/L	0.25	D
		Sulfate	7000	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.004	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	<5.00	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	902	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	440000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	305	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	1.6	ug/L	1.0	D
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	41.2	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	ASTM_5174	Uranium (Total)	38.3	ug/L	1.0	
*	EPA_903_1	Radium 226	<0.199	pCi/L	0.199	
*	EPA_904_0	Radium 228	<0.391	pCi/L	0.391	
	NA	Depth to Water	13.67	ft.		
+	SM_2510_B	Conductivity	10500	umhos/cm	1	

Method	Analyte	Result	Units	RL	Qualifier
+ SM_2550_B	Temperature Centigrade (Field)	12.9	degrees C		
+ SM_4500HB	pH	7.2	SU	2.0	

Sample Site: Fort Carson Well #3A
Site Identity: FC_3A
Sample Number: 254084
Date/Time Sampled: 02-AUG-2016 11:27
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	70	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	9140	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.46	mg/L	0.10	T
	EPA_300_0	Chloride	91.0	mg/L	0.25	D
		Sulfate	5650	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.007	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	20.2	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1080	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	417000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	311	ug/L	10.0	
		Molybdenum (Total Recoverable)	8.38	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	2.1	ug/L	1.0	D
		Lead (Total Recoverable)	1.5	ug/L	0.20	D
		Selenium (Total Recoverable)	38.2	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	ASTM_5174	Uranium (Total)	43.9	ug/L	1.0	
*	EPA_903_1	Radium 226	<0.260	pCi/L	0.260	
*	EPA_904_0	Radium 228	<0.367	pCi/L	0.367	
	NA	Depth to Water	17.85	ft.		
+	SM_2510_B	Conductivity	8960	umhos/cm	1	

Method	Analyte	Result	Units	RL	Qualifier
+ SM_2550_B	Temperature Centigrade (Field)	12.8	degrees C		
+ SM_4500HB	pH	7.5	SU	2.0	

Sample Site: Fort Carson Well #3B
Site Identity: FC_3B
Sample Number: 254085
Date/Time Sampled: 02-AUG-2016 10:35
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	150	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	9200	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.48	mg/L	0.10	T
	EPA_300_0	Chloride	504	mg/L	0.25	D
		Sulfate	5240	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.006	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	25.3	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1280	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	412000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	5.00	ug/L	5.00	
		Lithium (Total Recoverable)	274	ug/L	10.0	
		Molybdenum (Total Recoverable)	19.8	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	0.61	ug/L	0.20	D
		Arsenic (Total Recoverable)	3.1	ug/L	1.0	D
		Lead (Total Recoverable)	2.1	ug/L	0.20	D
		Selenium (Total Recoverable)	6.9	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	ASTM_5174	Uranium (Total)	24.5	ug/L	1.0	
*	EPA_903_1	Radium 226	<0.235	pCi/L	0.235	
*	EPA_904_0	Radium 228	1.66	pCi/L	1.16	
	NA	Depth to Water	47.62	ft.		
+	SM_2510_B	Conductivity	2790	umhos/cm	1	

Method	Analyte	Result	Units	RL	Qualifier
+ SM_2550_B	Temperature Centigrade (Field)	15.6	degrees C		
+ SM_4500HB	pH	7.2	SU	2.0	

Sample Site: Equipment Blank
Site Identity: EQUIP_BLK
Sample Number: 254086
Date/Time Sampled: 02-AUG-2016 10:50
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	<0.05	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	<10	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	<0.10	mg/L	0.10	T
	EPA_300_0	Chloride	<0.25	mg/L	0.25	
		Sulfate	<0.25	mg/L	0.25	
	EPA_1631	Mercury (Total)	<0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	<5.00	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	<20.0	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	<100	ug/L	100	T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	<10.0	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	
		Lead (Total Recoverable)	<0.20	ug/L	0.20	
		Selenium (Total Recoverable)	<1.0	ug/L	1.0	
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	

Sample Site: Sand Canyon Well #10
Site Identity: SC_10
Sample Number: 254087
Date/Time Sampled: 03-AUG-2016 12:42
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	45	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	17800	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.58	mg/L	0.10	T
	EPA_300_0	Chloride	633	mg/L	0.25	D
		Sulfate	10100	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.010	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	15.0	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1250	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	441000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	671	ug/L	10.0	
		Molybdenum (Total Recoverable)	8.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	6.5	ug/L	1.0	D
		Lead (Total Recoverable)	1.8	ug/L	0.20	D
		Selenium (Total Recoverable)	215	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	ASTM_5174	Uranium (Total)	78.7	ug/L	1.0	
*	EPA_903_1	Radium 226	0.227	pCi/L	0.177	J
*	EPA_904_0	Radium 228	0.419	pCi/L	0.363	J
	NA	Depth to Water	11.40	ft.		
+	SM_2510_B	Conductivity	7520	umhos/cm	1	

Method	Analyte	Result	Units	RL	Qualifier
+ SM_2550_B	Temperature Centigrade (Field)	14.6	degrees C		
+ SM_4500HB	pH	7.1	SU	2.0	

Sample Site: Sand Canyon Well #10
Site Identity: SC_10
Sample Number: 254088
Date/Time Sampled: 03-AUG-2016 12:42
Comp/Grab: GRAB
Sample Comments: field duplicate

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	55	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	18000	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.59	mg/L	0.10	T
	EPA_300_0	Chloride	634	mg/L	0.25	D
		Sulfate	10200	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.011	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	12.6	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1210	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	439000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	651	ug/L	10.0	
		Molybdenum (Total Recoverable)	8.11	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	6.0	ug/L	1.0	D
		Lead (Total Recoverable)	1.6	ug/L	0.20	D
		Selenium (Total Recoverable)	217	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
	NA	Depth to Water	11.40	ft.		
+	SM_2510_B	Conductivity	7520	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	14.6	degrees C		
+	SM_4500HB	pH	7.1	SU	2.0	

Sample Site: Sand Canyon Well #11
Site Identity: SC_11
Sample Number: 254089
Date/Time Sampled: 03-AUG-2016 11:51
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	100	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	14700	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.54	mg/L	0.10	T
	EPA_300_0	Chloride	1100	mg/L	0.25	D
		Sulfate	7690	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.014	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	16.5	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1700	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	465000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	497	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	9.5	ug/L	1.0	D
		Lead (Total Recoverable)	4.3	ug/L	0.20	D
		Selenium (Total Recoverable)	155	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	ASTM_5174	Uranium (Total)	39.5	ug/L	1.0	
*	EPA_903_1	Radium 226	0.274	pCi/L	0.212	J
*	EPA_904_0	Radium 228	<0.468	pCi/L	0.468	
	NA	Depth to Water	8.15	ft.		
+	SM_2510_B	Conductivity	14800	umhos/cm	1	

Method	Analyte	Result	Units	RL	Qualifier
+ SM_2550_B	Temperature Centigrade (Field)	13.3	degrees C		
+ SM_4500HB	pH	7.0	SU	2.0	

Sample Site: Sand Canyon Well #12
Site Identity: SC_12
Sample Number: 254090
Date/Time Sampled: 03-AUG-2016 11:08
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	60	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	16700	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.82	mg/L	0.10	T
	EPA_300_0	Chloride	296	mg/L	0.25	D
		Sulfate	10200	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.006	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	13.3	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	3650	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	390000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	470	ug/L	10.0	
		Molybdenum (Total Recoverable)	10.3	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	1.4	ug/L	1.0	D
		Lead (Total Recoverable)	1.6	ug/L	0.20	D
		Selenium (Total Recoverable)	19.7	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	ASTM_5174	Uranium (Total)	56.5	ug/L	1.0	
*	EPA_903_1	Radium 226	0.298	pCi/L	0.259	J
*	EPA_904_0	Radium 228	<0.460	pCi/L	0.460	
	NA	Depth to Water	9.56	ft.		
+	SM_2510_B	Conductivity	13400	umhos/cm	1	

Method	Analyte	Result	Units	RL	Qualifier
+ SM_2550_B	Temperature Centigrade (Field)	13.2	degrees C		
+ SM_4500HB	pH	7.1	SU	2.0	

Sample Site: Sand Canyon Well #13
Site Identity: SC_13
Sample Number: 254091
Date/Time Sampled: 03-AUG-2016 10:17
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	2.8	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	15600	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.82	mg/L	0.10	T
	EPA_300_0	Chloride	160	mg/L	0.25	D
		Sulfate	9560	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	7.03	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1520	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	396000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	384	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	D1
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	23.6	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	ASTM_5174	Uranium (Total)	71.0	ug/L	1.0	
*	EPA_903_1	Radium 226	<0.169	pCi/L	0.169	
*	EPA_904_0	Radium 228	<0.378	pCi/L	0.378	
	NA	Depth to Water	10.30	ft.		
+	SM_2510_B	Conductivity	13500	umhos/cm	1	

Method	Analyte	Result	Units	RL	Qualifier
+ SM_2550_B	Temperature Centigrade (Field)	12.7	degrees C		
+ SM_4500HB	pH	7.2	SU	2.0	

Sample Site: Sand Canyon Well #14
Site Identity: SC_14
Sample Number: 254094
Date/Time Sampled: 03-AUG-2016 09:32
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	24	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	13300	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.72	mg/L	0.10	T
	EPA_300_0	Chloride	171	mg/L	0.25	D
		Sulfate	8270	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.003	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	13.1	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1460	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	325000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	353	ug/L	10.0	
		Molybdenum (Total Recoverable)	7.34	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	D1
		Lead (Total Recoverable)	0.70	ug/L	0.20	D
		Selenium (Total Recoverable)	3.5	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	ASTM_5174	Uranium (Total)	52.3	ug/L	1.0	
*	EPA_903_1	Radium 226	<0.193	pCi/L	0.193	
*	EPA_904_0	Radium 228	0.541	pCi/L	0.404	J
	NA	Depth to Water	10.21	ft.		
+	SM_2510_B	Conductivity	12300	umhos/cm	1	

Method	Analyte	Result	Units	RL	Qualifier
+ SM_2550_B	Temperature Centigrade (Field)	11.4	degrees C		
+ SM_4500HB	pH	7.2	SU	2.0	

Sample Site: Equipment Blank
Site Identity: EQUIP_BLK
Sample Number: 254095
Date/Time Sampled: 03-AUG-2016 09:41
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	<0.05	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	<10	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	<0.10	mg/L	0.10	T
	EPA_300_0	Chloride	<0.25	mg/L	0.25	
		Sulfate	<0.25	mg/L	0.25	
	EPA_1631	Mercury (Total)	<0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	<5.00	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	<20.0	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	<100	ug/L	100	T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	<10.0	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	
		Lead (Total Recoverable)	<0.20	ug/L	0.20	
		Selenium (Total Recoverable)	<1.0	ug/L	1.0	
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	

Sample Site: Crooked Canyon Well #1
Site Identity: CC_1
Sample Number: 257951
Date/Time Sampled: 02-AUG-2016 12:33
Comp/Grab: GRAB
Sample Comments: Duplicate for Ra-226, Ra-228 and Uranium

	Method	Analyte	Result	Units	RL	Qualifier
*	ASTM_5174	Uranium (Total)	60.8	ug/L	1.0	
*	EPA_903_1	Radium 226	0.400	pCi/L	0.297	J
*	EPA_904_0	Radium 228	0.989	pCi/L	0.684	J

Analysis Information:

*: Analysis performed by an external contract laboratory.
+: Analysis performed in the Field.
^: The Reporting Limit for the total analytes is less than two times the method Detection Limit (MDL). The associated concentration value reported is an approximation of the analyte.
#: Total value is a result of a calculation.
~: Sample was not distilled prior to analysis.
**: This analysis is not listed in 40 CFR Part 136.

Data Qualifiers:

D - Sample required dilution. The associated analyte concentration value reported has dilution factor applied. Reporting Limit does not reflect dilution factor.
D1 - To minimize matrix effects, the sample required dilution. The result is below the Reporting Limit, but within the method defined instrument detection.
J - Analysis confirms the presence of the analyte at a concentration which is less than the established Reporting Limit(RL), but greater than the Method Detection Limit(MDL). The associated concentration value reported is approx.
T - The matrix spike recovery for the sample batch is outside the established range. The performance of the method is shown to be in control. The recovery is matrix related, not method related.
T1 - The analyte concentration in the sample is disproportionate to the spike level. The performance of the method was shown to be in control.

Colorado Springs Utilities

Colorado Springs Utilities
Laboratory Services
Grab Samples

Coal Combustion Residuals

Sample Date: 8/2/16

Sampler: [signature]

LOCATION	# Bottles	LIMS #	Sample Time	pH, Field (su) SM 4500 H	Temperature, Field (°C) SM 2550 B	Conductivity, Field (umhos/cm) SM 2510 B	Depth to Water (feet)	Total Dissolved Solids SM 2540 C Field Filtered	Fluoride, SM 4500 F C Turbidity, SM 2130 B	Chloride & Sulfate EPA 300.0 Field Filtered	EPA 200.7 (Ba, Be, B, Cd, Ca, Cr, Co, Li & Mo - Total Recoverable)	EPA 200.8 (Sb, As, Pb, Tl & Se - Total Recoverable)	Mercury, EPA 1631 (not collecte using clean-hands/dirty-hands)	Radium 226 & Radium 228 (sent to TA Richland) SM 4500 S2 D	Comments
				Please mark boxes that apply.											
CC_1	8	254080	1233	6.81	13.2	13,660	13.95	X	X	X	X	X	X	X	Duplicate for Ra-228, Ra-226 and Li LIMS 254951
FC_1	8	254081	854	7.03	13.5	21,000	15.57	X	X	X	X	X	X	X	
FC_1 Duplicate	~~WMA 8-1-16~~ 5	254082	854	7.03	13.5	21,000	15.57	X	X	X	X	X	X	WMA 8-1-16	
FC_2	8	254083	928	7.18	12.9	10,470	13.67	X	X	X	X	X	X	X	
FC_3A	8	254084	1127	7.47	12.8	8960	17.85	X	X	X	X	X	X	X	
FC_3B	8	254085	1035	7.16	15.6	7790	47.62	X	X	X	X	X	X	X	
EQUIP_BLK	5	254086	1050					X	X	X	X	X	X		
Total # of Bottles	50														

Additional Comments / Sample Rejections/ Actions

Sample Template: CCR_LAND
Project ID: CCR_LAND
Test Schedule: CCR_LAND

	Signature/Print last name	Date/Time
Relinquished by	[signature] Hetzel	8-2-16 @ 1340
Received by	Jennifer Schroeder	8/2/16 @ 1340

A 8/4/16 PPS

Colorado Springs Utilities
Laboratory Services
Grab Samples

Coal Combustion Residuals

Sample Date: 8/3/16

Sampler: J Hetzel

LOCATION	# Bottles	LIMS #	Sample Time	pH, Field (su) SM 4500 H	Temperature, Field (°C) SM 2550 B	Conductivity, Field (umhos/cm) SM 2510 B	Depth to Water (feet)	Total Dissolved Solids SM 2540 C Field Filtered	Fluoride, SM 4500 F C Turbidity, SM 2130 B	Chloride & Sulfate EPA 300.0 Field Filtered	EPA 200.7 (Ba, Be, B, Cd, Ca, Cr, Co, Li & Mo - Total Recoverable)	EPA 200.8 (Sb, As, Pb, Tl & Se - Total Recoverable)	Mercury, EPA 1631 (not collecte using clean-hands/dirty-hands)	Radium 226 & Radium 228 (sent to TA Richland) SM 4500 S2 D	Comments
				Please mark boxes that apply.											
SC_10	8	254087	1242	7.07	14.6	7520	11.40	X	X	X	X	X	X	X	
SC_10 Duplicate	5 ~~8~~ WMA 8-4-16	254088	1242	7.07	14.6	7520	11.40	X	X	X	X	X	X	~~X~~ WMA 8-4-16	
SC_11	8	254089	1151	7.05	13.3	14,750	8.15	X	X	X	X	X	X	X	
SC_12	8	254090	1108	7.08	13.2	13,410 ~~14070~~	9.56	X	X	X	X	X	X	X	
SC_13	8	254091	1017	7.24	12.7	13,520	10.30	X	X	X	X	X	X	X	
SC_8	8	254092	845	6.78	16.6	12,600	5.24	X	X	X	X	X	X	X	
SC_9	8	254093	1321	7.05	13.8	8400	14.91	X	X	X	X	X	X	X	
SC_14	8	254094	932	7.15	11.4	12,280	10.21	X	X	X	X	X	X	X	
EQUIP_BLK	5	254095	941					X	X	X	X	X	X		
Total # of Bottles	69														

Signature/Print last name | Date/Time

Relinquished by: J Hetzel | HETZEL | 8-3-16 @ 1354

Received by: Wendy Asay | Asay | 8-3-16 @ 1354

Additional Comments / Sample Rejections/ Actions

Sample Template: CCR_LAND
Project ID: CCR_LAND
Test Schedule: CCR_LAND

Ⓐ 8/5/16 MS

Colorado Springs Utilities

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Laboratory Services Section
QC Report

Coal Combustion Rule Landfill
August 2016

Quality Assurance Officer Approval: _____ Date: 11-30-16

QC Narrative

This report is for sample numbers 254080-254095.

Turbidity by Standard Methods 2540 C

There are no anomalies to report for this analysis.

Total Dissolved Solids by Standard Methods 2540 C

There are no anomalies to report for this analysis.

Fluoride by Standard Methods 4500 F C

The matrix spike recovery for the sample batch is outside the established range. The performance of the method is shown to be in control. The recovery is matrix related, not method related. Associated samples are qualified.

Anions by EPA Method 300.0

There are no anomalies to report for this analysis.

Mercury by EPA Method 1631 E

There are no anomalies to report for this analysis.

EPA 200.7

The analyte concentration in the sample is disproportionate to the spike level for Total Recoverable Calcium. The performance of the method was shown to be in control. Associated samples are qualified.

EPA 200.8

There are no anomalies to report for this analysis.

Method: Turbidity by Standard Methods 2130 B
Batch Analysis date: 08/02/16
Sampled date: 08/02/16 for LIMS 254080-254086

Matrix QC performed on LIMS # 254083

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Turbidity	99	95 - 105		
Duplicate	Turbidity			3	<20

Method: Turbidity by Standard Methods 2130 B
Batch Analysis date: 08/03/16
Sampled date: 08/03/16 for LIMS 254087-254095

Matrix QC performed on LIMS # 254087

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Turbidity	101	95 - 105		
Duplicate	Turbidity			<1	<20

Method: Total Dissolved Solids by Standard Methods 2540 C
Batch Analysis date: 08/05/16
Sampled date: 08/02/16 for LIMS 254080-254086
Sampled date: 08/03/16 for LIMS 254087-254086

Matrix QC performed on LIMS # 254082 & 254091

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Total Dissolved Solids	99	84 - 118		
Duplicate	Total Dissolved Solids (254082)			1	<10
Duplicate	Total Dissolved Solids (254091)			7	<10

Method: Fluoride by Standard Methods 4500 F C
Batch Analysis date: 08/03/16
Sampled date: 08/02/16 for LIMS 254080-254086

Matrix QC performed on LIMS # 254081

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Fluoride (Total)	98	90 - 110		
QCS	Fluoride (Total)	98	90 - 110		
MS	Fluoride (Total)	***65**	80 - 120		
MSD	Fluoride (Total)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Fluoride (Total)	<0.10 mg/L	0.10 mg/L

***See Narrative**

Method: Fluoride by Standard Methods 4500 F C
Batch Analysis date: 08/04/16
Sampled date: 08/03/16 for LIMS 254087-254095

Matrix QC performed on LIMS # 254087

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Fluoride (Total)	99	90 - 110		
QCS	Fluoride (Total)	99	90 - 110		
MS	Fluoride (Total)	***62**	80 - 120		
MSD	Fluoride (Total)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Fluoride (Total)	<0.10 mg/L	0.10 mg/L

***See Narrative**

Method: Anions by EPA Method 300.0
Batch Analysis date: 08/04/16
Sampled date: 08/02/16 for 254080-254086
Sampled date: 08/03/16 for LIMS 254087-254095

Matrix QC performed on LIMS # 254081 and 254087

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Chloride	94	90-110		
LFB	Chloride	100	90-110	<1	<20
FD	Chloride (254081)			<1	<20
FD	Chloride (254087)			<1	<20

MS	Chloride (254081)	96	80-120		
MS	Chloride (254087)	97	80-120		
MRL	Sulfate	94	90-110		
LFB	Sulfate	100	90-110	<1	<20
FD	Sulfate (254081)			<1	<20
FD	Sulfate (254087)			1	<20
MS	Sulfate (254081)	97	80-120		
MS	Sulfate (254087)	96	80-120		

QC Type	Analyte	Concentration	Limit
LRB	Chloride	<0.25 mg/L	0.25 mg/L
LRB	Sulfate	<0.25 mg/L	0.25 mg/L

Method: Mercury by EPA 1631 E
Batch Analysis date: 08/17/16
Sampled date: 08/02/16 for 254080-254086
Sampled date: 08/03/16 for LIMS 254087-254095

Matrix QC performed on LIMS # 254081 and 254087

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Mercury (Total)	90	60-140		
QCS	Mercury (Total)	87	77-123		
MS	Mercury (Total) (254081)	93	71-125		
MSD	Mercury (Total) (254081)			6	<24
MS	Mercury (Total) (254087)	98	71-125		
MSD	Mercury (Total) (254087)			2	<24

QC Type	Analyte	Concentration	Limit
LRB	Mercury (Total)	<0.5 ng/L	0.5 ng/L

Method: EPA 200.7
Digestion date: 08/03/16 for LIMS 254080-254086
Digestion date: 08/09/16 for LIMS 254087-254095
Batch Analysis date: 08/16/16
Sampled date: 08/02/16 for 254080-254086
Sampled date: 08/03/16 for LIMS 254087-254095

Matrix QC performed on LIMS # 254081 & 254087

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Barium (Total Recoverable)	98	60-140		
LFB	Barium (Total Recoverable)	99	85-115		
MS	Barium (Total Recoverable) (254081)	96	70-130		
MSD	Barium (Total Recoverable) (254081)			6	<20

MS	Barium (Total Recoverable) (254087)	98	70-130		
MSD	Barium (Total Recoverable) (254087)			3	<20
MRL	Beryllium (Total Recoverable)	98	60-140		
LFB	Beryllium (Total Recoverable)	101	85-115		
MS	Beryllium (Total Recoverable) (254081)	88	70-130		
MSD	Beryllium (Total Recoverable) (254081)			6	<20
MS	Beryllium (Total Recoverable) (254087)	93	70-130		
MSD	Beryllium (Total Recoverable) (254087)			3	<20
MRL	Boron (Total Recoverable)	93	60-140		
LFB	Boron (Total Recoverable)	100	85-115		
MS	Boron (Total Recoverable) (254081)	76	70-130		
MSD	Boron (Total Recoverable) (254081)			6	<20
MS	Boron (Total Recoverable) (254087)	77	70-130		
MSD	Boron (Total Recoverable) (254087)			3	<20
MRL	Cadmium (Total Recoverable)	90	60-140		
LFB	Cadmium (Total Recoverable)	96	85-115		
MS	Cadmium (Total Recoverable) (254081)	112	70-130		
MSD	Cadmium (Total Recoverable) (254081)			6	<20
MS	Cadmium (Total Recoverable) (254087)	111	70-130		
MSD	Cadmium (Total Recoverable) (254087)			2	<20
MRL	Calcium (Total Recoverable)	103	60-140		
LFB	Calcium (Total Recoverable)	98	85-115		
MS	Calcium (Total Recoverable) (254081)	***15**	70-130		
MSD	Calcium (Total Recoverable) (254081)			7	<20
MS	Calcium (Total Recoverable) (254087)	***-69**	70-130		
MSD	Calcium (Total Recoverable) (254087)			2	<20
MRL	Chromium (Total Recoverable)	102	60-140		
LFB	Chromium (Total Recoverable)	100	85-115		
MS	Chromium (Total Recoverable) (254081)	86	70-130		
MSD	Chromium (Total Recoverable)			5	<20

	(254081)				
MS	Chromium (Total Recoverable) (254087)	89	70-130		
MSD	Chromium (Total Recoverable) (254087)			3	<20
MRL	Cobalt (Total Recoverable)	98	60-140		
LFB	Cobalt (Total Recoverable)	98	85-115		
MS	Cobalt (Total Recoverable) (254081)	76	70-130		
MSD	Cobalt (Total Recoverable) (254081)			5	<20
MS	Cobalt (Total Recoverable) (254087)	80	70-130		
MSD	Cobalt (Total Recoverable) (254087)			2	<20
MRL	Lithium (Total Recoverable)	104	60-140		
LFB	Lithium (Total Recoverable)	102	85-115		
MS	Lithium (Total Recoverable) (254081)	90	70-130		
MSD	Lithium (Total Recoverable) (254081)			6	<20
MS	Lithium (Total Recoverable) (254087)	98	70-130		
MSD	Lithium (Total Recoverable) (254087)			3	<20
MRL	Molybdenum (Total Recoverable)	97	60-140		
LFB	Molybdenum (Total Recoverable)	97	85-115		
MS	Molybdenum (Total Recoverable) (254081)	83	70-130		
MSD	Molybdenum (Total Recoverable) (254081)			6	<20
MS	Molybdenum (Total Recoverable) (254087)	88	70-130		
MSD	Molybdenum (Total Recoverable) (254087)			2	<20

QC Type	Analyte	Concentration	Limit
LRB	Barium (Total Recoverable)	<0.653 ug/L	0.653 ug/L
LRB	Beryllium (Total Recoverable)	<0.414 ug/L	0.414 ug/L
LRB	Boron (Total Recoverable)	<8.84 ug/L	8.84 ug/L
LRB	Cadmium (Total Recoverable)	<0.774 ug/L	0.774 ug/L
LRB	Calcium (Total Recoverable)	<20.3 ug/L	20.3 ug/L
LRB	Chromium (Total Recoverable)	<2.35 ug/L	2.35 ug/L
LRB	Cobalt (Total Recoverable)	<0.719 ug/L	0.719 ug/L
LRB	Lithium (Total Recoverable)	<5.83 ug/L	5.83 ug/L
LRB	Molybdenum (Total Recoverable)	<1.03 ug/L	1.03 ug/L

***See Narrative**

Method: EPA 200.8
Batch Analysis date: 08/12/16
Sampled date: 08/02/16 for 254080-254086

Matrix QC performed on LIMS # 254081

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Antimony (Total Recoverable)	102	60-140		
LFB	Antimony (Total Recoverable)	95	85-115		
MS	Antimony (Total Recoverable)	91	70-130		
MSD	Antimony (Total Recoverable)			1	<20
MRL	Arsenic (Total Recoverable)	94	60-140		
LFB	Arsenic (Total Recoverable)	95	85-115		
MS	Arsenic (Total Recoverable)	88	70-130		
MSD	Arsenic (Total Recoverable)			4	<20
MRL	Lead (Total Recoverable)	90	60-140		
LFB	Lead (Total Recoverable)	95	85-115		
MS	Lead (Total Recoverable)	106	70-130		
MSD	Lead (Total Recoverable)			<1	<20
MRL	Selenium (Total Recoverable)	87	60-140		
LFB	Selenium (Total Recoverable)	100	85-115		
MS	Selenium (Total Recoverable)	110	70-130		
MSD	Selenium (Total Recoverable)			6	<20
MRL	Thallium (Total Recoverable)	90	60-140		
LFB	Thallium (Total Recoverable)	96	85-115		
MS	Thallium (Total Recoverable)	110	70-130		
MSD	Thallium (Total Recoverable)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Antimony (Total Recoverable)	<0.045 ug/L	0.045 ug/L
LRB	Arsenic (Total Recoverable)	<0.18 ug/L	0.18 ug/L
LRB	Lead (Total Recoverable)	<0.054 ug/L	0.054 ug/L
LRB	Selenium (Total Recoverable)	<0.22 ug/L	0.22 ug/L
LRB	Thallium (Total Recoverable)	<0.056 ug/L	0.056 ug/L

Method: EPA 200.8
Batch Analysis date: 08/15/16 for all except Selenium
Batch Analysis date: 08/16/16 Selenium
Sampled date: 08/03/16 for 254087-2540985

Matrix QC performed on LIMS # 254087

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Antimony (Total Recoverable)	100	60-140		
LFB	Antimony (Total Recoverable)	98	85-115		
MS	Antimony (Total Recoverable)	90	70-130		
MSD	Antimony (Total Recoverable)			4	<20

MRL	Arsenic (Total Recoverable)	100	60-140		
LFB	Arsenic (Total Recoverable)	108	85-115		
MS	Arsenic (Total Recoverable)	85	70-130		
MSD	Arsenic (Total Recoverable)			4	<20
MRL	Lead (Total Recoverable)	94	60-140		
LFB	Lead (Total Recoverable)	99	85-115		
MS	Lead (Total Recoverable)	110	70-130		
MSD	Lead (Total Recoverable)			3	<20
MRL	Selenium (Total Recoverable)	94	60-140		
LFB	Selenium (Total Recoverable)	112	85-115		
MS	Selenium (Total Recoverable)	107	70-130		
MSD	Selenium (Total Recoverable)			1	<20
MRL	Thallium (Total Recoverable)	96	60-140		
LFB	Thallium (Total Recoverable)	99	85-115		
MS	Thallium (Total Recoverable)	111	70-130		
MSD	Thallium (Total Recoverable)			2	<20

QC Type	Analyte	Concentration	Limit
LRB	Antimony (Total Recoverable)	<0.045 ug/L	0.045 ug/L
LRB	Arsenic (Total Recoverable)	<0.18 ug/L	0.18 ug/L
LRB	Lead (Total Recoverable)	<0.054 ug/L	0.054 ug/L
LRB	Selenium (Total Recoverable)	<0.22 ug/L	0.22 ug/L
LRB	Thallium (Total Recoverable)	<0.056 ug/L	0.056 ug/L

FD – Field Duplicate
LFB – Laboratory Fortified Blank
LRB – Laboratory Reagent Blank (Method Blank)
QCS – Quality Control Sample
MRL – Minimum Reporting Limit (Verification)
MS – Matrix Spike
MSD – Matrix Spike Duplicate
Underline – Data was outside the limit

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LABORATORY SERVICES
719-448-4800
www.csu.org

Report Date: January 31, 2018

This report contains test results for the following samples:

256036	19-Sep-2016 11:10	Crooked Canyon Well #1
256037	19-Sep-2016 09:03	Fort Carson Well #1
256038	19-Sep-2016 09:35	Fort Carson Well #2
256039	19-Sep-2016 09:35	Fort Carson Well #2
256040	19-Sep-2016 12:06	Fort Carson Well #3A
256041	19-Sep-2016 12:25	Fort Carson Well #3B
256042	19-Sep-2016 10:39	Equipment Blank
256043	20-Sep-2016 12:56	Sand Canyon Well #10
256044	20-Sep-2016 12:09	Sand Canyon Well #11
256045	20-Sep-2016 12:09	Sand Canyon Well #11
256046	20-Sep-2016 11:27	Sand Canyon Well #12
256047	20-Sep-2016 10:45	Sand Canyon Well #13
256050	20-Sep-2016 10:09	Sand Canyon Well #14
256051	20-Sep-2016 10:19	Equipment Blank

Colorado Springs Utilities Laboratory Services Section certifies that the test results meet all approved method And Laboratory's Quality Assurance Plan requirements unless otherwise noted.

Comments: ______________________________

Report Approved By: [signature] 1/31/2018
Sandy A. Williams - Environmental Scientist Lead — Date

Sample Site: Crooked Canyon Well #1
Site Identity: CC_1
Sample Number: 256036
Date/Time Sampled: 19-SEP-2016 11:10
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	3.0	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	30500	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.22	mg/L	0.10	
	EPA_300_0	Chloride	1530	mg/L	0.25	D
		Sulfate	17300	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.006	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	5.42	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1050	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	483000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	779	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	8.9	ug/L	1.0	D
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	157	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	<0.155	pCi/L	0.155	L2
*	EPA_904_0	Radium 228	0.563	pCi/L	0.500	J
	NA	Depth to Water	13.74	ft.		
+	SM_2510_B	Conductivity	11200	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.5	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	6.7	SU	2.0	

Sample Site: Fort Carson Well #1
Site Identity: FC_1
Sample Number: 256037
Date/Time Sampled: 19-SEP-2016 09:03
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	0.35	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	21900	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.13	mg/L	0.10	
	EPA_300_0	Chloride	760	mg/L	0.25	D
		Sulfate	13000	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	9.28	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	932	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	388000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	1010	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	9.4	ug/L	1.0	D
		Lead (Total Recoverable)	0.32	ug/L	0.20	D
		Selenium (Total Recoverable)	28.0	ug/L	1.0	D
		Thallium (Total Recoverable)	0.27	ug/L	0.20	D
*	EPA_903_1	Radium 226	0.416	pCi/L	0.180	L2/J
*	EPA_904_0	Radium 228	1.72	pCi/L	0.48	
	NA	Depth to Water	15.55	ft.		
+	SM_2510_B	Conductivity	9760	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.4	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.1	SU	2.0	

Sample Site: Fort Carson Well #2
Site Identity: FC_2
Sample Number: 256038
Date/Time Sampled: 19-SEP-2016 09:35
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	0.20	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	11200	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	1.21	mg/L	0.10	
	EPA_300_0	Chloride	130	mg/L	0.25	D
		Sulfate	6920	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.003	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	5.30	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	942	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	394000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	309	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	4.1	ug/L	1.0	D
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	49.6	ug/L	1.0	D
		Thallium (Total Recoverable)	0.53	ug/L	0.20	D
*	EPA_903_1	Radium 226	<0.227	pCi/L	0.227	L2
*	EPA_904_0	Radium 228	<0.499	pCi/L	0.499	
	NA	Depth to Water	13.41	ft.		
+	SM_2510_B	Conductivity	9080	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.2	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.2	SU	2.0	

Sample Site: Fort Carson Well #2
Site Identity: FC_2
Sample Number: 256039
Date/Time Sampled: 19-SEP-2016 09:35
Comp/Grab: GRAB
Sample Comments: Duplicate

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	0.20	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	11300	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.76	mg/L	0.10	D
	EPA_300_0	Chloride	130	mg/L	0.25	D
		Sulfate	7140	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.003	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	5.20	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	932	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	393000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	303	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	3.1	ug/L	1.0	D
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	48.3	ug/L	1.0	D
		Thallium (Total Recoverable)	0.56	ug/L	0.20	D

Sample Site: Fort Carson Well #3A
Site Identity: FC_3A
Sample Number: 256040
Date/Time Sampled: 19-SEP-2016 12:06
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	38	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	9320	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.48	mg/L	0.10	
	EPA_300_0	Chloride	96.3	mg/L	0.25	D
		Sulfate	5800	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.004	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	21.8	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1200	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	433000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	343	ug/L	10.0	
		Molybdenum (Total Recoverable)	12.2	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	2.9	ug/L	1.0	D
		Lead (Total Recoverable)	1.0	ug/L	0.20	D
		Selenium (Total Recoverable)	36.4	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	<0.211	pCi/L	0.211	L2
*	EPA_904_0	Radium 228	<0.548	pCi/L	0.548	
	NA	Depth to Water	17.70	ft.		
+	SM_2510_B	Conductivity	8860	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.9	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.5	SU	2.0	

Sample Site: Fort Carson Well #3B
Site Identity: FC_3B
Sample Number: 256041
Date/Time Sampled: 19-SEP-2016 12:25
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	44	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	9410	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.48	mg/L	0.10	
	EPA_300_0	Chloride	594	mg/L	0.25	D
		Sulfate	5380	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.003	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	18.3	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1460	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	424000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	295	ug/L	10.0	
		Molybdenum (Total Recoverable)	6.09	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	5.1	ug/L	1.0	D
		Lead (Total Recoverable)	0.42	ug/L	0.20	D
		Selenium (Total Recoverable)	11.2	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	<0.484	pCi/L	0.484	L2
*	EPA_904_0	Radium 228	<0.508	pCi/L	0.508	
	NA	Depth to Water	43.52	ft.		
+	SM_2510_B	Conductivity	6730	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	16.0	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	6.9	SU	2.0	

Sample Site: Equipment Blank
Site Identity: EQUIP_BLK
Sample Number: 256042
Date/Time Sampled: 19-SEP-2016 10:39
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	<0.05	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	<10	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	<0.10	mg/L	0.10	
	EPA_300_0	Chloride	<0.25	mg/L	0.25	
		Sulfate	<0.25	mg/L	0.25	
	EPA_1631	Mercury (Total)	<0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	<5.00	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	<20.0	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	<100	ug/L	100	
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	<10.0	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	
		Lead (Total Recoverable)	<0.20	ug/L	0.20	
		Selenium (Total Recoverable)	<1.0	ug/L	1.0	
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	

Sample Site: Sand Canyon Well #10
Site Identity: SC_10
Sample Number: 256043
Date/Time Sampled: 20-SEP-2016 12:56
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	90	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	18200	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.56	mg/L	0.10	
	EPA_300_0	Chloride	688	mg/L	0.25	D
		Sulfate	10400	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.016	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	13.0	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1250	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	453000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	728	ug/L	10.0	
		Molybdenum (Total Recoverable)	9.11	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	7.3	ug/L	1.0	D
		Lead (Total Recoverable)	0.91	ug/L	0.20	D
		Selenium (Total Recoverable)	201	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	<0.202	pCi/L	0.202	L2
*	EPA_904_0	Radium 228	<0.520	pCi/L	0.520	
	NA	Depth to Water	11.28	ft.		
+	SM_2510_B	Conductivity	8770	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	15.6	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.1	SU	2.0	

Sample Site: Sand Canyon Well #11
Site Identity: SC_11
Sample Number: 256044
Date/Time Sampled: 20-SEP-2016 12:09
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	45	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	14900	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.53	mg/L	0.10	
	EPA_300_0	Chloride	1150	mg/L	0.25	D
		Sulfate	7860	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.009	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	9.31	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1930	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	477000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	594	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	7.4	ug/L	1.0	D
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	180	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	<0.190	pCi/L	0.190	L2
*	EPA_904_0	Radium 228	<0.721	pCi/L	0.721	
	NA	Depth to Water	8.28	ft.		
+	SM_2510_B	Conductivity	7760	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	14.4	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.2	SU	2.0	

Sample Site: Sand Canyon Well #11
Site Identity: SC_11
Sample Number: 256045
Date/Time Sampled: 20-SEP-2016 12:09
Comp/Grab: GRAB
Sample Comments: Duplicate

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	45	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	16000	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.53	mg/L	0.10	
	EPA_300_0	Chloride	1140	mg/L	0.25	D
		Sulfate	8210	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.010	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	9.24	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1940	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	597000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	592	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	9.1	ug/L	1.0	D
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	196	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D

Sample Site: Sand Canyon Well #12
Site Identity: SC_12
Sample Number: 256046
Date/Time Sampled: 20-SEP-2016 11:27
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	23	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	17100	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.82	mg/L	0.10	
	EPA_300_0	Chloride	317	mg/L	0.25	D
		Sulfate	10600	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.005	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	10.1	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	3890	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	402000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	530	ug/L	10.0	
		Molybdenum (Total Recoverable)	9.83	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	2.6	ug/L	1.0	D
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	25.2	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	<0.159	pCi/L	0.159	L2
*	EPA_904_0	Radium 228	<0.558	pCi/L	0.558	
	NA	Depth to Water	9.70	ft.		
+	SM_2510_B	Conductivity	8310	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	14.1	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Sand Canyon Well #13
Site Identity: SC_13
Sample Number: 256047
Date/Time Sampled: 20-SEP-2016 10:45
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	3.4	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	15000	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	1.22	mg/L	0.10	D
	EPA_300_0	Chloride	150	mg/L	0.25	D
		Sulfate	9340	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.003	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	7.36	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1630	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	405000	ug/L	100	D
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	429	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	0.20	ug/L	0.20	D
		Arsenic (Total Recoverable)	1.3	ug/L	1.0	D
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	22.8	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	<0.137	pCi/L	0.137	L2
*	EPA_904_0	Radium 228	<0.759	pCi/L	0.759	
	NA	Depth to Water	10.50	ft.		
+	SM_2510_B	Conductivity	6190	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	14.4	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Sand Canyon Well #14
Site Identity: SC_14
Sample Number: 256050
Date/Time Sampled: 20-SEP-2016 10:09
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	20	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	13300	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.70	mg/L	0.10	
	EPA_300_0	Chloride	171	mg/L	0.25	D
		Sulfate	8370	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.003	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	10.9	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1610	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	409000	ug/L	100	D
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	406	ug/L	10.0	
		Molybdenum (Total Recoverable)	8.19	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	0.22	ug/L	0.20	D
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	D1
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	6.2	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	0.241	pCi/L	0.184	L2/J
*	EPA_904_0	Radium 228	<0.724	pCi/L	0.724	
	NA	Depth to Water	10.54	ft.		
+	SM_2510_B	Conductivity	5910	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.0	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.2	SU	2.0	

Sample Site: Equipment Blank
Site Identity: EQUIP_BLK
Sample Number: 256051
Date/Time Sampled: 20-SEP-2016 10:19
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	<0.05	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	<10	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	<0.10	mg/L	0.10	
	EPA_300_0	Chloride	<0.25	mg/L	0.25	
		Sulfate	<0.25	mg/L	0.25	
	EPA_1631	Mercury (Total)	<0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	<5.00	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	<20.0	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	<100	ug/L	100	T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	<10.0	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	
		Lead (Total Recoverable)	<0.20	ug/L	0.20	
		Selenium (Total Recoverable)	<1.0	ug/L	1.0	
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	

Analysis Information:

*: Analysis performed by an external contract laboratory.
+: Analysis performed in the Field.
^: The Reporting Limit for the total analytes is less than two times the method Detection Limit (MDL). The associated concentration value reported is an approximation of the analyte.
#: Total value is a result of a calculation.
~: Sample was not distilled prior to analysis.
**: This analysis is not listed in 40 CFR Part 136.

Data Qualifiers:

D - Sample required dilution. The associated analyte concentration value reported has dilution factor applied. Reporting Limit does not reflect dilution factor.
D1 - To minimize matrix effects, the sample required dilution. The result is below the Reporting Limit, but within the method defined instrument detection.
J - Analysis confirms the presence of the analyte at a concentration which is less than the established Reporting Limit(RL), but greater than the Method Detection Limit(MDL). The associated concentration value reported is approx.
L2 - The associated fortified blank recovery was below the laboratory control limit.
T1 - The analyte concentration in the sample is disproportionate to the spike level. The performance of the method was shown to be in control.

Colorado Springs Utilities
Laboratory Services
Grab Samples

Coal Combustion Residuals

Sample Date: 9-19-16

Sampler: J. Hetzel

LOCATION	# Bottles	LIMS #	Sample Time	pH, Field (su) SM 4500 H	Temperature, Field (°C) SM 2550 B	Conductivity, Field (umhos/cm) SM 2510 B	Depth to Water (feet)	Total Dissolved Solids SM 2540 C Field Filtered	Fluoride, SM 4500 F C Turbidity, SM 2130 B	Chloride & Sulfate EPA 300.0 Field Filtered	EPA 200.7 (Ba, Be, B, Cd, Ca, Cr, Co, Li & Mo - Total Recoverable)	EPA 200.8 (Sb, As, Pb, Tl & Se - Total Recoverable)	Mercury, EPA 1631 (not collecte using clean-hands/dirty-hands)	Radium 226 & Radium 228 (sent to TA Richland) SM 4500 S2 D	Comments
				Please mark boxes that apply.											
CC_1	~~8~~ 7	256036	1110	6.74	13.5	11,210	13.74	x	x	x	x	x	x	x	
FC_1	7 ~~8~~	256037	903	7.11	13.4	9,760	15.55	x	x	x	x	x	x	x	
FC_2	7 ~~8~~	256038	935	7.25	13.2	9,080	13.41	x	x	x	x	x	x	x	
FC_2 Duplicate	5	256039	935					x	x	x	x	x	x		
FC_3A	7 ~~8~~	256040	1206	7.53	13.9	8,860	17.70	x	x	x	x	x	x	x	
FC_3B	7 ~~9~~	256041	1225	6.90	16.0	6,730	43.52	x	x	x	x	x	x	x	
EQUIP_BLK	5	256042	1039					x	x	x	x	x	x		
Total # of Bottles															

	Signature/Print last name		Date/Time
Relinquished by	[signature]	Hetzel	9-19-16 @ 1312
Received by	[signature]	Asay	9-19-16 @ 1312

Additional Comments / Sample Rejections/ Actions

Sample Template: CCR_LAND
Project ID: CCR_LAND
Test Schedule: CCR_LAND

Auth: BB 9/19/16

Colorado Springs Utilities

Colorado Springs Utilities
Laboratory Services
Grab Samples

Coal Combustion Residuals

Sample Date: 9-20-16

Sampler: A. Hetzel

LOCATION	# Bottles	LIMS #	Sample Time	pH, Field (su) SM 4500 H	Temperature, Field (°C) SM 2550 B	Conductivity, Field (umhos/cm) SM 2510 B	Depth to Water (feet)	Total Dissolved Solids SM 2540 C Field Filtered	Fluoride, SM 4500 F C Turbidity, SM 2130 B	Chloride & Sulfate EPA 300.0 Field Filtered	EPA 200.7 (Ba, Be, B, Cd, Ca, Cr, Co, Li & Mo - Total Recoverable)	EPA 200.8 (Sb, As, Pb, Tl & Se - Total Recoverable)	Mercury, EPA 1631 (not collecte using clean-hands/dirty-hands)	Radium 226 & Radium 228 (sent to TA Richland) SM 4500 S2 D	Comments
				Please mark boxes that apply.											
SC_10	~~8~~ 7	256043	1256	7.06	15.6	8,770	11.28	X	X	X	X	X	X	X	
SC_11	~~8~~ 7	256044	1209	7.25	14.4	7,760	8.28	X	X	X	X	X	X	X	
SC_11 Duplicate	5	256045	1209					X	X	X	X	X	X		
SC_12	~~8~~ 7	256046	1127	7.31	14.1	8,310	9.70	X	X	X	X	X	X	X	
SC_13	~~9~~ 7	256047	1045	7.27	14.4	6,190	10.50	X	X	X	X	X	X	X	
SC_8	~~8~~ 7	256048	930	6.78	18.2	6,840	5.23	X	X	X	X	X	X	X	
SC_9	~~8~~ 7	256049	906	7.10	15.1	8,610	14.85	X	X	X	X	X	X	X	
SC_14	~~8~~ 7	WMA ~~02~~ 256050	1009	7.18	13.0	5,910	10.54	X	X	X	X	X	X	X	
EQUIP_BLK	5	256057	1019					X	X	X	X	X	X		
Total # of Bottles															

Signature/Print last name — Date/Time

Relinquished by: [signature] Hetzel — 9-20-16 @ 1344

Received by: Jacquelyn Brown — 9/20/16 @ 1344

Additional Comments / Sample Rejections/ Actions

Sample Template: CCR_LAND
Project ID: CCR_LAND
Test Schedule: CCR_LAND

AWM: BB 9/21/16

Colorado Springs Utilities

It's how we're all connected

Laboratory Services Section
QC Report

Coal Combustion Rule Landfill
September 2016

Quality Assurance Officer Approval: _____ Date: 2-3-17

QC Narrative

This report is for sample numbers 256036-256051.

Turbidity by Standard Methods 2540 C

There are no anomalies to report for this analysis.

Total Dissolved Solids by Standard Methods 2540 C

There are no anomalies to report for this analysis.

Fluoride by Standard Methods 4500 F C

There are no anomalies to report for this analysis.

Anions by EPA Method 300.0

There are no anomalies to report for this analysis.

Mercury by EPA Method 1631 E

There are no anomalies to report for this analysis.

EPA 200.7

The analyte concentration in the sample is disproportionate to the spike level for Total Recoverable Calcium. The performance of the method was shown to be in control. Associated samples are qualified. Associated samples 256037-256041, 256043-256046, and 256051 are qualified.

EPA 200.8

There are no anomalies to report for this analysis.

Method: Turbidity by Standard Methods 2130 B
Batch Analysis date: 09/19/16
Sampled date: 09/19/16 for LIMS 256036-256042

Matrix QC performed on LIMS # 256038

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Turbidity	98	95 - 105		
Duplicate	Turbidity			<1	<20

Method: Turbidity by Standard Methods 2130 B
Batch Analysis date: 09/20/16
Sampled date: 09/20/16 for LIMS 256043-256051

Matrix QC performed on LIMS # 256049

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Turbidity	100	95 - 105		
Duplicate	Turbidity			<1	<20

Method: Total Dissolved Solids by Standard Methods 2540 C
Batch Analysis date: 09/21/16
Sampled date: 09/19/16 for LIMS 256036-256042
Sampled date: 09/20/16 for LIMS 256043-256051

Matrix QC performed on LIMS # 256036 & 256049

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Total Dissolved Solids	99	84 - 110		
Duplicate	Total Dissolved Solids			6	<10
Duplicate	Total Dissolved Solids			<1	<10

Method: Fluoride by Standard Methods 4500 F C
Batch Analysis date: 09/20/16
Sampled date: 09/19/16 for LIMS 256036-256042

Matrix QC performed on LIMS # 256039

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Fluoride (Total)	98	90 - 110		
QCS	Fluoride (Total)	99	90 - 110		
MS	Fluoride (Total)	96	80 - 120		
MSD	Fluoride (Total)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Fluoride (Total)	<0.10 mg/L	0.10 mg/L

Method: Fluoride by Standard Methods 4500 F C
Batch Analysis date: 09/21/16
Sampled date: 09/20/16 for LIMS 256043-256051

Matrix QC performed on LIMS # 256047

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Fluoride (Total)	98	90 - 110		
QCS	Fluoride (Total)	100	90 - 110		
MS	Fluoride (Total)	85	80 - 120		
MSD	Fluoride (Total)			4	<20

QC Type	Analyte	Concentration	Limit
LRB	Fluoride (Total)	<0.10 mg/L	0.10 mg/L

Method: Anions by EPA Method 300.0
Batch Analysis date: 09/21/16 and 9/22/16
Sampled date: 09/19/16 for 256036-256042
Sampled date: 09/20/16 for LIMS 256043-256051

Matrix QC performed on LIMS # 256038 and 256044

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Chloride	95	90-110		
LFB	Chloride	100	90-110	<1	<20
FD	Chloride (256038)			<1	<20
FD	Chloride (256044)			<1	<20
MS	Chloride (256038)	99	80-120		
MS	Chloride (256044)	96	80-120		
MRL	Sulfate	93	90-110		
LFB	Sulfate	100	90-110	<1	<20
FD	Sulfate (256038)			3	<20
FD	Sulfate (256044)			4	<20
MS	Sulfate (256038)	96	80-120		
MS	Sulfate (256044)	96	80-120		

QC Type	Analyte	Concentration	Limit
LRB	Chloride	<0.25 mg/L	0.25 mg/L
LRB	Sulfate	<0.25 mg/L	0.25 mg/L

Method: Mercury by EPA 1631 E
Batch Analysis date: 09/28/16
Sampled date: 09/19/16 for LIMS 256036-256042
Sampled date: 09/20/16 for LIMS 256043-256051

Matrix QC performed on LIMS # 256038 and 256044

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Mercury (Total)	97	60-140		
QCS	Mercury (Total)	100	77-123		
MS	Mercury (Total) (256038)	92	71-125		
MSD	Mercury (Total) (256038)			1	<24
MS	Mercury (Total) (256044)	88	71-125		
MSD	Mercury (Total) (256044)			9	<24

QC Type	Analyte	Concentration	Limit
LRB	Mercury (Total)	<0.5 ng/L	0.5 ng/L

Method: EPA 200.7
Digestion date: 09/22/16
Batch Analysis date: 10/03/16
Sampled date: 09/19/16 for 256037, 256038 & 256042

Matrix QC performed on LIMS # 256038

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Barium (Total Recoverable)	101	60-140		
LFB	Barium (Total Recoverable)	103	85-115		
MS	Barium (Total Recoverable)	101	70-130		
MSD	Barium (Total Recoverable)			1	<20
MRL	Beryllium (Total Recoverable)	94	60-140		
LFB	Beryllium (Total Recoverable)	102	85-115		
MS	Beryllium (Total Recoverable)	98	70-130		
MSD	Beryllium (Total Recoverable)			1	<20
MRL	Boron (Total Recoverable)	88	60-140		
LFB	Boron (Total Recoverable)	101	85-115		
MS	Boron (Total Recoverable)	95	70-130		
MSD	Boron (Total Recoverable)			<1	<20
MRL	Cadmium (Total Recoverable)	102	60-140		
LFB	Cadmium (Total Recoverable)	101	85-115		
MS	Cadmium (Total Recoverable)	104	70-130		
MSD	Cadmium (Total Recoverable)			1	<20
MRL	Calcium (Total Recoverable)	95	60-140		
LFB	Calcium (Total Recoverable)	99	85-115		
MS	Calcium (Total Recoverable)	***-6**	70-130		
MSD	Calcium (Total Recoverable)			<1	<20
MRL	Chromium (Total Recoverable)	98	60-140		
LFB	Chromium (Total Recoverable)	101	85-115		

MS	Chromium (Total Recoverable)	95	70-130		
MSD	Chromium (Total Recoverable)			<1	<20
MRL	Cobalt (Total Recoverable)	96	60-140		
LFB	Cobalt (Total Recoverable)	100	85-115		
MS	Cobalt (Total Recoverable)	88	70-130		
MSD	Cobalt (Total Recoverable)			1	<20
MRL	Lithium (Total Recoverable)	91	60-140		
LFB	Lithium (Total Recoverable)	102	85-115		
MS	Lithium (Total Recoverable)	114	70-130		
MSD	Lithium (Total Recoverable)			<1	<20
MRL	Molybdenum (Total Recoverable)	90	60-140		
LFB	Molybdenum (Total Recoverable)	94	85-115		
MS	Molybdenum (Total Recoverable)	94	70-130		
MSD	Molybdenum (Total Recoverable)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Barium (Total Recoverable)	<0.653 ug/L	0.653 ug/L
LRB	Beryllium (Total Recoverable)	<0.414 ug/L	0.414 ug/L
LRB	Boron (Total Recoverable)	<8.84 ug/L	8.84 ug/L
LRB	Cadmium (Total Recoverable)	<0.774 ug/L	0.774 ug/L
LRB	Calcium (Total Recoverable)	<20.3 ug/L	20.3 ug/L
LRB	Chromium (Total Recoverable)	<2.35 ug/L	2.35 ug/L
LRB	Cobalt (Total Recoverable)	<0.719 ug/L	0.719 ug/L
LRB	Lithium (Total Recoverable)	<5.83 ug/L	5.83 ug/L
LRB	Molybdenum (Total Recoverable)	<1.03 ug/L	1.03 ug/L

***See Narrative**

Method: EPA 200.7
Digestion date: 09/22/16
Batch Analysis date: 10/11/16
Sampled date: 09/19/16 for 256036 and 256039-256041
Sampled date: 09/20/16 for LIMS 256043-256051

Matrix QC performed on LIMS # 256044 & 256050

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Barium (Total Recoverable)	104	60-140		
LFB	Barium (Total Recoverable)	102	85-115		
MS	Barium (Total Recoverable) (256044)	105	70-130		
MSD	Barium (Total Recoverable) (256044)			<1	<20
MS	Barium (Total Recoverable) (256050)	108	70-130		
MSD	Barium (Total Recoverable) (256050)			<1	<20
MRL	Beryllium (Total Recoverable)	98	60-140		

LFB	Beryllium (Total Recoverable)	105	85-115		
MS	Beryllium (Total Recoverable) (256044)	97	70-130		
MSD	Beryllium (Total Recoverable) (256044)			<1	<20
MS	Beryllium (Total Recoverable) (256050)	100	70-130		
MSD	Beryllium (Total Recoverable) (256050)			<1	<20
MRL	Boron (Total Recoverable)	99	60-140		
LFB	Boron (Total Recoverable)	104	85-115		
MS	Boron (Total Recoverable) (256044)	82	70-130		
MSD	Boron (Total Recoverable) (256044)			<1	<20
MS	Boron (Total Recoverable) (256050)	95	70-130		
MSD	Boron (Total Recoverable) (256050)			1	<20
MRL	Cadmium (Total Recoverable)	98	60-140		
LFB	Cadmium (Total Recoverable)	106	85-115		
MS	Cadmium (Total Recoverable) (256044)	118	70-130		
MSD	Cadmium (Total Recoverable) (256044)			<1	<20
MS	Cadmium (Total Recoverable) (256050)	115	70-130		
MSD	Cadmium (Total Recoverable) (256050)			2	<20
MRL	Calcium (Total Recoverable)	99	60-140		
LFB	Calcium (Total Recoverable)	100	85-115		
MS	Calcium (Total Recoverable) (256044)	***593**	70-130		
MSD	Calcium (Total Recoverable) (256044)			3	<20
MS	Calcium (Total Recoverable) (256050)	80	70-130		
MSD	Calcium (Total Recoverable) (256050)			4	<20
MRL	Chromium (Total Recoverable)	107	60-140		
LFB	Chromium (Total Recoverable)	104	85-115		
MS	Chromium (Total Recoverable) (256044)	95	70-130		
MSD	Chromium (Total Recoverable) (256044)			1	<20
MS	Chromium (Total Recoverable) (256050)	98	70-130		
MSD	Chromium (Total Recoverable) (256050)			1	<20

MRL	Cobalt (Total Recoverable)	108	60-140		
LFB	Cobalt (Total Recoverable)	103	85-115		
MS	Cobalt (Total Recoverable) (256044)	85	70-130		
MSD	Cobalt (Total Recoverable) (256044)			<1	<20
MS	Cobalt (Total Recoverable) (256050)	87	70-130		
MSD	Cobalt (Total Recoverable) (256050)			2	<20
MRL	Lithium (Total Recoverable)	98	60-140		
LFB	Lithium (Total Recoverable)	104	85-115		
MS	Lithium (Total Recoverable) (256044)	126	70-130		
MSD	Lithium (Total Recoverable) (256044)			<1	<20
MS	Lithium (Total Recoverable) (256050)	122	70-130		
MSD	Lithium (Total Recoverable) (256050)			2	<20
MRL	Molybdenum (Total Recoverable)	95	60-140		
LFB	Molybdenum (Total Recoverable)	101	85-115		
MS	Molybdenum (Total Recoverable) (256044)	92	70-130		
MSD	Molybdenum (Total Recoverable) (256044)			<1	<20
MS	Molybdenum (Total Recoverable) (256050)	94	70-130		
MSD	Molybdenum (Total Recoverable) (256050)			2	<20

QC Type	Analyte	Concentration	Limit
LRB	Barium (Total Recoverable)	<0.653 ug/L	0.653 ug/L
LRB	Beryllium (Total Recoverable)	<0.414 ug/L	0.414 ug/L
LRB	Boron (Total Recoverable)	<8.84 ug/L	8.84 ug/L
LRB	Cadmium (Total Recoverable)	<0.774 ug/L	0.774 ug/L
LRB	Calcium (Total Recoverable)	<20.3 ug/L	20.3 ug/L
LRB	Chromium (Total Recoverable)	<2.35 ug/L	2.35 ug/L
LRB	Cobalt (Total Recoverable)	<0.719 ug/L	0.719 ug/L
LRB	Lithium (Total Recoverable)	<5.83 ug/L	5.83 ug/L
LRB	Molybdenum (Total Recoverable)	<1.03 ug/L	1.03 ug/L

***See Narrative**

Method: EPA 200.8
Batch Analysis date: 11/01/16
Sampled date: 09/19/16 for 256036 and 256040-256051

Matrix QC performed on LIMS # 256044 & 256050

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Antimony (Total Recoverable)	118	60-140		
LFB	Antimony (Total Recoverable)	101	85-115		
MS	Antimony (Total Recoverable) (256044)	85	70-130		
MSD	Antimony (Total Recoverable) (256044)			6	<20
MS	Antimony (Total Recoverable) (256050)	90	70-130		
MSD	Antimony (Total Recoverable) (256050)			4	<20
MRL	Arsenic (Total Recoverable)	89	60-140		
LFB	Arsenic (Total Recoverable)	98	85-115		
MS	Arsenic (Total Recoverable) (256044)	88	70-130		
MSD	Arsenic (Total Recoverable) (256044)			3	<20
MS	Arsenic (Total Recoverable) (256050)	89	70-130		
MSD	Arsenic (Total Recoverable) (256050)			2	<20
MRL	Lead (Total Recoverable)	78	60-140		
LFB	Lead (Total Recoverable)	96	85-115		
MS	Lead (Total Recoverable) (256044)	83	70-130		
MSD	Lead (Total Recoverable) (256044)			3	<20
MS	Lead (Total Recoverable) (256050)	88	70-130		
MSD	Lead (Total Recoverable) (256050)			4	<20
MRL	Selenium (Total Recoverable)	88	60-140		
LFB	Selenium (Total Recoverable)	104	85-115		
MS	Selenium (Total Recoverable) (256044)	72	70-130		
MSD	Selenium (Total Recoverable) (256044)			4	<20
MS	Selenium (Total Recoverable) (256050)	88	70-130		
MSD	Selenium (Total Recoverable) (256050)			3	<20
MRL	Thallium (Total Recoverable)	72	60-140		
LFB	Thallium (Total Recoverable)	99	85-115		

MS	Thallium (Total Recoverable) (256044)	85	70-130		
MSD	Thallium (Total Recoverable) (256044)			5	<20
MS	Thallium (Total Recoverable) (256050)	90	70-130		
MSD	Thallium (Total Recoverable) (256050)			2	<20

QC Type	Analyte	Concentration	Limit
LRB	Antimony (Total Recoverable)	<0.045 ug/L	0.045 ug/L
LRB	Arsenic (Total Recoverable)	<0.18 ug/L	0.18 ug/L
LRB	Lead (Total Recoverable)	<0.054 ug/L	0.054 ug/L
LRB	Selenium (Total Recoverable)	<0.22 ug/L	0.22 ug/L
LRB	Thallium (Total Recoverable)	<0.056 ug/L	0.056 ug/L

Method: EPA 200.8
Batch Analysis date: 11/21/16
Sampled date: 09/19/16 for LIMS 256037-256039

Matrix QC performed on LIMS # 256038

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Antimony (Total Recoverable)	120	60-140		
LFB	Antimony (Total Recoverable)	97	85-115		
MS	Antimony (Total Recoverable)	103	70-130		
MSD	Antimony (Total Recoverable)			<1	<20
MRL	Arsenic (Total Recoverable)	80	60-140		
LFB	Arsenic (Total Recoverable)	97	85-115		
MS	Arsenic (Total Recoverable)	103	70-130		
MSD	Arsenic (Total Recoverable)			<1	<20
MRL	Lead (Total Recoverable)	117	60-140		
LFB	Lead (Total Recoverable)	97	85-115		
MS	Lead (Total Recoverable)	103	70-130		
MSD	Lead (Total Recoverable)			<1	<20
MRL	Selenium (Total Recoverable)	101	60-140		
LFB	Selenium (Total Recoverable)	99	85-115		
MS	Selenium (Total Recoverable)	104	70-130		
MSD	Selenium (Total Recoverable)			1	<20
MRL	Thallium (Total Recoverable)	84	60-140		
LFB	Thallium (Total Recoverable)	98	85-115		
MS	Thallium (Total Recoverable)	104	70-130		
MSD	Thallium (Total Recoverable)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Antimony (Total Recoverable)	<0.045 ug/L	0.045 ug/L
LRB	Arsenic (Total Recoverable)	<0.18 ug/L	0.18 ug/L
LRB	Lead (Total Recoverable)	<0.054 ug/L	0.054 ug/L
LRB	Selenium (Total Recoverable)	<0.22 ug/L	0.22 ug/L
LRB	Thallium (Total Recoverable)	<0.056 ug/L	0.056 ug/L

FD – Field Duplicate
LFB – Laboratory Fortified Blank
LRB – Laboratory Reagent Blank (Method Blank)
QCS – Quality Control Sample
MRL – Minimum Reporting Limit (Verification)
MS – Matrix Spike
MSD – Matrix Spike Duplicate
Underline – Data was outside the limit

Colorado Springs Utilities

It's how we're all connected

LABORATORY SERVICES
719-448-4800
www.csu.org

Report Date: January 31, 2018

This report contains test results for the following samples:

257112	12-Oct-2016 11:57	Crooked Canyon Well #1
257113	12-Oct-2016 09:42	Fort Carson Well #1
257114	12-Oct-2016 10:15	Fort Carson Well #2
257115	12-Oct-2016 12:56	Fort Carson Well #3A
257116	12-Oct-2016 12:56	Fort Carson Well #3A
257117	12-Oct-2016 13:19	Fort Carson Well #3B
257118	12-Oct-2016 11:19	Equipment Blank
257148	13-Oct-2016 10:55	Sand Canyon Well #10
257149	13-Oct-2016 11:34	Sand Canyon Well #11
257150	13-Oct-2016 12:33	Sand Canyon Well #12
257151	13-Oct-2016 12:33	Sand Canyon Well #12
257154	13-Oct-2016 13:41	Sand Canyon Well #14
257155	13-Oct-2016 09:58	Equipment Blank
257156	13-Oct-2016 13:02	Sand Canyon Well #13

Colorado Springs Utilities Laboratory Services Section certifies that the test results meet all approved method And Laboratory's Quality Assurance Plan requirements unless otherwise noted.

Comments: _____

Report Approved By: _____ 1/31/2018
Sandy A. Williams - Environmental Scientist Lead — Date

Sample Site: Crooked Canyon Well #1
Site Identity: CC_1
Sample Number: 257112
Date/Time Sampled: 12-OCT-2016 11:57
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	1.3	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	31400	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.21	mg/L	0.10	T
	EPA_300_0	Chloride	1500	mg/L	0.25	D
		Sulfate	16600	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.006	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	5.93	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1100	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	398000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	825	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	0.40	ug/L	0.20	D
		Arsenic (Total Recoverable)	7.1	ug/L	1.0	D
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	138	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	<0.288	pCi/L	0.288	
*	EPA_904_0	Radium 228	1.26	pCi/L	0.32	
	NA	Depth to Water	13.85	ft.		
+	SM_2510_B	Conductivity	17700	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	12.3	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	6.9	SU	2.0	

Sample Site: Fort Carson Well #1
Site Identity: FC_1
Sample Number: 257113
Date/Time Sampled: 12-OCT-2016 09:42
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	0.20	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	23200	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.12	mg/L	0.10	T
	EPA_300_0	Chloride	750	mg/L	0.25	D
		Sulfate	12800	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	9.05	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	931	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	389000	ug/L	100	D
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	1030	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	2.3	ug/L	1.0	D
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	16.7	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	0.433	pCi/L	0.363	J
*	EPA_904_0	Radium 228	1.48	pCi/L	0.41	
	NA	Depth to Water	15.40	ft.		
+	SM_2510_B	Conductivity	20900	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	12.8	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.1	SU	2.0	

Sample Site: Fort Carson Well #2
Site Identity: FC_2
Sample Number: 257114
Date/Time Sampled: 12-OCT-2016 10:15
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	0.30	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	11600	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.52	mg/L	0.10	T
	EPA_300_0	Chloride	124	mg/L	0.25	D
		Sulfate	6910	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.004	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	5.36	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	923	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	390000	ug/L	100	D
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	307	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	D1
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	<1.0	ug/L	1.0	D1
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	<0.325	pCi/L	0.325	
*	EPA_904_0	Radium 228	<0.370	pCi/L	0.370	
	NA	Depth to Water	13.49	ft.		
+	SM_2510_B	Conductivity	10600	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	12.9	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.2	SU	2.0	

Sample Site: Fort Carson Well #3A
Site Identity: FC_3A
Sample Number: 257115
Date/Time Sampled: 12-OCT-2016 12:56
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	30	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	9400	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.46	mg/L	0.10	T
	EPA_300_0	Chloride	99.3	mg/L	0.25	D
		Sulfate	5650	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.005	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	34.4	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1180	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	397000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	346	ug/L	10.0	
		Molybdenum (Total Recoverable)	9.26	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	0.25	ug/L	0.20	D
		Arsenic (Total Recoverable)	2.5	ug/L	1.0	D
		Lead (Total Recoverable)	0.73	ug/L	0.20	D
		Selenium (Total Recoverable)	41.9	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D
*	EPA_903_1	Radium 226	<0.368	pCi/L	0.368	
*	EPA_904_0	Radium 228	0.432	pCi/L	0.421	J
	NA	Depth to Water	17.80	ft.		
+	SM_2510_B	Conductivity	8390	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	12.5	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.5	SU	2.0	

Sample Site: Fort Carson Well #3A
Site Identity: FC_3A
Sample Number: 257116
Date/Time Sampled: 12-OCT-2016 12:56
Comp/Grab: GRAB
Sample Comments: Field duplicate

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	25	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	9540	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.47	mg/L	0.10	T
	EPA_300_0	Chloride	99.8	mg/L	0.25	D
		Sulfate	5620	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.005	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	40.3	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1170	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	399000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	345	ug/L	10.0	
		Molybdenum (Total Recoverable)	9.09	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	0.27	ug/L	0.20	D
		Arsenic (Total Recoverable)	2.4	ug/L	1.0	D
		Lead (Total Recoverable)	0.94	ug/L	0.20	D
		Selenium (Total Recoverable)	43.0	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1

Sample Site: Fort Carson Well #3B
Site Identity: FC_3B
Sample Number: 257117
Date/Time Sampled: 12-OCT-2016 13:19
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	45	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	9450	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.51	mg/L	0.10	T
	EPA_300_0	Chloride	687	mg/L	0.25	D
		Sulfate	4940	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.003	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	18.4	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1530	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	405000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	315	ug/L	10.0	
		Molybdenum (Total Recoverable)	5.25	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	0.32	ug/L	0.20	D
		Arsenic (Total Recoverable)	5.6	ug/L	1.0	D
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	11.5	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	0.283	pCi/L	0.269	J
*	EPA_904_0	Radium 228	<0.425	pCi/L	0.425	
	NA	Depth to Water	45.58	ft.		
+	SM_2510_B	Conductivity	8000	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	12.2	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.0	SU	2.0	

Sample Site: Equipment Blank
Site Identity: EQUIP_BLK
Sample Number: 257118
Date/Time Sampled: 12-OCT-2016 11:19
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	<0.05	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	<10	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	<0.10	mg/L	0.10	T
	EPA_300_0	Chloride	<0.25	mg/L	0.25	
		Sulfate	<0.25	mg/L	0.25	
	EPA_1631	Mercury (Total)	<0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	<5.00	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	<20.0	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	<100	ug/L	100	T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	<10.0	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	
		Lead (Total Recoverable)	<0.20	ug/L	0.20	
		Selenium (Total Recoverable)	<1.0	ug/L	1.0	
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	

Sample Site: Sand Canyon Well #10
Site Identity: SC_10
Sample Number: 257148
Date/Time Sampled: 13-OCT-2016 10:55
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	10	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	18200	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.61	mg/L	0.10	T
	EPA_300_0	Chloride	649	mg/L	0.25	D
		Sulfate	9980	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.010	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	14.1	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1280	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	423000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	761	ug/L	10.0	
		Molybdenum (Total Recoverable)	7.67	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	0.25	ug/L	0.20	D
		Arsenic (Total Recoverable)	5.1	ug/L	1.0	D
		Lead (Total Recoverable)	0.44	ug/L	0.20	D
		Selenium (Total Recoverable)	194	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	<0.307	pCi/L	0.307	
*	EPA_904_0	Radium 228	<0.341	pCi/L	0.341	
	NA	Depth to Water	11.39	ft.		
+	SM_2510_B	Conductivity	16600	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	14.9	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.4	SU	2.0	

Sample Site: Sand Canyon Well #11
Site Identity: SC_11
Sample Number: 257149
Date/Time Sampled: 13-OCT-2016 11:34
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	10	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	14400	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.57	mg/L	0.10	T
	EPA_300_0	Chloride	1120	mg/L	0.25	D
		Sulfate	7730	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.010	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	22.5	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1940	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	486000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	611	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	0.20	ug/L	0.20	D
		Arsenic (Total Recoverable)	6.2	ug/L	1.0	D
		Lead (Total Recoverable)	0.60	ug/L	0.20	D
		Selenium (Total Recoverable)	168	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	<0.279	pCi/L	0.279	
*	EPA_904_0	Radium 228	<0.394	pCi/L	0.394	
	NA	Depth to Water	8.30	ft.		
+	SM_2510_B	Conductivity	7160	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	14.1	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Sand Canyon Well #12
Site Identity: SC_12
Sample Number: 257150
Date/Time Sampled: 13-OCT-2016 12:33
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	9.1	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	16600	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.88	mg/L	0.10	T
	EPA_300_0	Chloride	309	mg/L	0.25	D
		Sulfate	10100	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.003	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	14.1	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	3870	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	410000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	542	ug/L	10.0	
		Molybdenum (Total Recoverable)	10.2	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	D1
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D
		Selenium (Total Recoverable)	25.6	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	<0.435	pCi/L	0.435	
*	EPA_904_0	Radium 228	<0.439	pCi/L	0.439	
	NA	Depth to Water	9.79	ft.		
+	SM_2510_B	Conductivity	7810	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	14.3	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Sand Canyon Well #12
Site Identity: SC_12
Sample Number: 257151
Date/Time Sampled: 13-OCT-2016 12:33
Comp/Grab: GRAB
Sample Comments: Field duplicate

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	8.2	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	16400	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.89	mg/L	0.10	T
	EPA_300_0	Chloride	308	mg/L	0.25	
		Sulfate	10300	mg/L	0.25	
	EPA_1631	Mercury (Total)	0.003	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	14.2	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	3930	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	388000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	550	ug/L	10.0	
		Molybdenum (Total Recoverable)	10.0	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	0.26	ug/L	0.20	D
		Arsenic (Total Recoverable)	4.7	ug/L	1.0	D
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	75.5	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1

Sample Site: Sand Canyon Well #14
Site Identity: SC_14
Sample Number: 257154
Date/Time Sampled: 13-OCT-2016 13:41
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	9.9	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	13200	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.77	mg/L	0.10	T
	EPA_300_0	Chloride	81.2	mg/L	0.25	D
		Sulfate	8180	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	16.3	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1630	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	392000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	415	ug/L	10.0	
		Molybdenum (Total Recoverable)	8.48	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	D1
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	19.2	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	<0.256	pCi/L	0.256	
*	EPA_904_0	Radium 228	<0.651	pCi/L	0.651	
	NA	Depth to Water	10.52	ft.		
+	SM_2510_B	Conductivity	6320	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	12.4	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Equipment Blank
Site Identity: EQUIP_BLK
Sample Number: 257155
Date/Time Sampled: 13-OCT-2016 09:58
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	<0.05	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	<10	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	<0.10	mg/L	0.10	T
	EPA_300_0	Chloride	<0.25	mg/L	0.25	
		Sulfate	<0.25	mg/L	0.25	
	EPA_1631	Mercury (Total)	<0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	<5.00	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	<20.0	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	<100	ug/L	100	T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	<10.0	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	
		Lead (Total Recoverable)	<0.20	ug/L	0.20	
		Selenium (Total Recoverable)	3.0	ug/L	1.0	
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	

Sample Site: Sand Canyon Well #13
Site Identity: SC_13
Sample Number: 257156
Date/Time Sampled: 13-OCT-2016 13:02
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	1.6	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	14700	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.90	mg/L	0.10	T
	EPA_300_0	Chloride	154	mg/L	0.25	D
		Sulfate	9080	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	7.97	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1630	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	392000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	437	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	1.5	ug/L	1.0	D
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	55.8	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	<0.243	pCi/L	0.243	
*	EPA_904_0	Radium 228	<0.367	pCi/L	0.367	
	NA	Depth to Water	10.49	ft.		
+	SM_2510_B	Conductivity	11700	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	14.0	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.3	SU	2.0	

Analysis Information:

*: Analysis performed by an external contract laboratory.
+: Analysis performed in the Field.
^: The Reporting Limit for the total analytes is less than two times the method Detection Limit (MDL).
The associated concentration value reported is an approximation of the analyte.
#: Total value is a result of a calculation.
~: Sample was not distilled prior to analysis.
**: This analysis is not listed in 40 CFR Part 136.

Data Qualifiers:

D - Sample required dilution. The associated analyte concentration value reported has dilution factor applied. Reporting Limit does not reflect dilution factor.
D1 - To minimize matrix effects, the sample required dilution. The result is below the Reporting Limit, but within the method defined instrument detection.
J - Analysis confirms the presence of the analyte at a concentration which is less than the established Reporting Limit(RL), but greater than the Method Detection Limit(MDL). The associated concentration value reported is approx.
T - The matrix spike recovery for the sample batch is outside the established range. The performance of the method is shown to be in control. The recovery is matrix related, not method related.
T1 - The analyte concentration in the sample is disproportionate to the spike level. The performance of the method was shown to be in control.

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Laboratory Services
Grab Samples

Coal Combustion Residuals

Sample Date: 10-12-16

Sampler: J. Hetzel

LOCATION	# Bottles	LIMS #	Sample Time	pH, Field (su) SM 4500 H	Temperature, Field (°C) SM 2550 B	Conductivity, Field (umhos/cm) SM 2510 B	Depth to Water (feet)	Total Dissolved Solids SM 2540 C Field Filtered	Fluoride, SM 4500 F C Turbidity, SM 2130 B	Chloride & Sulfate EPA 300.0 Field Filtered	EPA 200.7 (Ba, Be, B, Cd, Ca, Cr, Co, Li & Mo - Total Recoverable)	EPA 200.8 (Sb, As, Pb, Tl & Se - Total Recoverable)	Mercury, EPA 1631 (not collected using clean-hands/dirty-hands)	Radium 226 & Radium 228 (sent to TA Richland) SM 4500 S2 D	Comments
				Please mark boxes that apply.											
CC_1	~~9~~ 7	257112	1157	6.91	12.3	17,690	13.85	X	X	X	X	X	X	X	
FC_1	~~9~~ 7	257113	942	7.09	12.8	20,900	15.40	X	X	X	X	X	X	X	
FC_2	~~9~~ 7	257114	1015	7.24	12.9	10,620	13.49	X	X	X	X	X	X	X	
FC_3A	~~9~~ 7	257115	1256	7.54	12.5	8,390	17.80	X	X	X	X	X	X	X	
FC_3A Duplicate	5	257116	1256					X	X	X	X	X	X		
FC_3B	~~9~~ 7	257117	1319	7.01	12.2	8,000	45.58	X	X	X	X	X	X	X	
EQUIP_BLK	5	257118	1119					X	X	X	X	X	X		
Total # of Bottles															

Signature/Print last name

Relinquished by: Hetzel — Date/Time: 10-12-16 @ 1400

Received by: Winkelblech — 10/12/16 @ 1400

Additional Comments / Sample Rejections/ Actions

Sample Template: CCR_LAND
Project ID: CCR_LAND
Test Schedule: CCR_LAND

Auth.: RSB 10/12/16

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Laboratory Services
Grab Samples

Coal Combustion Residuals

Sample Date: 10-13-16

Sampler: J. Hetzel

LOCATION	# Bottles	LIMS #	Sample Time	pH, Field (su) SM 4500 H	Temperature, Field (°C) SM 2550 B	Conductivity, Field (umhos/cm) SM 2510 B	Depth to Water (feet)	Total Dissolved Solids SM 2540 C Field Filtered	Fluoride, SM 4500 F C Turbidity, SM 2130 B	Chloride & Sulfate EPA 300.0 Field Filtered	EPA 200.7 (Ba, Be, B, Cd, Ca, Cr, Co, Li & Mo - Total Recoverable)	EPA 200.8 (Sb, As, Pb, Tl & Se - Total Recoverable)	Mercury, EPA 1631 (not collecte using clean-hands/dirty-hands)	Radium 226 & Radium 228 (sent to TA Richland) SM 4500 S2 D	Comments
				Please mark boxes that apply.											
SC_10	7	257148	1055	7.35	14.9	16,620	11.39	X	X	X	X	X	X	X	
SC_11	7	257149	1134	7.31	14.1	7,160	8.30	X	X	X	X	X	X	X	
SC_12	7	257150	1033	7.26	14.3	7,810	9.79	X	X	X	X	X	X	X	
SC_12 Duplicate	5	257151	1233					X	X	X	X	X	X		
SC_13	7	257156	1302	7.33	14.0	11,710	10.49	X	X	X	X	X	X	X	
SC_8	7	257152	1008	6.88	17.6	12,940	5.30	X	X	X	X	X	X	X	
SC_9	7	257153	942	7.13	14.7	16,190	14.85	X	X	X	X	X	X	X	
SC_14	7	257154	1341	7.27	12.4	6,320	10.52	X	X	X	X	X	X	X	
EQUIP_BLK	5	257155	958					X	X	X	X	X	X		
Total # of Bottles															

Signature/Print last name — Date/Time

Relinquished by: J. Hetzel — 10-13-16 @ 1415

Received by: Winkelblech — 10/13/16 @ 1415

Additional Comments / Sample Rejections/ Actions

Sample Template: CCR_LAND
Project ID: CCR_LAND
Test Schedule: CCR_LAND

Audit: BSB 10/14/16

Colorado Springs Utilities

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Laboratory Services Section
QC Report

Coal Combustion Rule Landfill
October 2016

Quality Assurance Officer Approval: _____ Date: 2-13-17

QC Narrative

This report is for sample numbers 257112-257118 and 257148-257156.

Turbidity by Standard Methods 2540 C

There are no anomalies to report for this analysis.

Total Dissolved Solids by Standard Methods 2540 C

There are no anomalies to report for this analysis.

Fluoride by Standard Methods 4500 F C

The matrix spike recovery for the sample batch is outside the established range. The performance of the method is shown to be in control. The recovery is matrix related, not method related. Associated samples 257112-257118 and 257148-257156 are qualified.

Anions by EPA Method 300.0

There are no anomalies to report for this analysis.

Mercury by EPA Method 1631 E

There are no anomalies to report for this analysis.

EPA 200.7

The analyte concentration in the sample is disproportionate to the spike level for Total Recoverable Calcium. The performance of the method was shown to be in control. Associated samples are qualified. Associated samples 257112, 257115-257118, 257148-257152, and 257154-257156 are qualified.

EPA 200.8

There are no anomalies to report for this analysis.

Method: Turbidity by Standard Methods 2130 B
Batch Analysis date: 10/13/16
Sampled date: 10/12/16 for LIMS 257112-257118

Matrix QC performed on LIMS # 257114

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Turbidity	101	95 - 105		
Duplicate	Turbidity			<1	<20

Method: Turbidity by Standard Methods 2130 B
Batch Analysis date: 10/14/16
Sampled date: 10/13/16 for LIMS 257148-257156

Matrix QC performed on LIMS # 257148

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Turbidity	101	95 - 105		
Duplicate	Turbidity			9	<20

Method: Total Dissolved Solids by Standard Methods 2540 C
Batch Analysis date: 10/12/16
Sampled date: 10/12/16 for LIMS 257112-257118

Matrix QC performed on LIMS # 257115

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Total Dissolved Solids	99	84 - 110		
Duplicate	Total Dissolved Solids			<1	<10

Method: Total Dissolved Solids by Standard Methods 2540 C
Batch Analysis date: 10/14/16
Sampled date: 10/12/16 for LIMS 257148-257156

Matrix QC performed on LIMS # 257150

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Total Dissolved Solids	100	84 - 110		
Duplicate	Total Dissolved Solids			1	<10

Method: Fluoride by Standard Methods 4500 F C
Batch Analysis date: 10/12/16
Sampled date: 10/11/16 for LIMS 257112-257118

Matrix QC performed on LIMS # 257115

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Fluoride (Total)	99	90 - 110		
QCS	Fluoride (Total)	98	90 - 110		
MS	Fluoride (Total)	***74**	80 - 120		
MSD	Fluoride (Total)			1	<20

QC Type	Analyte	Concentration	Limit
LRB	Fluoride (Total)	<0.10 mg/L	0.10 mg/L

***See Narrative**

Method: Fluoride by Standard Methods 4500 F C
Batch Analysis date: 10/17/16
Sampled date: 10/13/16 for LIMS 257148-257156

Matrix QC performed on LIMS # 257148

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Fluoride (Total)	105	90 - 110		
QCS	Fluoride (Total)	102	90 - 110		
MS	Fluoride (Total)	***64**	80 - 120		
MSD	Fluoride (Total)			2	<20

QC Type	Analyte	Concentration	Limit
LRB	Fluoride (Total)	<0.10 mg/L	0.10 mg/L

***See Narrative**

Method: Anions by EPA Method 300.0
Batch Analysis date: 10/21/16 and 10/22/16
Sampled date: 10/12/16 for LIMS 257112-257118
Sampled date: 10/13/16 for LIMS 257148-257156

Matrix QC performed on LIMS # 257115 and 257150

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Chloride	93	90-110		
LFB	Chloride	99	90-110	<1	<20
FD	Chloride (257115)			<1	<20
FD	Chloride (257150)			<1	<20
MS	Chloride (257115)	98	80-120		
MS	Chloride (257150)	95	80-120		

MRL	Sulfate	107	90-110		
LFB	Sulfate	99	90-110	<1	<20
FD	Sulfate (257115)			<1	<20
FD	Sulfate (257150)			1	<20
MS	Sulfate (257115)	96	80-120		
MS	Sulfate (257150)	94	80-120		

QC Type	Analyte	Concentration	Limit
LRB	Chloride	<0.25 mg/L	0.25 mg/L
LRB	Sulfate	<0.25 mg/L	0.25 mg/L

Method: Mercury by EPA 1631 E
Batch Analysis date: 11/02/16
Sampled date: 10/12/16 for LIMS 257112-257118
Sampled date: 10/13/16 for LIMS 257148-257156

Matrix QC performed on LIMS # 257115 and 257150

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Mercury (Total)	94	60-140		
QCS	Mercury (Total)	99	77-123		
MS	Mercury (Total) (257115)	95	71-125		
MSD	Mercury (Total) (257115)			1	<24
MS	Mercury (Total) (257150)	89	71-125		
MSD	Mercury (Total) (257150)			4	<24

QC Type	Analyte	Concentration	Limit
LRB	Mercury (Total)	<0.5 ng/L	0.5 ng/L

Method: EPA 200.7
Digestion date: 10/25/16
Batch Analysis date: 10/24/16
Sampled date: 10/12/16 for 257113 & 257114
Sampled date: 10/13/16 for 257153

Matrix QC performed on LIMS # 257114

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Barium (Total Recoverable)	110	60-140		
LFB	Barium (Total Recoverable)	101	85-115		
MS	Barium (Total Recoverable)	102	70-130		
MSD	Barium (Total Recoverable)			<1	<20
MRL	Beryllium (Total Recoverable)	99	60-140		
LFB	Beryllium (Total Recoverable)	100	85-115		
MS	Beryllium (Total Recoverable)	98	70-130		
MSD	Beryllium (Total Recoverable)			<1	<20

MRL	Boron (Total Recoverable)	106	60-140		
LFB	Boron (Total Recoverable)	101	85-115		
MS	Boron (Total Recoverable)	96	70-130		
MSD	Boron (Total Recoverable)			<1	<20
MRL	Cadmium (Total Recoverable)	92	60-140		
LFB	Cadmium (Total Recoverable)	98	85-115		
MS	Cadmium (Total Recoverable)	105	70-130		
MSD	Cadmium (Total Recoverable)			2	<20
MRL	Calcium (Total Recoverable)	101	60-140		
LFB	Calcium (Total Recoverable)	97	85-115		
MS	Calcium (Total Recoverable)	70	70-130		
MSD	Calcium (Total Recoverable)			2	<20
MRL	Chromium (Total Recoverable)	100	60-140		
LFB	Chromium (Total Recoverable)	98	85-115		
MS	Chromium (Total Recoverable)	97	70-130		
MSD	Chromium (Total Recoverable)			<1	<20
MRL	Cobalt (Total Recoverable)	100	60-140		
LFB	Cobalt (Total Recoverable)	98	85-115		
MS	Cobalt (Total Recoverable)	89	70-130		
MSD	Cobalt (Total Recoverable)			1	<20
MRL	Lithium (Total Recoverable)	104	60-140		
LFB	Lithium (Total Recoverable)	100	85-115		
MS	Lithium (Total Recoverable)	118	70-130		
MSD	Lithium (Total Recoverable)			<1	<20
MRL	Molybdenum (Total Recoverable)	90	60-140		
LFB	Molybdenum (Total Recoverable)	97	85-115		
MS	Molybdenum (Total Recoverable)	98	70-130		
MSD	Molybdenum (Total Recoverable)			1	<20

QC Type	Analyte	Concentration	Limit
LRB	Barium (Total Recoverable)	<0.653 ug/L	0.653 ug/L
LRB	Beryllium (Total Recoverable)	<0.414 ug/L	0.414 ug/L
LRB	Boron (Total Recoverable)	<8.84 ug/L	8.84 ug/L
LRB	Cadmium (Total Recoverable)	<0.774 ug/L	0.774 ug/L
LRB	Calcium (Total Recoverable)	<20.3 ug/L	20.3 ug/L
LRB	Chromium (Total Recoverable)	<2.35 ug/L	2.35 ug/L
LRB	Cobalt (Total Recoverable)	<0.719 ug/L	0.719 ug/L
LRB	Lithium (Total Recoverable)	<5.83 ug/L	5.83 ug/L
LRB	Molybdenum (Total Recoverable)	<1.03 ug/L	1.03 ug/L

Method: EPA 200.7
Digestion date: 10/25/16
Batch Analysis date: 10/27/16
Sampled date: 10/12/16 for 257112 and 257115-257118
Sampled date: 10/13/16 for LIMS 257148-257152 and 257154-257156

Matrix QC performed on LIMS # 257115 & 257150

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Barium (Total Recoverable)	99	60-140		
LFB	Barium (Total Recoverable)	103	85-115		
MS	Barium (Total Recoverable) (257115)	104	70-130		
MSD	Barium (Total Recoverable) (257115)			<1	<20
MS	Barium (Total Recoverable) (257150)	104	70-130		
MSD	Barium (Total Recoverable) (257150)			<1	<20
MRL	Beryllium (Total Recoverable)	97	60-140		
LFB	Beryllium (Total Recoverable)	102	85-115		
MS	Beryllium (Total Recoverable) (257115)	98	70-130		
MSD	Beryllium (Total Recoverable) (257115)			<1	<20
MS	Beryllium (Total Recoverable) (257150)	95	70-130		
MSD	Beryllium (Total Recoverable) (257150)			<1	<20
MRL	Boron (Total Recoverable)	93	60-140		
LFB	Boron (Total Recoverable)	103	85-115		
MS	Boron (Total Recoverable) (257115)	102	70-130		
MSD	Boron (Total Recoverable) (257115)			<1	<20
MS	Boron (Total Recoverable) (257150)	95	70-130		
MSD	Boron (Total Recoverable) (257150)			<1	<20
MRL	Cadmium (Total Recoverable)	99	60-140		
LFB	Cadmium (Total Recoverable)	100	85-115		
MS	Cadmium (Total Recoverable) (257115)	111	70-130		
MSD	Cadmium (Total Recoverable) (257115)			<1	<20
MS	Cadmium (Total Recoverable) (257150)	117	70-130		
MSD	Cadmium (Total Recoverable) (257150)			<1	<20

MRL	Calcium (Total Recoverable)	97	60-140		
LFB	Calcium (Total Recoverable)	99	85-115		
MS	Calcium (Total Recoverable) (257115)	***773**	70-130		
MSD	Calcium (Total Recoverable) (257115)			15	<20
MS	Calcium (Total Recoverable) (257150)	***263**	70-130		
MSD	Calcium (Total Recoverable) (257150)			11	<20
MRL	Chromium (Total Recoverable)	104	60-140		
LFB	Chromium (Total Recoverable)	101	85-115		
MS	Chromium (Total Recoverable) (257115)	93	70-130		
MSD	Chromium (Total Recoverable) (257115)			<1	<20
MS	Chromium (Total Recoverable) (257150)	92	70-130		
MSD	Chromium (Total Recoverable) (257150)			<1	<20
MRL	Cobalt (Total Recoverable)	101	60-140		
LFB	Cobalt (Total Recoverable)	100	85-115		
MS	Cobalt (Total Recoverable) (257115)	86	70-130		
MSD	Cobalt (Total Recoverable) (257115)			<1	<20
MS	Cobalt (Total Recoverable) (257150)	82	70-130		
MSD	Cobalt (Total Recoverable) (257150)			<1	<20
MRL	Lithium (Total Recoverable)	99	60-140		
LFB	Lithium (Total Recoverable)	102	85-115		
MS	Lithium (Total Recoverable) (257115)	122	70-130		
MSD	Lithium (Total Recoverable) (257115)			<1	<20
MS	Lithium (Total Recoverable) (257150)	128	70-130		
MSD	Lithium (Total Recoverable) (257150)			<1	<20
MRL	Molybdenum (Total Recoverable)	98	60-140		
LFB	Molybdenum (Total Recoverable)	102	85-115		
MS	Molybdenum (Total Recoverable) (257115)	96	70-130		
MSD	Molybdenum (Total Recoverable) (257115)			<1	<20
MS	Molybdenum (Total Recoverable) (257150)	93	70-130		

MSD	Molybdenum (Total Recoverable) (257150)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Barium (Total Recoverable)	<0.653 ug/L	0.653 ug/L
LRB	Beryllium (Total Recoverable)	<0.414 ug/L	0.414 ug/L
LRB	Boron (Total Recoverable)	<8.84 ug/L	8.84 ug/L
LRB	Cadmium (Total Recoverable)	<0.774 ug/L	0.774 ug/L
LRB	Calcium (Total Recoverable)	<20.3 ug/L	20.3 ug/L
LRB	Chromium (Total Recoverable)	<2.35 ug/L	2.35 ug/L
LRB	Cobalt (Total Recoverable)	<0.719 ug/L	0.719 ug/L
LRB	Lithium (Total Recoverable)	<5.83 ug/L	5.83 ug/L
LRB	Molybdenum (Total Recoverable)	<1.03 ug/L	1.03 ug/L

***See Narrative**

Method: EPA 200.8
Digestion Date: 10/25/16
Batch Analysis date: 11/01/16
Sampled date: 10/12/16 for LIMS 257112 and 257115 - 257118
Sampled date: 10/13/16 for LIMS 257148-257152 and 257154-257156

Matrix QC performed on LIMS # 257715 & 257150

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Antimony (Total Recoverable)	118	60-140		
LFB	Antimony (Total Recoverable)	97	85-115		
MS	Antimony (Total Recoverable) (257715)	78	70-130		
MSD	Antimony (Total Recoverable) (257715)			5	<20
MS	Antimony (Total Recoverable)(257150)	86	70-130		
MSD	Antimony (Total Recoverable) (257150)			8	<20
MRL	Arsenic (Total Recoverable)	89	60-140		
LFB	Arsenic (Total Recoverable)	93	85-115		
MS	Arsenic (Total Recoverable) (257715)	79	70-130		
MSD	Arsenic (Total Recoverable) (257715)			3	<20
MS	Arsenic (Total Recoverable) (257150)	85	70-130		
MSD	Arsenic (Total Recoverable) (257150)			12	<20
MRL	Lead (Total Recoverable)	78	60-140		
LFB	Lead (Total Recoverable)	93	85-115		
MS	Lead (Total Recoverable) (257715)	84	70-130		

MSD	Lead (Total Recoverable) (257715)			5	<20
MS	Lead (Total Recoverable) (257150)	85	70-130		
MSD	Lead (Total Recoverable) (257150)			8	<20
MRL	Selenium (Total Recoverable)	88	60-140		
LFB	Selenium (Total Recoverable)	92	85-115		
MS	Selenium (Total Recoverable) (257715)	79	70-130		
MSD	Selenium (Total Recoverable) (257715)			<1	<20
MS	Selenium (Total Recoverable) (257150)	74	70-130		
MSD	Selenium (Total Recoverable) (257150)			10	<20
MRL	Thallium (Total Recoverable)	72	60-140		
LFB	Thallium (Total Recoverable)	96	85-115		
MS	Thallium (Total Recoverable) (257715)	84	70-130		
MSD	Thallium (Total Recoverable) (257715)			4	<20
MS	Thallium (Total Recoverable) (257150)	8	70-130		
MSD	Thallium (Total Recoverable) (257150)			9	<20

QC Type	Analyte	Concentration	Limit
LRB	Antimony (Total Recoverable)	<0.045 ug/L	0.045 ug/L
LRB	Arsenic (Total Recoverable)	<0.18 ug/L	0.18 ug/L
LRB	Lead (Total Recoverable)	<0.054 ug/L	0.054 ug/L
LRB	Selenium (Total Recoverable)	<0.22 ug/L	0.22 ug/L
LRB	Thallium (Total Recoverable)	<0.056 ug/L	0.056 ug/L

Method: EPA 200.8
Batch Analysis date: 12/01/16
Sampled date: 10/12/16 for LIMS 257113 and 257114
Sampled date: 10/13/16 for LIMS 258507

Matrix QC performed on LIMS # 258507

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Antimony (Total Recoverable)	94	60-140		
LFB	Antimony (Total Recoverable)	100	85-115		
MS	Antimony (Total Recoverable)	104	70-130		
MSD	Antimony (Total Recoverable)			1	<20
MRL	Arsenic (Total Recoverable)	94	60-140		
LFB	Arsenic (Total Recoverable)	108	85-115		

MS	Arsenic (Total Recoverable)	95	70-130		
MSD	Arsenic (Total Recoverable)			7	<20
MRL	Lead (Total Recoverable)	84	60-140		
LFB	Lead (Total Recoverable)	113	85-115		
MS	Lead (Total Recoverable)	109	70-130		
MSD	Lead (Total Recoverable)			4	<20
MRL	Selenium (Total Recoverable)	98	60-140		
LFB	Selenium (Total Recoverable)	108	85-115		
MS	Selenium (Total Recoverable)	100	70-130		
MSD	Selenium (Total Recoverable)			<1	<20
MRL	Thallium (Total Recoverable)	86	60-140		
LFB	Thallium (Total Recoverable)	104	85-115		
MS	Thallium (Total Recoverable)	109	70-130		
MSD	Thallium (Total Recoverable)			3	<20

QC Type	Analyte	Concentration	Limit
LRB	Antimony (Total Recoverable)	<0.045 ug/L	0.045 ug/L
LRB	Arsenic (Total Recoverable)	<0.18 ug/L	0.18 ug/L
LRB	Lead (Total Recoverable)	<0.054 ug/L	0.054 ug/L
LRB	Selenium (Total Recoverable)	<0.22 ug/L	0.22 ug/L
LRB	Thallium (Total Recoverable)	<0.056 ug/L	0.056 ug/L

FD – Field Duplicate
LFB – Laboratory Fortified Blank
LRB – Laboratory Reagent Blank (Method Blank)
QCS – Quality Control Sample
MRL – Minimum Reporting Limit (Verification)
MS – Matrix Spike
MSD – Matrix Spike Duplicate
Underline – Data was outside the limit

Colorado Springs Utilities

It's how we're all connected

LABORATORY SERVICES
719-448-4800
www.csu.org

Report Date: January 31, 2018

This report contains test results for the following samples:

258438	15-Nov-2016 11:07	Crooked Canyon Well #1
258439	15-Nov-2016 09:07	Fort Carson Well #1
258440	15-Nov-2016 09:36	Fort Carson Well #2
258441	15-Nov-2016 11:57	Fort Carson Well #3A
258442	15-Nov-2016 11:57	Fort Carson Well #3A
258443	15-Nov-2016 12:21	Fort Carson Well #3B
258444	15-Nov-2016 10:39	Equipment Blank
258501	16-Nov-2016 12:26	Fort Carson Well #3B
258502	16-Nov-2016 09:50	Sand Canyon Well #10
258503	16-Nov-2016 12:06	Sand Canyon Well #11
258504	16-Nov-2016 11:26	Sand Canyon Well #12
258506	16-Nov-2016 11:00	Sand Canyon Well #13
258508	16-Nov-2016 10:21	Sand Canyon Well #14
258509	16-Nov-2016 10:32	Equipment Blank
258510	16-Nov-2016 11:00	Sand Canyon Well #13

Colorado Springs Utilities Laboratory Services Section certifies that the test results meet all approved method And Laboratory's Quality Assurance Plan requirements unless otherwise noted.

Comments: _____

_____

_____

Report Approved By: _____ 1/31/2018
Sandy A. Williams - Environmental Scientist Lead — Date

Sample Site: Crooked Canyon Well #1
Site Identity: CC_1
Sample Number: 258438
Date/Time Sampled: 15-NOV-2016 11:07
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	1.4	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	30600	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.20	mg/L	0.10	T
	EPA_300_0	Chloride	1550	mg/L	0.25	D
		Sulfate	17400	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.006	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	6.08	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1120	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	416000	ug/L	100	D
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	822	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	1.5	ug/L	0.20	D
		Arsenic (Total Recoverable)	5.4	ug/L	1.0	D
		Lead (Total Recoverable)	5.2	ug/L	0.20	D
		Selenium (Total Recoverable)	145	ug/L	1.0	D
		Thallium (Total Recoverable)	6.3	ug/L	0.20	D
*	EPA_903_1	Radium 226	<0.380	pCi/L	0.380	
*	EPA_904_0	Radium 228	1.20	pCi/L	0.56	
	NA	Depth to Water	13.79	ft.		
+	SM_2510_B	Conductivity	18400	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.1	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	6.9	SU	2.0	

Sample Site: Fort Carson Well #1
Site Identity: FC_1
Sample Number: 258439
Date/Time Sampled: 15-NOV-2016 09:07
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	1.6	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	22100	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.12	mg/L	0.10	T
	EPA_300_0	Chloride	712	mg/L	0.25	D
		Sulfate	13600	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	10.2	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1030	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	381000	ug/L	100	D
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	1160	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	1.6	ug/L	0.20	D
		Arsenic (Total Recoverable)	3.6	ug/L	1.0	D
		Lead (Total Recoverable)	3.7	ug/L	0.20	D
		Selenium (Total Recoverable)	13.6	ug/L	1.0	D
		Thallium (Total Recoverable)	6.1	ug/L	0.20	D
*	EPA_903_1	Radium 226	0.588	pCi/L	0.311	J
*	EPA_904_0	Radium 228	1.54	pCi/L	0.52	
	NA	Depth to Water	15.26	ft.		
+	SM_2510_B	Conductivity	20800	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.2	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.1	SU	2.0	

Sample Site: Fort Carson Well #2
Site Identity: FC_2
Sample Number: 258440
Date/Time Sampled: 15-NOV-2016 09:36
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	0.15	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	11300	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.51	mg/L	0.10	T
	EPA_300_0	Chloride	127	mg/L	0.25	D
		Sulfate	6910	mg/L	0.25	
	EPA_1631	Mercury (Total)	0.004	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	5.16	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	936	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	389000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	325	ug/L	10.0	T
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	D1
		Lead (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	35.6	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	D1
*	EPA_903_1	Radium 226	<0.320	pCi/L	0.320	
*	EPA_904_0	Radium 228	0.694	pCi/L	0.610	J
	NA	Depth to Water	13.38	ft.		
+	SM_2510_B	Conductivity	10600	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.3	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Fort Carson Well #3A
Site Identity: FC_3A
Sample Number: 258441
Date/Time Sampled: 15-NOV-2016 11:57
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	6.4	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	9370	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.46	mg/L	0.10	T
	EPA_300_0	Chloride	101	mg/L	0.25	D
		Sulfate	5730	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	17.3	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1180	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	388000	ug/L	100	D
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	336	ug/L	10.0	
		Molybdenum (Total Recoverable)	10.5	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	1.6	ug/L	0.20	D
		Arsenic (Total Recoverable)	1.7	ug/L	1.0	D
		Lead (Total Recoverable)	3.1	ug/L	0.20	D
		Selenium (Total Recoverable)	35.5	ug/L	1.0	D
		Thallium (Total Recoverable)	5.6	ug/L	0.20	D
*	EPA_903_1	Radium 226	<0.419	pCi/L	0.419	
*	EPA_904_0	Radium 228	<0.371	pCi/L	0.371	
	NA	Depth to Water	17.54	ft.		
+	SM_2510_B	Conductivity	9120	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.9	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.6	SU	2.0	

Sample Site: Fort Carson Well #3A
Site Identity: FC_3A
Sample Number: 258442
Date/Time Sampled: 15-NOV-2016 11:57
Comp/Grab: GRAB
Sample Comments: Field Duplicate

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	6.3	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	9270	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.46	mg/L	0.10	T
	EPA_300_0	Chloride	102	mg/L	0.25	D
		Sulfate	5740	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	17.4	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1190	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	382000	ug/L	100	D
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	339	ug/L	10.0	
		Molybdenum (Total Recoverable)	10.8	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	1.4	ug/L	0.20	D
		Arsenic (Total Recoverable)	1.9	ug/L	1.0	D
		Lead (Total Recoverable)	3.1	ug/L	0.20	D
		Selenium (Total Recoverable)	35.5	ug/L	1.0	D
		Thallium (Total Recoverable)	5.8	ug/L	0.20	D

Sample Site: Fort Carson Well #3B
Site Identity: FC_3B
Sample Number: 258443
Date/Time Sampled: 15-NOV-2016 12:21
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	EPA_200_7	Barium (Total Recoverable)	65.2	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1680	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	331000	ug/L	100	D
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	7.36	ug/L	5.00	
		Lithium (Total Recoverable)	344	ug/L	10.0	
		Molybdenum (Total Recoverable)	11.7	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	1.5	ug/L	0.20	D
		Arsenic (Total Recoverable)	7.0	ug/L	1.0	D
		Lead (Total Recoverable)	6.5	ug/L	0.20	D
		Selenium (Total Recoverable)	10.6	ug/L	1.0	D
		Thallium (Total Recoverable)	5.6	ug/L	0.20	D
*	EPA_903_1	Radium 226	<0.397	pCi/L	0.397	
*	EPA_904_0	Radium 228	0.488	pCi/L	0.424	J
	NA	Depth to Water	43.01	ft.		
+	SM_2510_B	Conductivity	9650	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	14.0	degrees C		
+	SM_4500HB	pH	7.0	SU	2.0	

Sample Site: Equipment Blank
Site Identity: EQUIP_BLK
Sample Number: 258444
Date/Time Sampled: 15-NOV-2016 10:39
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	0.05	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	<10	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	<0.10	mg/L	0.10	T
	EPA_300_0	Chloride	<0.25	mg/L	0.25	
		Sulfate	<0.25	mg/L	0.25	
	EPA_1631	Mercury (Total)	<0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	<5.00	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	<20.0	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	<100	ug/L	100	T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	<10.0	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	
		Lead (Total Recoverable)	<0.20	ug/L	0.20	
		Selenium (Total Recoverable)	<1.0	ug/L	1.0	
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	

Sample Site: Fort Carson Well #3B
Site Identity: FC_3B
Sample Number: 258501
Date/Time Sampled: 16-NOV-2016 12:26
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	110	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	9630	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.46	mg/L	0.10	T
	EPA_300_0	Chloride	676	mg/L	0.25	D
		Sulfate	5370	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.009	ug/L	0.002	
+	SM_2510_B	Conductivity	9650	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	14.0	degrees C		
+	SM_4500HB	pH	7.0	SU	2.0	

Sample Site: Sand Canyon Well #10
Site Identity: SC_10
Sample Number: 258502
Date/Time Sampled: 16-NOV-2016 09:50
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	24	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	18100	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.57	mg/L	0.10	T
	EPA_300_0	Chloride	675	mg/L	0.25	D
		Sulfate	10000	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.010	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	17.8	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1340	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	420000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	786	ug/L	10.0	
		Molybdenum (Total Recoverable)	7.40	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	1.2	ug/L	0.20	D
		Arsenic (Total Recoverable)	3.0	ug/L	1.0	D
		Lead (Total Recoverable)	6.3	ug/L	0.20	D
		Selenium (Total Recoverable)	201	ug/L	1.0	D/P1
		Thallium (Total Recoverable)	7.7	ug/L	0.20	D
*	EPA_903_1	Radium 226	<0.312	pCi/L	0.312	
*	EPA_904_0	Radium 228	<0.443	pCi/L	0.443	
	NA	Depth to Water	11.15	ft.		
+	SM_2510_B	Conductivity	15400	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	15.1	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Sand Canyon Well #11
Site Identity: SC_11
Sample Number: 258503
Date/Time Sampled: 16-NOV-2016 12:06
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	17	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	14900	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.53	mg/L	0.10	T
	EPA_300_0	Chloride	1140	mg/L	0.25	D
		Sulfate	7710	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.010	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	16.0	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	2030	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	463000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	622	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	0.94	ug/L	0.20	D
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	D1
		Lead (Total Recoverable)	6.3	ug/L	0.20	D
		Selenium (Total Recoverable)	163	ug/L	1.0	D/P1
		Thallium (Total Recoverable)	6.3	ug/L	0.20	D
*	EPA_903_1	Radium 226	<0.238	pCi/L	0.238	
*	EPA_904_0	Radium 228	<0.334	pCi/L	0.334	
	NA	Depth to Water	8.07	ft.		
+	SM_2510_B	Conductivity	14800	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	14.2	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Sand Canyon Well #12
Site Identity: SC_12
Sample Number: 258504
Date/Time Sampled: 16-NOV-2016 11:26
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	12	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	17200	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.84	mg/L	0.10	T
	EPA_300_0	Chloride	326	mg/L	0.25	D
		Sulfate	10400	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.004	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	17.8	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	4000	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	371000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	572	ug/L	10.0	
		Molybdenum (Total Recoverable)	9.51	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	0.93	ug/L	0.20	D
		Arsenic (Total Recoverable)	1.6	ug/L	1.0	D
		Lead (Total Recoverable)	3.8	ug/L	0.20	D
		Selenium (Total Recoverable)	23.7	ug/L	1.0	D/P1
		Thallium (Total Recoverable)	6.0	ug/L	0.20	D
*	EPA_903_1	Radium 226	<0.300	pCi/L	0.300	
*	EPA_904_0	Radium 228	<0.327	pCi/L	0.327	
	NA	Depth to Water	9.51	ft.		
+	SM_2510_B	Conductivity	14800	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	14.8	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.4	SU	2.0	

Sample Site: Sand Canyon Well #13
Site Identity: SC_13
Sample Number: 258506
Date/Time Sampled: 16-NOV-2016 11:00
Comp/Grab: GRAB
Sample Comments: Field Duplicate

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	1.6	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	14700	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.84	mg/L	0.10	T
	EPA_300_0	Chloride	166	mg/L	0.25	D
		Sulfate	9010	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	9.29	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1710	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	361000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	443	ug/L	10.0	T
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	
		Lead (Total Recoverable)	<0.20	ug/L	0.20	
		Selenium (Total Recoverable)	<1.0	ug/L	1.0	P1
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	

Sample Site: Sand Canyon Well #14
Site Identity: SC_14
Sample Number: 258508
Date/Time Sampled: 16-NOV-2016 10:21
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	8.6	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	26700	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.72	mg/L	0.10	T
	EPA_300_0	Chloride	170	mg/L	0.25	D
		Sulfate	8330	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	13.6	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1710	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	367000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	422	ug/L	10.0	
		Molybdenum (Total Recoverable)	8.97	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	D1
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	D1
		Lead (Total Recoverable)	1.6	ug/L	0.20	D
		Selenium (Total Recoverable)	<1.0	ug/L	1.0	D1/P1
		Thallium (Total Recoverable)	2.4	ug/L	0.20	D
*	EPA_903_1	Radium 226	<0.329	pCi/L	0.329	
*	EPA_904_0	Radium 228	<0.410	pCi/L	0.410	
	NA	Depth to Water	10.08	ft.		
+	SM_2510_B	Conductivity	9390	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	12.5	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.2	SU	2.0	

Sample Site: Equipment Blank
Site Identity: EQUIP_BLK
Sample Number: 258509
Date/Time Sampled: 16-NOV-2016 10:32
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	<0.05	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	<10	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	<0.10	mg/L	0.10	T
	EPA_300_0	Chloride	<0.25	mg/L	0.25	
		Sulfate	<0.25	mg/L	0.25	
	EPA_1631	Mercury (Total)	<0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	<5.00	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	<20.0	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	<100	ug/L	100	
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	<10.0	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.20	ug/L	0.20	
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	
		Lead (Total Recoverable)	<0.20	ug/L	0.20	
		Selenium (Total Recoverable)	<1.0	ug/L	1.0	P1
		Thallium (Total Recoverable)	<0.20	ug/L	0.20	

Sample Site: Sand Canyon Well #13
Site Identity: SC_13
Sample Number: 258510
Date/Time Sampled: 16-NOV-2016 11:00
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	1.5	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	14600	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.84	mg/L	0.10	T
	EPA_300_0	Chloride	160	mg/L	0.25	D
		Sulfate	9130	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	9.25	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1700	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	363000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	446	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	0.98	ug/L	0.20	D
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	D1
		Lead (Total Recoverable)	2.7	ug/L	0.20	D
		Selenium (Total Recoverable)	14.3	ug/L	1.0	D/P1
		Thallium (Total Recoverable)	5.7	ug/L	0.20	D
*	EPA_903_1	Radium 226	<0.265	pCi/L	0.265	
*	EPA_904_0	Radium 228	<0.417	pCi/L	0.417	
	NA	Depth to Water	10.15	ft.		
+	SM_2510_B	Conductivity	12900	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	14.0	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.3	SU	2.0	

Analysis Information:

*: Analysis performed by an external contract laboratory.
+: Analysis performed in the Field.
^: The Reporting Limit for the total analytes is less than two times the method Detection Limit (MDL). The associated concentration value reported is an approximation of the analyte.
#: Total value is a result of a calculation.
~: Sample was not distilled prior to analysis.
**: This analysis is not listed in 40 CFR Part 136.

Data Qualifiers:

D - Sample required dilution. The associated analyte concentration value reported has dilution factor applied. Reporting Limit does not reflect dilution factor.
D1 - To minimize matrix effects, the sample required dilution. The result is below the Reporting Limit, but within the method defined instrument detection.
J - Analysis confirms the presence of the analyte at a concentration which is less than the established Reporting Limit(RL), but greater than the Method Detection Limit(MDL). The associated concentration value reported is approx.
P1 - The precision for the Matrix Spike/Matrix Spike Duplicate (MS/MSD) in the sample batch exceeded the laboratory control limit.
T - The matrix spike recovery for the sample batch is outside the established range. The performance of the method is shown to be in control. The recovery is matrix related, not method related.
T1 - The analyte concentration in the sample is disproportionate to the spike level. The performance of the method was shown to be in control.

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Grab Samples

Coal Combustion Residuals

Sample Date: 11-15-16

Sampler: 11/15/16

LOCATION	# Bottles	LIMS #	Sample Time	pH, Field (su) SM 4500 H	Temperature, Field (°C) SM 2550 B	Conductivity, Field (umhos/cm) SM 2510 B	Depth to Water (feet)	Total Dissolved Solids SM 2540 C Field Filtered	Fluoride, SM 4500 F C Turbidity, SM 2130 B	Chloride & Sulfate EPA 300.0 Field Filtered	EPA 200.7 (Ba, Be, B, Cd, Ca, Cr, Co, Li & Mo - Total Recoverable)	EPA 200.8 (Sb, As, Pb, Tl & Se - Total Recoverable)	Mercury, EPA 1631 (not collecte using clean-hands/dirty-hands)	Radium 226 & Radium 228 (sent to TA Richland) SM 4500 S2 D	Comments
				Please mark boxes that apply.											
CC_1	~~9~~ 7	258438	1107	6.87	13.1	18,360	13.79	X	X	X	X	X	X	X	
FC_1	~~9~~ 7	258439	907	7.10	13.2	20,800	15.26	X	X	X	X	X	X	X	
FC_2	~~9~~ 7	258440	936	7.27	13.3	10,560	13.38	X	X	X	X	X	X	X	
FC_3A	~~9~~ 7	258441	1157	7.55	13.9	9,120	17.54	X	X	X	X	X	X	X	
FC_3A Duplicate	~~8 dup~~ 5	258442	1157					X	X	X	X	X	X		
FC_3B	~~8~~ 7	258443	1221	7.04	14.0	9,650	43.01	~~X~~	~~X~~	~~X~~	X	X	~~X~~	X	
EQUIP_BLK	5	258444	1039					X	X	X	X	X	X		
Total # of Bottles	~~45~~ 45														

Additional Comments / Sample Rejections/ Actions

Sample Template: CCR_LAND
Project ID: CCR_LAND
Test Schedule: CCR_LAND

Signature/Print last name — Date/Time

Relinquished by: Hetzel Hetzel — 11-15-16 @ 1310

Received by: Kathryn Brown — 11/15/16 @ 1310

Antn: RSB 11/15/16

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Laboratory Services
Grab Samples

Coal Combustion Residuals

Sample Date: 11/16/16

Sampler: J. Hetzel

LOCATION	# Bottles	LIMS #	Sample Time	pH, Field (su) SM 4500 H	Temperature, Field (°C) SM 2550 B	Conductivity, Field (umhos/cm) SM 2510 B	Depth to Water (feet)	Total Dissolved Solids SM 2540 C Field Filtered	Fluoride, SM 4500 F C Turbidity, SM 2130 B	Chloride & Sulfate EPA 300.0 Field Filtered	EPA 200.7 (Ba, Be, B, Cd, Ca, Cr, Co, Li & Mo - Total Recoverable)	EPA 200.8 (Sb, As, Pb, Tl & Se - Total Recoverable)	Mercury, EPA 1631 (not collecte using clean-hands/dirty-hands)	Radium 226 & Radium 228 (sent to TA Richland) SM 4500 S2 D	Comments
				Please mark boxes that apply.											
FC_3B	4	258501	1226	7.04	14.0	9650	N/A	X	X	X			X		
SC_10	7	258502	950	7.34	15.1	15,430	11.15	X	X	X	X	X	X	X	
SC_11	7	258503	1206	7.30	14.2	14,820	8.07	X	X	X	X	X	X	X	
SC_12	7	258504	1126	7.36	14.8	14,780	9.51	X	X	X	X	X	X	X	
SC_13	7	258510	1100	7.31	14.0	12,870	10.15	X	X	X	X	X	X	X	
SC_13 Duplicate	5	258506	1100					X	X	X	X	X	X		
SC_8	7	258505	902	6.86	16.7	11,980	5.13	X	X	X	X	X	X	X	
SC_9	7	258507	838	7.10	15.4	16,330	14.70	X	X	X	X	X	X	X	
SC_14	7	258508	1021	7.27	12.5	9,390	10.08	X	X	X	X	X	X	X	
EQUIP_BLK	5	258509	1032					X	X	X	X	X	X		
Total # of Bottles	63														

Signature/Print last name

Relinquished by: J. Hetzel — Date/Time: 11-16-16 @ 1310

Received by: Kathleen Brown — Date/Time: 11/16/16 @ 1310

Additional Comments / Sample Rejections/ Actions

Sample Template: CCR_LAND
Project ID: CCR_LAND
Test Schedule: CCR_LAND

Attn: RAB 11/17/16

Colorado Springs Utilities

It's how we're all connected

Laboratory Services Section
QC Report

Coal Combustion Rule Landfill
November 2016

Quality Assurance Officer Approval: _____ Date: 2-28-17

QC Narrative

This report is for sample numbers 258438-258444 and 258501-258510.

Turbidity by Standard Methods 2540 C

There are no anomalies to report for this analysis.

Total Dissolved Solids by Standard Methods 2540 C

There are no anomalies to report for this analysis.

Fluoride by Standard Methods 4500 F C

The matrix spike recovery for the sample batch is outside the established range. The performance of the method is shown to be in control. The recovery is matrix related, not method related. Associated samples 258438-258442, 258444, and 258501-258510 are qualified.

Anions by EPA Method 300.0

There are no anomalies to report for this analysis.

Mercury by EPA Method 1631 E

There are no anomalies to report for this analysis.

EPA 200.7

The matrix spike recovery for the sample batch is outside the established range for Total Recoverable Lithium. The performance of the method is shown to be in control. The recovery is matrix related, not method related. Associated samples 258440 and 258507 are qualified.

The analyte concentration in the sample is disproportionate to the spike level for Total Recoverable Calcium. The performance of the method was shown to be in control. Associated samples 258440, 258444, 258502-258508, and 250510 are qualified.

EPA 200.8

The precision for the Matrix Spike/Matrix Spike Duplicate (MS/MSD) in the sample batch exceeds the laboratory control limit for Total Recoverable Selenium. Associated samples 258502-258506 and 250508-258510 are qualified.

Method: Turbidity by Standard Methods 2130 B
Batch Analysis date: 11/15/16
Sampled date: 11/15/16 for LIMS 258438-258442 and 258444

Matrix QC performed on LIMS # 258440

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Turbidity	98	95 - 105		
Duplicate	Turbidity			<1	<20

Method: Turbidity by Standard Methods 2130 B
Batch Analysis date: 11/16/16
Sampled date: 11/16/16 for LIMS 258501-258510

Matrix QC performed on LIMS # 258510

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Turbidity	100	95 - 105		
Duplicate	Turbidity			6	<20

Method: Total Dissolved Solids by Standard Methods 2540 C
Batch Analysis date: 11/17/16 and 11/18/16
Sampled date: 11/15/16 for LIMS 258438-258442 and 258444
Sampled date: 11/16/16 for LIMS 258501-258510

Matrix QC performed on LIMS # 258442 and 258506

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Total Dissolved Solids	98	84 - 110		
Duplicate	Total Dissolved Solids (258442)			<1	<10
Duplicate	Total Dissolved Solids (258506)			<1	<10

Method: Fluoride by Standard Methods 4500 F C
Batch Analysis date: 11/16/16
Sampled date: 11/15/16 for LIMS 258438-258442 and 258444

Matrix QC performed on LIMS # 258441

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Fluoride (Total)	98	90 - 110		
QCS	Fluoride (Total)	99	90 - 110		
MS	Fluoride (Total)	***69**	80 - 120		
MSD	Fluoride (Total)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Fluoride (Total)	<0.10 mg/L	0.10 mg/L

***See Narrative**
Method: Fluoride by Standard Methods 4500 F C
Batch Analysis date: 11/17/16
Sampled date: 11/16/16 for LIMS 258501-258510

Matrix QC performed on LIMS # 258510

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Fluoride (Total)	95	90 - 110		
QCS	Fluoride (Total)	98	90 - 110		
MS	Fluoride (Total)	***58**	80 - 120		
MSD	Fluoride (Total)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Fluoride (Total)	<0.10 mg/L	0.10 mg/L

***See Narrative**

Method: Anions by EPA Method 300.0
Batch Analysis date: 11/17/16 and 11/18/16
Sampled date: 11/15/16 for LIMS 258438-258442 and 258444
Sampled date: 11/16/16 for LIMS 258501-258510

Matrix QC performed on LIMS # 258441, 258508 and 258510

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Chloride	97	90-110		
LFB	Chloride	100	90-110	<1	<20
FD	Chloride (258441)			1	<20
FD	Chloride (258508)			3	<20
FD	Chloride (258510)			4	<20
MS	Chloride (258441)	98	80-120		
MS	Chloride (258508)	94	80-120		
MS	Chloride (258510)	100	80-120		
MRL	Sulfate	102	90-110		
LFB	Sulfate	100	90-110	<1	<20
FD	Sulfate (258441)			<1	<20
FD	Sulfate (258508)			1	<20
FD	Sulfate (257150)			1	<20
MS	Sulfate (258441)	103	80-120		
MS	Sulfate (258508)	105	80-120		
MS	Sulfate (258510)	104	80-120		

QC Type	Analyte	Concentration	Limit
LRB	Chloride	<0.25 mg/L	0.25 mg/L
LRB	Sulfate	<0.25 mg/L	0.25 mg/L

Method: Mercury by EPA 1631 E
Batch Analysis date: 12/01/16
Sampled date: 11/15/16 for LIMS 258438-258442 and 258444
Sampled date: 11/16/16 for LIMS 258501-258510

Matrix QC performed on LIMS # 258441 and 258510

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Mercury (Total)	105	60-140		
QCS	Mercury (Total)	104	77-123		
MS	Mercury (Total) (258441)	99	71-125		
MSD	Mercury (Total) (258441)			2	<24
MS	Mercury (Total) (258510)	86	71-125		
MSD	Mercury (Total) (258510)			2	<24

QC Type	Analyte	Concentration	Limit
LRB	Mercury (Total)	<0.5 ng/L	0.5 ng/L

Method: EPA 200.7
Batch Analysis date: 11/22/16 for all except calcium
Batch Analysis date: 11/21/16 for calcium
Sampled date: 11/15/16 for 258440
Sampled date: 11/16/16 for 258507

Matrix QC performed on LIMS # 258507

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Barium (Total Recoverable)	100	60-140		
LFB	Barium (Total Recoverable)	100	85-115		
MS	Barium (Total Recoverable)	102	70-130		
MSD	Barium (Total Recoverable)			<1	<20
MRL	Beryllium (Total Recoverable)	90	60-140		
LFB	Beryllium (Total Recoverable)	100	85-115		
MS	Beryllium (Total Recoverable)	96	70-130		
MSD	Beryllium (Total Recoverable)			<1	<20
MRL	Boron (Total Recoverable)	99	60-140		
LFB	Boron (Total Recoverable)	98	85-115		
MS	Boron (Total Recoverable)	106	70-130		
MSD	Boron (Total Recoverable)			<1	<20
MRL	Cadmium (Total Recoverable)	108	60-140		
LFB	Cadmium (Total Recoverable)	101	85-115		
MS	Cadmium (Total Recoverable)	113	70-130		
MSD	Cadmium (Total Recoverable)			<1	<20
MRL	Calcium (Total Recoverable)	106	60-140		
LFB	Calcium (Total Recoverable)	95	85-115		
MS	Calcium (Total Recoverable)	***-198**	70-130		

MSD	Calcium (Total Recoverable)			3	<20
MRL	Chromium (Total Recoverable)	97	60-140		
LFB	Chromium (Total Recoverable)	97	85-115		
MS	Chromium (Total Recoverable)	95	70-130		
MSD	Chromium (Total Recoverable)			<1	<20
MRL	Cobalt (Total Recoverable)	93	60-140		
LFB	Cobalt (Total Recoverable)	97	85-115		
MS	Cobalt (Total Recoverable)	86	70-130		
MSD	Cobalt (Total Recoverable)			<1	<20
MRL	Lithium (Total Recoverable)	100	60-140		
LFB	Lithium (Total Recoverable)	100	85-115		
MS	Lithium (Total Recoverable)	***135**	70-130		
MSD	Lithium (Total Recoverable)			<1	<20
MRL	Molybdenum (Total Recoverable)	96	60-140		
LFB	Molybdenum (Total Recoverable)	97	85-115		
MS	Molybdenum (Total Recoverable)	96	70-130		
MSD	Molybdenum (Total Recoverable)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Barium (Total Recoverable)	<0.653 ug/L	0.653 ug/L
LRB	Beryllium (Total Recoverable)	<0.414 ug/L	0.414 ug/L
LRB	Boron (Total Recoverable)	<8.84 ug/L	8.84 ug/L
LRB	Cadmium (Total Recoverable)	<0.774 ug/L	0.774 ug/L
LRB	Calcium (Total Recoverable)	<20.3 ug/L	20.3 ug/L
LRB	Chromium (Total Recoverable)	<2.35 ug/L	2.35 ug/L
LRB	Cobalt (Total Recoverable)	<0.719 ug/L	0.719 ug/L
LRB	Lithium (Total Recoverable)	<5.83 ug/L	5.83 ug/L
LRB	Molybdenum (Total Recoverable)	<1.03 ug/L	1.03 ug/L

Method: EPA 200.7
Digestion date: 11/28/16
Batch Analysis date: 11/30/16
Sampled date: 11/15/16 for 258438, 258439 and 258441-258444
Sampled date: 11/16/16 for LIMS 258502-258206 and 258508-258510

Matrix QC performed on LIMS # 258441 & 258510

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Barium (Total Recoverable)	104	60-140		
LFB	Barium (Total Recoverable)	106	85-115		
MS	Barium (Total Recoverable) (258441)	108	70-130		
MSD	Barium (Total Recoverable) (258441)			<1	<20
MS	Barium (Total Recoverable) (258510)	110	70-130		
MSD	Barium (Total Recoverable)			<1	<20

	(258510)				
MRL	Beryllium (Total Recoverable)	100	60-140		
LFB	Beryllium (Total Recoverable)	105	85-115		
MS	Beryllium (Total Recoverable) (258441)	101	70-130		
MSD	Beryllium (Total Recoverable) (258441)			<1	<20
MS	Beryllium (Total Recoverable) (258510)	102	70-130		
MSD	Beryllium (Total Recoverable) (258510)			<1	<20
MRL	Boron (Total Recoverable)	102	60-140		
LFB	Boron (Total Recoverable)	103	85-115		
MS	Boron (Total Recoverable) (258441)	101	70-130		
MSD	Boron (Total Recoverable) (258441)			<1	<20
MS	Boron (Total Recoverable) (258510)	100	70-130		
MSD	Boron (Total Recoverable) (258510)			<1	<20
MRL	Cadmium (Total Recoverable)	104	60-140		
LFB	Cadmium (Total Recoverable)	101	85-115		
MS	Cadmium (Total Recoverable) (258441)	114	70-130		
MSD	Cadmium (Total Recoverable) (258441)			<1	<20
MS	Cadmium (Total Recoverable) (258510)	121	70-130		
MSD	Cadmium (Total Recoverable) (258510)			<1	<20
MRL	Calcium (Total Recoverable)	100	60-140		
LFB	Calcium (Total Recoverable)	95	85-115		
MS	Calcium (Total Recoverable) (258441)	117	70-130		
MSD	Calcium (Total Recoverable) (258441)			3	<20
MS	Calcium (Total Recoverable) (258510)	***-53**	70-130		
MSD	Calcium (Total Recoverable) (258510)			1	<20
MRL	Chromium (Total Recoverable)	105	60-140		
LFB	Chromium (Total Recoverable)	102	85-115		
MS	Chromium (Total Recoverable) (258441)	96	70-130		
MSD	Chromium (Total Recoverable) (258441)			<1	<20
MS	Chromium (Total Recoverable) (258510)	97	70-130		

MSD	Chromium (Total Recoverable) (258510)			1	<20
MRL	Cobalt (Total Recoverable)	100	60-140		
LFB	Cobalt (Total Recoverable)	100	85-115		
MS	Cobalt (Total Recoverable) (258441)	87	70-130		
MSD	Cobalt (Total Recoverable) (258441)			<1	<20
MS	Cobalt (Total Recoverable) (258510)	86	70-130		
MSD	Cobalt (Total Recoverable) (258510)			<1	<20
MRL	Lithium (Total Recoverable)	93	60-140		
LFB	Lithium (Total Recoverable)	100	85-115		
MS	Lithium (Total Recoverable) (258441)	128	70-130		
MSD	Lithium (Total Recoverable) (258441)			<1	<20
MS	Lithium (Total Recoverable) (258510)	127	70-130		
MSD	Lithium (Total Recoverable) (258510)			<1	<20
MRL	Molybdenum (Total Recoverable)	95	60-140		
LFB	Molybdenum (Total Recoverable)	102	85-115		
MS	Molybdenum (Total Recoverable) (258441)	96	70-130		
MSD	Molybdenum (Total Recoverable) (258441)			<1	<20
MS	Molybdenum (Total Recoverable) (258510)	96	70-130		
MSD	Molybdenum (Total Recoverable) (258510)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Barium (Total Recoverable)	<0.653 ug/L	0.653 ug/L
LRB	Beryllium (Total Recoverable)	<0.414 ug/L	0.414 ug/L
LRB	Boron (Total Recoverable)	<8.84 ug/L	8.84 ug/L
LRB	Cadmium (Total Recoverable)	<0.774 ug/L	0.774 ug/L
LRB	Calcium (Total Recoverable)	<20.3 ug/L	20.3 ug/L
LRB	Chromium (Total Recoverable)	<2.35 ug/L	2.35 ug/L
LRB	Cobalt (Total Recoverable)	<0.719 ug/L	0.719 ug/L
LRB	Lithium (Total Recoverable)	<5.83 ug/L	5.83 ug/L
LRB	Molybdenum (Total Recoverable)	<1.03 ug/L	1.03 ug/L

***See Narrative**

Method: EPA 200.8
Digestion Date: 11/28/16
Batch Analysis date: 12/22/16
Sampled date: 11/15/16 for LIMS 253438-258444

Matrix QC performed on LIMS # 258441

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Antimony (Total Recoverable)	105	60-140		
LFB	Antimony (Total Recoverable)	93	85-115		
MS	Antimony (Total Recoverable)	86	70-130		
MSD	Antimony (Total Recoverable)			7	<20
MRL	Arsenic (Total Recoverable)	100	60-140		
LFB	Arsenic (Total Recoverable)	91	85-115		
MS	Arsenic (Total Recoverable)	75	70-130		
MSD	Arsenic (Total Recoverable)			11	<20
MRL	Lead (Total Recoverable)	102	60-140		
LFB	Lead (Total Recoverable)	90	85-115		
MS	Lead (Total Recoverable)	98	70-130		
MSD	Lead (Total Recoverable)			17	<20
MRL	Selenium (Total Recoverable)	86	60-140		
LFB	Selenium (Total Recoverable)	92	85-115		
MS	Selenium (Total Recoverable)	78	70-130		
MSD	Selenium (Total Recoverable)			13	<20
MRL	Thallium (Total Recoverable)	96	60-140		
LFB	Thallium (Total Recoverable)	90	85-115		
MS	Thallium (Total Recoverable)	86	70-130		
MSD	Thallium (Total Recoverable)			6	<20

QC Type	Analyte	Concentration	Limit
LRB	Antimony (Total Recoverable)	<0.045 ug/L	0.045 ug/L
LRB	Arsenic (Total Recoverable)	<0.18 ug/L	0.18 ug/L
LRB	Lead (Total Recoverable)	<0.054 ug/L	0.054 ug/L
LRB	Selenium (Total Recoverable)	<0.22 ug/L	0.22 ug/L
LRB	Thallium (Total Recoverable)	<0.056 ug/L	0.056 ug/L

Method: EPA 200.8
Digestion Date: 11/28/16
Batch Analysis date: 12/22/16
Sampled date: 11/16/16 for LIMS 258502-258506 and 258508-258510

Matrix QC performed on LIMS # 258510

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Antimony (Total Recoverable)	99	60-140		
LFB	Antimony (Total Recoverable)	92	85-115		
MS	Antimony (Total Recoverable)	78	70-130		
MSD	Antimony (Total Recoverable)			1	<20
MRL	Arsenic (Total Recoverable)	103	60-140		
LFB	Arsenic (Total Recoverable)	90	85-115		
MS	Arsenic (Total Recoverable)	85	70-130		
MSD	Arsenic (Total Recoverable)			10	<20
MRL	Lead (Total Recoverable)	96	60-140		
LFB	Lead (Total Recoverable)	91	85-115		
MS	Lead (Total Recoverable)	79	70-130		
MSD	Lead (Total Recoverable)			4	<20
MRL	Selenium (Total Recoverable)	107	60-140		
LFB	Selenium (Total Recoverable)	88	85-115		
MS	Selenium (Total Recoverable)	84	70-130		
MSD	Selenium (Total Recoverable)			***21**	<20
MRL	Thallium (Total Recoverable)	91	60-140		
LFB	Thallium (Total Recoverable)	89	85-115		
MS	Thallium (Total Recoverable)	77	70-130		
MSD	Thallium (Total Recoverable)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Antimony (Total Recoverable)	<0.045 ug/L	0.045 ug/L
LRB	Arsenic (Total Recoverable)	<0.18 ug/L	0.18 ug/L
LRB	Lead (Total Recoverable)	<0.054 ug/L	0.054 ug/L
LRB	Selenium (Total Recoverable)	<0.22 ug/L	0.22 ug/L
LRB	Thallium (Total Recoverable)	<0.056 ug/L	0.056 ug/L

***See Narrative**

Method: EPA 200.8
Batch Analysis date: 12/01/16
Sampled date: 11/16/16 for LIMS 258507

Matrix QC performed on LIMS # 258507

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Antimony (Total Recoverable)	94	60-140		
LFB	Antimony (Total Recoverable)	100	85-115		
MS	Antimony (Total Recoverable)	104	70-130		
MSD	Antimony (Total Recoverable)			1	<20
MRL	Arsenic (Total Recoverable)	94	60-140		
LFB	Arsenic (Total Recoverable)	108	85-115		
MS	Arsenic (Total Recoverable)	95	70-130		
MSD	Arsenic (Total Recoverable)			7	<20
MRL	Lead (Total Recoverable)	83	60-140		
LFB	Lead (Total Recoverable)	113	85-115		
MS	Lead (Total Recoverable)	109	70-130		
MSD	Lead (Total Recoverable)			4	<20
MRL	Selenium (Total Recoverable)	98	60-140		
LFB	Selenium (Total Recoverable)	108	85-115		
MS	Selenium (Total Recoverable)	100	70-130		
MSD	Selenium (Total Recoverable)			<1	<20
MRL	Thallium (Total Recoverable)	86	60-140		
LFB	Thallium (Total Recoverable)	104	85-115		
MS	Thallium (Total Recoverable)	109	70-130		
MSD	Thallium (Total Recoverable)			3	<20

QC Type	Analyte	Concentration	Limit
LRB	Antimony (Total Recoverable)	<0.045 ug/L	0.045 ug/L
LRB	Arsenic (Total Recoverable)	<0.18 ug/L	0.18 ug/L
LRB	Lead (Total Recoverable)	<0.054 ug/L	0.054 ug/L
LRB	Selenium (Total Recoverable)	<0.22 ug/L	0.22 ug/L
LRB	Thallium (Total Recoverable)	<0.056 ug/L	0.056 ug/L

***See Narrative**

FD – Field Duplicate
LFB – Laboratory Fortified Blank
LRB – Laboratory Reagent Blank (Method Blank)
QCS – Quality Control Sample
MRL – Minimum Reporting Limit (Verification)
MS – Matrix Spike

MSD – Matrix Spike Duplicate
Underline – Data was outside the limit

Colorado Springs Utilities

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LABORATORY SERVICES
719-448-4800
www.csu.org

Report Date: January 16, 2018

This report contains test results for the following samples:

260446	18-Jan-2017 11:19	Crooked Canyon Well #1
260447	18-Jan-2017 11:19	Crooked Canyon Well #1
260448	18-Jan-2017 09:03	Fort Carson Well #1
260449	18-Jan-2017 09:41	Fort Carson Well #2
260450	18-Jan-2017 12:28	Fort Carson Well #3A
260451	18-Jan-2017 12:51	Fort Carson Well #3B
260452	18-Jan-2017 10:39	Equipment Blank
260453	19-Jan-2017 10:44	Sand Canyon Well #10
260454	19-Jan-2017 11:12	Sand Canyon Well #11
260455	19-Jan-2017 12:03	Sand Canyon Well #12
260456	19-Jan-2017 12:38	Sand Canyon Well #13
260460	19-Jan-2017 13:07	Sand Canyon Well #14
260461	19-Jan-2017 10:14	Equipment Blank

Colorado Springs Utilities Laboratory Services Section certifies that the test results meet all approved method And Laboratory's Quality Assurance Plan requirements unless otherwise noted.

Comments: ______________________________

Report Approved By: Wendy Asay (signature)
Wendy M. Asay - Environmental Specialist

1-16-18
Date

Sample Site: Crooked Canyon Well #1
Site Identity: CC_1
Sample Number: 260446
Date/Time Sampled: 18-JAN-2017 11:19
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	3.3	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	31100	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.20	mg/L	0.10	T
	EPA_300_0	Chloride	1680	mg/L	0.25	D
		Sulfate	17500	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.007	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	5.67	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1140	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	398000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	732	ug/L	10.0	D
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	4.1	ug/L	1.0	D
		Lead (Total Recoverable)	3.4	ug/L	0.50	D
		Selenium (Total Recoverable)	142	ug/L	1.0	D
		Thallium (Total Recoverable)	1.4	ug/L	0.50	D
*	EPA_903_1	Radium 226	0.429	pCi/L	0.195	J
*	EPA_904_0	Radium 228	0.790	pCi/L	0.568	J
	NA	Depth to Water	13.35	ft.		
+	SM_2510_B	Conductivity	22000	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	12.6	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	6.9	SU	2.0	

Sample Site: Crooked Canyon Well #1
Site Identity: CC_1
Sample Number: 260447
Date/Time Sampled: 18-JAN-2017 11:19
Comp/Grab: GRAB
Sample Comments: CC_1 Sample Duplicate

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	2.4	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	31300	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.20	mg/L	0.10	T
	EPA_300_0	Chloride	1680	mg/L	0.25	D
		Sulfate	17600	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.008	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	5.68	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1110	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	465000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	850	ug/L	10.0	D
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	D1
		Lead (Total Recoverable)	3.6	ug/L	0.50	D
		Selenium (Total Recoverable)	135	ug/L	1.0	D
		Thallium (Total Recoverable)	1.4	ug/L	0.50	D
*	EPA_903_1	Radium 226	0.709	pCi/L	0.220	J
*	EPA_904_0	Radium 228	1.06	pCi/L	0.56	

Sample Site: Fort Carson Well #1
Site Identity: FC_1
Sample Number: 260448
Date/Time Sampled: 18-JAN-2017 09:03
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	0.20	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	22200	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.13	mg/L	0.10	T
	EPA_300_0	Chloride	741	mg/L	0.25	D
		Sulfate	13700	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	9.29	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	980	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	438000	ug/L	100	T1/D
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	1080	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1/P1
		Arsenic (Total Recoverable)	6.1	ug/L	1.0	D
		Lead (Total Recoverable)	<0.50	ug/L	0.50	D1
		Selenium (Total Recoverable)	25.4	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.50	ug/L	0.50	D1
*	EPA_903_1	Radium 226	0.494	pCi/L	0.205	J
*	EPA_904_0	Radium 228	1.38	pCi/L	0.48	
	NA	Depth to Water	15.04	ft.		
+	SM_2510_B	Conductivity	21000	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	12.8	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.1	SU	2.0	

Sample Site: Fort Carson Well #2
Site Identity: FC_2
Sample Number: 260449
Date/Time Sampled: 18-JAN-2017 09:41
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	0.40	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	11200	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.52	mg/L	0.10	T
	EPA_300_0	Chloride	125	mg/L	0.25	D
		Sulfate	7040	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.005	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	5.39	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	946	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	438000	ug/L	100	T1/D
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	318	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1/P1
		Arsenic (Total Recoverable)	1.1	ug/L	1.0	D
		Lead (Total Recoverable)	<0.50	ug/L	0.50	D1
		Selenium (Total Recoverable)	45.2	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.50	ug/L	0.50	D1
*	EPA_903_1	Radium 226	<0.256	pCi/L	0.256	
*	EPA_904_0	Radium 228	0.343	pCi/L	0.325	J
	NA	Depth to Water	13.25	ft.		
+	SM_2510_B	Conductivity	10500	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.1	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Fort Carson Well #3A
Site Identity: FC_3A
Sample Number: 260450
Date/Time Sampled: 18-JAN-2017 12:28
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	6.5	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	9180	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.46	mg/L	0.10	T
	EPA_300_0	Chloride	104	mg/L	0.25	D
		Sulfate	5880	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	16.4	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1190	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	445000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	343	ug/L	10.0	D
		Molybdenum (Total Recoverable)	9.69	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	0.55	ug/L	0.50	D
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	D1
		Lead (Total Recoverable)	3.5	ug/L	0.50	D
		Selenium (Total Recoverable)	39.0	ug/L	1.0	D
		Thallium (Total Recoverable)	0.69	ug/L	0.50	D
*	EPA_903_1	Radium 226	<0.244	pCi/L	0.244	
*	EPA_904_0	Radium 228	0.495	pCi/L	0.321	J
	NA	Depth to Water	17.51	ft.		
+	SM_2510_B	Conductivity	8650	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.4	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.6	SU	2.0	

Sample Site: Fort Carson Well #3B
Site Identity: FC_3B
Sample Number: 260451
Date/Time Sampled: 18-JAN-2017 12:51
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	20	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	9250	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.56	mg/L	0.10	T
	EPA_300_0	Chloride	631	mg/L	0.25	D
		Sulfate	4590	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.008	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	24.4	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1660	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	282000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	7.78	ug/L	5.00	
		Lithium (Total Recoverable)	335	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	5.7	ug/L	1.0	D
		Lead (Total Recoverable)	3.5	ug/L	0.50	D
		Selenium (Total Recoverable)	6.7	ug/L	1.0	D
		Thallium (Total Recoverable)	0.98	ug/L	0.50	D
*	EPA_903_1	Radium 226	0.357	pCi/L	0.342	J
*	EPA_904_0	Radium 228	<0.505	pCi/L	0.505	
	NA	Depth to Water	37.68	ft.		
+	SM_2510_B	Conductivity	5780	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.0	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.0	SU	2.0	

Sample Site: Equipment Blank
Site Identity: EQUIP_BLK
Sample Number: 260452
Date/Time Sampled: 18-JAN-2017 10:39
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	<0.05	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	<10	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	<0.10	mg/L	0.10	T
	EPA_300_0	Chloride	<0.25	mg/L	0.25	
		Sulfate	<0.25	mg/L	0.25	
	EPA_1631	Mercury (Total)	<0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	<5.00	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	<20.0	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	<100	ug/L	100	T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	<10.0	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	P1
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	
		Lead (Total Recoverable)	<0.50	ug/L	0.50	
		Selenium (Total Recoverable)	<1.0	ug/L	1.0	
		Thallium (Total Recoverable)	<0.50	ug/L	0.50	

Sample Site: Sand Canyon Well #10
Site Identity: SC_10
Sample Number: 260453
Date/Time Sampled: 19-JAN-2017 10:44
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	25	NTU	0.05	FB
	SM_2540_C	Total Dissolved Solids	18200	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.56	mg/L	0.10	T
	EPA_300_0	Chloride	672	mg/L	0.25	D
		Sulfate	10200	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.011	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	21.6	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1290	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	522000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	858	ug/L	10.0	D
		Molybdenum (Total Recoverable)	6.14	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	3.9	ug/L	1.0	D
		Lead (Total Recoverable)	4.1	ug/L	0.50	D
		Selenium (Total Recoverable)	220	ug/L	1.0	D
		Thallium (Total Recoverable)	0.91	ug/L	0.50	D
*	EPA_903_1	Radium 226	0.333	pCi/L	0.231	J
*	EPA_904_0	Radium 228	0.371	pCi/L	0.332	J
	NA	Depth to Water	11.40	ft.		
+	SM_2510_B	Conductivity	8890	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	14.7	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.4	SU	2.0	

Sample Site: Sand Canyon Well #11
Site Identity: SC_11
Sample Number: 260454
Date/Time Sampled: 19-JAN-2017 11:12
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	17	NTU	0.05	FB
	SM_2540_C	Total Dissolved Solids	14300	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.53	mg/L	0.10	T
	EPA_300_0	Chloride	1140	mg/L	0.25	D
		Sulfate	7910	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.010	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	11.7	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1980	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	527000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	619	ug/L	10.0	D
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	3.3	ug/L	1.0	D
		Lead (Total Recoverable)	2.5	ug/L	0.50	D
		Selenium (Total Recoverable)	196	ug/L	1.0	D
		Thallium (Total Recoverable)	1.2	ug/L	0.50	D
*	EPA_903_1	Radium 226	0.253	pCi/L	0.212	J
*	EPA_904_0	Radium 228	<0.331	pCi/L	0.331	
	NA	Depth to Water	8.44	ft.		
+	SM_2510_B	Conductivity	7970	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.9	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Sand Canyon Well #12
Site Identity: SC_12
Sample Number: 260455
Date/Time Sampled: 19-JAN-2017 12:03
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	6.0	NTU	0.05	FB
	SM_2540_C	Total Dissolved Solids	17200	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.84	mg/L	0.10	T
	EPA_300_0	Chloride	324	mg/L	0.25	D
		Sulfate	10800	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.004	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	10.8	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	4020	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	445000	ug/L	100	D
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	558	ug/L	10.0	D
		Molybdenum (Total Recoverable)	8.66	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	D1
		Lead (Total Recoverable)	1.7	ug/L	0.50	D
		Selenium (Total Recoverable)	33.7	ug/L	1.0	D
		Thallium (Total Recoverable)	1.4	ug/L	0.50	D
*	EPA_903_1	Radium 226	<0.368	pCi/L	0.368	
*	EPA_904_0	Radium 228	<0.418	pCi/L	0.418	
	NA	Depth to Water	9.42	ft.		
+	SM_2510_B	Conductivity	8150	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.9	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.4	SU	2.0	

Sample Site: Sand Canyon Well #13
Site Identity: SC_13
Sample Number: 260456
Date/Time Sampled: 19-JAN-2017 12:38
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	1.4	NTU	0.05	FB
	SM_2540_C	Total Dissolved Solids	14400	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.86	mg/L	0.10	T
	EPA_300_0	Chloride	162	mg/L	0.25	D
		Sulfate	9020	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.003	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	7.75	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1650	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	433000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	433	ug/L	10.0	D
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	D1
		Lead (Total Recoverable)	1.5	ug/L	0.50	D
		Selenium (Total Recoverable)	20.2	ug/L	1.0	D
		Thallium (Total Recoverable)	1.5	ug/L	0.50	D
*	EPA_903_1	Radium 226	0.451	pCi/L	0.256	J
*	EPA_904_0	Radium 228	<0.420	pCi/L	0.420	
	NA	Depth to Water	9.87	ft.		
+	SM_2510_B	Conductivity	10700	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.7	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Sand Canyon Well #14
Site Identity: SC_14
Sample Number: 260460
Date/Time Sampled: 19-JAN-2017 13:07
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	5.0	NTU	0.05	FB
	SM_2540_C	Total Dissolved Solids	13500	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.74	mg/L	0.10	T
	EPA_300_0	Chloride	162	mg/L	0.25	D
		Sulfate	8450	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	9.05	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1670	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	439000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	407	ug/L	10.0	D
		Molybdenum (Total Recoverable)	7.98	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	D1
		Lead (Total Recoverable)	1.6	ug/L	0.50	D
		Selenium (Total Recoverable)	1.3	ug/L	1.0	D
		Thallium (Total Recoverable)	1.4	ug/L	0.50	D
*	EPA_903_1	Radium 226	0.310	pCi/L	0.239	J
*	EPA_904_0	Radium 228	<0.374	pCi/L	0.374	
	NA	Depth to Water	9.56	ft.		
+	SM_2510_B	Conductivity	6540	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	12.5	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Equipment Blank
Site Identity: EQUIP_BLK
Sample Number: 260461
Date/Time Sampled: 19-JAN-2017 10:14
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	0.05	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	<10	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	<0.10	mg/L	0.10	T
	EPA_300_0	Chloride	<0.25	mg/L	0.25	
		Sulfate	<0.25	mg/L	0.25	
	EPA_1631	Mercury (Total)	<0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	<5.00	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	<20.0	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	<100	ug/L	100	T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	<10.0	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	
		Lead (Total Recoverable)	<0.50	ug/L	0.50	
		Selenium (Total Recoverable)	<1.0	ug/L	1.0	
		Thallium (Total Recoverable)	<0.50	ug/L	0.50	

Analysis Information:

*: Analysis performed by an external contract laboratory.
+: Analysis performed in the Field.
^: The Reporting Limit for the total analytes is less than two times the method Detection Limit (MDL). The associated concentration value reported is an approximation of the analyte.
#: Total value is a result of a calculation.
~: Sample was not distilled prior to analysis.
**: This analysis is not listed in 40 CFR Part 136.

Data Qualifiers:

D - Sample required dilution. The associated analyte concentration value reported has dilution factor applied. Reporting Limit does not reflect dilution factor.
D1 - To minimize matrix effects, the sample required dilution. The result is below the Reporting Limit, but within the method defined instrument detection.
FB - The analyte was detected in the Field Blank, Equipment Blank, and/or Trip Blank at a level which exceeds the Laboratory Control Limit.
J - Analysis confirms the presence of the analyte at a concentration which is less than the established Reporting Limit(RL), but greater than the Method Detection Limit(MDL). The associated concentration value reported is approx.
P1 - The precision for the Matrix Spike/Matrix Spike Duplicate (MS/MSD) in the sample batch exceeded the laboratory control limit.
T - The matrix spike recovery for the sample batch is outside the established range. The performance of the method is shown to be in control. The recovery is matrix related, not method related.
T1 - The analyte concentration in the sample is disproportionate to the spike level. The performance of the method was shown to be in control.

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Laboratory Services
Grab Samples

Coal Combustion Residuals

Sample Date: 1-18-17

Sampler: J Hetzel

LOCATION	# Bottles	LIMS #	Sample Time	pH, Field (su) SM 4500 H	Temperature, Field (°C) SM 2550 B	Conductivity, Field (umhos/cm) SM 2510 B	Depth to Water (feet)	Total Dissolved Solids SM 2540 C Field Filtered	Fluoride, SM 4500 F C Turbidity, SM 2130 B	Chloride & Sulfate EPA 300.0 Field Filtered	EPA 200.7 (Ba, Be, B, Cd, Ca, Cr, Co, Li & Mo - Total Recoverable)	EPA 200.8 (Sb, As, Pb, Tl & Se - Total Recoverable)	Mercury, EPA 1631 (not collecte using clean-hands/dirty-hands)	Radium 226 & Radium 228 (sent to TA Richland) SM 4500 S2 D	Comments
				Please mark boxes that apply.											
CC_1	7	260446	1119	6.88	12.6	22,000	13.35	X	X	X	X	X	X	X	
CC_1 Duplicate	5	260447	1119					X	X	X	X	X	X		
FC_1	7	260448	903	7.08	12.8	21,000	15.04	X	X	X	X	X	X	X	
FC_2	7	260449	941	7.26	13.1	10,480	13.25	X	X	X	X	X	X	X	
FC_3A	7	260450	1228	7.57	13.4	8,650	17.51	X	X	X	X	X	X	X	
FC_3B	7	260451	1251	7.00	13.0	5,780	37.68	X	X	X	X	X	X	X	
EQUIP_BLK	5	260452	1039					X	X	X	X	X	X		
Total # of Bottles	45														

Additional Comments / Sample Rejections/ Actions

Sample Template: CCR_LAND
Project ID: CCR_LAND
Test Schedule: CCR_LAND

Signature/Print last name

Relinquished by J Hetzel Hetzel 1-18-17 @ 1400

Received by Kathleen Brown 1/18/17 @ 1400

AB 1-18-17
WMA

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Colorado Springs Utilities
Laboratory Services
Grab Samples

Coal Combustion Residuals

Sample Date: 1-19-17

Sampler: J. HETZEL

LOCATION	# Bottles	LIMS #	Sample Time	pH, Field (su) SM 4500 H	Temperature, Field (°C) SM 2550 B	Conductivity, Field (umhos/cm) SM 2510 B	Depth to Water (feet)	Total Dissolved Solids SM 2540 C Field Filtered	Fluoride, SM 4500 F C Turbidity, SM 2130 B	Chloride & Sulfate EPA 300.0 Field Filtered	EPA 200.7 (Ba, Be, B, Cd, Ca, Cr, Co, Li & Mo - Total Recoverable)	EPA 200.8 (Sb, As, Pb, Tl & Se - Total Recoverable)	Mercury, EPA 1631 (not collecte using clean-hands/dirty-hands)	Radium 226 & Radium 228 (sent to TA Richland) SM 4500 S2 D	Comments
				Please mark boxes that apply.											
SC_10	7	260453	1044	7.36	14.7	8,890	11.40	X	X	X	X	X	X	X	
SC_11	7	260454	1112	7.32	13.9	7,970	8.44	X	X	X	X	X	X	X	
SC_12	WMA 1-19-17	260455	1203	7.38	13.9	8,150	9.42	X	X	X	X	X	X	X	
SC_13	7	260456	1238	7.34	13.7	10,720	9.87	X	X	X	X	X	X	X	
SC_8	7	260457	926	6.93	11.5	12,510	5.37	X	X	X	X	X	X	X	
SC_8 Duplicate	5	260458	926					X	X	X	X	X	X		
SC_9	7	260459	1005	7.14	14.2	8,760	1483	X	X	X	X	X	X	X	
SC_14	7	260460	1307	7.30	12.5	6,540	9.56	X	X	X	X	X	X	X	
EQUIP_BLK	5	260461	1014					X	X	X	X	X	X		
Total # of Bottles	59														

Additional Comments / Sample Rejections/ Actions

Sample Template: CCR_LAND
Project ID: CCR_LAND
Test Schedule: CCR_LAND

Signature/Print last name

Relinquished by: Jesse Hetzel — 1-19-17 @ 1417

Received by: Rachelle Brown — 1/19/17 @ 1417

1-19-17 WMA

Colorado Springs Utilities

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Laboratory Services Section
QC Report

Coal Combustion Rule Landfill
January 2017

Quality Assurance Officer Approval: _____ Date: 3-8-17

QC Narrative

This report is for sample numbers 260446-260461.

Turbidity by Standard Methods 2540 C

There are no anomalies to report for this analysis.

Total Dissolved Solids by Standard Methods 2540 C

There are no anomalies to report for this analysis.

Fluoride by Standard Methods 4500 F C

The matrix spike recovery for the sample batch is outside the established range. The performance of the method is shown to be in control. The recovery is matrix related, not method related. Associated samples are qualified.

Anions by EPA Method 300.0

There are no anomalies to report for this analysis.

Mercury by EPA Method 1631 E

There are no anomalies to report for this analysis.

EPA 200.7

The matrix spike recovery for the sample batch is outside the established range for Total Recoverable Calcium. The performance of the method is shown to be in control. The recovery is matrix related, not method related. Associated samples 260448, 260449, and 260459 are qualified.

The analyte concentration in the sample is disproportionate to the spike level for Total Recoverable Calcium. The performance of the method was shown to be in control. Associated samples 260446, 260447, 260450-260452, and 260461 are qualified.

EPA 200.8

The precision for the Matrix Spike/Matrix Spike Duplicate (MS/MSD) for the sample batch exceeds the laboratory control limit for Total Recoverable Antimony. Associated samples 260448, 260449, 260452, and 260459 are qualified.

Method: Turbidity by Standard Methods 2130 B
Batch Analysis date: 01/18/17
Sampled date: 01/18/17 for LIMS 260446-260452

Matrix QC performed on LIMS # 260446

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Turbidity	104	95 - 105		
Duplicate	Turbidity			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Turbidity	<0.05 NTU	0.05 NTU

Method: Turbidity by Standard Methods 2130 B
Batch Analysis date: 01/19/17
Sampled date: 01/19/17 for LIMS 256053-260461

Matrix QC performed on LIMS # 260457

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Turbidity	104	95 - 105		
Duplicate	Turbidity			3	<20

QC Type	Analyte	Concentration	Limit
LRB	Turbidity	<0.05 NTU	0.05 NTU

Method: Total Dissolved Solids by Standard Methods 2540 C
Batch Analysis date: 01/20/17
Sampled date: 01/18/17 for LIMS 260446-260452
Sampled date: 01/19/17 for LIMS 260453-260461

Matrix QC performed on LIMS # 260446, 260457 and 260449

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Total Dissolved Solids	102	84 - 110		
Duplicate	Total Dissolved Solids (260446)			1	<10
Duplicate	Total Dissolved Solids (260457)			2	<10
Duplicate	Total Dissolved Solids (260449)			2	<10

Method: Fluoride by Standard Methods 4500 F C
Batch Analysis date: 01/19/17
Sampled date: 01/18/17 for LIMS 260446-260452

Matrix QC performed on LIMS # 260446

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Fluoride (Total)	98	90 - 110		
QCS	Fluoride (Total)	100	90 - 110		
MS	Fluoride (Total)	***41**	80 - 120		
MSD	Fluoride (Total)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Fluoride (Total)	<0.10 mg/L	0.10 mg/L

***See Narrative**

Method: Fluoride by Standard Methods 4500 F C
Batch Analysis date: 01/20/17
Sampled date: 01/19/17 for LIMS 260453-260461

Matrix QC performed on LIMS # 260457

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Fluoride (Total)	92	90 - 110		
QCS	Fluoride (Total)	100	90 - 110		
MS	Fluoride (Total)	***60**	80 - 120		
MSD	Fluoride (Total)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Fluoride (Total)	<0.10 mg/L	0.10 mg/L

***See Narrative**

Method: Anions by EPA Method 300.0
Batch Analysis date: 01/23/17 and 01/24/17
Sampled date: 01/18/17 for LIMS 260446-260452
Sampled date: 01/19/17 for LIMS 260453-260461

Matrix QC performed on LIMS # 260446 & 260457

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Chloride	100	90-110		
LFB	Chloride	100	90-110	<1	<20
FD	Chloride (260446)			<1	<20
FD	Chloride (260457)			2	<20
MS	Chloride (260446)	97	80-120		
MS	Chloride (260457)	97	80-120		

MRL	Sulfate	109	90-110		
LFB	Sulfate	104	90-110	2	<20
FD	Sulfate (260446)			<1	<20
FD	Sulfate (260457)			<1	<20
MS	Sulfate (260446)	104	80-120		
MS	Sulfate (260457)	105	80-120		

QC Type	Analyte	Concentration	Limit
LRB	Chloride	<0.25 mg/L	0.25 mg/L
LRB	Sulfate	<0.25 mg/L	0.25 mg/L

Method: Mercury by EPA 1631 E
Batch Analysis date: 02/03/17
Sampled date: 01/18/17 for LIMS 260446-260452
Sampled date: 01/19/17 for LIMS 260453-260461

Matrix QC performed on LIMS # 260446 and 260457

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Mercury (Total)	114	60-140		
QCS	Mercury (Total)	111	77-123		
MS	Mercury (Total) (260446)	108	71-125		
MSD	Mercury (Total) (260446)			2	<24
MS	Mercury (Total) (260457)	115	71-125		
MSD	Mercury (Total) (260457)			3	<24

QC Type	Analyte	Concentration	Limit
LRB	Mercury (Total)	<0.5 ng/L	0.5 ng/L

Method: EPA 200.7
Batch Analysis date: 01/25/17
Sampled date: 01/18/17 for 260448 and 260449
Sampled date: 01/19/17 for 260459

Matrix QC performed on LIMS # 260459

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Barium (Total Recoverable)	98	60-140		
LFB	Barium (Total Recoverable)	102	85-115		
MS	Barium (Total Recoverable)	105	70-130		
MSD	Barium (Total Recoverable)			<1	<20
MRL	Beryllium (Total Recoverable)	94	60-140		
LFB	Beryllium (Total Recoverable)	102	85-115		
MS	Beryllium (Total Recoverable)	100	70-130		
MSD	Beryllium (Total Recoverable)			<1	<20

MRL	Boron (Total Recoverable)	90	60-140		
LFB	Boron (Total Recoverable)	97	85-115		
MS	Boron (Total Recoverable)	97	70-130		
MSD	Boron (Total Recoverable)			<1	<20
MRL	Cadmium (Total Recoverable)	99	60-140		
LFB	Cadmium (Total Recoverable)	99	85-115		
MS	Cadmium (Total Recoverable)	107	70-130		
MSD	Cadmium (Total Recoverable)			<1	<20
MRL	Calcium (Total Recoverable)	101	60-140		
LFB	Calcium (Total Recoverable)	97	85-115		
MS	Calcium (Total Recoverable)	***51**	70-130		
MSD	Calcium (Total Recoverable)			7	<20
MRL	Chromium (Total Recoverable)	102	60-140		
LFB	Chromium (Total Recoverable)	100	85-115		
MS	Chromium (Total Recoverable)	95	70-130		
MSD	Chromium (Total Recoverable)			<1	<20
MRL	Cobalt (Total Recoverable)	100	60-140		
LFB	Cobalt (Total Recoverable)	99	85-115		
MS	Cobalt (Total Recoverable)	88	70-130		
MSD	Cobalt (Total Recoverable)			<1	<20
MRL	Lithium (Total Recoverable)	98	60-140		
LFB	Lithium (Total Recoverable)	103	85-115		
MS	Lithium (Total Recoverable)	129	70-130		
MSD	Lithium (Total Recoverable)			<1	<20
MRL	Molybdenum (Total Recoverable)	102	60-140		
LFB	Molybdenum (Total Recoverable)	100	85-115		
MS	Molybdenum (Total Recoverable)	97	70-130		
MSD	Molybdenum (Total Recoverable)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Barium (Total Recoverable)	<0.878 ug/L	0.878 ug/L
LRB	Beryllium (Total Recoverable)	<0.253 ug/L	0.253 ug/L
LRB	Boron (Total Recoverable)	<7.17 ug/L	7.17 ug/L
LRB	Cadmium (Total Recoverable)	<0.834 ug/L	0.834 ug/L
LRB	Calcium (Total Recoverable)	<14.2 ug/L	14.2 ug/L
LRB	Chromium (Total Recoverable)	<1.56 ug/L	1.56 ug/L
LRB	Cobalt (Total Recoverable)	<1.15 ug/L	1.15 ug/L
LRB	Lithium (Total Recoverable)	<4.09 ug/L	4.09 ug/L
LRB	Molybdenum (Total Recoverable)	<1.42 ug/L	1.42 ug/L

***See Narrative**

Method: EPA 200.7
Digestion date: 01/31/17
Batch Analysis date: 01/31/17 for everything except Calcium and Lithium on samples 260446, 260447, 260450, 260451, 260452 and 260461
Batch Analysis date: 02/06/17 for Calcium and Lithium on samples 260446, 260447, 260450, 260451, 260452 and 260461
Sampled date: 01/18/17 for 260446, 260447, and 260450-260452
Sampled date: 01/19/17 for LIMS 260453-260458, 260460 and 260461

Matrix QC performed on LIMS # 260446 & 260457

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Barium (Total Recoverable)	106	60-140		
LFB	Barium (Total Recoverable) (260446)	104	85-115		
LFB	Barium (Total Recoverable) (260457)	105	85-115		
MS	Barium (Total Recoverable) (260446)	107	70-130		
MSD	Barium (Total Recoverable) (260446)			1	<20
MS	Barium (Total Recoverable) (260457)	108	70-130		
MSD	Barium (Total Recoverable) (260457)			2	<20
MRL	Beryllium (Total Recoverable)	102	60-140		
LFB	Beryllium (Total Recoverable) (260446)	105	85-115		
LFB	Beryllium (Total Recoverable) (260457)	105	85-115		
MS	Beryllium (Total Recoverable) (260446)	99	70-130		
MSD	Beryllium (Total Recoverable) (260446)			<1	<20
MS	Beryllium (Total Recoverable) (260457)	99	70-130		
MSD	Beryllium (Total Recoverable) (260457)			2	<20
MRL	Boron (Total Recoverable)	96	60-140		
LFB	Boron (Total Recoverable) (260446)	101	85-115		
LFB	Boron (Total Recoverable) (260457)	100	85-115		
MS	Boron (Total Recoverable) (260446)	92	70-130		
MSD	Boron (Total Recoverable) (260446)			<1	<20
MS	Boron (Total Recoverable) (260457)	99	70-130		

MSD	Boron (Total Recoverable) (260457)			<1	<20
MRL	Cadmium (Total Recoverable)	88	60-140		
LFB	Cadmium (Total Recoverable) (260446)	95	85-115		
LFB	Cadmium (Total Recoverable) (260457)	95	85-115		
MS	Cadmium (Total Recoverable) (260446)	119	70-130		
MSD	Cadmium (Total Recoverable) (260446)			2	<20
MS	Cadmium (Total Recoverable) (260457)	108	70-130		
MSD	Cadmium (Total Recoverable) (260457)			1	<20
MRL	Calcium (Total Recoverable) (260446)	97	60-140		
MRL	Calcium (Total Recoverable) (260457)	110	60-140		
LFB	Calcium (Total Recoverable) (260446)	92	85-115		
LFB	Calcium (Total Recoverable) (260457)	106	85-115		
MS	Calcium (Total Recoverable) (260446)	***-17**	70-130		
MSD	Calcium (Total Recoverable) (260446)			3	<20
MS	Calcium (Total Recoverable) (260457)	***-103**	70-130		
MSD	Calcium (Total Recoverable) (260457)			4	<20
MRL	Chromium (Total Recoverable)	101	60-140		
LFB	Chromium (Total Recoverable) (260446)	104	85-115		
LFB	Chromium (Total Recoverable) (260457)	105	85-115		
MS	Chromium (Total Recoverable) (260446)	95	70-130		
MSD	Chromium (Total Recoverable) (260446)			<1	<20
MS	Chromium (Total Recoverable) (260457)	98	70-130		
MSD	Chromium (Total Recoverable) (260457)			1	<20
MRL	Cobalt (Total Recoverable)	99	60-140		
LFB	Cobalt (Total Recoverable) (260446)	97	85-115		
LFB	Cobalt (Total Recoverable) (260457)	97	85-115		

MS	Cobalt (Total Recoverable) (260446)	77	70-130		
MSD	Cobalt (Total Recoverable) (260446)			<1	<20
MS	Cobalt (Total Recoverable) (260457)	84	70-130		
MSD	Cobalt (Total Recoverable) (260457)			<1	<20
MRL	Lithium (Total Recoverable) (260446)	88	60-140		
MRL	Lithium (Total Recoverable) (260457)	90	60-140		
LFB	Lithium (Total Recoverable) (260446)	97	85-115		
LFB	Lithium (Total Recoverable) (260457)	106	85-115		
MS	Lithium (Total Recoverable) (260446)	103	70-130		
MSD	Lithium (Total Recoverable) (260446)			3	<20
MS	Lithium (Total Recoverable) (260457)	124	70-130		
MSD	Lithium (Total Recoverable) (260457)			3	<20
MRL	Molybdenum (Total Recoverable)	76	60-140		
LFB	Molybdenum (Total Recoverable) (260446)	106	85-115		
LFB	Molybdenum (Total Recoverable) (260457)	109	85-115		
MS	Molybdenum (Total Recoverable) (260446)	97	70-130		
MSD	Molybdenum (Total Recoverable) (260446)			1	<20
MS	Molybdenum (Total Recoverable) (260457)	106	70-130		
MSD	Molybdenum (Total Recoverable) (260457)			1	<20

QC Type	Analyte	Concentration	Limit
LRB	Barium (Total Recoverable)	<0.878 ug/L	0.878 ug/L
LRB	Beryllium (Total Recoverable)	<0.253 ug/L	0.253 ug/L
LRB	Boron (Total Recoverable)	<7.17 ug/L	7.17 ug/L
LRB	Cadmium (Total Recoverable)	<0.834 ug/L	0.834 ug/L
LRB	Calcium (Total Recoverable)	<14.2 ug/L	14.2 ug/L
LRB	Chromium (Total Recoverable)	<1.56 ug/L	1.56 ug/L
LRB	Cobalt (Total Recoverable)	<1.15 ug/L	1.15 ug/L
LRB	Lithium (Total Recoverable)	<4.09 ug/L	4.09 ug/L
LRB	Molybdenum (Total Recoverable)	<1.42 ug/L	1.42 ug/L

***See Narrative**

Method: EPA 200.8
Batch Analysis date: 01/23/17
Sampled date: 01/18/17 for LIMS 260448, 260449 and 260452
Sampled date: 01/19/17 for LIMS 260459

Matrix QC performed on LIMS # 260448

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Antimony (Total Recoverable)	92	60-140		
LFB	Antimony (Total Recoverable)	97	85-115		
MS	Antimony (Total Recoverable)	114	70-130		
MSD	Antimony (Total Recoverable)			***20**	<20
MRL	Arsenic (Total Recoverable)	99	60-140		
LFB	Arsenic (Total Recoverable)	99	85-115		
MS	Arsenic (Total Recoverable)	99	70-130		
MSD	Arsenic (Total Recoverable)			5	<20
MRL	Lead (Total Recoverable)	84	60-140		
LFB	Lead (Total Recoverable)	96	85-115		
MS	Lead (Total Recoverable)	98	70-130		
MSD	Lead (Total Recoverable)			3	<20
MRL	Selenium (Total Recoverable)	102	60-140		
LFB	Selenium (Total Recoverable)	104	85-115		
MS	Selenium (Total Recoverable)	108	70-130		
MSD	Selenium (Total Recoverable)			11	<20
MRL	Thallium (Total Recoverable)	90	60-140		
LFB	Thallium (Total Recoverable)	97	85-115		
MS	Thallium (Total Recoverable)	98	70-130		
MSD	Thallium (Total Recoverable)			4	<20

QC Type	Analyte	Concentration	Limit
LRB	Antimony (Total Recoverable)	<0.121 ug/L	0.121 ug/L
LRB	Arsenic (Total Recoverable)	<0.671 ug/L	0.671 ug/L
LRB	Lead (Total Recoverable)	<0.273 ug/L	0.273 ug/L
LRB	Selenium (Total Recoverable)	<0.739 ug/L	0.739 ug/L
LRB	Thallium (Total Recoverable)	<0.173 ug/L	0.173 ug/L

***See Narrative**

Method: EPA 200.8
Digestion Date: 01/25/17
Batch Analysis date: 02/07/17
Sampled date: 01/18/17 for LIMS 260446, 260447, 260450 and 260451
Sampled date: 01/19/17 for LIMS 260453-260458, 260460 and 260461

Matrix QC performed on LIMS # 260446 and 260457

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Antimony (Total Recoverable)	85	60-140		
LFB	Antimony (Total Recoverable) (260446)	99	85-115		
MS	Antimony (Total Recoverable) (260446)	86	70-130		
MSD	Antimony (Total Recoverable) (260446)			8	<20
LFB	Antimony (Total Recoverable) (260457)	101	85-115		
MS	Antimony (Total Recoverable) (260457)	78	70-130		
MSD	Antimony (Total Recoverable) (260457)			5	<20
MRL	Arsenic (Total Recoverable)	93	60-140		
LFB	Arsenic (Total Recoverable) (260446)	97	85-115		
MS	Arsenic (Total Recoverable) (260446)	84	70-130		
MSD	Arsenic (Total Recoverable) (260446)			<1	<20
LFB	Arsenic (Total Recoverable) (260457)	99	85-115		
MS	Arsenic (Total Recoverable) (260457)	85	70-130		
MSD	Arsenic (Total Recoverable) (260457)			2	<20
MRL	Lead (Total Recoverable)	86	60-140		
LFB	Lead (Total Recoverable) (260446)	100	85-115		
MS	Lead (Total Recoverable) (260446)	86	70-130		
MSD	Lead (Total Recoverable) (260446)			12	<20
LFB	Lead (Total Recoverable) (260457)	102	85-115		
MS	Lead (Total Recoverable) (260457)	90	70-130		
MSD	Lead (Total Recoverable) (260457)			6	<20

MRL	Selenium (Total Recoverable)	96	60-140		
LFB	Selenium (Total Recoverable) (260446)	98	85-115		
MS	Selenium (Total Recoverable) (260446)	98	70-130		
MSD	Selenium (Total Recoverable) (260446)			<1	<20
LFB	Selenium (Total Recoverable) (260457)	99	85-115		
MS	Selenium (Total Recoverable) (260457)	96	70-130		
MSD	Selenium (Total Recoverable) (260457)			3	<20
MRL	Thallium (Total Recoverable)	97	60-140		
LFB	Thallium (Total Recoverable) (260446)	103	85-115		
MS	Thallium (Total Recoverable) (260446)	91	70-130		
MSD	Thallium (Total Recoverable) (260446)			10	<20
LFB	Thallium (Total Recoverable) (260457)	104	85-115		
MS	Thallium (Total Recoverable) (260457)	86	70-130		
MSD	Thallium (Total Recoverable) (260457)			4	<20

QC Type	Analyte	Concentration	Limit
LRB	Antimony (Total Recoverable)	<0.121 ug/L	0.121 ug/L
LRB	Arsenic (Total Recoverable)	<0.671 ug/L	0.671 ug/L
LRB	Lead (Total Recoverable)	<0.273 ug/L	0.273 ug/L
LRB	Selenium (Total Recoverable)	<0.739 ug/L	0.739 ug/L
LRB	Thallium (Total Recoverable)	<0.173 ug/L	0.173 ug/L

FD – Field Duplicate
LFB – Laboratory Fortified Blank
LRB – Laboratory Reagent Blank (Method Blank)
QCS – Quality Control Sample
MRL – Minimum Reporting Limit (Verification)
MS – Matrix Spike
MSD – Matrix Spike Duplicate
Underline – Data was outside the limit

Colorado Springs Utilities

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LABORATORY SERVICES
719-448-4800
www.csu.org

Report Date: January 16, 2018

This report contains test results for the following samples:

261369	14-Feb-2017 12:16	Crooked Canyon Well #1
261370	14-Feb-2017 12:16	Crooked Canyon Well #1
261371	14-Feb-2017 09:36	Fort Carson Well #1
261372	14-Feb-2017 10:13	Fort Carson Well #2
261373	14-Feb-2017 13:16	Fort Carson Well #3A
261374	14-Feb-2017 13:31	Fort Carson Well #3B
261375	14-Feb-2017 10:19	Equipment Blank
261417	15-Feb-2017 11:07	Sand Canyon Well #10
261418	15-Feb-2017 11:07	Sand Canyon Well #10
261419	15-Feb-2017 11:41	Sand Canyon Well #11
261420	15-Feb-2017 12:37	Sand Canyon Well #12
261421	15-Feb-2017 13:00	Sand Canyon Well #13
261424	15-Feb-2017 13:33	Sand Canyon Well #14
261425	15-Feb-2017 09:37	Equipment Blank
263291	14-Feb-2017 09:36	Fort Carson Well #1

Colorado Springs Utilities Laboratory Services Section certifies that the test results meet all approved method And Laboratory's Quality Assurance Plan requirements unless otherwise noted.

Comments: _____

Report Approved By: Wendy M. Asay / Wendy Asay — Environmental Specialist

1-16-18 — Date

Sample Site: Crooked Canyon Well #1
Site Identity: CC_1
Sample Number: 261369
Date/Time Sampled: 14-FEB-2017 12:16
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	1.9	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	30300	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.22	mg/L	0.10	T
	EPA_300_0	Chloride	1520	mg/L	0.25	D
		Sulfate	16800	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.006	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	5.98	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1120	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	436000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	730	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	4.6	ug/L	1.0	D
		Lead (Total Recoverable)	2.2	ug/L	0.50	D
		Selenium (Total Recoverable)	141	ug/L	1.0	D
		Thallium (Total Recoverable)	3.7	ug/L	0.50	D
*	EPA_903_1	Radium 226	0.631	pCi/L	0.301	J
*	EPA_904_0	Radium 228	1.21	pCi/L	0.57	
	NA	Depth to Water	13.93	ft.		
+	SM_2510_B	Conductivity	23200	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	12.6	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	6.9	SU	2.0	

Sample Site: Crooked Canyon Well #1
Site Identity: CC_1
Sample Number: 261370
Date/Time Sampled: 14-FEB-2017 12:16
Comp/Grab: GRAB
Sample Comments: Field Duplicate

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	1.9	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	30600	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.22	mg/L	0.10	T
	EPA_300_0	Chloride	1510	mg/L	0.25	D
		Sulfate	16800	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.006	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	6.03	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1110	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	427000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	730	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	5.3	ug/L	1.0	D
		Lead (Total Recoverable)	3.4	ug/L	0.50	D
		Selenium (Total Recoverable)	142	ug/L	1.0	D/T
		Thallium (Total Recoverable)	4.0	ug/L	0.50	D

Sample Site: Fort Carson Well #1
Site Identity: FC_1
Sample Number: 261371
Date/Time Sampled: 14-FEB-2017 09:36
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	0.25	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	22100	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.13	mg/L	0.10	T
	EPA_300_0	Chloride	738	mg/L	0.25	D
		Sulfate	13200	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	10.0	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	972	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	408000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	1000	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	D1
		Lead (Total Recoverable)	2.7	ug/L	0.50	D
		Selenium (Total Recoverable)	14.1	ug/L	1.0	D/T
		Thallium (Total Recoverable)	3.7	ug/L	0.50	D
*	EPA_903_1	Radium 226	0.728	pCi/L	0.338	J
*	EPA_904_0	Radium 228	2.02	pCi/L	0.71	
	NA	Depth to Water	15.39	ft.		
+	SM_2510_B	Conductivity	10800	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.2	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.1	SU	2.0	

Sample Site: Fort Carson Well #2
Site Identity: FC_2
Sample Number: 261372
Date/Time Sampled: 14-FEB-2017 10:13
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	0.20	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	11200	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.55	mg/L	0.10	T
	EPA_300_0	Chloride	123	mg/L	0.25	D
		Sulfate	6840	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.004	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	5.66	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	934	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	413000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	298	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	D1
		Lead (Total Recoverable)	1.8	ug/L	0.50	D
		Selenium (Total Recoverable)	38.8	ug/L	1.0	D/T
		Thallium (Total Recoverable)	3.6	ug/L	0.50	D
*	EPA_903_1	Radium 226	<0.425	pCi/L	0.425	
*	EPA_904_0	Radium 228	0.510	pCi/L	0.430	J
	NA	Depth to Water	13.35	ft.		
+	SM_2510_B	Conductivity	10500	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	12.9	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Fort Carson Well #3A
Site Identity: FC_3A
Sample Number: 261373
Date/Time Sampled: 14-FEB-2017 13:16
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	4.9	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	9310	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.48	mg/L	0.10	T
	EPA_300_0	Chloride	107	mg/L	0.25	D
		Sulfate	5720	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	16.7	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1140	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	420000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	312	ug/L	10.0	
		Molybdenum (Total Recoverable)	10.4	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	D1
		Lead (Total Recoverable)	1.7	ug/L	0.50	D
		Selenium (Total Recoverable)	35.2	ug/L	1.0	D/T
		Thallium (Total Recoverable)	3.4	ug/L	0.50	D
*	EPA_903_1	Radium 226	<0.380	pCi/L	0.380	
*	EPA_904_0	Radium 228	0.593	pCi/L	0.339	J
	NA	Depth to Water	17.71	ft.		
+	SM_2510_B	Conductivity	8700	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.1	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.6	SU	2.0	

Sample Site: Fort Carson Well #3B
Site Identity: FC_3B
Sample Number: 261374
Date/Time Sampled: 14-FEB-2017 13:31
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	9.3	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	9350	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.51	mg/L	0.10	T
	EPA_300_0	Chloride	732	mg/L	0.25	D
		Sulfate	4470	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.004	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	23.0	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1590	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	296000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	7.96	ug/L	5.00	
		Lithium (Total Recoverable)	334	ug/L	10.0	
		Molybdenum (Total Recoverable)	7.16	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	0.66	ug/L	0.50	D
		Arsenic (Total Recoverable)	4.0	ug/L	1.0	D
		Lead (Total Recoverable)	0.99	ug/L	0.50	D
		Selenium (Total Recoverable)	9.2	ug/L	1.0	D
		Thallium (Total Recoverable)	6.2	ug/L	0.50	D
*	EPA_903_1	Radium 226	0.618	pCi/L	0.314	J
*	EPA_904_0	Radium 228	0.748	pCi/L	0.450	J
	NA	Depth to Water	44.27	ft.		
+	SM_2510_B	Conductivity	11000	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.0	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.0	SU	2.0	

Sample Site: Equipment Blank
Site Identity: EQUIP_BLK
Sample Number: 261375
Date/Time Sampled: 14-FEB-2017 10:19
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	0.05	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	<10	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	<0.10	mg/L	0.10	T
	EPA_300_0	Chloride	<0.25	mg/L	0.25	
		Sulfate	<0.25	mg/L	0.25	
	EPA_1631	Mercury (Total)	<0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	<5.00	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	<20.0	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	<100	ug/L	100	T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	<10.0	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	
		Lead (Total Recoverable)	<0.50	ug/L	0.50	
		Selenium (Total Recoverable)	<1.0	ug/L	1.0	
		Thallium (Total Recoverable)	<0.50	ug/L	0.50	

Sample Site: Sand Canyon Well #10
Site Identity: SC_10
Sample Number: 261417
Date/Time Sampled: 15-FEB-2017 11:07
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	16	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	17400	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.57	mg/L	0.10	T
	EPA_300_0	Chloride	696	mg/L	0.25	D
		Sulfate	9940	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.009	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	15.0	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1300	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	504000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	671	ug/L	10.0	
		Molybdenum (Total Recoverable)	6.17	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	3.9	ug/L	1.0	D
		Lead (Total Recoverable)	2.8	ug/L	0.50	D
		Selenium (Total Recoverable)	219	ug/L	1.0	D/T
		Thallium (Total Recoverable)	3.5	ug/L	0.50	D
*	EPA_903_1	Radium 226	0.529	pCi/L	0.343	J
*	EPA_904_0	Radium 228	0.585	pCi/L	0.472	J
	NA	Depth to Water	11.78	ft.		
+	SM_2510_B	Conductivity	16200	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	14.5	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.4	SU	2.0	

Sample Site: Sand Canyon Well #10
Site Identity: SC_10
Sample Number: 261418
Date/Time Sampled: 15-FEB-2017 11:07
Comp/Grab: GRAB
Sample Comments: Field Duplicate

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	17	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	18000	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.58	mg/L	0.10	T
	EPA_300_0	Chloride	699	mg/L	0.25	D
		Sulfate	10100	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.009	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	14.0	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1300	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	445000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	671	ug/L	10.0	
		Molybdenum (Total Recoverable)	6.48	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	0.58	ug/L	0.50	D
		Arsenic (Total Recoverable)	6.9	ug/L	1.0	D
		Lead (Total Recoverable)	2.7	ug/L	0.50	D
		Selenium (Total Recoverable)	221	ug/L	1.0	D
		Thallium (Total Recoverable)	4.2	ug/L	0.50	D

Sample Site: Sand Canyon Well #11
Site Identity: SC_11
Sample Number: 261419
Date/Time Sampled: 15-FEB-2017 11:41
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	13	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	15000	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.55	mg/L	0.10	T
	EPA_300_0	Chloride	1140	mg/L	0.25	D
		Sulfate	7730	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.008	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	15.6	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1990	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	531000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	542	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	4.6	ug/L	1.0	D
		Lead (Total Recoverable)	2.8	ug/L	0.50	D
		Selenium (Total Recoverable)	194	ug/L	1.0	D
		Thallium (Total Recoverable)	3.8	ug/L	0.50	D
*	EPA_903_1	Radium 226	0.369	pCi/L	0.248	J
*	EPA_904_0	Radium 228	0.382	pCi/L	0.336	J
	NA	Depth to Water	8.74	ft.		
+	SM_2510_B	Conductivity	15400	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.7	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Sand Canyon Well #12
Site Identity: SC_12
Sample Number: 261420
Date/Time Sampled: 15-FEB-2017 12:37
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	11	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	17000	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.85	mg/L	0.10	T
	EPA_300_0	Chloride	320	mg/L	0.25	D
		Sulfate	10500	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.003	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	12.7	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	4020	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	408000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	472	ug/L	10.0	
		Molybdenum (Total Recoverable)	9.09	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	D1
		Lead (Total Recoverable)	2.1	ug/L	0.50	D
		Selenium (Total Recoverable)	30.0	ug/L	1.0	D
		Thallium (Total Recoverable)	3.8	ug/L	0.50	D
*	EPA_903_1	Radium 226	0.459	pCi/L	0.282	J
*	EPA_904_0	Radium 228	<0.395	pCi/L	0.395	
	NA	Depth to Water	9.38	ft.		
+	SM_2510_B	Conductivity	15200	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.5	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.4	SU	2.0	

Sample Site: Sand Canyon Well #13
Site Identity: SC_13
Sample Number: 261421
Date/Time Sampled: 15-FEB-2017 13:00
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	1.5	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	14400	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.86	mg/L	0.10	T
	EPA_300_0	Chloride	165	mg/L	0.25	D
		Sulfate	8840	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	7.42	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1670	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	458000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	379	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	D1
		Lead (Total Recoverable)	1.5	ug/L	0.50	D
		Selenium (Total Recoverable)	16.4	ug/L	1.0	D
		Thallium (Total Recoverable)	3.8	ug/L	0.50	D
*	EPA_903_1	Radium 226	0.388	pCi/L	0.238	J
*	EPA_904_0	Radium 228	<0.386	pCi/L	0.386	
	NA	Depth to Water	9.88	ft.		
+	SM_2510_B	Conductivity	12700	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.1	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Sand Canyon Well #14
Site Identity: SC_14
Sample Number: 261424
Date/Time Sampled: 15-FEB-2017 13:33
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	2.6	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	13400	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.74	mg/L	0.10	T
	EPA_300_0	Chloride	160	mg/L	0.25	D
		Sulfate	8270	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	7.66	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1640	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	424000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	365	ug/L	10.0	
		Molybdenum (Total Recoverable)	8.21	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	D1
		Lead (Total Recoverable)	1.5	ug/L	0.50	D
		Selenium (Total Recoverable)	3.3	ug/L	1.0	D
		Thallium (Total Recoverable)	3.5	ug/L	0.50	D
*	EPA_903_1	Radium 226	<0.291	pCi/L	0.291	
*	EPA_904_0	Radium 228	1.19	pCi/L	0.42	
	NA	Depth to Water	9.64	ft.		
+	SM_2510_B	Conductivity	12000	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	12.1	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Equipment Blank
Site Identity: EQUIP_BLK
Sample Number: 261425
Date/Time Sampled: 15-FEB-2017 09:37
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	0.05	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	<10	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	<0.10	mg/L	0.10	T
	EPA_300_0	Chloride	<0.25	mg/L	0.25	
		Sulfate	<0.25	mg/L	0.25	
	EPA_1631	Mercury (Total)	<0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	<5.00	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	<20.0	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	<100	ug/L	100	T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	<10.0	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	
		Lead (Total Recoverable)	<0.50	ug/L	0.50	
		Selenium (Total Recoverable)	<1.0	ug/L	1.0	T
		Thallium (Total Recoverable)	<0.50	ug/L	0.50	

Sample Site: Fort Carson Well #1
Site Identity: FC_1
Sample Number: 263291
Date/Time Sampled: 14-FEB-2017 09:36
Comp/Grab: GRAB
Sample Comments: Ra 226 and Ra 228 Duplicate

Method	Analyte	Result	Units	RL	Qualifier
* EPA_903_1	Radium 226	0.722	pCi/L	0.235	J
* EPA_904_0	Radium 228	1.15	pCi/L	0.51	

Analysis Information:

*: Analysis performed by an external contract laboratory.
+: Analysis performed in the Field.
^: The Reporting Limit for the total analytes is less than two times the method Detection Limit (MDL). The associated concentration value reported is an approximation of the analyte.
#: Total value is a result of a calculation.
~: Sample was not distilled prior to analysis.
**: This analysis is not listed in 40 CFR Part 136.

Data Qualifiers:

D - Sample required dilution. The associated analyte concentration value reported has dilution factor applied. Reporting Limit does not reflect dilution factor.
D1 - To minimize matrix effects, the sample required dilution. The result is below the Reporting Limit, but within the method defined instrument detection.
J - Analysis confirms the presence of the analyte at a concentration which is less than the established Reporting Limit(RL), but greater than the Method Detection Limit(MDL). The associated concentration value reported is approx.
T - The matrix spike recovery for the sample batch is outside the established range. The performance of the method is shown to be in control. The recovery is matrix related, not method related.
T1 - The analyte concentration in the sample is disproportionate to the spike level. The performance of the method was shown to be in control.

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Grab Samples

Coal Combustion Residuals

Sample Date: 2/14/17

Sampler: J. HETZEL

LOCATION	# Bottles	LIMS #	Sample Time	pH, Field (su) SM 4500 H	Temperature, Field (°C) SM 2550 B	Conductivity, Field (umhos/cm) SM 2510 B	Depth to Water (feet)	Total Dissolved Solids SM 2540 C Field Filtered	Fluoride, SM 4500 F C Turbidity, SM 2130 B	Chloride & Sulfate EPA 300.0 Field Filtered	EPA 200.7 (Ba, Be, B, Cd, Ca, Cr, Co, Li & Mo - Total Recoverable)	EPA 200.8 (Sb, As, Pb, Tl & Se - Total Recoverable)	Mercury, EPA 1631 (not collecte using clean-hands/dirty-hands)	Radium 226 & Radium 228 (sent to TA Richland) SM 4500 S2 D	Comments
				Please mark boxes that apply.											
CC_1	7	261369	1216	6.89	12.6	23,200	13.93	X	X	X	X	X	X	X	
CC_1 Duplicate	5	261370	1216					X	X	X	X	X	X		
FC_1	7	261371	936	7.08	13.2	10,850	15.39	X	X	X	X	X	X	X	Duplicate for Ra 228 + 226 LIMS 263291
FC_2	7	261372	1013	7.26	12.9	10,520	13.35	X	X	X	X	X	X	X	
FC_3A	7	261373	1316	7.55	13.1	8,700	17.71	X	X	X	X	X	X	X	
FC_3B	7	261374	1331	6.99	13.0	10,950	44.27	X	X	X	X	X	X	X	
EQUIP_BLK	5	261375	1019					X	X	X	X	X	X		
Total # of Bottles															

Additional Comments / Sample Rejections/ Actions

Sample Template: CCR_LAND
Project ID: CCR_LAND
Test Schedule: CCR_LAND

Signature/Print last name | Date/Time

Relinquished by: J. Hetzel HETZEL 2-14-17 @ 1415

Received by: Paul Brown 2/14/17 @ 1415

@ KDW 2/15/17

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Laboratory Services
Grab Samples

Coal Combustion Residuals

Sample Date: 2/15/17

Sampler: J. Hetzel

LOCATION	# Bottles	LIMS #	Sample Time	pH, Field (su) SM 4500 H	Temperature, Field (°C) SM 2550 B	Conductivity, Field (umhos/cm) SM 2510 B	Depth to Water (feet)	Total Dissolved Solids SM 2540 C Field Filtered	Fluoride, SM 4500 F C Turbidity, SM 2130 B	Chloride & Sulfate EPA 300.0 Field Filtered	EPA 200.7 (Ba, Be, B, Cd, Ca, Cr, Co, Li & Mo - Total Recoverable)	EPA 200.8 (Sb, As, Pb, Tl & Se - Total Recoverable)	Mercury, EPA 1631 (not collecte using clean-hands/dirty-hands)	Radium 226 & Radium 228 (sent to TA Richland) SM 4500 S2 D	Comments
				Please mark boxes that apply.											
SC_10	7	261417	1107	7.35	14.5	16,230	11.78	X	X	X	X	X	X	X	
SC_10 Duplicate	5	261418	1107					X	X	X	X	X	X		
SC_11	7	261419	1141	7.32	13.7	15,450	8.74	X	X	X	X	X	X	X	
SC_12	7	261420	1237	7.39	13.5	15,160	9.38	X	X	X	X	X	X	X	
SC_13	7	261421	1300	7.33	13.1	12,670	9.88	X	X	X	X	X	X	X	
SC_8	7	261422	932	6.91	10.8	6770	5.63	X	X	X	X	X	X	X	
SC_9	7	261423	1026	7.15	13.6	15,410	15.12	X	X	X	X	X	X	X	
SC_14	7	261424	1333	7.31	12.1	12,010	9.64	X	X	X	X	X	X	X	
EQUIP_BLK	5	261425	937					X	X	X	X	X	X		
Total # of Bottles	59														

Additional Comments / Sample Rejections/ Actions

Sample Template: CCR_LAND
Project ID: CCR_LAND
Test Schedule: CCR_LAND

	Signature/Print last name		Date/Time
Relinquished by		Hetzel	2-15-17 @ 1420
Received by		Winkelblech	2/15/17 @ 1420

Auth: DB 2/14/17

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Laboratory Services Section
QC Report

Coal Combustion Rule Landfill
February 14 & 15, 2017

Quality Assurance Officer Approval: _____ Date: 3-21-17

QC Narrative

This report is for sample numbers 261369-261375 and 261417-261425.

Turbidity by Standard Methods 2540 C

There are no anomalies to report for this analysis.

Total Dissolved Solids by Standard Methods 2540 C

There are no anomalies to report for this analysis.

Fluoride by Standard Methods 4500 F C

The matrix spike recovery is outside the established range. The performance of the method is shown to be in control. The recovery is matrix related, not method related. Associated samples 261369-261375 and 261417-261425 are qualified.

Anions by EPA Method 300.0

There are no anomalies to report for this analysis.

Mercury by EPA Method 1631 E

There are no anomalies to report for this analysis.

EPA 200.7

The analyte concentration in the sample is disproportionate to the spike level for Total Recoverable Calcium. The performance of the method was shown to be in control. Associated samples 261369-261375 and 261417-261425 are qualified.

EPA 200.8

The matrix spike recovery is outside the established range for Total Recoverable Selenium. The performance of the method is shown to be in control. The recovery is matrix related, not method related. Associated samples 261370-261373 and 261417-261425 are qualified.

Method: Turbidity by Standard Methods 2130 B
Batch Analysis date: 02/14/17
Sampled date: 02/14/17 for samples 261369-261375

Matrix QC performed on LIMS # 261369

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Turbidity	100	95 - 105		
Duplicate	Turbidity			5	<20

Method: Turbidity by Standard Methods 2130 B
Batch Analysis date: 02/16/17
Sampled date: 02/15/17 for samples 261417-261425

Matrix QC performed on LIMS # 261418

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Turbidity	100	95 - 105		
Duplicate	Turbidity			<1	<20

Method: Total Dissolved Solids by Standard Methods 2540 C
Batch Analysis date: 02/15/17
Sampled date: 02/14/17 for LIMS 261369-261375

Matrix QC performed on LIMS # 261369

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Total Dissolved Solids	97	90 - 110		
Duplicate	Total Dissolved Solids			2	<10

Method: Total Dissolved Solids by Standard Methods 2540 C
Batch Analysis date: 02/15/17
Sampled date: 02/15/17 for LIMS 261417-261425

Matrix QC performed on LIMS # 261417

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Total Dissolved Solids	96	90 - 110		
Duplicate	Total Dissolved Solids			1	<10

Method: Fluoride by Standard Methods 4500 F C
Batch Analysis date: 02/15/17
Sampled date: 02/14/17 for LIMS 261369-261375

Matrix QC performed on LIMS # 261369

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Fluoride (Total)	99	90 - 110		
QCS	Fluoride (Total)	102	90 - 110		
MS	Fluoride (Total)	***45**	80 - 120		
MSD	Fluoride (Total)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Fluoride (Total)	<0.10 mg/L	0.10 mg/L

***See Narrative**

Method: Fluoride by Standard Methods 4500 F C
Batch Analysis date: 02/16/17
Sampled date: 02/15/17 for LIMS 261417-261425

Matrix QC performed on LIMS # 261417

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Fluoride (Total)	97	90 - 110		
QCS	Fluoride (Total)	100	90 - 110		
MS	Fluoride (Total)	***58**	80 - 120		
MSD	Fluoride (Total)			5	<20

QC Type	Analyte	Concentration	Limit
LRB	Fluoride (Total)	<0.10 mg/L	0.10 mg/L

***See Narrative**

Method: Anions by EPA Method 300.0
Batch Analysis date: 02/21/17 and 02/22/17
Sampled date: 02/14/17 for LIMS 261369-261375
Sampled date: 02/15/17 for LIMS 261417-261425

Matrix QC performed on LIMS # 261369 & 261417

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Chloride	95	90-110		
LFB	Chloride	99	90-110	<1	<20
FD	Chloride (261369)			<1	<20
FD	Chloride (261417)			<1	<20
MS	Chloride (261369)	91	80-120		
MS	Chloride (261417)	96	80-120		
MRL	Sulfate	98	90-110		
LFB	Sulfate	99	90-110	<1	<20
FD	Sulfate (261369)			<1	<20
FD	Sulfate (261417)			1	<20
MS	Sulfate (261369)	101	80-120		
MS	Sulfate (261417)	98	80-120		

QC Type	Analyte	Concentration	Limit
LRB	Chloride	<0.25 mg/L	0.25 mg/L
LRB	Sulfate	<0.25 mg/L	0.25 mg/L

Method: Mercury by EPA 1631 E
Batch Analysis date: 02/24/17
Sampled date: 02/14/17 for LIMS 261369-261375
Sampled date: 02/15/17 for LIMS 261417-261425

Matrix QC performed on LIMS # 261369 and 261417

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Mercury (Total)	101	60-140		
QCS	Mercury (Total)	99	77-123		
MS	Mercury (Total) (261369)	97	71-125		
MSD	Mercury (Total) (261369)			5	<24
MS	Mercury (Total) (261417)	78	71-125		
MSD	Mercury (Total) (261417)			<1	<24

QC Type	Analyte	Concentration	Limit
LRB	Mercury (Total)	<0.5 ng/L	0.5 ng/L

Method: EPA 200.7
Digestion date: 02/16/17
Batch Analysis date: 02/22/17
Sampled date: 02/14/17 for samples 261369-261375
Sampled date: 02/15/17 for samples 261417-261425

Matrix QC performed on LIMS # 261417 & 261369

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Barium (Total Recoverable)	108	60-140		
LFB	Barium (Total Recoverable)	104	85-115		
MS	Barium (Total Recoverable) (261417)	107	70-130		
MSD	Barium (Total Recoverable) (261417)			<1	<20
MS	Barium (Total Recoverable) (261369)	108	70-130		
MSD	Barium (Total Recoverable) (261369)			<1	<20
MRL	Beryllium (Total Recoverable)	102	60-140		
LFB	Beryllium (Total Recoverable)	103	85-115		
MS	Beryllium (Total Recoverable) (261417)	98	70-130		
MSD	Beryllium (Total Recoverable) (261417)			<1	<20
MS	Beryllium (Total Recoverable) (261369)	95	70-130		
MSD	Beryllium (Total Recoverable) (261369)			<1	<20
MRL	Boron (Total Recoverable)	111	60-140		
LFB	Boron (Total Recoverable)	101	85-115		
MS	Boron (Total Recoverable) (261417)	85	70-130		
MSD	Boron (Total Recoverable) (261417)			<1	<20
MS	Boron (Total Recoverable) (261369)	80	70-130		
MSD	Boron (Total Recoverable) (261369)			2	<20
MRL	Cadmium (Total Recoverable)	91	60-140		
LFB	Cadmium (Total Recoverable)	100	85-115		
MS	Cadmium (Total Recoverable) (261417)	117	70-130		
MSD	Cadmium (Total Recoverable) (261417)			1	<20
MS	Cadmium (Total Recoverable) (261369)	124	70-130		
MSD	Cadmium (Total Recoverable) (261369)			1	<20
MRL	Calcium (Total Recoverable)	107	60-140		
LFB	Calcium (Total Recoverable)	99	85-115		
MS	Calcium (Total Recoverable) (261417)	***-633**	70-130		
MSD	Calcium (Total Recoverable) (261417)			3	<20
MS	Calcium (Total Recoverable) (261369)	***-824**	70-130		
MSD	Calcium (Total Recoverable) (261369)			1	<20
MRL	Chromium (Total Recoverable)	103	60-140		
LFB	Chromium (Total Recoverable)	102	85-115		
MS	Chromium (Total Recoverable) (261417)	92	70-130		
MSD	Chromium (Total Recoverable) (261417)			2	<20
MS	Chromium (Total Recoverable) (261369)	90	70-130		
MSD	Chromium (Total Recoverable) (261369)			<1	<20
MRL	Cobalt (Total Recoverable)	104	60-140		
LFB	Cobalt (Total Recoverable)	101	85-115		
MS	Cobalt (Total Recoverable) (261417)	84	70-130		

MSD	Cobalt (Total Recoverable) (261417)			<1	<20
MS	Cobalt (Total Recoverable) (261369)	80	70-130		
MSD	Cobalt (Total Recoverable) (261369)			<1	<20
MRL	Lithium (Total Recoverable)	105	60-140		
LFB	Lithium (Total Recoverable)	104	85-115		
MS	Lithium (Total Recoverable) (261417)	116	70-130		
MSD	Lithium (Total Recoverable) (261417)			2	<20
MS	Lithium (Total Recoverable) (261369)	121	70-130		
MSD	Lithium (Total Recoverable) (261369)			1	<20
MRL	Molybdenum (Total Recoverable)	90	60-140		
LFB	Molybdenum (Total Recoverable)	99	85-115		
MS	Molybdenum (Total Recoverable) (261417)	90	70-130		
MSD	Molybdenum (Total Recoverable) (261417)			1	<20
MS	Molybdenum (Total Recoverable) (261369)	88	70-130		
MSD	Molybdenum (Total Recoverable) (261369)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Barium (Total Recoverable)	<0.878 ug/L	0.878 ug/L
LRB	Beryllium (Total Recoverable)	<0.253 ug/L	0.253 ug/L
LRB	Boron (Total Recoverable)	<7.17 ug/L	7.17 ug/L
LRB	Cadmium (Total Recoverable)	<0.834 ug/L	0.834 ug/L
LRB	Calcium (Total Recoverable)	<14.2 ug/L	14.2 ug/L
LRB	Chromium (Total Recoverable)	<1.56 ug/L	1.56 ug/L
LRB	Cobalt (Total Recoverable)	<1.15 ug/L	1.15 ug/L
LRB	Lithium (Total Recoverable)	<4.09 ug/L	4.09 ug/L
LRB	Molybdenum (Total Recoverable)	<1.42 ug/L	1.42 ug/L

***See Narrative**

Method: EPA 200.8
Digestion date: 02/16/17
Batch Analysis date: 02/27/17
Sampled date: 02/14/17 for samples 261370-261373
Sampled date: 02/15/17 for samples 261417 and 261425

Matrix QC performed on LIMS # 261417

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Antimony (Total Recoverable)	84	50-150		
LFB	Antimony (Total Recoverable)	100	85-115		
MS	Antimony (Total Recoverable)	83	70-130		
MSD	Antimony (Total Recoverable)			6	<20
MRL	Arsenic (Total Recoverable)	94	50-150		
LFB	Arsenic (Total Recoverable)	96	85-115		
MS	Arsenic (Total Recoverable)	81	70-130		
MSD	Arsenic (Total Recoverable)			4	<20
MRL	Lead (Total Recoverable)	80	50-150		
LFB	Lead (Total Recoverable)	100	85-115		
MS	Lead (Total Recoverable)	104	70-130		
MSD	Lead (Total Recoverable)			13	<20
MRL	Selenium (Total Recoverable)	101	50-150		
LFB	Selenium (Total Recoverable)	96	85-115		
MS	Selenium (Total Recoverable)	***58**	70-130		
MSD	Selenium (Total Recoverable)			2	<20
MRL	Thallium (Total Recoverable)	100	50-150		
LFB	Thallium (Total Recoverable)	101	85-115		
MS	Thallium (Total Recoverable)	79	70-130		
MSD	Thallium (Total Recoverable)			2	<20

QC Type	Analyte	Concentration	Limit
LRB	Antimony (Total Recoverable)	<0.121 ug/L	0.121 ug/L
LRB	Arsenic (Total Recoverable)	<0.671 ug/L	0.671 ug/L
LRB	Lead (Total Recoverable)	<0.273 ug/L	0.273 ug/L
LRB	Selenium (Total Recoverable)	<0.739 ug/L	0.739 ug/L
LRB	Thallium (Total Recoverable)	<0.173 ug/L	0.173 ug/L

***See Narrative**

Method: EPA 200.8
Digestion Date: 02/16/17
Batch Analysis date: 02/28/17
Sampled date: 02/14/17 for samples 261369 and 261375
Sampled date: 02/15/17 for samples 261418-261424

Matrix QC performed on LIMS # 261369

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Antimony (Total Recoverable)	88	50-150		
LFB	Antimony (Total Recoverable)	100	85-115		
MS	Antimony (Total Recoverable)	84	70-130		
MSD	Antimony (Total Recoverable)			5	<20
MRL	Arsenic (Total Recoverable)	89	50-150		
LFB	Arsenic (Total Recoverable)	98	85-115		
MS	Arsenic (Total Recoverable)	75	70-130		
MSD	Arsenic (Total Recoverable)			8	<20
MRL	Lead (Total Recoverable)	80	50-150		
LFB	Lead (Total Recoverable)	101	85-115		
MS	Lead (Total Recoverable)	96	70-130		
MSD	Lead (Total Recoverable)			11	<20
MRL	Selenium (Total Recoverable)	92	50-150		
LFB	Selenium (Total Recoverable)	100	85-115		
MS	Selenium (Total Recoverable)	80	70-130		
MSD	Selenium (Total Recoverable)			1	<20
MRL	Thallium (Total Recoverable)	98	50-150		
LFB	Thallium (Total Recoverable)	101	85-115		
MS	Thallium (Total Recoverable)	80	70-130		
MSD	Thallium (Total Recoverable)			4	<20

QC Type	Analyte	Concentration	Limit
LRB	Antimony (Total Recoverable)	<0.121 ug/L	0.121 ug/L
LRB	Arsenic (Total Recoverable)	<0.671 ug/L	0.671 ug/L
LRB	Lead (Total Recoverable)	<0.273 ug/L	0.273 ug/L
LRB	Selenium (Total Recoverable)	<0.739 ug/L	0.739 ug/L
LRB	Thallium (Total Recoverable)	<0.173 ug/L	0.173 ug/L

Method: EPA 200.8
Batch Analysis date: 03/20/17
Sampled date: 02/14/17 for sample 261374

Matrix QC performed on LIMS # 261374

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Antimony (Total Recoverable)	100	50-150		
LFB	Antimony (Total Recoverable)	98	85-115		
MS	Antimony (Total Recoverable)	96	70-130		
MSD	Antimony (Total Recoverable)			2	<20
MRL	Arsenic (Total Recoverable)	92	50-150		
LFB	Arsenic (Total Recoverable)	102	85-115		
MS	Arsenic (Total Recoverable)	99	70-130		
MSD	Arsenic (Total Recoverable)			<1	<20
MRL	Lead (Total Recoverable)	95	50-150		
LFB	Lead (Total Recoverable)	99	85-115		
MS	Lead (Total Recoverable)	98	70-130		
MSD	Lead (Total Recoverable)			<1	<20
MRL	Selenium (Total Recoverable)	101	50-150		
LFB	Selenium (Total Recoverable)	106	85-115		
MS	Selenium (Total Recoverable)	112	70-130		
MSD	Selenium (Total Recoverable)			14	<20
MRL	Thallium (Total Recoverable)	113	50-150		
LFB	Thallium (Total Recoverable)	99	85-115		
MS	Thallium (Total Recoverable)	97	70-130		
MSD	Thallium (Total Recoverable)			2	<20

QC Type	Analyte	Concentration	Limit
LRB	Antimony (Total Recoverable)	<0.121 ug/L	0.121 ug/L
LRB	Arsenic (Total Recoverable)	<0.671 ug/L	0.671 ug/L
LRB	Lead (Total Recoverable)	<0.273 ug/L	0.273 ug/L
LRB	Selenium (Total Recoverable)	<0.739 ug/L	0.739 ug/L
LRB	Thallium (Total Recoverable)	<0.173 ug/L	0.173 ug/L

FD – Field Duplicate
LFB – Laboratory Fortified Blank
LRB – Laboratory Reagent Blank (Method Blank)
QCS – Quality Control Sample
MRL – Minimum Reporting Limit (Verification)
MS – Matrix Spike
MSD – Matrix Spike Duplicate
Underline – Data was outside the limit

Colorado Springs Utilities

It's how we're all connected

LABORATORY SERVICES
719-448-4800
www.csu.org

Report Date: January 16, 2018

This report contains test results for the following samples:

261920	28-Feb-2017 10:30	Crooked Canyon Well #1
261921	28-Feb-2017 08:42	Fort Carson Well #1
261922	28-Feb-2017 08:42	Fort Carson Well #1
261923	28-Feb-2017 09:13	Fort Carson Well #2
261924	28-Feb-2017 11:25	Fort Carson Well #3A
261925	28-Feb-2017 11:42	Fort Carson Well #3B
261926	28-Feb-2017 09:17	Equipment Blank
261982	01-Mar-2017 10:14	Sand Canyon Well #10
261983	01-Mar-2017 10:46	Sand Canyon Well #11
261984	01-Mar-2017 11:31	Sand Canyon Well #12
261985	01-Mar-2017 11:31	Sand Canyon Well #12
261986	01-Mar-2017 11:56	Sand Canyon Well #13
261989	01-Mar-2017 12:25	Sand Canyon Well #14
261990	01-Mar-2017 09:56	Equipment Blank
264252	28-Feb-2017 10:30	Crooked Canyon Well #1

Colorado Springs Utilities Laboratory Services Section certifies that the test results meet all approved method And Laboratory's Quality Assurance Plan requirements unless otherwise noted.

Comments: ______________________________

Report Approved By: Wendy Asay (signature) 1-16-18
Wendy M. Asay - Environmental Specialist Date

Sample Site: Crooked Canyon Well #1
Site Identity: CC_1
Sample Number: 261920
Date/Time Sampled: 28-FEB-2017 10:30
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	2.2	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	30800	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.22	mg/L	0.10	T
	EPA_300_0	Chloride	1560	mg/L	0.25	D
		Sulfate	17400	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.006	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	<5.00	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1030	ug/L	20.0	D
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	379000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	641	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	11.0	ug/L	1.0	D
		Lead (Total Recoverable)	4.9	ug/L	0.50	D
		Selenium (Total Recoverable)	143	ug/L	1.0	D
		Thallium (Total Recoverable)	1.4	ug/L	0.50	D
*	EPA_903_1	Radium 226	<0.290	pCi/L	0.290	
*	EPA_904_0	Radium 228	1.42	pCi/L	0.55	
	NA	Depth to Water	13.71	ft.		
+	SM_2510_B	Conductivity	25700	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	12.1	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	6.9	SU	2.0	

Sample Site: Fort Carson Well #1
Site Identity: FC_1
Sample Number: 261921
Date/Time Sampled: 28-FEB-2017 08:42
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	0.35	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	22300	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.13	mg/L	0.10	T
	EPA_300_0	Chloride	777	mg/L	0.25	D
		Sulfate	13100	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	8.99	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	967	ug/L	20.0	D
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	378000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	918	ug/L	10.0	D
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	4.9	ug/L	1.0	D
		Lead (Total Recoverable)	8.4	ug/L	0.50	D
		Selenium (Total Recoverable)	2.4	ug/L	1.0	D
		Thallium (Total Recoverable)	1.2	ug/L	0.50	D
*	EPA_903_1	Radium 226	0.348	pCi/L	0.287	J
*	EPA_904_0	Radium 228	1.28	pCi/L	0.51	
	NA	Depth to Water	15.00	ft.		
+	SM_2510_B	Conductivity	21500	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.0	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.2	SU	2.0	

Sample Site: Fort Carson Well #1
Site Identity: FC_1
Sample Number: 261922
Date/Time Sampled: 28-FEB-2017 08:42
Comp/Grab: GRAB
Sample Comments: Field Duplicate

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	0.20	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	21900	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.13	mg/L	0.10	T
	EPA_300_0	Chloride	761	mg/L	0.25	D
		Sulfate	13100	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	9.01	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	932	ug/L	20.0	D
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	375000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	907	ug/L	10.0	D
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	7.6	ug/L	1.0	D
		Lead (Total Recoverable)	7.8	ug/L	0.50	D
		Selenium (Total Recoverable)	5.1	ug/L	1.0	D
		Thallium (Total Recoverable)	1.0	ug/L	0.50	D

Sample Site: Fort Carson Well #2
Site Identity: FC_2
Sample Number: 261923
Date/Time Sampled: 28-FEB-2017 09:13
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	1.2	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	11300	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.53	mg/L	0.10	T
	EPA_300_0	Chloride	122	mg/L	0.25	D
		Sulfate	6940	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.004	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	5.40	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	956	ug/L	20.0	D
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	381000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	275	ug/L	10.0	D
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	7.6	ug/L	1.0	D
		Lead (Total Recoverable)	8.9	ug/L	0.50	D
		Selenium (Total Recoverable)	36.7	ug/L	1.0	D
		Thallium (Total Recoverable)	1.1	ug/L	0.50	D
*	EPA_903_1	Radium 226	<0.420	pCi/L	0.420	
*	EPA_904_0	Radium 228	<0.472	pCi/L	0.472	
	NA	Depth to Water	13.06	ft.		
+	SM_2510_B	Conductivity	10600	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	12.6	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Fort Carson Well #3A
Site Identity: FC_3A
Sample Number: 261924
Date/Time Sampled: 28-FEB-2017 11:25
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	8.5	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	9490	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.47	mg/L	0.10	T
	EPA_300_0	Chloride	107	mg/L	0.25	D
		Sulfate	5820	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	14.8	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1140	ug/L	20.0	D
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	390000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	283	ug/L	10.0	D
		Molybdenum (Total Recoverable)	10.9	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	6.9	ug/L	1.0	D
		Lead (Total Recoverable)	9.0	ug/L	0.50	D
		Selenium (Total Recoverable)	26.3	ug/L	1.0	D
		Thallium (Total Recoverable)	1.1	ug/L	0.50	D
*	EPA_903_1	Radium 226	<0.307	pCi/L	0.307	
*	EPA_904_0	Radium 228	0.582	pCi/L	0.349	J
	NA	Depth to Water	17.60	ft.		
+	SM_2510_B	Conductivity	9210	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	12.3	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.5	SU	2.0	

Sample Site: Fort Carson Well #3B
Site Identity: FC_3B
Sample Number: 261925
Date/Time Sampled: 28-FEB-2017 11:42
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	55	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	9410	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.42	mg/L	0.10	T
	EPA_300_0	Chloride	818	mg/L	0.25	D
		Sulfate	4640	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.005	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	20.8	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1730	ug/L	20.0	D
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	325000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	5.53	ug/L	5.00	
		Lithium (Total Recoverable)	326	ug/L	10.0	D
		Molybdenum (Total Recoverable)	8.42	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	8.1	ug/L	1.0	D
		Lead (Total Recoverable)	8.9	ug/L	0.50	D
		Selenium (Total Recoverable)	1.1	ug/L	1.0	D
		Thallium (Total Recoverable)	0.91	ug/L	0.50	D
*	EPA_903_1	Radium 226	<0.389	pCi/L	0.389	
*	EPA_904_0	Radium 228	<0.439	pCi/L	0.439	
	NA	Depth to Water	48.20	ft.		
+	SM_2510_B	Conductivity	11100	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	11.6	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.0	SU	2.0	

Sample Site: Equipment Blank
Site Identity: EQUIP_BLK
Sample Number: 261926
Date/Time Sampled: 28-FEB-2017 09:17
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	<0.05	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	<10	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	<0.10	mg/L	0.10	T
	EPA_300_0	Chloride	<0.25	mg/L	0.25	
		Sulfate	<0.25	mg/L	0.25	
	EPA_1631	Mercury (Total)	<0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	<5.00	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	<20.0	ug/L	20.0	
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	<100	ug/L	100	T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	<10.0	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	
		Lead (Total Recoverable)	<0.50	ug/L	0.50	
		Selenium (Total Recoverable)	<1.0	ug/L	1.0	
		Thallium (Total Recoverable)	<0.50	ug/L	0.50	

Sample Site: Sand Canyon Well #10
Site Identity: SC_10
Sample Number: 261982
Date/Time Sampled: 01-MAR-2017 10:14
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	21	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	18100	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.57	mg/L	0.10	T
	EPA_300_0	Chloride	691	mg/L	0.25	D
		Sulfate	10200	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.009	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	10.5	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1270	ug/L	20.0	D/T1
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	386000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	637	ug/L	10.0	D
		Molybdenum (Total Recoverable)	6.46	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	12.6	ug/L	1.0	D
		Lead (Total Recoverable)	4.6	ug/L	0.50	D
		Selenium (Total Recoverable)	224	ug/L	1.0	D
		Thallium (Total Recoverable)	0.82	ug/L	0.50	D
*	EPA_903_1	Radium 226	<0.384	pCi/L	0.384	
*	EPA_904_0	Radium 228	<0.480	pCi/L	0.480	
	NA	Depth to Water	12.03	ft.		
+	SM_2510_B	Conductivity	17500	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	14.4	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.4	SU	2.0	

Sample Site: Sand Canyon Well #11
Site Identity: SC_11
Sample Number: 261983
Date/Time Sampled: 01-MAR-2017 10:46
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	10	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	15000	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.54	mg/L	0.10	T
	EPA_300_0	Chloride	1130	mg/L	0.25	D
		Sulfate	7820	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.009	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	7.32	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1960	ug/L	20.0	D/T1
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	435000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	500	ug/L	10.0	D
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	11.1	ug/L	1.0	D
		Lead (Total Recoverable)	5.9	ug/L	0.50	D
		Selenium (Total Recoverable)	189	ug/L	1.0	D
		Thallium (Total Recoverable)	0.77	ug/L	0.50	D
*	EPA_903_1	Radium 226	<0.281	pCi/L	0.281	
*	EPA_904_0	Radium 228	0.632	pCi/L	0.362	J
	NA	Depth to Water	9.05	ft.		
+	SM_2510_B	Conductivity	15600	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.4	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Sand Canyon Well #12
Site Identity: SC_12
Sample Number: 261984
Date/Time Sampled: 01-MAR-2017 11:31
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	7.3	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	17200	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.84	mg/L	0.10	T
	EPA_300_0	Chloride	313	mg/L	0.25	D
		Sulfate	10500	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.003	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	7.64	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	3950	ug/L	20.0	D/T1
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	354000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	439	ug/L	10.0	D
		Molybdenum (Total Recoverable)	8.99	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	6.2	ug/L	1.0	D
		Lead (Total Recoverable)	6.5	ug/L	0.50	D
		Selenium (Total Recoverable)	23.4	ug/L	1.0	D
		Thallium (Total Recoverable)	0.73	ug/L	0.50	D
*	EPA_903_1	Radium 226	<0.271	pCi/L	0.271	
*	EPA_904_0	Radium 228	<0.439	pCi/L	0.439	
	NA	Depth to Water	9.57	ft.		
+	SM_2510_B	Conductivity	16300	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.1	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.4	SU	2.0	

Sample Site: Sand Canyon Well #12
Site Identity: SC_12
Sample Number: 261985
Date/Time Sampled: 01-MAR-2017 11:31
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	7.8	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	17200	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.84	mg/L	0.10	T
	EPA_300_0	Chloride	312	mg/L	0.25	D
		Sulfate	10500	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.003	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	7.98	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	4080	ug/L	20.0	D/T1
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	368000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	459	ug/L	10.0	D
		Molybdenum (Total Recoverable)	9.11	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	7.2	ug/L	1.0	D
		Lead (Total Recoverable)	6.3	ug/L	0.50	D
		Selenium (Total Recoverable)	23.7	ug/L	1.0	D
		Thallium (Total Recoverable)	0.79	ug/L	0.50	D

Sample Site: Sand Canyon Well #13
Site Identity: SC_13
Sample Number: 261986
Date/Time Sampled: 01-MAR-2017 11:56
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	1.1	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	14400	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.84	mg/L	0.10	T
	EPA_300_0	Chloride	163	mg/L	0.25	D
		Sulfate	8570	mg/L	0.25	D
	EPA_1631	Mercury (Total)	0.003	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	6.03	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1610	ug/L	20.0	D/T1
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	354000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	343	ug/L	10.0	D
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	5.7	ug/L	1.0	D
		Lead (Total Recoverable)	6.8	ug/L	0.50	D
		Selenium (Total Recoverable)	17.7	ug/L	1.0	D
		Thallium (Total Recoverable)	0.77	ug/L	0.50	D
*	EPA_903_1	Radium 226	<0.258	pCi/L	0.258	
*	EPA_904_0	Radium 228	<0.378	pCi/L	0.378	
	NA	Depth to Water	9.95	ft.		
+	SM_2510_B	Conductivity	13000	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	12.8	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.4	SU	2.0	

Sample Site: Sand Canyon Well #14
Site Identity: SC_14
Sample Number: 261989
Date/Time Sampled: 01-MAR-2017 12:25
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	1.3	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	13400	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	0.74	mg/L	0.10	T
	EPA_300_0	Chloride	76.5	mg/L	0.25	D
		Sulfate	8360	mg/L	0.25	D
	EPA_1631	Mercury (Total)	<0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	6.30	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	1640	ug/L	20.0	D
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	367000	ug/L	100	D/T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	338	ug/L	10.0	D
		Molybdenum (Total Recoverable)	8.69	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	3.0	ug/L	1.0	D
		Lead (Total Recoverable)	6.4	ug/L	0.50	D
		Selenium (Total Recoverable)	<1.0	ug/L	1.0	D1
		Thallium (Total Recoverable)	0.75	ug/L	0.50	D
*	EPA_903_1	Radium 226	<0.379	pCi/L	0.379	
*	EPA_904_0	Radium 228	<0.490	pCi/L	0.490	
	NA	Depth to Water	9.83	ft.		
+	SM_2510_B	Conductivity	12400	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	11.9	degrees C		

Method	Analyte	Result	Units	RL	Qualifier
+ SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Equipment Blank
Site Identity: EQUIP_BLK
Sample Number: 261990
Date/Time Sampled: 01-MAR-2017 09:56
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
	SM_2130_B	Turbidity	0.05	NTU	0.05	
	SM_2540_C	Total Dissolved Solids	<10	mg/L	10	
~	SM_4500_FC	Fluoride (Total)	<0.10	mg/L	0.10	T
	EPA_300_0	Chloride	<0.25	mg/L	0.25	
		Sulfate	<0.25	mg/L	0.25	
	EPA_1631	Mercury (Total)	<0.002	ug/L	0.002	
	EPA_200_7	Barium (Total Recoverable)	<5.00	ug/L	5.00	
		Beryllium (Total Recoverable)	<2.00	ug/L	2.00	
		Boron (Total Recoverable)	<20.0	ug/L	20.0	T1
		Cadmium (Total Recoverable)	<5.00	ug/L	5.00	
		Calcium (Total Recoverable)	<100	ug/L	100	T1
		Chromium (Total Recoverable)	<10.0	ug/L	10.0	
		Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	<10.0	ug/L	10.0	
		Molybdenum (Total Recoverable)	<5.00	ug/L	5.00	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	
		Lead (Total Recoverable)	<0.50	ug/L	0.50	
		Selenium (Total Recoverable)	<1.0	ug/L	1.0	
		Thallium (Total Recoverable)	<0.50	ug/L	0.50	

Sample Site: Crooked Canyon Well #1
Site Identity: CC_1
Sample Number: 264252
Date/Time Sampled: 28-FEB-2017 10:30
Comp/Grab: GRAB
Sample Comments: Ra 266 and Ra 228 Duplicate

Method	Analyte	Result	Units	RL	Qualifier
* EPA_903_1	Radium 226	<0.343	pCi/L	0.343	
* EPA_904_0	Radium 228	1.45	pCi/L	0.61	

Analysis Information:

*: Analysis performed by an external contract laboratory.
+: Analysis performed in the Field.
^: The Reporting Limit for the total analytes is less than two times the method Detection Limit (MDL). The associated concentration value reported is an approximation of the analyte.
#: Total value is a result of a calculation.
~: Sample was not distilled prior to analysis.
**: This analysis is not listed in 40 CFR Part 136.

Data Qualifiers:

D - Sample required dilution. The associated analyte concentration value reported has dilution factor applied. Reporting Limit does not reflect dilution factor.
D1 - To minimize matrix effects, the sample required dilution. The result is below the Reporting Limit, but within the method defined instrument detection.
J - Analysis confirms the presence of the analyte at a concentration which is less than the established Reporting Limit(RL), but greater than the Method Detection Limit(MDL). The associated concentration value reported is approx.
T - The matrix spike recovery for the sample batch is outside the established range. The performance of the method is shown to be in control. The recovery is matrix related, not method related.
T1 - The analyte concentration in the sample is disproportionate to the spike level. The performance of the method was shown to be in control.

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Grab Samples

Coal Combustion Residuals

Sample Date: 2/28/17

QC Report Needed

Sampler: J. Hetzel

LOCATION	# Bottles	LIMS #	Sample Time	pH, Field (su) SM 4500 H	Temperature, Field (°C) SM 2550 B	Conductivity, Field (umhos/cm) SM 2510 B	Depth to Water (feet)	Total Dissolved Solids SM 2540 C Field Filtered	Fluoride, SM 4500 F C Turbidity, SM 2130 B	Chloride & Sulfate EPA 300.0 Field Filtered	EPA 200.7 (Ba, Be, B, Cd, Ca, Cr, Co, Li & Mo - Total Recoverable)	EPA 200.8 (Sb, As, Pb, Tl & Se - Total Recoverable)	Mercury, EPA 1631 (not collected using clean-hands/dirty-hands)	Radium 226 & Radium 228 (sent to TA Richland) SM 4500 S2 D	Comments
				Please mark boxes that apply.											
CC_1	7	261920	1030	6.92	12.1	25,700	13.71	X	X	X	X	X	X	X	Ra-226 & Ra-228 Duplicate 264252
FC_1	7	261921	842	7.15	13.0	21,500	15.00	X	X	X	X	X	X	X	
FC_1 Duplicate	5	261922	842					X	X	X	X	X	X		
FC_2	7	261923	913	7.30	12.6	10,610	13.06	X	X	X	X	X	X	X	
FC_3A	7	261924	1125	7.54	12.3	9,210	17.60	X	X	X	X	X	X	X	
FC_3B	7	261925	1142	7.03	11.6	11,090	48.20	X	X	X	X	X	X	X	
EQUIP_BLK	5	261926	917					X	X	X	X	X	X		
Total # of Bottles	45														

Signature/Print last name — Date/Time

Relinquished by: J. Hetzel — 2-28-17 @ 1255

Received by: Winkelblech — 2/28/17 @ 1255

Additional Comments / Sample Rejections/ Actions

Sample Template: CCR_LAND
Project ID: CCR_LAND
Test Schedule: CCR_LAND

Audit: RSB 3/28/17

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Laboratory Services
Grab Samples

Coal Combustion Residuals

Sample Date: 3/1/17

QC Report Needed

Sampler: J HETZEL

LOCATION	# Bottles	LIMS #	Sample Time	pH, Field (su) SM 4500 H	Temperature, Field (°C) SM 2550 B	Conductivity, Field (umhos/cm) SM 2510 B	Depth to Water (feet)	Total Dissolved Solids SM 2540 C Field Filtered	Fluoride, SM 4500 F C Turbidity, SM 2130 B	Chloride & Sulfate EPA 300.0 Field Filtered	EPA 200.7 (Ba, Be, B, Cd, Ca, Cr, Co, Li & Mo - Total Recoverable)	EPA 200.8 (Sb, As, Pb, Tl & Se - Total Recoverable)	Mercury, EPA 1631 (not collecte using clean-hands/dirty-hands)	Radium 226 & Radium 228 (sent to TA Richland) SM 4500 S2 D	Comments
				Please mark boxes that apply.											
SC_10	7	261982	1014	7.38	14.4	17,540	12.03	X	X	X	X	X	X	X	
SC_11	7	261983	1046	7.34	13.4	15,640	9.05	X	X	X	X	X	X	X	
SC_12	7	261984	1131	7.42	13.1	16,340	9.57	X	X	X	X	X	X	X	
SC_12 Duplicate	5	261985	1131					X	X	X	X	X	X		
SC_13	7	261986	1156	7.36	12.8	12,990	9.95	X	X	X	X	X	X	X	
SC_8	7	261987	851	6.99	10.5	13,000	5.74	X	X	X	X	X	X	X	
SC_9	7	261988	935	7.18	12.6	17,120	15.20	X	X	X	X	X	X	X	
SC_14	7	261989	1225	7.33	11.9	12,410	9.83	X	X	X	X	X	X	X	
EQUIP_BLK	5	261990	956					X	X	X	X	X	X		
Total # of Bottles	59														

Additional Comments / Sample Rejections/ Actions

Sample Template: CCR_LAND
Project ID: CCR_LAND
Test Schedule: CCR_LAND

	Signature/Print last name		Date/Time
Relinquished by	HETZEL	3-1-17	@ 1320
Received by	Asay	3-1-17	@ 1320

Austin. DSB 3/2/17

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Laboratory Services Section
QC Report

Coal Combustion Rule Landfill
February 28 & March 1, 2017

Quality Assurance Officer Approval: _____ Date: 3-24-17

QC Narrative

This report is for sample numbers 261920-261926 and 261982-261990.

Turbidity by Standard Methods 2540 C

There are no anomalies to report for this analysis.

Total Dissolved Solids by Standard Methods 2540 C

There are no anomalies to report for this analysis.

Fluoride by Standard Methods 4500 F C

The matrix spike recovery for the sample batch is outside the established range. The performance of the method is shown to be in control. The recovery is matrix related, not method related. Associated samples 261920-261926 and 261982-261990 are qualified.

Anions by EPA Method 300.0

There are no anomalies to report for this analysis.

Mercury by EPA Method 1631 E

There are no anomalies to report for this analysis.

EPA 200.7

The analyte concentration in the sample is disproportionate to the spike level for Total Recoverable Boron. The performance of the method was shown to be in control. Associated samples 261982-261990 are qualified.

The analyte concentration in the sample is disproportionate to the spike level for Total Recoverable Calcium. The performance of the method was shown to be in control. Associated samples 261920-261926 and 261926-261990 are qualified.

EPA 200.8

There are no anomalies to report for this analysis.

Method: Turbidity by Standard Methods 2130 B
Batch Analysis date: 02/28/17
Sampled date: 02/28/17 for samples 261920-261926

Matrix QC performed on LIMS # 261921

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Turbidity	101	95 - 105		
Duplicate	Turbidity			<1	<20

Method: Turbidity by Standard Methods 2130 B
Batch Analysis date: 03/01/17
Sampled date: 03/01/17 for samples 261982-261990

Matrix QC performed on LIMS # 291984 and 261988

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Turbidity	101	95 - 105		
Duplicate	Turbidity (261984)			<1	<20
Duplicate	Turbidity (261988)			10	<20

Method: Total Dissolved Solids by Standard Methods 2540 C
Batch Analysis date: 03/01/17
Sampled date: 02/18/17 for samples 261920-261926

Matrix QC performed on LIMS # 261921

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Total Dissolved Solids	101	84 - 110		
Duplicate	Total Dissolved Solids			<1	<10

Method: Total Dissolved Solids by Standard Methods 2540 C
Batch Analysis date: 03/02/17
Sampled date: 03/01/17 for samples 261982-261990

Matrix QC performed on LIMS # 261984

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
QCS	Total Dissolved Solids	101	84 - 110		
Duplicate	Total Dissolved Solids			<1	<10

Method: Fluoride by Standard Methods 4500 F C
Batch Analysis date: 03/01/17
Sampled date: 02/28/17 for samples 261920-261926

Matrix QC performed on LIMS # 261920

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Fluoride (Total)	100	90 - 110		
QCS	Fluoride (Total)	102	90 - 110		
MS	Fluoride (Total)	***40**	80 - 120		
MSD	Fluoride (Total)			2	<20

QC Type	Analyte	Concentration	Limit
LRB	Fluoride (Total)	<0.10 mg/L	0.10 mg/L

***See Narrative**

Method: Fluoride by Standard Methods 4500 F C
Batch Analysis date: 03/02/17
Sampled date: 03/01/17 for samples 261982-261990

Matrix QC performed on LIMS # 261982

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Fluoride (Total)	100	90 - 110		
QCS	Fluoride (Total)	100	90 - 110		
MS	Fluoride (Total)	***62**	80 - 120		
MSD	Fluoride (Total)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Fluoride (Total)	<0.10 mg/L	0.10 mg/L

***See Narrative**

Method: Anions by EPA Method 300.0
Batch Analysis date: 03/07/17
Sampled date: 02/28/17 for samples 261920-261926
Sampled date: 03/01/17 for samples 261982-261990

Matrix QC performed on LIMS # 261921 & 261984

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Chloride	101	50-150		
LFB	Chloride	98	90-110	<1	<20
FD	Chloride (261921)			2	<20
FD	Chloride (261984)			<1	<20
MS	Chloride (261921)	96	80-120		
MS	Chloride (261984)	100	80-120		

MRL	Sulfate	119	50-150		
LFB	Sulfate	97	90-110	<1	<20
FD	Sulfate (261921)			<1	<20
FD	Sulfate (261984)			<1	<20
MS	Sulfate (261921)	103	80-120		
MS	Sulfate (261984)	105	80-120		

QC Type	Analyte	Concentration	Limit
LRB	Chloride	<0.25 mg/L	0.25 mg/L
LRB	Sulfate	<0.25 mg/L	0.25 mg/L

Method: Mercury by EPA 1631 E
Batch Analysis date: 03/14/17
Sampled date: 02/28/17 for samples 291920-261926
Sampled date: 03/01/17 for samples 261982-261990

Matrix QC performed on LIMS # 261921 and 261984

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Mercury (Total)	93	60-140		
QCS	Mercury (Total)	96	77-123		
MS	Mercury (Total) (261921)	96	71-125		
MSD	Mercury (Total) (261921)			3	<24
MS	Mercury (Total) (261984)	86	71-125		
MSD	Mercury (Total) (261984)			<1	<24

QC Type	Analyte	Concentration	Limit
LRB	Mercury (Total)	<0.5 ng/L	0.5 ng/L

Method: EPA 200.7
Digestion date: 03/06/17
Batch Analysis date: 03/13/17 for all except Boron, Calcium and Lithium
Batch Analysis date: 03/16/17 for Boron, Calcium and Lithium
Sampled date: 02/28/17 for samples 261920-261926
Sampled date: 03/01/17 for samples 261982-261990

Matrix QC performed on LIMS # 261922 & 261984

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Barium (Total Recoverable)	101	50-150		
LFB	Barium (Total Recoverable)	98	85-115		
MS	Barium (Total Recoverable) (261922)	105	70-130		
MSD	Barium (Total Recoverable) (261922)			1	<20
MS	Barium (Total Recoverable) (261984)	106	70-130		
MSD	Barium (Total Recoverable) (261984)			3	<20

MRL	Beryllium (Total Recoverable)	100	50-150		
LFB	Beryllium (Total Recoverable)	97	85-115		
MS	Beryllium (Total Recoverable) (261922)	95	70-130		
MSD	Beryllium (Total Recoverable) (261922)			2	<20
MS	Beryllium (Total Recoverable) (261984)	97	70-130		
MSD	Beryllium (Total Recoverable) (261984)			3	<20
MRL	Boron (Total Recoverable)	88	50-150		
LFB	Boron (Total Recoverable)	96	85-115		
MS	Boron (Total Recoverable) (261922)	114	70-130		
MSD	Boron (Total Recoverable) (261922)			2	<20
MS	Boron (Total Recoverable) (261984)	***147**	70-130		
MSD	Boron (Total Recoverable) (261984)			2	<20
MRL	Cadmium (Total Recoverable)	98	50-150		
LFB	Cadmium (Total Recoverable)	98	85-115		
MS	Cadmium (Total Recoverable) (261922)	126	70-130		
MSD	Cadmium (Total Recoverable) (261922)			2	<20
MS	Cadmium (Total Recoverable) (261984)	118	70-130		
MSD	Cadmium (Total Recoverable) (261984)			2	<20
MRL	Calcium (Total Recoverable)	104	50-150		
LFB	Calcium (Total Recoverable)	97	85-115		
MS	Calcium (Total Recoverable) (261922)	***175**	70-130		
MSD	Calcium (Total Recoverable) (261922)			2	<20
MS	Calcium (Total Recoverable) (261984)	***213**	70-130		
MSD	Calcium (Total Recoverable) (261984)			<1	<20
MRL	Chromium (Total Recoverable)	104	50-150		
LFB	Chromium (Total Recoverable)	98	85-115		
MS	Chromium (Total Recoverable) (261922)	92	70-130		
MSD	Chromium (Total Recoverable) (261922)			1	<20
MS	Chromium (Total Recoverable) (261984)	96	70-130		
MSD	Chromium (Total Recoverable) (261984)			3	<20
MRL	Cobalt (Total Recoverable)	107	50-150		
LFB	Cobalt (Total Recoverable)	98	85-115		
MS	Cobalt (Total Recoverable) (261922)	84	70-130		
MSD	Cobalt (Total Recoverable) (261922)			2	<20
MS	Cobalt (Total Recoverable) (261984)	85	70-130		
MSD	Cobalt (Total Recoverable) (261984)			2	<20
MRL	Lithium (Total Recoverable)	97	50-150		
LFB	Lithium (Total Recoverable)	99	85-115		
MS	Lithium (Total Recoverable) (261922)	130	70-130		
MSD	Lithium (Total Recoverable) (261922)			1	<20
MS	Lithium (Total Recoverable) (261984)	120	70-130		
MSD	Lithium (Total Recoverable) (261984)			<1	<20
MRL	Molybdenum (Total Recoverable)	94	50-150		
LFB	Molybdenum (Total Recoverable)	101	85-115		
MS	Molybdenum (Total Recoverable) (261922)	94	70-130		
MSD	Molybdenum (Total Recoverable)			1	<20

	(261922)				
MS	Molybdenum (Total Recoverable) (261984)	96	70-130		
MSD	Molybdenum (Total Recoverable) (261984)			2	<20

QC Type	Analyte	Concentration	Limit
LRB	Barium (Total Recoverable)	<0.878 ug/L	0.878 ug/L
LRB	Beryllium (Total Recoverable)	<0.253 ug/L	0.253 ug/L
LRB	Boron (Total Recoverable)	<7.17 ug/L	7.17 ug/L
LRB	Cadmium (Total Recoverable)	<0.834 ug/L	0.834 ug/L
LRB	Calcium (Total Recoverable)	<14.2 ug/L	14.2 ug/L
LRB	Chromium (Total Recoverable)	<1.56 ug/L	1.56 ug/L
LRB	Cobalt (Total Recoverable)	<1.15 ug/L	1.15 ug/L
LRB	Lithium (Total Recoverable)	<4.09 ug/L	4.09 ug/L
LRB	Molybdenum (Total Recoverable)	<1.42 ug/L	1.42 ug/L

***See Narrative**

Method: EPA 200.8
Digestion date: 03/06/17
Batch Analysis date: 03/10/17
Sampled date: 02/28/17 for samples 261920 - 261926
Sampled date: 03/01/17 for samples 261982 - 261990

Matrix QC performed on LIMS # 261922 and 261984

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Antimony (Total Recoverable)	52	50-150		
LFB	Antimony (Total Recoverable) (261922)	99	85-115		
MS	Antimony (Total Recoverable) (261922)	87	70-130		
MSD	Antimony (Total Recoverable) (261922)			5	<20
LFB	Antimony (Total Recoverable) (261984)	99	85-115		
MS	Antimony (Total Recoverable) (261984)	83	70-130		
MSD	Antimony (Total Recoverable) (261984)			<1	<20
MRL	Arsenic (Total Recoverable)	93	50-150		
LFB	Arsenic (Total Recoverable) (261922)	98	85-115		
MS	Arsenic (Total Recoverable) (261922)	79	70-130		
MSD	Arsenic (Total Recoverable) (261922)			9	<20
LFB	Arsenic (Total Recoverable) (261984)	99	85-115		
MS	Arsenic (Total Recoverable) (261984)	91	70-130		
MSD	Arsenic (Total Recoverable) (261984)			5	<20
MRL	Lead (Total Recoverable)	55	50-150		
LFB	Lead (Total Recoverable) (261922)	100	85-115		
MS	Lead (Total Recoverable) (261922)	76	70-130		
MSD	Lead (Total Recoverable) (261922)			2	<20
LFB	Lead (Total Recoverable) (261984)	100	85-115		
MS	Lead (Total Recoverable) (261984)	75	70-130		
MSD	Lead (Total Recoverable) (261984)			4	<20
MRL	Selenium (Total Recoverable)	89	50-150		

LFB	Selenium (Total Recoverable) (261922)	98	85-115		
MS	Selenium (Total Recoverable) (261922)	72	70-130		
MSD	Selenium (Total Recoverable) (261922)			5	<20
LFB	Selenium (Total Recoverable) (261984)	97	85-115		
MS	Selenium (Total Recoverable) (261984)	89	70-130		
MSD	Selenium (Total Recoverable) (261984)			2	<20
MRL	Thallium (Total Recoverable)	60	50-150		
LFB	Thallium (Total Recoverable) (261922)	101	85-115		
MS	Thallium (Total Recoverable) (261922)	88	70-130		
MSD	Thallium (Total Recoverable) (261922)			8	<20
LFB	Thallium (Total Recoverable) (261984)	102	85-115		
MS	Thallium (Total Recoverable) (261984)	87	70-130		
MSD	Thallium (Total Recoverable) (261984)			4	<20

QC Type	Analyte	Concentration	Limit
LRB	Antimony (Total Recoverable)	<0.121 ug/L	0.121 ug/L
LRB	Arsenic (Total Recoverable)	<0.671 ug/L	0.671 ug/L
LRB	Lead (Total Recoverable)	<0.273 ug/L	0.273 ug/L
LRB	Selenium (Total Recoverable)	<0.739 ug/L	0.739 ug/L
LRB	Thallium (Total Recoverable)	<0.173 ug/L	0.173 ug/L

FD – Field Duplicate
LFB – Laboratory Fortified Blank
LRB – Laboratory Reagent Blank (Method Blank)
QCS – Quality Control Sample
MRL – Minimum Reporting Limit (Verification)
MS – Matrix Spike
MSD – Matrix Spike Duplicate
Underline – Data was outside the limit

Colorado Springs Utilities

It's how we're all connected

LABORATORY SERVICES
719-448-4800
www.csu.org

Report Date: January 09, 2018

This report contains test results for the following samples:

271510	13-Nov-2017 12:11	Crooked Canyon Well #1
271511	13-Nov-2017 09:24	Fort Carson Well #1
271512	13-Nov-2017 10:04	Fort Carson Well #2
271513	13-Nov-2017 10:04	Fort Carson Well #2
271514	13-Nov-2017 13:26	Fort Carson Well #3A
271515	13-Nov-2017 14:07	Fort Carson Well #3B
271516	13-Nov-2017 11:01	Equipment Blank
271517	14-Nov-2017 13:47	Sand Canyon Well #10
271518	14-Nov-2017 12:35	Sand Canyon Well #11
271519	14-Nov-2017 12:35	Sand Canyon Well #11
271520	14-Nov-2017 11:23	Sand Canyon Well #12
271521	14-Nov-2017 10:26	Sand Canyon Well #13
271522	14-Nov-2017 09:45	Sand Canyon Well #14
271523	14-Nov-2017 10:33	Equipment Blank

Colorado Springs Utilities Laboratory Services Section certifies that the test results meet all approved method And Laboratory's Quality Assurance Plan requirements unless otherwise noted.

Comments: ______________________________

Report Approved By: Wendy Asay (signature)
Wendy M. Asay - Environmental Specialist

1-9-18
Date

Sample Site: Crooked Canyon Well #1
Site Identity: CC_1
Sample Number: 271510
Date/Time Sampled: 13-NOV-2017 12:11
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
~	SM_4500_FC	Fluoride (Total)	0.45	mg/L	0.10	
	EPA_1631	Mercury (Total)	0.006	ug/L	0.002	T
	EPA_200_7	Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	630	ug/L	10.0	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	8.0	ug/L	1.0	D
		Barium (Total Recoverable)	4.0	ug/L	0.20	D
		Beryllium (Total Recoverable)	<0.20	ug/L	0.20	D1
		Cadmium (Total Recoverable)	<0.50	ug/L	0.50	D1
		Chromium (Total Recoverable)	6.4	ug/L	1.0	D
		Lead (Total Recoverable)	<0.50	ug/L	0.50	D1
		Molybdenum (Total Recoverable)	<0.20	ug/L	0.20	D1
		Selenium (Total Recoverable)	135	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.50	ug/L	0.50	D1
*	EPA_903_1	Radium 226	2.90	pCi/L	0.24	
*	EPA_904_0	Radium 228	<4.52	pCi/L	4.52	
	NA	Depth to Water	13.16	ft.		
+	SM_2510_B	Conductivity	25000	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	12.9	degrees C		
+	SM_4500HB	pH	7.0	SU	2.0	

Sample Site: Fort Carson Well #1
Site Identity: FC_I
Sample Number: 271511
Date/Time Sampled: 13-NOV-2017 09:24
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
~	SM_4500_FC	Fluoride (Total)	0.20	mg/L	0.10	
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	T
	EPA_200_7	Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	894	ug/L	10.0	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	4.1	ug/L	1.0	D
		Barium (Total Recoverable)	8.2	ug/L	0.20	D
		Beryllium (Total Recoverable)	<0.20	ug/L	0.20	D1
		Cadmium (Total Recoverable)	<0.50	ug/L	0.50	D1
		Chromium (Total Recoverable)	6.0	ug/L	1.0	D
		Lead (Total Recoverable)	<0.50	ug/L	0.50	D1
		Molybdenum (Total Recoverable)	1.5	ug/L	0.20	D
		Selenium (Total Recoverable)	15.0	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.50	ug/L	0.50	D1
*	EPA_903_1	Radium 226	3.98	pCi/L	0.47	
*	EPA_904_0	Radium 228	<4.93	pCi/L	4.93	
	NA	Depth to Water	14.78	ft.		
+	SM_2510_B	Conductivity	21600	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.3	degrees C		
+	SM_4500HB	pH	7.2	SU	2.0	

Sample Site: Fort Carson Well #2
Site Identity: FC_2
Sample Number: 271512
Date/Time Sampled: 13-NOV-2017 10:04
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
~	SM_4500_FC	Fluoride (Total)	0.69	mg/L	0.10	
	EPA_1631	Mercury (Total)	0.003	ug/L	0.002	T
	EPA_200_7	Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	266	ug/L	10.0	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	1.9	ug/L	1.0	D
		Barium (Total Recoverable)	4.5	ug/L	0.20	D
		Beryllium (Total Recoverable)	<0.20	ug/L	0.20	D1
		Cadmium (Total Recoverable)	<0.50	ug/L	0.50	D1
		Chromium (Total Recoverable)	5.4	ug/L	1.0	D
		Lead (Total Recoverable)	<0.50	ug/L	0.50	D1
		Molybdenum (Total Recoverable)	1.4	ug/L	0.20	D
		Selenium (Total Recoverable)	37.8	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.50	ug/L	0.50	D1
*	EPA_903_1	Radium 226	2.41	pCi/L	0.48	
*	EPA_904_0	Radium 228	<3.69	pCi/L	3.69	
	NA	Depth to Water	13.10	ft.		
+	SM_2510_B	Conductivity	10500	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.4	degrees C		
+	SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Fort Carson Well #2
Site Identity: FC_2
Sample Number: 271513
Date/Time Sampled: 13-NOV-2017 10:04
Comp/Grab: GRAB
Sample Comments: FC_2 Duplicate

	Method	Analyte	Result	Units	RL	Qualifier
~	SM_4500_FC	Fluoride (Total)	0.71	mg/L	0.10	
	EPA_1631	Mercury (Total)	0.004	ug/L	0.002	T
	EPA_200_7	Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	267	ug/L	10.0	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	2.5	ug/L	1.0	D
		Barium (Total Recoverable)	4.2	ug/L	0.20	D
		Beryllium (Total Recoverable)	<0.20	ug/L	0.20	D1
		Cadmium (Total Recoverable)	<0.50	ug/L	0.50	D1
		Chromium (Total Recoverable)	4.8	ug/L	1.0	D
		Lead (Total Recoverable)	<0.50	ug/L	0.50	D1
		Molybdenum (Total Recoverable)	1.4	ug/L	0.20	D
		Selenium (Total Recoverable)	38.4	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.50	ug/L	0.50	D1
*	EPA_903_1	Radium 226	1.02	pCi/L	0.49	
*	EPA_904_0	Radium 228	<3.02	pCi/L	3.02	

Sample Site: Fort Carson Well #3A
Site Identity: FC_3A
Sample Number: 271514
Date/Time Sampled: 13-NOV-2017 13:26
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
~	SM_4500_FC	Fluoride (Total)	0.56	mg/L	0.10	
	EPA_1631	Mercury (Total)	0.004	ug/L	0.002	T
	EPA_200_7	Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	288	ug/L	10.0	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	2.2	ug/L	1.0	D
		Barium (Total Recoverable)	25.9	ug/L	0.20	D
		Beryllium (Total Recoverable)	<0.20	ug/L	0.20	D1
		Cadmium (Total Recoverable)	<0.50	ug/L	0.50	D1
		Chromium (Total Recoverable)	6.2	ug/L	1.0	D
		Lead (Total Recoverable)	0.91	ug/L	0.50	D
		Molybdenum (Total Recoverable)	5.0	ug/L	0.20	D
		Selenium (Total Recoverable)	55.2	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.50	ug/L	0.50	D1
*	EPA_903_1	Radium 226	1.87	pCi/L	0.44	
*	EPA_904_0	Radium 228	<3.41	pCi/L	3.41	
	NA	Depth to Water	17.28	ft.		
+	SM_2510_B	Conductivity	8880	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.2	degrees C		
+	SM_4500HB	pH	7.6	SU	2.0	

Sample Site: Fort Carson Well #3B
Site Identity: FC_3B
Sample Number: 271515
Date/Time Sampled: 13-NOV-2017 14:07
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
~	SM_4500_FC	Fluoride (Total)	0.48	mg/L	0.10	
	EPA_1631	Mercury (Total)	0.007	ug/L	0.002	T
	EPA_200_7	Cobalt (Total Recoverable)	11.8	ug/L	5.00	
		Lithium (Total Recoverable)	310	ug/L	10.0	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	6.4	ug/L	1.0	D
		Barium (Total Recoverable)	15.4	ug/L	0.20	D
		Beryllium (Total Recoverable)	<0.20	ug/L	0.20	D1
		Cadmium (Total Recoverable)	<0.50	ug/L	0.50	D1
		Chromium (Total Recoverable)	8.6	ug/L	1.0	D
		Lead (Total Recoverable)	<0.50	ug/L	0.50	D1
		Molybdenum (Total Recoverable)	4.2	ug/L	0.20	D
		Selenium (Total Recoverable)	10.7	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.50	ug/L	0.50	D1
*	EPA_903_1	Radium 226	<0.570	pCi/L	0.570	
*	EPA_904_0	Radium 228	<3.88	pCi/L	3.88	
	NA	Depth to Water	22.21	ft.		
+	SM_2510_B	Conductivity	10900	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.1	degrees C		
+	SM_4500HB	pH	7.0	SU	2.0	

Sample Site: Equipment Blank
Site Identity: EQUIP_BLK
Sample Number: 271516
Date/Time Sampled: 13-NOV-2017 11:01
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
~	SM_4500_FC	Fluoride (Total)	<0.10	mg/L	0.10	
	EPA_1631	Mercury (Total)	<0.002	ug/L	0.002	T
	EPA_200_7	Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	<10.0	ug/L	10.0	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	
		Barium (Total Recoverable)	<0.20	ug/L	0.20	
		Beryllium (Total Recoverable)	<0.20	ug/L	0.20	
		Cadmium (Total Recoverable)	<0.50	ug/L	0.50	
		Chromium (Total Recoverable)	<1.0	ug/L	1.0	
		Lead (Total Recoverable)	<0.50	ug/L	0.50	
		Molybdenum (Total Recoverable)	<0.20	ug/L	0.20	
		Selenium (Total Recoverable)	<1.0	ug/L	1.0	
		Thallium (Total Recoverable)	<0.50	ug/L	0.50	

Sample Site: Sand Canyon Well #10
Site Identity: SC_10
Sample Number: 271517
Date/Time Sampled: 14-NOV-2017 13:47
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
~	SM_4500_FC	Fluoride (Total)	0.82	mg/L	0.10	
	EPA_1631	Mercury (Total)	0.010	ug/L	0.002	
	EPA_200_7	Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	632	ug/L	10.0	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	9.5	ug/L	1.0	D
		Barium (Total Recoverable)	14.0	ug/L	0.20	D
		Beryllium (Total Recoverable)	<0.20	ug/L	0.20	D1
		Cadmium (Total Recoverable)	<0.50	ug/L	0.50	D1
		Chromium (Total Recoverable)	6.1	ug/L	1.0	D
		Lead (Total Recoverable)	1.1	ug/L	0.50	D
		Molybdenum (Total Recoverable)	2.6	ug/L	0.20	D
		Selenium (Total Recoverable)	168	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.50	ug/L	0.50	D1
*	EPA_903_1	Radium 226	3.15	pCi/L	0.57	
*	EPA_904_0	Radium 228	<4.02	pCi/L	4.02	
	NA	Depth to Water	10.82	ft.		
+	SM_2510_B	Conductivity	17500	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	14.9	degrees C		
+	SM_4500HB	pH	7.4	SU	2.0	

Sample Site: Sand Canyon Well #11
Site Identity: SC_11
Sample Number: 271518
Date/Time Sampled: 14-NOV-2017 12:35
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
~	SM_4500_FC	Fluoride (Total)	0.76	mg/L	0.10	
	EPA_1631	Mercury (Total)	0.007	ug/L	0.002	
	EPA_200_7	Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	526	ug/L	10.0	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	8.0	ug/L	1.0	D
		Barium (Total Recoverable)	13.4	ug/L	0.20	D
		Beryllium (Total Recoverable)	<0.20	ug/L	0.20	D1
		Cadmium (Total Recoverable)	<0.50	ug/L	0.50	D1
		Chromium (Total Recoverable)	7.4	ug/L	1.0	D
		Lead (Total Recoverable)	0.78	ug/L	0.50	D
		Molybdenum (Total Recoverable)	1.6	ug/L	0.20	D
		Selenium (Total Recoverable)	205	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.50	ug/L	0.50	D1
*	EPA_903_1	Radium 226	1.90	pCi/L	0.55	
*	EPA_904_0	Radium 228	<4.75	pCi/L	4.75	
	NA	Depth to Water	7.85	ft.		
+	SM_2510_B	Conductivity	15800	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	14.0	degrees C		
+	SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Sand Canyon Well #11
Site Identity: SC_11
Sample Number: 271519
Date/Time Sampled: 14-NOV-2017 12:35
Comp/Grab: GRAB
Sample Comments: SC_11 Duplicate

	Method	Analyte	Result	Units	RL	Qualifier
~	SM_4500_FC	Fluoride (Total)	0.77	mg/L	0.10	
	EPA_1631	Mercury (Total)	0.008	ug/L	0.002	
	EPA_200_7	Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	512	ug/L	10.0	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	9.8	ug/L	1.0	D
		Barium (Total Recoverable)	14.5	ug/L	0.20	D
		Beryllium (Total Recoverable)	<0.20	ug/L	0.20	D1
		Cadmium (Total Recoverable)	<0.50	ug/L	0.50	D1
		Chromium (Total Recoverable)	7.6	ug/L	1.0	D
		Lead (Total Recoverable)	0.68	ug/L	0.50	D
		Molybdenum (Total Recoverable)	2.1	ug/L	0.20	D
		Selenium (Total Recoverable)	221	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.50	ug/L	0.50	D1
*	EPA_903_1	Radium 226	2.13	pCi/L	0.58	
*	EPA_904_0	Radium 228	<3.46	pCi/L	3.46	

Sample Site: Sand Canyon Well #12
Site Identity: SC_12
Sample Number: 271520
Date/Time Sampled: 14-NOV-2017 11:23
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
~	SM_4500_FC	Fluoride (Total)	1.27	mg/L	0.10	
	EPA_1631	Mercury (Total)	0.004	ug/L	0.002	
	EPA_200_7	Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	443	ug/L	10.0	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	2.7	ug/L	1.0	D
		Barium (Total Recoverable)	6.3	ug/L	0.20	D
		Beryllium (Total Recoverable)	<0.20	ug/L	0.20	D1
		Cadmium (Total Recoverable)	<0.50	ug/L	0.50	D1
		Chromium (Total Recoverable)	6.9	ug/L	1.0	D
		Lead (Total Recoverable)	<0.50	ug/L	0.50	D1
		Molybdenum (Total Recoverable)	6.7	ug/L	0.20	D
		Selenium (Total Recoverable)	25.2	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.50	ug/L	0.50	D1
*	EPA_903_1	Radium 226	1.52	pCi/L	0.59	
*	EPA_904_0	Radium 228	<4.84	pCi/L	4.84	
	NA	Depth to Water	9.05	ft.		
+	SM_2510_B	Conductivity	15800	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	14.3	degrees C		
+	SM_4500HB	pH	7.4	SU	2.0	

Sample Site: Sand Canyon Well #13
Site Identity: SC_13
Sample Number: 271521
Date/Time Sampled: 14-NOV-2017 10:26
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
~	SM_4500_FC	Fluoride (Total)	1.21	mg/L	0.10	
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	345	ug/L	10.0	
	EPA_200_8	Antimony (Total Recoverable)	7.1	ug/L	0.50	D/T
		Arsenic (Total Recoverable)	1.8	ug/L	1.0	D
		Barium (Total Recoverable)	6.0	ug/L	0.20	D
		Beryllium (Total Recoverable)	0.21	ug/L	0.20	D
		Cadmium (Total Recoverable)	<0.50	ug/L	0.50	D1
		Chromium (Total Recoverable)	2.9	ug/L	1.0	D
		Lead (Total Recoverable)	<0.50	ug/L	0.50	D1
		Molybdenum (Total Recoverable)	3.6	ug/L	0.20	D
		Selenium (Total Recoverable)	23.6	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.50	ug/L	0.50	D1
*	EPA_903_1	Radium 226	2.21	pCi/L	0.53	
*	EPA_904_0	Radium 228	<4.68	pCi/L	4.68	
	NA	Depth to Water	9.54	ft.		
+	SM_2510_B	Conductivity	12200	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	13.7	degrees C		
+	SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Sand Canyon Well #14
Site Identity: SC_14
Sample Number: 271522
Date/Time Sampled: 14-NOV-2017 09:45
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
~	SM_4500_FC	Fluoride (Total)	1.06	mg/L	0.10	
	EPA_1631	Mercury (Total)	0.002	ug/L	0.002	
	EPA_200_7	Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	336	ug/L	10.0	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	D1
		Arsenic (Total Recoverable)	1.1	ug/L	1.0	D
		Barium (Total Recoverable)	5.2	ug/L	0.20	D
		Beryllium (Total Recoverable)	<0.20	ug/L	0.20	D1
		Cadmium (Total Recoverable)	<0.50	ug/L	0.50	D1
		Chromium (Total Recoverable)	6.6	ug/L	1.0	D
		Lead (Total Recoverable)	<0.50	ug/L	0.50	D1
		Molybdenum (Total Recoverable)	7.2	ug/L	0.20	D
		Selenium (Total Recoverable)	4.6	ug/L	1.0	D
		Thallium (Total Recoverable)	<0.50	ug/L	0.50	D1
*	EPA_903_1	Radium 226	2.40	pCi/L	0.44	
*	EPA_904_0	Radium 228	<4.01	pCi/L	4.01	
	NA	Depth to Water	9.32	ft.		
+	SM_2510_B	Conductivity	12200	umhos/cm	1	
+	SM_2550_B	Temperature Centigrade (Field)	12.1	degrees C		
+	SM_4500HB	pH	7.3	SU	2.0	

Sample Site: Equipment Blank
Site Identity: EQUIP_BLK
Sample Number: 271523
Date/Time Sampled: I4-NOV-2017 10:33
Comp/Grab: GRAB
Sample Comments:

	Method	Analyte	Result	Units	RL	Qualifier
~	SM_4500_FC	Fluoride (Total)	<0.10	mg/L	0.10	
	EPA_1631	Mercury (Total)	<0.002	ug/L	0.002	
	EPA_200_7	Cobalt (Total Recoverable)	<5.00	ug/L	5.00	
		Lithium (Total Recoverable)	<10.0	ug/L	10.0	
	EPA_200_8	Antimony (Total Recoverable)	<0.50	ug/L	0.50	T
		Arsenic (Total Recoverable)	<1.0	ug/L	1.0	
		Barium (Total Recoverable)	<0.20	ug/L	0.20	
		Beryllium (Total Recoverable)	<0.20	ug/L	0.20	
		Cadmium (Total Recoverable)	<0.50	ug/L	0.50	
		Chromium (Total Recoverable)	<1.0	ug/L	1.0	
		Lead (Total Recoverable)	<0.50	ug/L	0.50	
		Molybdenum (Total Recoverable)	<0.20	ug/L	0.20	
		Selenium (Total Recoverable)	<1.0	ug/L	1.0	
		Thallium (Total Recoverable)	<0.50	ug/L	0.50	

Analysis Information:

*: Analysis performed by an external contract laboratory.
+: Analysis performed in the Field.
^: The Reporting Limit for the total analytes is less than two times the method Detection Limit (MDL). The associated concentration value reported is an approximation of the analyte.
#: Total value is a result of a calculation.
~: Sample was not distilled prior to analysis.
**: This analysis is not listed in 40 CFR Part 136.

Data Qualifiers:

D - Sample required dilution. The associated analyte concentration value reported has dilution factor applied. Reporting Limit does not reflect dilution factor.
D1 - To minimize matrix effects, the sample required dilution. The result is below the Reporting Limit, but within the method defined instrument detection.
T - The matrix spike recovery for the sample batch is outside the established range. The performance of the method is shown to be in control. The recovery is matrix related, not method related.

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Laboratory Services
Grab Samples

CCR Landfill Groundwater Assessment

Sample Date: 11-13-17

QC Report Needed

Sampler: ~~J. Hetzel~~

LOCATION	# Bottles	LIMS #	Sample Time	pH, Field (su) SM 4500 H	Temperature, Field (°C) SM 2550 B	Conductivity, Field (umhos/cm) SM 2510 B	Depth to Water (feet)	Fluoride, SM 4500 F C	EPA 200.7 (Co & Li - Total Recoverable)	EPA 200.8 (Sb, As, Ba, Be, Cd, Cr, Pb, Mo, Se & Tl - Total Recoverable)	Mercury, EPA 1631 (not collected using clean-hands/dirty-hands)	Radium 226 & Radium 228 (sent to External Lab) SM 4500 S2 D	Comments
				Please mark boxes that apply									
CC_1	5	271510	12[11]	6.95 ~~6.99~~	12.9 ~~13.0~~	25,000	13.16	X	X	X	X	X	
FC_1	5	271511	924	7.18	13.3	21,600	14.78	X	X	X	X	X	
FC_2	5	271512	10[04]	7.33	13.4	10,480	13.10	X	X	X	X	X	
FC_2 Duplicate	5	271513	1004					X	X	X	X	X	
FC_3A	5	271514	1326	7.56	13.2	8,880	17.28	X	X	X	X	X	
FC_3B	5	271515	1407	7.00	13.1	10,920	22.21	X	X	X	X	X	
EQUIP_BLK	3	271516	1101					X	X	X	X		
Total # of Bottles	33												

Additional Comments / Sample Rejections/ Actions

Sample Template: CCR_LAND
Project ID: CCR_LAND
Test Schedule: CCR_LAND

Signature/Print last name

Relinquished by ~~J. Hetzel~~ Hetzel 11-13-17 Date/Time @ 1442

Received by ~~M. Campbell~~ Campbell ~~11-13-17~~ ~~@ 1542~~

MMC 11.14.17

Received by Olson 11-13-17 1442

(A) 11-15-A WMA

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Laboratory Services
Grab Samples

CCR Landfill Groundwater Assessment

Sample Date: 11-14-17

QC Report Needed

Sampler: J. Hetzel

LOCATION	# Bottles	LIMS #	Sample Time	pH, Field (su) SM 4500 H	Temperature, Field (°C) SM 2550 B	Conductivity, Field (umhos/cm) SM 2510 B	Depth to Water (feet)	Fluoride, SM 4500 F C	EPA 200.7 (Co & Li - Total Recoverable)	EPA 200.8 (Sb, As, Ba, Be, Cd, Cr, Pb, Mo, Se & Tl - Total Recoverable)	Mercury, EPA 1631 (not collecte using clean-hands/dirty-hands)	Radium 226 & Radium 228 (sent to External Lab) SM 4500 S2 D	Comments
				Please mark boxes that apply.									
SC_10	5	271517	1347	7.35	14.9	17,500	10.82	X	X	X	X	X	
SC_11	5	271518	1235	7.30	14.0	15,800	7.85	X	X	X	X	X	
SC_11 Duplicate	5	271519	1235					X	X	X	X	X	
SC_12	5	271520	1123	7.35	14.3	15,750	9.05	X	X	X	X	X	
SC_13	5	271521	1026	7.31	13.7	12,160	9.54	X	X	X	X	X	
SC_14	5	271522	945	7.27	12.1	12,230	9.32	X	X	X	X	X	
EQUIP_BLK	3	271523	1033					X	X	X	X		
Total # of Bottles	33												

Additional Comments / Sample Rejections/ Actions

Sample Template: CCR_LAND
Project ID: CCR_LAND
Test Schedule: CCR_LAND

	Signature/Print last name		Date/Time	
Relinquished by	J. Hetzel	Hetzel	11-14-17	@ 1426
Received by	M. Campbell	Campbell	11-14-17	@ 1426

Ⓐ 11-15-17 WMA

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Laboratory Services Section
QC Report

CCR Landfill Assessment
November 2017

Quality Assurance Officer Approval: _____ Date: 1-9-18

QC Narrative

This report is for sample numbers 271510-271523.

Fluoride by Standard Methods 4500 F C
There are no anomalies to report for this analysis.

Mercury by EPA 1631 E
The matrix spike recovery is outside the established range. The performance of the method is shown to be in control. The recovery is matrix related, not method related. Associated samples 271510-271516 are qualified.

EPA 200.7
There are no anomalies to report for this analysis.

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EPA 200.8
The matrix spike recovery is outside the established range for Total Recoverable Antimony. The performance of the method is shown to be in control. The recovery is matrix related, not method related. Associated samples 271521and 271523 are qualified.

Method: Fluoride by Standard Methods 4500 F C
Batch Analysis date: 11/15/17
Sampled date: 11/13/17 for samples 271510-271516
Sampled date: 11/14/17 for samples 271517-271523

Matrix QC performed on sample # 271510 and 271517

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Fluoride (Total)	96	90 - 110		
QCS	Fluoride (Total)	91	90 - 110		
MS	Fluoride (Total) (271510)	88	80 - 120		
MSD	Fluoride (Total) (271510)			<1	<20
MS	Fluoride (Total) (271517)	93	80 - 120		
MSD	Fluoride (Total) (271517)			<1	<20

QC Type	Analyte	Concentration	Limit
LRB	Fluoride (Total)	<0.10 mg/L	0.10 mg/L

Method: Mercury by EPA 1631 E
Batch Analysis date: 12/07/17
Sampled date: 11/13/17 for samples 271510-271516

Matrix QC performed on sample 271512

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Mercury (Total)	108	50-150		
QCS	Mercury (Total)	108	77-123		
MS	Mercury (Total)	***59**	71-125		
MSD	Mercury (Total)			3	<24

QC Type	Analyte	Concentration	Limit
LRB	Mercury (Total)	<0.5 ng/L	0.5 ng/L

***See Narrative**

Method: Mercury by EPA 1631 E
Batch Analysis date: 12/11/17
Sampled date: 11/14/17 for samples 271517-271523

Matrix QC performed on sample 271518

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Mercury (Total)	102	50-150		
QCS	Mercury (Total)	105	77-123		
MS	Mercury (Total)	84	71-125		
MSD	Mercury (Total)			1	<24

QC Type	Analyte	Concentration	Limit
LRB	Mercury (Total)	<0.5 ng/L	0.5 ng/L

Method: EPA 200.7
Batch Analysis date: 12/14/17
Digestion Date: 11/20/17
Sampled date: 11/13/17 for samples 271510-271516
Sampled date: 11/14/17 for samples 271517-271520 and 271522

Matrix QC performed on sample 271512 and 271518

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Cobalt (Total Recoverable)	100	50-150		
LFB	Cobalt (Total Recoverable)	99	85-115		
MS	Cobalt (Total Recoverable) (271512)	90	70-130		
MSD	Cobalt (Total Recoverable) (271512)			<1	<20
MS	Cobalt (Total Recoverable) (271518)	89	70-130		
MSD	Cobalt (Total Recoverable) (271518)			4	<20
MRL	Lithium (Total Recoverable)	88	50-150		
LFB	Lithium (Total Recoverable)	100	85-115		
MS	Lithium (Total Recoverable) (271512)	110	70-130		
MSD	Lithium (Total Recoverable) (271512)			<1	<20
MS	Lithium (Total Recoverable) (271518)	84	70-130		
MSD	Lithium (Total Recoverable) (271518)			3	<20

QC Type	Analyte	Concentration	Limit
LRB	Cobalt (Total Recoverable)	<1.15 ug/L	1.15 ug/L
LRB	Lithium (Total Recoverable)	<4.09 ug/L	4.09 ug/L

Method: EPA 200.7
Batch Analysis date: 01/02/18
Sampled date: 11/14/17 for samples 271521 and 271523

Matrix QC performed on sample 271521

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Cobalt (Total Recoverable)	99	50-150		
LFB	Cobalt (Total Recoverable)	100	85-115		
MS	Cobalt (Total Recoverable)	93	70-130		
MSD	Cobalt (Total Recoverable)			<1	<20
MRL	Lithium (Total Recoverable)	117	50-150		
LFB	Lithium (Total Recoverable)	101	85-115		
MS	Lithium (Total Recoverable)	106	70-130		
MSD	Lithium (Total Recoverable)			1	<20

QC Type	Analyte	Concentration	Limit
LRB	Cobalt (Total Recoverable)	<1.15 ug/L	1.15 ug/L
LRB	Lithium (Total Recoverable)	<4.09 ug/L	4.09 ug/L

Method: EPA 200.8
Digestion date: 11/20/17
Batch Analysis date: 11/30/17
Sampled date: 11/13/17 for samples 271510-271516

Matrix QC performed on LIMS # 271512

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Antimony (Total Recoverable)	92	50-150		
LFB	Antimony (Total Recoverable)	96	85-115		
MS	Antimony (Total Recoverable)	77	70-130		
MSD	Antimony (Total Recoverable)			6	<20
MRL	Arsenic (Total Recoverable)	100	50-150		
LFB	Arsenic (Total Recoverable)	98	85-115		
MS	Arsenic (Total Recoverable)	93	70-130		
MSD	Arsenic (Total Recoverable)			9	<20
MRL	Barium (Total Recoverable)	96	50-150		
LFB	Barium (Total Recoverable)	98	85-115		
MS	Barium (Total Recoverable)	89	70-130		
MSD	Barium (Total Recoverable)			10	<20
MRL	Beryllium (Total Recoverable)	94	50-150		
LFB	Beryllium (Total Recoverable)	100	85-115		
MS	Beryllium (Total Recoverable)	83	70-130		
MSD	Beryllium (Total Recoverable)			2	<20
MRL	Cadmium (Total Recoverable)	95	50-150		
LFB	Cadmium (Total Recoverable)	97	85-115		
MS	Cadmium (Total Recoverable)	84	70-130		
MSD	Cadmium (Total Recoverable)			3	<20
MRL	Chromium (Total Recoverable)	95	50-150		
LFB	Chromium (Total Recoverable)	102	85-115		
MS	Chromium (Total Recoverable)	83	70-130		
MSD	Chromium (Total Recoverable)			3	<20
MRL	Lead (Total Recoverable)	93	50-150		
LFB	Lead (Total Recoverable)	110	85-115		
MS	Lead (Total Recoverable)	85	70-130		
MSD	Lead (Total Recoverable)			8	<20
MRL	Molybdenum (Total Recoverable)	95	50-150		
LFB	Molybdenum (Total Recoverable)	96	85-115		
MS	Molybdenum (Total Recoverable)	82	70-130		
MSD	Molybdenum (Total Recoverable)			3	<20
MRL	Selenium (Total Recoverable)	98	50-150		
LFB	Selenium (Total Recoverable)	100	85-115		
MS	Selenium (Total Recoverable)	90	70-130		
MSD	Selenium (Total Recoverable)			4	<20
MRL	Thallium (Total Recoverable)	107	50-150		
LFB	Thallium (Total Recoverable)	97	85-115		
MS	Thallium (Total Recoverable)	84	70-130		
MSD	Thallium (Total Recoverable)			5	<20

QC Type	Analyte	Concentration	Limit
LRB	Antimony (Total Recoverable)	<0.121 ug/L	0.121 ug/L
LRB	Arsenic (Total Recoverable)	<0.671 ug/L	0.671 ug/L
LRB	Barium (Total Recoverable)	<0.147 ug/L	0.147 ug/L
LRB	Beryllium (Total Recoverable)	<0.067 ug/L	0.067 ug/L
LRB	Cadmium (Total Recoverable)	<0.087 ug/L	0.087 ug/L
LRB	Chromium (Total Recoverable)	<0.915 ug/L	0.915 ug/L
LRB	Lead (Total Recoverable)	<0.273 ug/L	0.273 ug/L
LRB	Molybdenum (Total Recoverable)	<0.094 ug/L	0.094 ug/L
LRB	Selenium (Total Recoverable)	<0.739 ug/L	0.739 ug/L
LRB	Thallium (Total Recoverable)	<0.173 ug/L	0.173 ug/L

Method: EPA 200.8
Digestion date: 11/20/17
Batch Analysis date: 11/30/17
Sampled date: 11/14/17 for samples 271517-271520 and 271522

Matrix QC performed on LIMS # 271518

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Antimony (Total Recoverable)	96	50-150		
LFB	Antimony (Total Recoverable)	99	85-115		
MS	Antimony (Total Recoverable)	71	70-130		
MSD	Antimony (Total Recoverable)			<1	<20
MRL	Arsenic (Total Recoverable)	97	50-150		
LFB	Arsenic (Total Recoverable)	101	85-115		
MS	Arsenic (Total Recoverable)	93	70-130		
MSD	Arsenic (Total Recoverable)			3	<20
MRL	Barium (Total Recoverable)	100	50-150		
LFB	Barium (Total Recoverable)	102	85-115		
MS	Barium (Total Recoverable)	81	70-130		
MSD	Barium (Total Recoverable)			2	<20
MRL	Beryllium (Total Recoverable)	96	50-150		
LFB	Beryllium (Total Recoverable)	102	85-115		
MS	Beryllium (Total Recoverable)	90	70-130		
MSD	Beryllium (Total Recoverable)			12	<20
MRL	Cadmium (Total Recoverable)	98	50-150		
LFB	Cadmium (Total Recoverable)	100	85-115		
MS	Cadmium (Total Recoverable)	83	70-130		
MSD	Cadmium (Total Recoverable)			3	<20
MRL	Chromium (Total Recoverable)	96	50-150		
LFB	Chromium (Total Recoverable)	106	85-115		
MS	Chromium (Total Recoverable)	82	70-130		
MSD	Chromium (Total Recoverable)			<1	<20

MRL	Lead (Total Recoverable)	95	50-150		
LFB	Lead (Total Recoverable)	100	85-115		
MS	Lead (Total Recoverable)	82	70-130		
MSD	Lead (Total Recoverable)			<1	<20
MRL	Molybdenum (Total Recoverable)	94	50-150		
LFB	Molybdenum (Total Recoverable)	100	85-115		
MS	Molybdenum (Total Recoverable)	87	70-130		
MSD	Molybdenum (Total Recoverable)			3	<20
MRL	Selenium (Total Recoverable)	97	50-150		
LFB	Selenium (Total Recoverable)	104	85-115		
MS	Selenium (Total Recoverable)	106	70-130		
MSD	Selenium (Total Recoverable)			<1	<20
MRL	Thallium (Total Recoverable)	103	50-150		
LFB	Thallium (Total Recoverable)	99	85-115		
MS	Thallium (Total Recoverable)	83	70-130		
MSD	Thallium (Total Recoverable)			3	<20

QC Type	Analyte	Concentration	Limit
LRB	Antimony (Total Recoverable)	<0.121 ug/L	0.121 ug/L
LRB	Arsenic (Total Recoverable)	<0.671 ug/L	0.671 ug/L
LRB	Barium (Total Recoverable)	<0.147 ug/L	0.147 ug/L
LRB	Beryllium (Total Recoverable)	<0.067 ug/L	0.067 ug/L
LRB	Cadmium (Total Recoverable)	<0.087 ug/L	0.087 ug/L
LRB	Chromium (Total Recoverable)	<0.915 ug/L	0.915 ug/L
LRB	Lead (Total Recoverable)	<0.273 ug/L	0.273 ug/L
LRB	Molybdenum (Total Recoverable)	<0.094 ug/L	0.094 ug/L
LRB	Selenium (Total Recoverable)	<0.739 ug/L	0.739 ug/L
LRB	Thallium (Total Recoverable)	<0.173 ug/L	0.173 ug/L

Method: EPA 200.8
Batch Analysis date: 12/05/17
Sampled date: 11/14/17 for samples 271521 and 271523

Matrix QC performed on LIMS # 271521

QC Type	Analyte	Recovery (%)	Acceptable Range (%)	RPD (%)	RPD Limit (%)
MRL	Antimony (Total Recoverable)	101	50-150		
LFB	Antimony (Total Recoverable)	99	85-115		
MS	Antimony (Total Recoverable)	***59**	70-130		
MSD	Antimony (Total Recoverable)			2	<20
MRL	Arsenic (Total Recoverable)	99	50-150		
LFB	Arsenic (Total Recoverable)	104	85-115		
MS	Arsenic (Total Recoverable)	97	70-130		
MSD	Arsenic (Total Recoverable)			6	<20

MRL	Barium (Total Recoverable)	96	50-150		
LFB	Barium (Total Recoverable)	101	85-115		
MS	Barium (Total Recoverable)	100	70-130		
MSD	Barium (Total Recoverable)			2	<20
MRL	Beryllium (Total Recoverable)	110	50-150		
LFB	Beryllium (Total Recoverable)	104	85-115		
MS	Beryllium (Total Recoverable)	100	70-130		
MSD	Beryllium (Total Recoverable)			<1	<20
MRL	Cadmium (Total Recoverable)	100	50-150		
LFB	Cadmium (Total Recoverable)	104	85-115		
MS	Cadmium (Total Recoverable)	100	70-130		
MSD	Cadmium (Total Recoverable)			<1	<20
MRL	Chromium (Total Recoverable)	97	50-150		
LFB	Chromium (Total Recoverable)	101	85-115		
MS	Chromium (Total Recoverable)	102	70-130		
MSD	Chromium (Total Recoverable)			5	<20
MRL	Lead (Total Recoverable)	95	50-150		
LFB	Lead (Total Recoverable)	101	85-115		
MS	Lead (Total Recoverable)	98	70-130		
MSD	Lead (Total Recoverable)			2	<20
MRL	Molybdenum (Total Recoverable)	100	50-150		
LFB	Molybdenum (Total Recoverable)	99	85-115		
MS	Molybdenum (Total Recoverable)	101	70-130		
MSD	Molybdenum (Total Recoverable)			<1	<20
MRL	Selenium (Total Recoverable)	100	50-150		
LFB	Selenium (Total Recoverable)	105	85-115		
MS	Selenium (Total Recoverable)	82	70-130		
MSD	Selenium (Total Recoverable)			9	<20
MRL	Thallium (Total Recoverable)	105	50-150		
LFB	Thallium (Total Recoverable)	103	85-115		
MS	Thallium (Total Recoverable)	101	70-130		
MSD	Thallium (Total Recoverable)			2	<20

QC Type	Analyte	Concentration	Limit
LRB	Antimony (Total Recoverable)	<0.121 ug/L	0.121 ug/L
LRB	Arsenic (Total Recoverable)	<0.671 ug/L	0.671 ug/L
LRB	Barium (Total Recoverable)	<0.147 ug/L	0.147 ug/L
LRB	Beryllium (Total Recoverable)	<0.067 ug/L	0.067 ug/L
LRB	Cadmium (Total Recoverable)	<0.087 ug/L	0.087 ug/L
LRB	Chromium (Total Recoverable)	<0.915 ug/L	0.915 ug/L
LRB	Lead (Total Recoverable)	<0.273 ug/L	0.273 ug/L
LRB	Molybdenum (Total Recoverable)	<0.094 ug/L	0.094 ug/L
LRB	Selenium (Total Recoverable)	<0.739 ug/L	0.739 ug/L
LRB	Thallium (Total Recoverable)	<0.173 ug/L	0.173 ug/L

***See Narrative**

FD – Field Duplicate
LFB – Laboratory Fortified Blank
LRB – Laboratory Reagent Blank (Method Blank)
QCS – Quality Control Sample
MRL – Minimum Reporting Limit (Verification)
MS – Matrix Spike
MSD – Matrix Spike Duplicate
Underline – Data was outside the limit