Grassy Mountain Gold Project
Surface Water Baseline Report

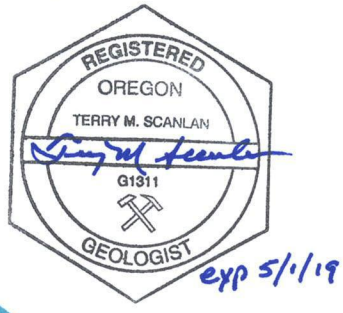
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Revised
August 14, 2018



SPF WATER ENGINEERING

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1 INTRODUCTION

This report describes surface water monitoring activities conducted by SPF Water Engineering (SPF) during 2013 and 2014 for Calico Resources' Grassy Mountain Gold Project (Project) Surface Water Resources Baseline Study.

The scope of field work for this monitoring work is originally described in the *Final Revised Environmental Baseline Study Work Plans, Grassy Mountain Project* (HDR and RTR Resource Management 2013). A revised *Environmental Baseline Study Work Plans, Grassy Mountain Project* was completed in 2017 (EM Strategies 2017). These documents are referred to as the Work Plans in this report.

The 2017 Work Plans added Section 3.3.7, describing a baseline characterization report. As stated in the Work Plans, this report is to include:

- Introduction
- Regulatory environment
- Surface water study area
- Sampling events
- Sampling sites
- Data collection methods
    - Description of sampling sites
    - Surface water quality data collection method
    - Surface water quality QA/QC
- Results and analyses
    - Surface water quality analysis
    - QA/QC
- List of preparers

This report serves as the surface water baseline characterization report required in the revised Work Plans. The original version of this report has been modified per comments received by the technical review team (TRT). A copy of the comment letter dated July 26, 2018, is included in Appendix B.

2 REGULATORY ENVIRONMENT

The primary objective of the surface water monitoring activities established by the Work Plans is to collect data to characterize existing (pre-project) surface water resources within the Study Area. This baseline characterization will ultimately be used in future evaluations to determine impacts the project could have on surface water resources. The surface water environmental baseline methodology required for the Division 37 Oregon Chemical Process Mining Permit is described in Oregon Administrative Rules (OAR) 632-037-0005 through 632-037-0155 and EM Strategies (2017). The

methodologies also satisfy Oregon Department of Environmental Quality (ODEQ) requirements, described in Division 43, Chemical Mining (OAR 340-043-0000 through 340-043-0180).

The Work Plans have been developed under the criteria and/or guidelines established by the technical review team (TRT) assembled for the project, pursuant to Oregon Revised Statute (ORS) 517.967.

Monitoring activities achieved the stated objective of characterizing surface water resources by collecting adequate data to establish a reference baseline of water-quality and stream-flow data. Data collection was accomplished by utilizing sampling techniques and analytical methods suitable to meet ODEQ requirements.

This report presents the results of the surface water monitoring activities. Surface water resources monitoring activities also included the collection of baseline groundwater quality and water-level data from select monitoring wells and water-quality and flow data from select springs. Results from the groundwater and spring sampling will be presented in a future report.

3 SURFACE WATER STUDY AREA

The Project is located in Malheur County, Oregon, approximately 22 miles south-southwest of Vale (Figure 1) and consists of two areas: the Mine and Process Area and the Access Road Area (Permit Area) (Figure 2).

The Mine and Process Area is located on three patented lode mining claims and unpatented lode mining claims that cover an estimated 886 acres. These patented and unpatented lode mining claims are part of a larger land position that includes 419 unpatented lode mining claims and nine mill site claims on lands administered by the Bureau of Land Management (BLM) (Figure 2). All proposed mining would occur on the patented claims, with some mine facilities on unpatented claims. The Mine and Process Area is in all or portions of Sections 5 through 8, Township 22 South, Range 44 East (T22S, R44E) (Willamette Meridian).

The Access Road Area is located on public land administered by the BLM, and private land controlled by others (Figure 2). A portion of the Access Road Area is a Malheur County Road named Twin Springs Road. The Access Road Area extends north from the Mine and Process Area to Russell Road, a paved Malheur County Road. The Access Road Area is in portions of Section 5, T22S, R44E, Sections 3, 10, 11, 14, 15, 21 through 23, 28, 29, and 32, T21S, R44E, Sections 1, 12 through 14, 23, 26, 27, and 34, T20S, R44E, Sections 6 and 7, T20S, R45E, and Sections 22, 23, 26, 35, and 36, T19S, R44E (Willamette Meridian). The width of the Access Road Area is 300 feet (150 feet on either side of the access road centerline) to accommodate possible minor widening or re-routing, and a potential powerline adjacent to the access road. There are

several areas shown that are significantly wider than 300 feet on the Permit Area Map (Figure 2), which are areas where the final alignment has not yet been determined. The final engineering of the road will be consistent throughout, and within the Permit Area. The Access Road Area also includes a buffer on either side of the proposed road width for the collection of environmental baseline data. The road corridor will be 40 feet wide, which includes a 24-foot wide road travel width (12 feet on either side of the road centerline), four-foot wide shoulders on each side of the road, minimum one-foot wide ditches on each side of the road, and appropriate cut and fill. The Access Road Area totals approximately 876 acres.

All of the surface water sites are located within the Surface Water Resources Study Area (Study Area) for the Project. The Study Area was established to develop an environmental baseline for assessing potential impacts from Project facilities, potential impacts of surface runoff from Project facilities, and to provide background data on the Owyhee River and Lake. The Study Area includes an area encompassing the Mine and Process Area and two separate, non-contiguous, areas on the Owyhee River/Lake. One location is on the Owyhee River, 4 miles downstream of Owyhee Dam, and the other location is upstream of the dam and project area on the Owyhee River/Lake at Leslie Gulch. A map of the Study Area is included as Figure 3.

4 SAMPLING EVENTS

Two (2) quarterly surface water sampling events occurred during 2013, in June (2nd Quarter) and November (4th Quarter). A third sampling event occurred during the 2nd Quarter of 2014 in June. The sampling schedule was in accordance with the Work Plans, with surface water sampling conducted every other quarter.

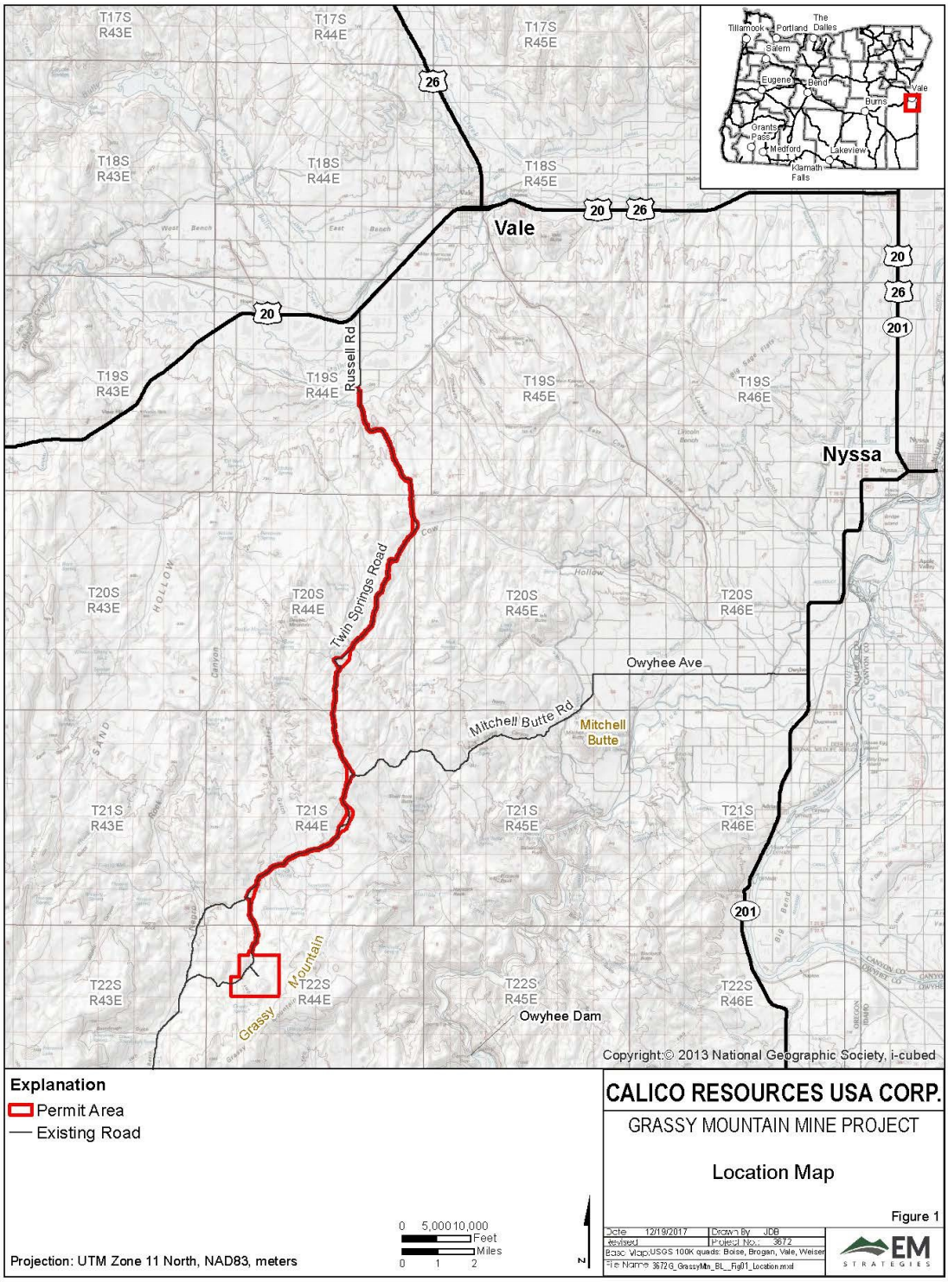


Figure 1. Project Location

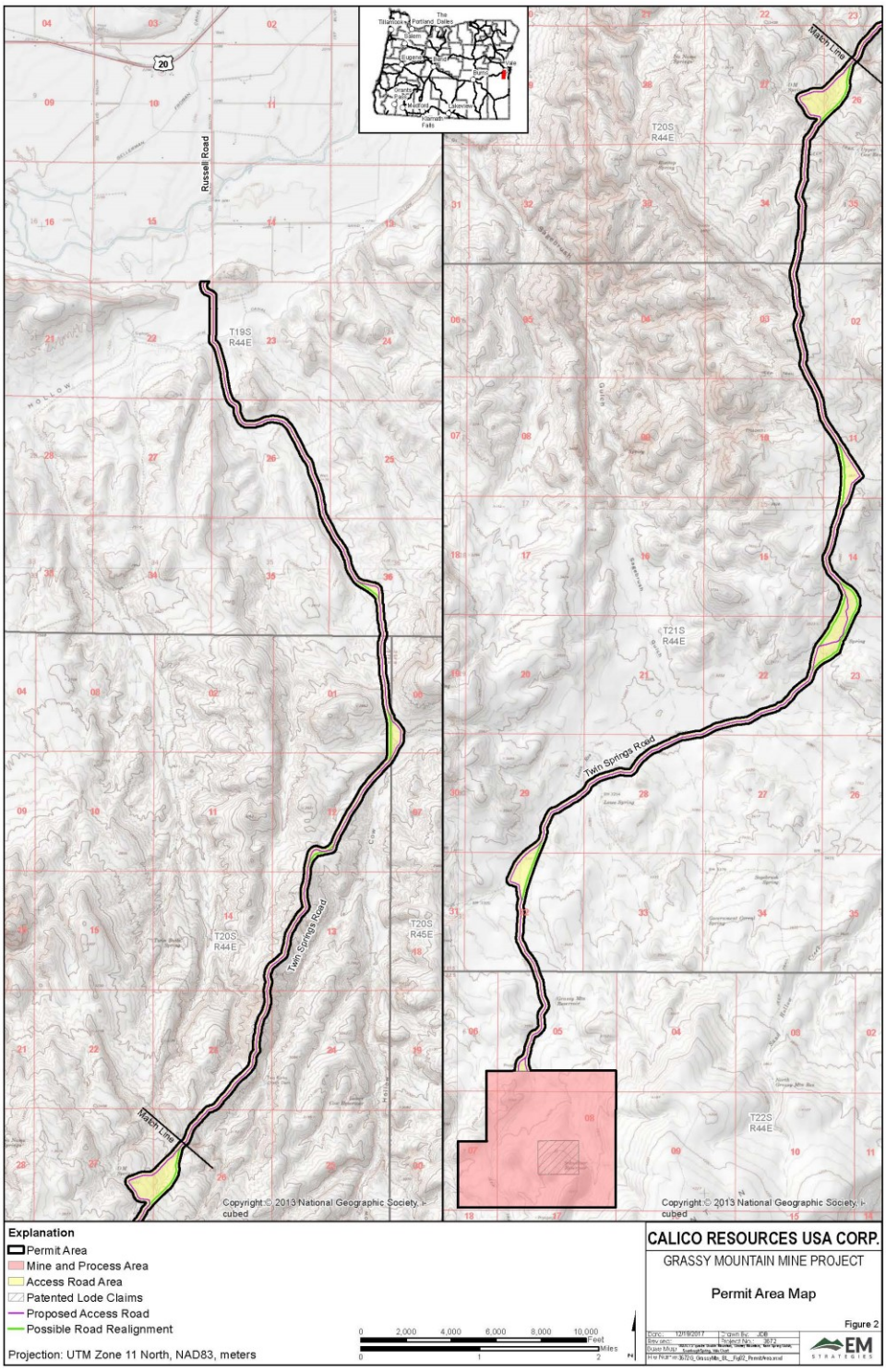


Figure 2. Permit Area

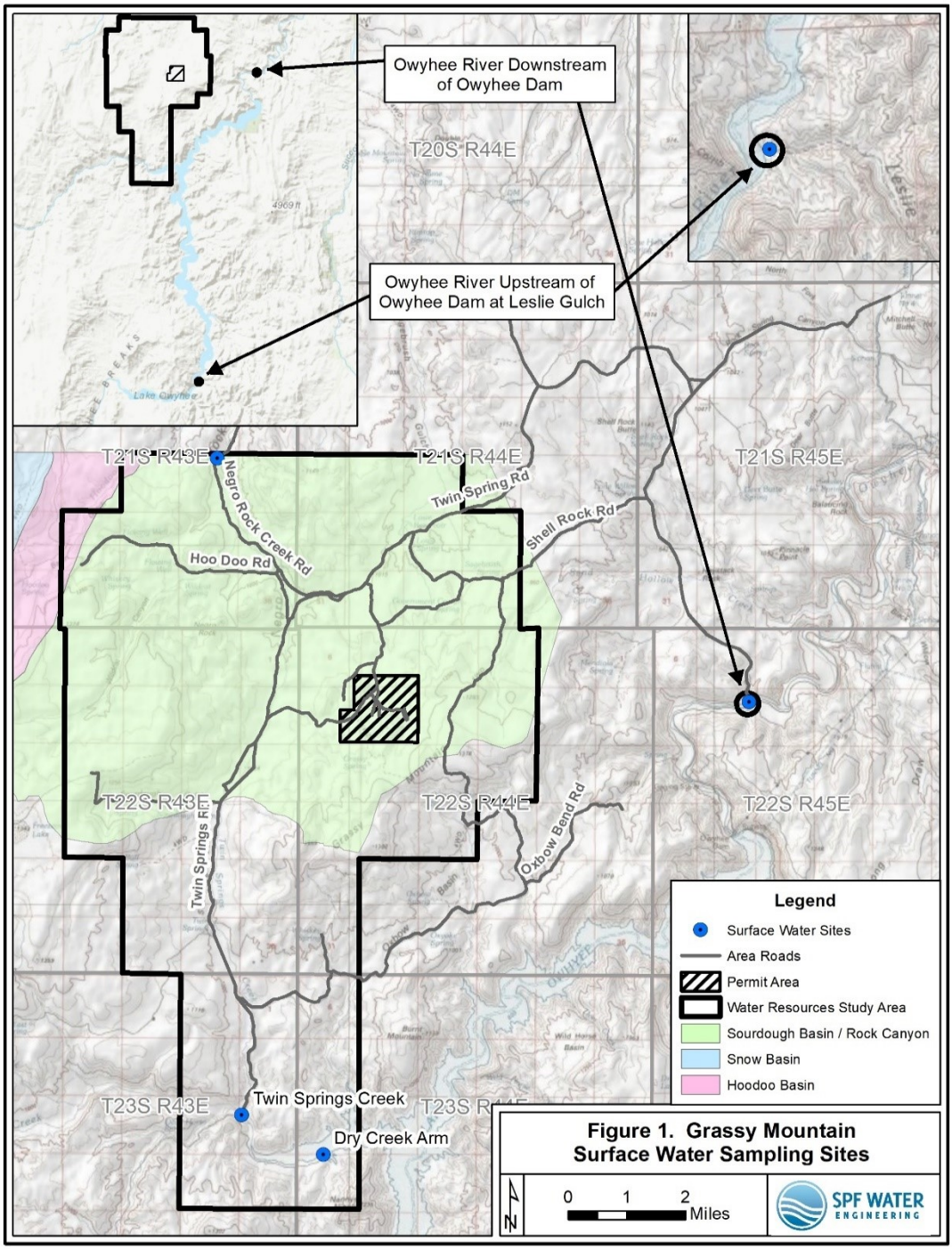


Figure 3. Grassy Mountain Study Area and Surface Water Sites

5 SAMPLING SITES

5.1 Surface Water Sites

No perennial surface water features are located within the immediate vicinity of the proposed mine and process areas. Therefore, surface water sampling sites consisted of the closest perennial surface water bodies, as summarized in Table 1 and as shown on Figure 3.

Table 1. Surface Water Sites

Surface Water Sites
Dry Creek Arm of Lake Owyhee
Owyhee River DS of Owyhee Dam
Owyhee River/Lake US of Owyhee Dam at Leslie Gulch
Negro Rock Canyon Creek at Northern Boundary of Study Area
Twin Springs Creek US of Dry Creek

The Owyhee Reservoir and Owyhee River are the predominant drainage features for the region, flowing south to north and ultimately discharging to the Snake River near the Oregon-Idaho border. Lake Owyhee, created in 1932 with construction of the Owyhee River Dam, is approximately six miles southeast of the Project. Tributary stream flow is typically ephemeral or intermittent (Orr, Orr, and Baldwin, 1992, and Baldwin, 1959).

The main Study Area boundary includes a sampling site on Dry Creek Arm of Lake Owyhee, downstream from where Dry Creek and Twin Springs Creek enter the reservoir. The Study Area also includes the two separate, non-contiguous, areas on the Owyhee River/Lake: Owyhee River downstream of Owyhee Dam and Owyhee River upstream of Owyhee Dam at Leslie Gulch, refer to Figure 3.

The Owyhee River/Lake sampling sites were selected to provide background surface water data in the vicinity of the Project. However, no impacts to Owyhee River/Lake are anticipated from the proposed Project because the Owyhee River drainage is in a different watershed than the Project site.

The Project is located in the Sourdough Basin / Negro Rock Canyon watershed, which drains to the north (see Figure 3). Grassy Mountain located southeast of the Project serves as the hydrologic divide between the Sourdough Basin / Negro Rock Canyon watershed and the watersheds draining to the Owyhee River.

The Negro Rock Canyon drainage contains the intermittent stream referred to as Negro Rock Canyon Creek. This sampling site is located at the northern boundary of the Study Area. There are no known stream gaging records within the Negro Rock Canyon basin.

Twin Springs Creek is an intermittent and ephemeral stream flowing south from the Negro Rock Canyon / Owyhee River watershed divide to a confluence with Dry Creek, upstream of the mouth of Dry Creek at Lake Owyhee.

5.2 Frequency of Sampling

The five surface water sites located within the Study Area were visited bi-annually during the 2nd and 4th Quarters of 2013 and the 2nd Quarter of 2014. Water quality samples were collected from four of these five sites during the three sampling events. Samples were not collected at Twin Springs Creek upstream of Dry Creek because this site was dry during each visit.

6 DATA COLLECTION METHODS

6.1 Overview of Methods

Standard hydrologic field procedures and methodologies were utilized to ensure accurate and reliable data collection. Sampling and monitoring procedures followed the guidelines detailed in the approved Work Plans. Where applicable, sampling procedures followed the ODEQ Field Sampling Reference Guide (ODEQ 2010) and the ODEQ Water Monitoring and Assessment Mode of Operations Manual (ODEQ 2009).

Quality assurance and quality control (QA/QC) are an important component of the monitoring program. QA/QC guidelines for the sampling event are described in the approved Work Plans and followed QA/QC protocols described in the ODEQ Water Monitoring and Assessment Mode of Operations Manual (ODEQ 2009) and the ODEQ Quality Manual (ODEQ 2011).

Specific QA/QC methods included collection of equipment blanks, transfer blanks, and duplicate samples. The laboratory performed internal QA/QC procedures, with results from each quarter included in the Level 2 analytical report prepared by the laboratory. The Level 2 analytical report also includes a case narrative, analytical results, data qualifiers, sample receipt checklist, and chain of custody forms.

To ensure consistency, data collection forms were developed and utilized for recording field data and documenting equipment calibration procedures. Copies of the completed field forms from each sampling event are included in Appendix A. Data collection forms were transmitted to the TRT in a PDF format following each quarterly sampling event, refer to Section 7.5.

An overview of sampling procedures is described in the Sections below. Additional information is provided in the Work Plans.

6.2 Description of Sampling Sites

Surface water sampling sites were described on field sampling forms (Appendix A), Surface water sampling points were photographed to document flow conditions. Sampling locations were located using a non-survey grade GPS unit, and coordinates (UTM Zone 11N, NAD 83) are listed in Table 2.

Table 2. GPS Coordinates of Surface Water Sites

Type	Site Name	Northing (UTM 11N, NAD83)	Easting (UTM 11N, NAD 83)
Surface Water	Dry Creek Arm of Lake Owyhee	4823307	469153
	Twin Springs Creek, US of Dry Creek	4824299	466946
	Negro Rock Canyon Creek	4842262	466309
	Owyhee River DS of Owyhee Dam	4835877	480982
	Owyhee River/Lake US of Owyhee Dam at Leslie Gulch	4796533	473449

6.3 Surface Water-Quality Data Collection Method

6.3.1 Field Water-Quality Parameters

Surface water conditions were considered steady state and only one set of field parameters (pH, electrical conductivity, specific conductance, dissolved oxygen) were collected. The sensors for the pH meter, conductivity meter, and dissolved oxygen meter were placed directly in the surface water for data collection. Readings were recorded once the measurements stabilized.

The field equipment that was used for measuring field water-quality parameters is listed below, along with the equipment calibration procedure. Personnel performing equipment calibration were adequately trained. Results of calibration were recorded on calibration forms included in Appendix A.

- The pH (S.U.) was measured using a YSI EcoSense Model pH100 meter. Calibration was performed according to manufacturer recommendations on the morning of each sampling day. A 2-point calibration was performed using pH 4, 7, or 10 standard solutions.
- Electrical Conductivity and Specific Conductance (SC, µS/cm @ 25ºC) were measured using a YSI EcoSense Model EC300 meter. Calibration was performed according to manufacturer recommendations using a known standard on the morning of each sampling day.
- Temperature (°C) was measured using the YSI Model EC300 meter.

- Dissolved Oxygen (mg/L) was measured using an OxyGuard Handy Polaris 2 Portable DO meter. This DO meter was automatically calibrated if the initial dissolved oxygen saturation reading was below 100%.

6.3.2 **Water-Quality Sample Collection**

Water-quality samples collected from surface water were analyzed for the list of water quality analytes approved in the Work Plans, with the approved changes noted below:

- Total and dissolved uranium were added to the analyte list at the request of the TRT.
- The TRT approved the substitution of combined nitrate+nitrite for nitrate and nitrite due to the difficulty in meeting the 48-hour hold time for nitrate and nitrite. This approval was documented in a letter dated August 8, 2013, a copy of which is provided in Appendix B.
- The TRT approved removing inorganic arsenic from the list of analytes by letter dated August 8, 2013, a copy of which is provided in Appendix B.

The final approved list of water quality constituents is included in Table 3, along with the laboratory testing method, the laboratory minimum detection limit (MDL), and the reporting limit (five times the MDL). For metals, samples for both total and dissolved metals were collected. For the other parameters, only total samples were collected. The preservatives used by the laboratory and the recommended holding times for each testing method are summarized in Table 4.

Table 3. List of Water-Quality Analytes

Parameter	Laboratory Method of Analyses	Detection Limit	Reporting Limit	Sample Type
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	total and dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	total and dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	total and dissolved
Cadmium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	total and dissolved
Calcium	EPA 200.7	0.1 mg/L	0.5 mg/L	total and dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	total and dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	total and dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	total and dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	total and dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	total and dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	total and dissolved
Mercury	1631E	0.2 ng/L	1.0 ng/L	total and dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	total and dissolved
Potassium	EPA 200.7	0.2 mg/L	1.0 mg/L	total and dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	total and dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	total and dissolved
Sodium	EPA 200.7	0.2 mg/L	1.0 mg/L	total and dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	total and dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	total and dissolved

Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	total and dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	total and dissolved
Boron	EPA 200.8	0.01 mg/L	0.05 mg/L	total and dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	total and dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	total and dissolved
Lithium	EPA 200.7	0.008 mg/L	0.04 mg/L	total and dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	total and dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	total and dissolved
Strontium	EPA 200.7	0.005 mg/L	0.03 mg/L	total and dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	total and dissolved
Tin	EPA 200.8	0.0001 mg/L	0.0005 mg/L	total and dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	total and dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	total and dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	total and dissolved
Nitrate+Nitrite (as N)	EPA 353.2	0.02 mg/L	0.1 mg/L	total
Ammonia Direct (as N)	EPA 350.1	0.05 mg/L	0.25 mg/L	total
Alkalinity	SM 2320B	2 mg/L	10 mg/L	total
Bicarbonate	SM 2320	2 mg/L	10 mg/L	total
Carbonate	SM 2320	2 mg/L	10 mg/L	total
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	total
Conductivity	SM 2510B	1 umhos/cm	5 umhos/cm	total
Cyanide, Total	EPA 335.4	0.003 mg/L	0.015 mg/L	total
Cyanide, WAD	SM 4500	0.003 mg/L	0.015 mg/L	total
Fluoride	EPA 300.0	0.05 mg/L	0.25 mg/L	total
Hardness	SM 2340 B	0.8 mg/L	4.0 mg/L	total
pH	SM 4500-H B	0.1	0.5	total
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	total
Total Dissolved Solids	SM 2540C	10 mg/L	50 mg/L	total
Total Suspended Solids	SM 2540D	5 mg/L	25 mg/L	total
Total Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	total

Table 4. List of Water-Quality Analytes, Hold Times, and Preservatives

Parameter	Laboratory Method of Analyses	Hold Time	Preservative	Bottle Type
Aluminum	EPA 200.7	6 Months	2mL 50% HNO3	250 mL HDPE
Arsenic	EPA 200.8	6 Months	2mL 50% HNO3	250 mL HDPE
Barium	EPA 200.7	6 Months	2mL 50% HNO3	250 mL HDPE
Cadmium	EPA 200.8	6 Months	2mL 50% HNO3	250 mL HDPE
Calcium	EPA 200.7	6 Months	2mL 50% HNO3	250 mL HDPE
Chromium	EPA 200.8	6 Months	2mL 50% HNO3	250 mL HDPE
Copper	EPA 200.8	6 Months	2mL 50% HNO3	250 mL HDPE
Iron	EPA 200.7	6 Months	2mL 50% HNO3	250 mL HDPE
Lead	EPA 200.8	6 Months	2mL 50% HNO3	250 mL HDPE
Magnesium	EPA 200.7	6 Months	2mL 50% HNO3	250 mL HDPE
Manganese	EPA 200.8	6 Months	2mL 50% HNO3	250 mL HDPE
Mercury	1631E	90 Days	5mL HCl	250 mL borosilicate glass
Nickel	EPA 200.8	6 Months	2mL 50% HNO3	250 mL HDPE
Potassium	EPA 200.7	6 Months	2mL 50% HNO3	250 mL HDPE
Selenium	EPA 200.8	6 Months	2mL 50% HNO3	250 mL HDPE
Silver	EPA 200.8	6 Months	2mL 50% HNO3	250 mL HDPE
Sodium	EPA 200.7	6 Months	2mL 50% HNO3	250 mL HDPE
Zinc	EPA 200.7	6 Months	2mL 50% HNO3	250 mL HDPE
Antimony	EPA 200.8	6 Months	2mL 50% HNO3	250 mL HDPE

Beryllium	EPA 200.8	6 Months	2mL 50% HNO3	250 mL HDPE
Bismuth	EPA 200.7	6 Months	2mL 50% HNO3	250 mL HDPE
Boron	EPA 200.8	6 Months	2mL 50% HNO3	250 mL HDPE
Cobalt	EPA 200.8	6 Months	2mL 50% HNO3	250 mL HDPE
Gallium	EPA 200.7	6 Months	2mL 50% HNO3	250 mL HDPE
Lithium	EPA 200.7	6 Months	2mL 50% HNO3	250 mL HDPE
Molybdenum	EPA 200.8	6 Months	2mL 50% HNO3	250 mL HDPE
Scandium	EPA 200.7	6 Months	2mL 50% HNO3	250 mL HDPE
Strontium	EPA 200.7	6 Months	2mL 50% HNO3	250 mL HDPE
Thallium	EPA 200.8	6 Months	2mL 50% HNO3	250 mL HDPE
Tin	EPA 200.8	6 Months	2mL 50% HNO3	250 mL HDPE
Titanium	EPA 200.7	6 Months	2mL 50% HNO3	250 mL HDPE
Vanadium	EPA 200.8	6 Months	2mL 50% HNO3	250 mL HDPE
Uranium	EPA 200.8	6 Months	2mL 50% HNO3	250 mL HDPE
Nitrate+Nitrite (as N)	EPA 353.2	28 Days	2mL 25% H2SO4	250 mL HDPE
Ammonia Direct (as N)	EPA 350.1	28 Days	None	250 mL HDPE
Alkalinity	SM 2320B	14 Days	None	500 mL HDPE
Bicarbonate	SM 2320	14 Days	None	500 mL HDPE
Carbonate	SM 2320	14 Days	None	500 mL HDPE
Chloride	EPA 300.0	28 Days	None	250 mL HDPE
Conductivity	SM 2510B	28 Days	None	500 mL HDPE
Cyanide, Total	EPA 335.4	14 Days	5 mL 10N NaOH	500 mL HDPE
Cyanide, WAD	SM 4500	14 Days	5 mL 10N NaOH	500 mL HDPE
Fluoride	EPA 300.0	28 Days	None	250 mL HDPE
Hardness	SM 2340 B	NA	NA	NA
pH	SM 4500-H B	*	None	500 mL HDPE
Sulfate	EPA 300.0	28 Days	None	250 mL HDPE
Total Dissolved Solids	SM 2540C	7 Days	None	500 mL HDPE
Total Suspended Solids	SM 2540D	7 Days	None	500 mL HDPE
Total Phosphorus	EPA 365.1	28 Days	2mL 25% H2SO4	250 mL HDPE

*Perform in field within 15 minutes of sample collection. Laboratory analyses of pH are considered estimated.

Surface water conditions were considered steady state and samples were collected immediately following field water-quality measurements.

For non-filtered samples (non-metals), water-quality samples were collected for analysis at the laboratory directly from each surface water site by the hand grab method as described in the Oregon DEQ Water Monitoring and Assessment Mode of Operations Manual (ODEQ 2009).

For filtered samples (metals), a water sample was collected from the surface water in a clean container. A peristaltic pump (Geotech Geopump with easy-load pump head) and associated disposable silicone tubing was used to transfer the water sample from the container, through a disposable high-capacity field filter with 0.45-µm membrane (Geotech dispos-a-filter with Versapor membrane), and into the appropriate sample bottle obtained from the laboratory. The procedure followed the “in-line peristaltic pump filtration from a container” method described in the ODEQ Water Monitoring and Assessment Mode of Operations Manual (ODEQ 2009). Filtration equipment, including tubing and filter, was only used at a single site and then discarded.

Samples were collected in bottles supplied by the laboratory with the appropriate preservative as required by the testing method. Samples were taken by field personnel wearing nitrile gloves discarded after each use. Following collection, sample bottles were properly labeled with the surface water sampling site name, date, time, preservative, and whether or not the sample was field-filtered. The sample bottles were immediately packed in a cooler with ice packs. Samples were mailed to ACZ Laboratories (ACZ) in Colorado with proper chain-of-custody documentation. Copies of the chain-of-custody are included in Appendix C. ACZ is accredited by NELAP (National Environmental Laboratory Accreditation Program) for water analysis. Laboratory analytical methods meet ODEQ reporting and detection limits.

6.4 Surface Water Quality Assurance / Quality Control

Field duplicate samples were collected at a 10% sampling frequency for quality assurance purposes and to measure precision between samples. For the purpose of duplicate sample collection, spring and surface water sites were grouped together since similar collection procedures were used for these sites. A maximum of fourteen (14) spring and surface water sites were sampled during any single event (2nd Quarter 2013), so one spring or surface water sample field duplicate was collected during each event.

Equipment blanks were collected from the peristaltic pumping apparatus at a 10% sampling frequency, so one equipment blank was collected during each sampling event. Spring and surface water sample collection sites were grouped together since similar collection procedures were used for these sites. The equipment blank was collected by pumping deionized water from the sample collection container through the tubing and filter and into the sample bottle.

Water-quality samples for non-filtered samples were collected directly from each surface water site by immersing in the surface water body. Therefore, collection of transfer blanks at a 10% sampling frequency is appropriate, so one transfer blank was collected at a randomly selected spring or surface water location during each event. The transfer blank was collected by pouring a sample of deionized water from its original transport container directly to sample bottles.

At least two mercury transfer blanks were collected in the field during each sampling event and submitted to the laboratory for mercury analysis.

ACZ prepared a Level 2 analytical report for each sampling event describing internal QA/QC procedures and results. The Level 2 analytical reports for each quarterly event are included in Appendix C.

The EPA Method 1669 is the recommended procedure for collecting water-quality samples for trace metals at EPA Water-Quality Criteria Levels. This method is performance based, and alternative procedures may be used provided that the collection and analysis of blank samples is used to verify the accuracy of sampling procedures. Collection of the equipment blanks and field duplicate blank and following the field sampling procedures described in the ODEQ Water Monitoring and

Assessment Mode of Operations Manual (ODEQ 2009) was used to verify the accuracy of the sampling procedures.

6.5 Sample Preservation Practices

The State of Oregon's Field Sampling Reference Guide (DEQ86-LAB-0002-QAG) and corresponding EPA method guidelines recommend that samples not containing a preservative, those preserved with sulfuric acid, and those preserved with sodium hydroxide be cooled to and maintained between 0°C and 6°C until arrival to the laboratory for processing.

All surface water samples collected during the 2nd Quarter of 2013 and one site (Owyhee River downstream of Owyhee Dam) collected during the 4th Quarter of 2013 were received by ACZ at temperatures above 6°C.

In response to *Review of Third Quarter 2013 Water Resources Data* letter from the TRT, dated February 14, 2014 and included in Appendix B, SPF submitted a proposed plan for revising sample preservation practices to ensure that temperature sensitive samples arrive to the laboratory at recommended preservation temperatures, between 0°C and 6°C. The proposed plan, approved by the TRT by letter dated March 25, 2014, involved the use of higher grade ice chests along with expedited (UPS Next Day Air) shipping practices, and is summarized below:

1. **Higher Grade Ice Chests:** Ice chests with better insulating properties will be used for shipping temperature sensitive bottles to ACZ. Higher grade ice chests, such as those manufactured by Yeti, have thicker (insulated) walls and full-frame gaskets to maintain desired temperatures.

2. **Expedited Shipping:** All temperature sensitive sample bottles will be shipped to ACZ via Next Day Air.

Revised preservation practices were implemented prior to the 1st Quarter 2014 sample period, per the requirements of the letter dated February 14, 2014. All surface water samples collected during the 2nd Quarter 2014 arrived to the laboratory at recommended preservation temperatures, between 0°C to 6°C. Actual temperatures measured by ACZ were between 1.8 and 2.4°C. The new preservation practices were successful in maintaining samples below the recommended temperature threshold during the 2nd Quarter sampling event.

7 RESULTS

7.1 Surface Water Flow Data

There are five (5) surface water sites that were visited bi-annually that serve as background water quality monitoring locations. Flow was only directly measured at one of these sites during the sampling period, Negro Rock Canyon Creek. At the three Lake Owyhee/River sites, flow could not be directly measured. Instead, flow was estimated from available USGS gauging sites, and lake elevation was obtained for the Dry Creek Arm site above Owyhee Dam from the Bureau of Reclamation. Flow and lake elevation data are summarized in Table 5.

In Table 5, flow data for the Owyhee River downstream of Owyhee Dam was obtained from USGS gage 13183000, located 0.8 miles downstream of the dam (located between the dam and the sampling site).

Table 5. Flow and Elevation Data from Surface Water Sites

Quarter	Parameter	Negro Rock Canyon Creek	Dry Creek Arm of Lake Owyhee	Owyhee River DS of Owyhee Dam	Owyhee River US of Owyhee Dam at Leslie Gulch
Q2 2013	Date/Time	6/26/13 12:00	6/27/13 14:20	6/26/13 17:00	6/27/13 9:00
Q2 2013	Flow (cfs)	0.04	NA	152	119
Q2 2013	Elevation (ft)	NA	2622.22	NA	2622.22
Q4 2013	Date/Time	11/21/13 14:55	11/23/13 15:50	11/20/13 15:10	11/20/13 11:00
Q4 2013	Flow (cfs)	0.01-0.02	NA	21	141
Q4 2013	Elevation (ft)	NA	2597.13	NA	NA
Q2 2014	Date/Time	6/24/14 10:55	6/23/14 15:20	6/19/14 15:45	6/19/14 12:30
Q2 2014	Flow (cfs)	0.01-0.02	NA	165	105
Q2 2014	Elevation (ft)	NA	2602.69	NA	NA

Flow data for the Owyhee River upstream of Owyhee Dam at Leslie Gulch was obtained from USGS gage 13181000, identified as Owyhee River near Rome, Oregon. This gage is approximately 50 river miles upstream of the sampling location, but is the closest gage upstream of the dam. Flow data from this gage therefore is not a reliable representation of flow at the sampling site. However, flow at this gaging location does provide a reference point to associate with the sampling event and may be used to identify relationships between flow and water-quality data as additional flow and water quality are collected. The Owyhee Dam at Leslie Gulch sample site is within the pool

of Lake Owyhee at high lake levels. At lower lake levels, the Owyhee River flows past the site. During the 2nd Quarter 2013 event, the sample site was within the backwater of Lake Owyhee. During the 4th Quarter 2013 and 2nd Quarter 2014 events, the Owyhee River was flowing at Leslie Gulch.

7.2 Field Water Quality Data

Field water-quality data collected during surface water sampling are presented in Table 6; data charts are included in Appendix D. For surface water, only one set of field parameters were measured, so the data presented in Table 6 and Appendix D include the complete field water quality dataset.

Table 6. Field Water Quality

Site Name	Sampling Period	pH	EC	SC	Temp	DO	DO Saturation
		S.U.	µS/cm	µS/cm @ 25°C	C	mg/L	%
Dry Creek Arm of Lake Owyhee	Q2-2013	8.74	230	243	22	8.5	113
	Q4-2013	7.92	217	328	7.3	11.0	100
	Q2-2014	8.57	263	275	22.8	8.7	112
Negro Rock Canyon Creek	Q2-2013	6.86	395	482	15.4	4.2	49
	Q4-2013	7.23	ND	592	9.9	5.71	50
	Q2-2014	7.35	393	490	14.6	6.6	78
Owyhee River Downstream of Owyhee Dam	Q2-2013	8.67	187	239	13.3	10.7	116
	Q4-2013	8.84	187	292	6.1	11.8	105
	Q2-2014	8.81	230	289	14.3	10.4	116
Owyhee River Upstream of Owyhee Dam at Leslie Gulch	Q2-2013	8.08	330	349	22.1	8.0	99
	Q4-2013	8.43	239	357	7.7	10.2	95
	Q2-2014	8.59	306	351	18.2	8.00	99

7.3 Laboratory Water Quality Data

The laboratory reports with the analytical water quality results for each sampling event are included in Appendix C.

Water quality data are also summarized by location and event in Appendix E. The tables in Appendix E include the parameter analyzed for, units, the quarterly analytical result, the minimum detection limit (MDL), and the reporting limit. For statistical analysis of analytical results less than the MDL, an estimated value was generated by dividing the MDL by the square root of 2 (~1.41). These values are presented in the tables under the 'Q2-13', 'Q4-13', and 'Q2-14' headings.

The tables in Appendix E include various statistics, including minimum, maximum, range, mean, median, and standard deviation. The relative percent difference (RPD)

was calculated between each quarterly value (including estimated values) and the median value of all three (3) quarters of data.

Quarterly and median values are considered to be significantly different if two conditions apply: (1) the quarterly result is greater than five times the MDL and (2) the percent difference between quarterly and median values is equal to or greater than 20%. If any quarterly result is less than the five times the MDL then any difference between the results is considered insignificant. RPD values considered to be significantly different are highlighted in red.

7.4 Quality Assurance/Quality Control

7.4.1 Sample QA/QC

Duplicate samples, equipment blanks, transfer blanks, and mercury transfer blanks were collected during each quarterly event and submitted to ACZ Laboratories in an effort to assess the validity of water-quality results. For the purpose of duplicate samples, equipment, and transfer blanks, spring and surface water sites were grouped together since similar collection procedures were used for these sites. These QA/QC samples were collected at a 10% sampling frequency, or one set per sampling event.

For sites where duplicate samples were collected, the original and duplicate samples were compared using arithmetic difference and RPD. For analytical results less than the MDL, an estimated value was generated by dividing the MDL by the square root of 2 (~1.41). Results are considered to be significantly different if two conditions apply: (1) the original and/or duplicate results are greater than five times the MDL and (2) the percent difference between results is equal to or greater than 20%. If any result (sample or duplicate) is less than the five times the MDL then any difference between the results is considered insignificant.

Duplicate results are presented in tables in Appendix F. In these tables, RPD values considered to be significantly different, as defined above, are red.

For equipment blanks and transfer blanks, the arithmetic difference and relative percent difference were calculated between the blank and assumed ideal conditions for deionized water (all parameters below detection). The deionized water values and blank values below the MDL were estimated by dividing the MDL by the square root of 2 (~1.41). Results are presented in Appendix F, with results considered to be significantly different if: (1) the blank result is greater than five times the MDL and (2) the percent difference between results is equal to or greater than 20%. Significant RPD results are shown in red.

At least two mercury transfer blanks were collected in the field during each quarterly sampling event and submitted to the laboratory for mercury analysis. Results are presented in Appendix F.

7.4.2 **Laboratory QA/QC**

The Level 2 analytical report generated by the laboratory for each quarterly event is included in Appendix C. This analytical report includes internal QA/QC procedures and results. ACZs' QA/QC involved statistical analyses of results for each sample batch. The ACZ QA/QC procedures incorporate analytical spikes, calibration blanks, duplicates, laboratory control samples, laboratory fortified blank and matrices, laboratory reagent blanks, matrix spikes, and prep blanks.

7.5 Data Transmittal to TRT

The TRT requested that Calico submit baseline data following completion of each quarterly event, as described in a letter dated June 20, 2013, included in Appendix B. The following surface water data were submitted to the TRT after each sampling event in compliance with the TRT request:

- Data collection forms in a PDF format.
- Raw water quality data in an Excel spreadsheet received directly from ACZ.
- Level 2 analytical report prepared by ACZ.
- Photographs of sampling sites.

Following the 1st Quarter 2013 sampling event, the TRT requested by letter dated August 6, 2013, that Calico provide a written summary of each sampling event and that this summary be submitted with the quarterly data. A copy of this letter is provided in Appendix B. Copies of the transmittal memos submitted to the TRT following the surface water quarterly events are provided in Appendix B.

8 DISCUSSION

8.1 Field Water Quality

Each surface water site was sampled for field water quality parameters, including pH, electrical conductivity, specific conductance, and dissolved oxygen. Surface water conditions were considered steady state and only one set of field parameters were collected during each sampling event. Results are presented in Table 6. Field water-charts are presented in Appendix D.

The pH of the Owyhee River and Lake Owyhee sampling sites consistently ranged between 8 and 9. The pH of Negro Rock Canyon Creek was lower, ranging from 6.86 to 7.35.

The specific conductance of the Owyhee River and Lake Owyhee sites ranged between 239 and 357 µS/cm at 25°C. Negro Rock Canyon Creek had consistently higher values, ranging from 482 to 592 µS/cm at 25°C.

The dissolved oxygen concentration at the Dry Creek Arm and Owyhee River upstream of Owyhee Dam at Leslie Gulch ranged between 8 and 11 mg/L, with values above 10 during the 4th Quarter of 2013 (November). The Owyhee River downstream of Owyhee Dam had higher dissolved oxygen concentrations, ranging from 10.4 to 11.8 mg/L, with the higher value measured during the 4th Quarter of 2013. Dissolved oxygen is higher when water temperature is lower. The dissolved oxygen concentrations measured at Negro Rock Canyon Creek were lower than the Owyhee River sites, with values ranging from 4.2 to 6.6 mg/L. The percent oxygen saturation was consistently at or above 100% at the Owyhee River sites but ranged from 49 to 78% at Negro Rock Canyon Creek.

8.2 Laboratory Water Quality

8.2.1 Sample Variability

Laboratory sample variability was assessed by calculating the RPD between each quarterly analytical result and the median of the three quarterly events. Quarterly and median values are considered to be significantly different if two conditions apply: (1) the quarterly result is greater than five times the MDL and (2) the percent difference between quarterly and median values is equal to or greater than 20%. Three samples are a low number for statistical analyses, so this approach may not be appropriate for assessing the variability of specific parameters. However, it is considered to be useful for a general assessment of sample variability at a particular location.

The total number of analytes sampled for, along with the number of results considered to be significantly different are summarized by quarterly sampling event in Table 7. In general, the surface water samples exhibited low variability. For Negro Rock Canyon Creek, Owyhee River downstream of Owyhee Dam, and Owyhee River upstream of Owyhee Dam at Leslie Gulch, the average number of significantly different parameters during each quarterly event was less than or equal to 5, or less than 6% of the average number of parameters sampled. For Dry Creek Arm, the average number of significantly different results was 9, or about 10% of the average number of parameters sampled. These results suggest minor seasonal variability in the sampling results from each surface water site.

Table 7. Laboratory sample variability

Location	Total Number of Parameters Sampled				Number of Significantly Different Parameters[1]			
	Q2-2013	Q4-2013	Q2-2014	Average	Q2-2013	Q4-2013	Q2-2014	Average
Dry Creek Arm	86	84	84	85	10	10	7	9
Negro Rock Canyon Creek	86	84	84	85	3	5	2	3
Owyhee River DS of Dam	86	84	84	85	5	2	5	4
Owyhee River US of Dam at Leslie Gulch	86	84	84	85	6	8	2	5

1 - Quarterly and median values considered to be significantly different if (1) the quarterly result is greater than 5 times the MDL and (2) the RPD between quarterly and median values is greater than or equal to 20%

8.2.2 **Water Quality Comparison to Water Quality Standards**

Surface water analytical results were compared to ODEQ water quality standards as described in OAR 340-041. Water quality in the Owyhee Basin is managed to protect the designated beneficial uses listed in Table 250A (OAR 340-041-0250). These beneficial uses include public and private domestic water supply, fish and aquatic life, and fishing.

Applicable water quality standards are listed in Table 30 (aquatic life criteria), Table 31 (aquatic life water quality guidance values), and Table 40 (human health criteria (HHC)) in OAR 340-041. For the aquatic life criteria, the standards are presented as Criterion Maximum Concentration (CMC) and Criterion Continuous Concentration (CCC) which indicate the maximum allowable average 1-hour and 96-hour average contaminant concentrations, respectively. Sampling results were compared to both the CMC and CCC values.

HHC are presented as “organism only” for areas in which fishing is the designated use and as “water + organism” for areas in which water supply and fishing are designated uses. In the Owyhee Basin, designated beneficial uses include water supply and fishing so the “water + organism” criteria apply.

The water quality parameters exceeding the aquatic life or HHC water quality standards at each surface water sampling site are summarized in Table 8. The values in red are those that exceed the HHC.

Table 8. Water Quality Results Exceeding ODEQ Water Quality Standards

	Aquatic Life		Human	DRY CREEK ARM			NEGRO ROCK CREEK			OWYHEE RIVER DS			LESLIE GULCH		
PARAMETER (units)	**CMC**	**CCC**	**HHC**	**Q2-2013**	**Q4-2013**	**Q2-2014**	**Q2-2013**	**Q4-2013**	**Q2-2014**	**Q2-2013**	**Q4-2013**	**Q2-2014**	**Q2-2013**	**Q4-2013**	**Q2-2014**
Arsenic, dissolved (mg/L)	0.34	0.15	0.0021	0.0057	0.0072	0.0063	0.0246	0.0231	0.0258	0.0059	0.0059	0.0063	0.0111	0.01	0.011
Arsenic, total (mg/L)	0.34	0.15	0.0021	0.0057	0.0076	0.0064	0.0243	0.0237	0.0268	0.0054	0.0059	0.0061	0.0114	0.0102	0.0108
Iron, total (mg/L)	--	1	--		1.16	1.45							1.15		1.22
Mercury, total (ng/L)	2,400	12	--										23	13.2	19.9

1- values in red represent Human Health Criteria exceedances

The following observations can be made regarding the results in Table 8:

- Arsenic was the only water quality parameter where the HHC standard was exceeded at any of the surface water sampling sites. Arsenic was detected above the HHC limit of 0.0021 mg/L at all four of the surface water sampling sites during each of the three sampling events. Negro Rock Canyon Creek and Owyhee River upstream of the dam at Leslie Gulch consistently had the highest arsenic concentrations. At Negro Rock Canyon Creek the total arsenic concentrations were consistent, ranging from 0.0237 to 0.0268 mg/L. At Leslie Gulch, the total arsenic concentrations were consistent but lower compared to Negro Rock Canyon Creek, ranging from 0.0102 to 0.0114 mg/L.

- Total iron was detected above the aquatic life CCC standard of 1.0 mg/L on two occasions at both the Dry Creek Arm of Lake Owyhee and at the Owyhee River upstream of the Owyhee Dam at Leslie Gulch. At Dry Creek Arm, the first exceedance was 1.16 mg/L during the 4th Quarter of 2013 and the second exceedance was 1.45 mg/L during the 2nd Quarter of 2014. For the Leslie Gulch sampling location, the total iron concentration was 1.15 mg/L during the 2nd Quarter of 2013 and 1.22 mg/L during the 2nd Quarter of 2014.

- Total mercury was detected above the aquatic life CCC standard of 12 ng/L at Leslie Gulch during all three of the surface water sampling events. Mercury was detected at 23 ng/L during the 2nd Quarter of 2013, 13.2 ng/L during the 4th Quarter of 2013, and 19.9 ng/L during the 2nd Quarter of 2014.

8.2.3 **Major Ion Geochemistry**

Geochemical characteristics of the surface water were evaluated using Piper diagrams (also known as Trilinear diagrams) and Stiff diagrams, with major ions expressed as meq/L. These diagrams are useful for evaluating the geochemical signature of the water, to illustrate general differences in water chemistry using major ions, and to group waters with similar chemical signature into identifiable groups (or hydrochemical facies).

The Piper diagrams for the 2nd Quarter of 2013, 4th Quarter of 2013, and 2nd Quarter of 2014 are presented as Figure 4, Figure 5, and Figure 6, respectively. The Piper

diagrams show a consistent chemistry signature of sodium-potassium bicarbonate (Na/K-HCO3) for all three quarters.

Stiff diagrams were also prepared for each surface water sampling location for each quarter of water quality data. The Stiff diagrams for Owyhee River downstream of Owyhee Dam and Dry Creek Arm are presented in Figure 7. The Stiff diagrams for Leslie Gulch and Negro Rock Canyon Creek are presented in Figure 8. The Stiff diagrams consistently show a sodium-potassium bicarbonate (Na/K-HCO3) water quality signature across all surface water sites and through all three quarters of data, consistent with the Piper diagrams.

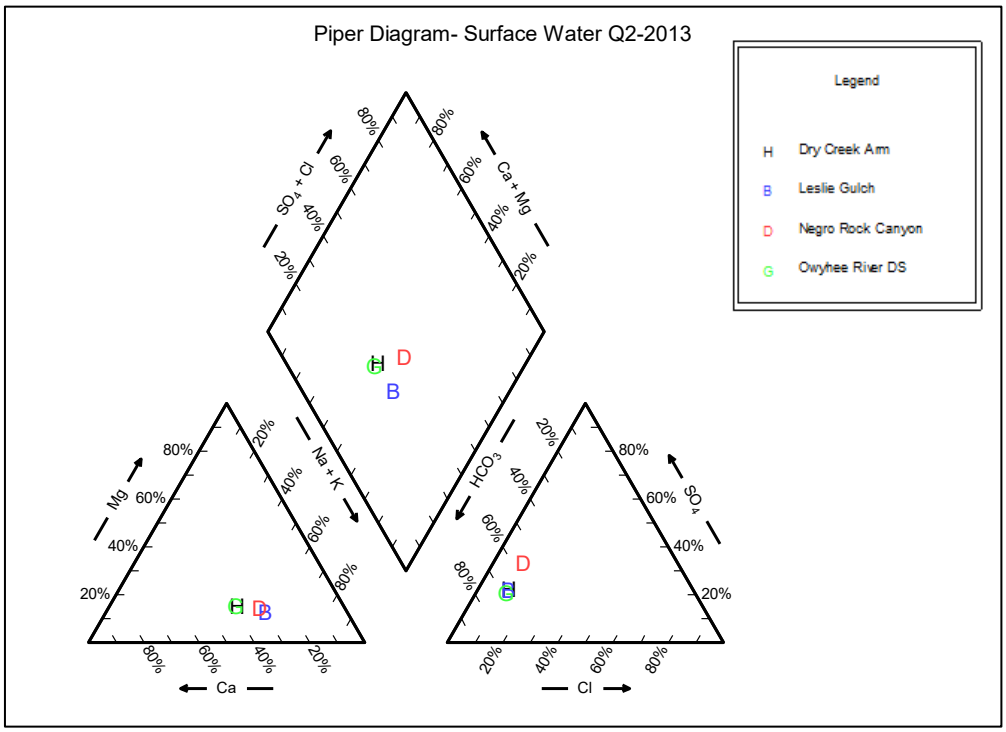


Figure 4. Piper diagram Q2 – 2013

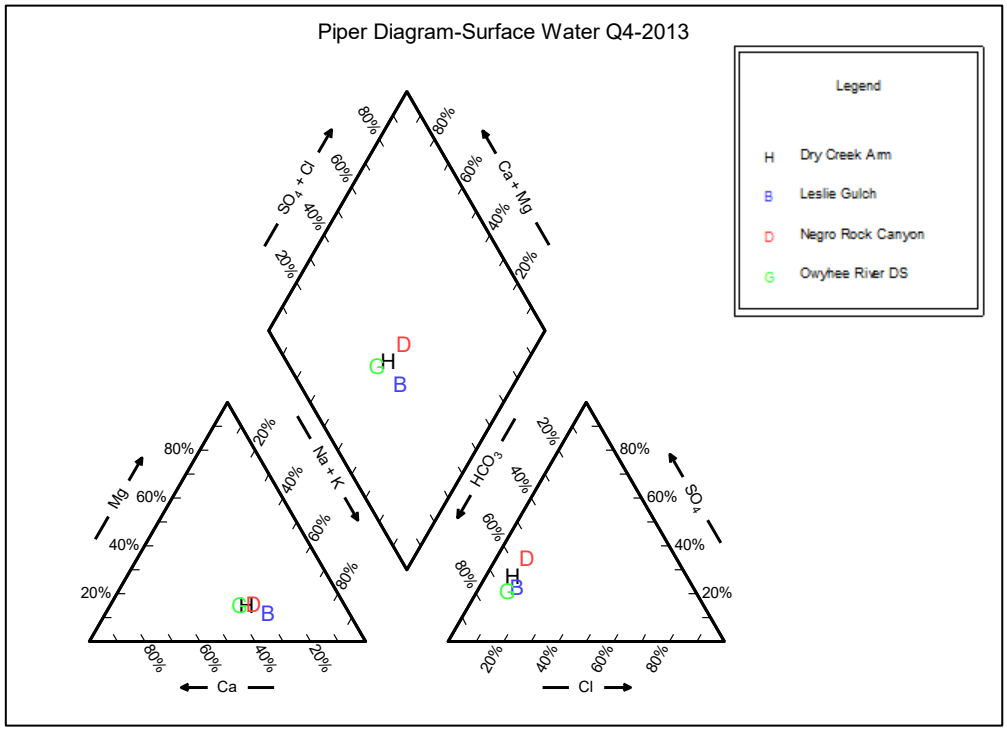


Figure 5. Piper diagram Q4 – 2013

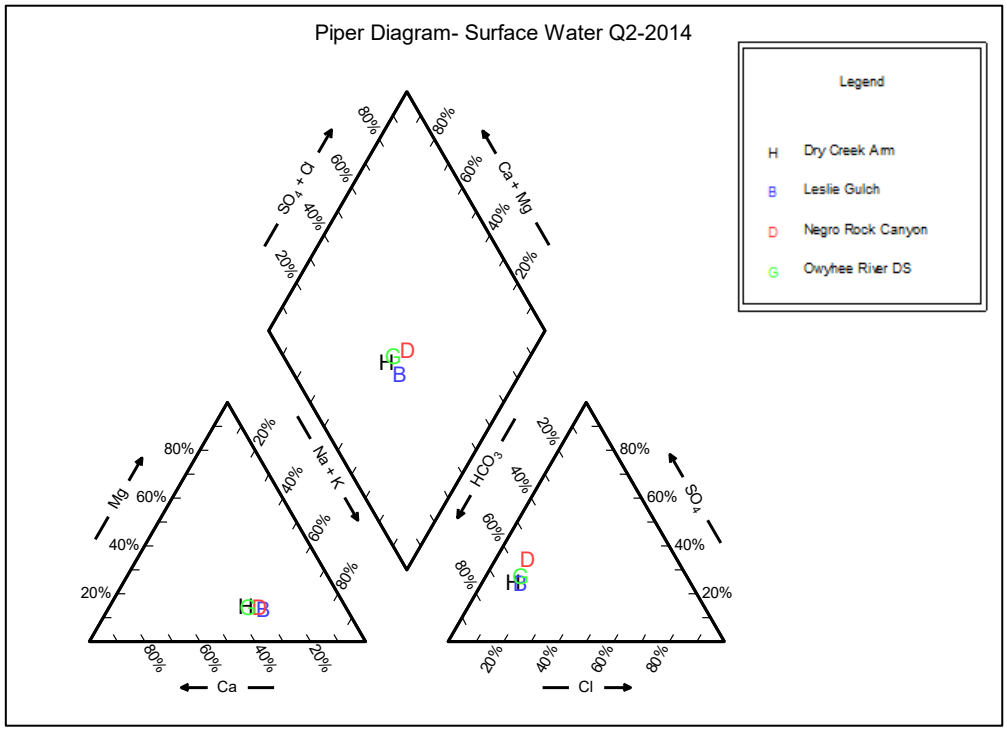


Figure 6. Piper diagram Q2 – 2014

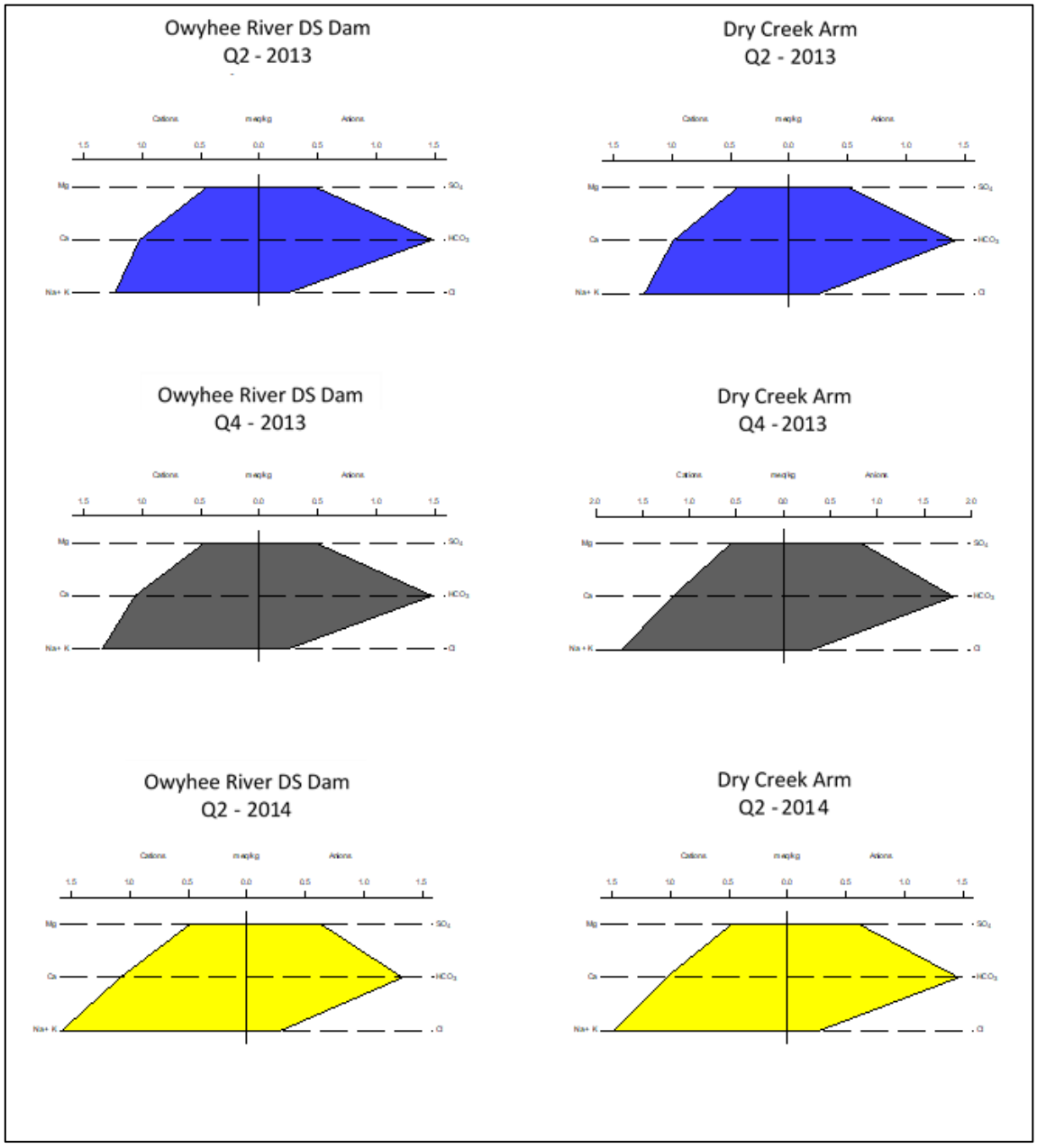


Figure 7. Stiff Diagrams for Owyhee River Downstream and Dry Creek Arm

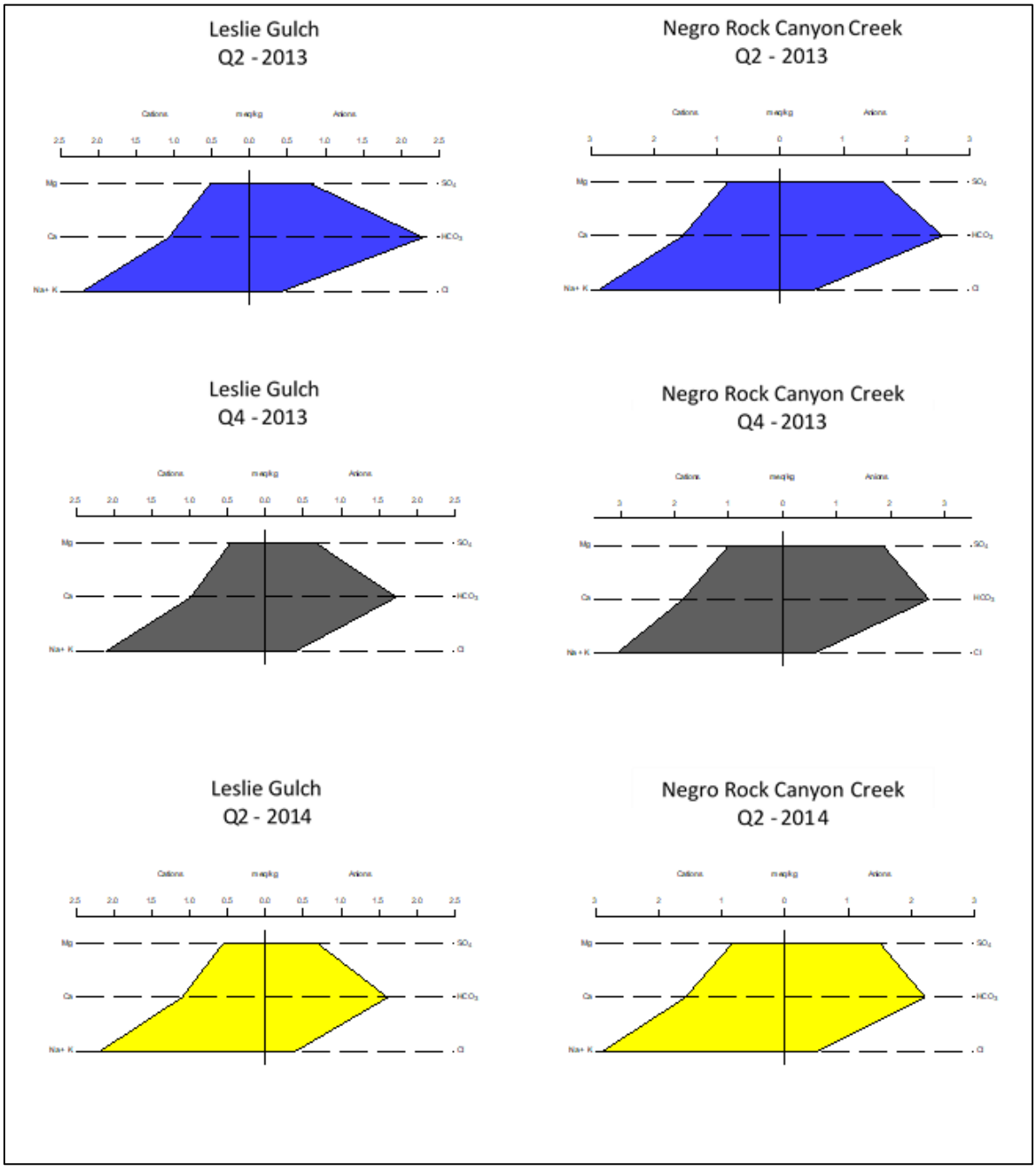


Figure 8. Stiff Diagrams for Leslie Gulch and Negro Rock Canyon Creek

8.3 Quality Assurance/Quality Control

8.3.1 Sample QA/QC

Duplicate samples, equipment blanks, transfer blanks, and mercury transfer blanks were collected during each quarterly event and submitted to ACZ in an effort to assess the validity of water-quality results. These QA/QC samples were collected at a 10% sampling frequency, or one set per sampling event, with spring and surface water sites grouped together since similar collection procedures were used for these sites.

Duplicate samples are considered to be significantly different if two conditions apply: (1) both the original and/or duplicate results are greater than five times the MDL and (2) the RPD between results is equal to or greater than 20%. Duplicate samples with significantly different results are summarized in Table 9.

Dissolved cobalt was significantly different in all three quarterly duplicate samples, while total manganese was significantly different in the 2nd Quarter 2014 duplicate. These results demonstrate that the original and duplicate samples showed similar results in nearly all the parameters.

Table 9. Duplicate Sample Results

Duplicate Sample Location	Quarterly Event	Significantly Different Parameters[1]
Whiskey Spring	Q2-2013	Cobalt, dissolved
Sagebrush Spring	Q4-2013	Cobalt, dissolved
Twin Springs South	Q2-2014	Cobalt, dissolved
		Manganese, total

1 - Duplicate samples are considered to be significantly different if (1) original or duplicate is greater than 5 times the MDL and (2) the RPD between results is greater than or equal to 20%

For equipment blanks and transfer blanks, the sample result was compared to assumed ideal conditions for deionized water (all parameters below detection). The two results are considered to be significantly different if: (1) the blank result is greater than five times the MDL and (2) the RPD between results is equal to or greater than 20%.

None of the quarterly equipment blanks showed any significant differences between any of the sampled parameters. This result indicates that the sampling equipment was not influencing the sampling results. None of the quarterly transfer blanks showed any significant differences between any of the sampled parameters. This result indicates that the sampling procedure was not influencing the sampling results.

During the 2nd Quarter 2013 sampling event, the equipment blank sample collected from the surface water sampling equipment (peristaltic pump and silicone tubing) was not analyzed for all sampling parameters by the laboratory. The laboratory reported not receiving the sample to be analyzed for chloride, fluoride, nitrate, nitrite, nitrate+nitrite, total dissolved solids, and sulfate. Unfortunately, SPF was not immediately notified that the sample was not received or another equipment blank could have been collected. However, the other parameters analyzed from the equipment blank during the 2nd Quarter 2013 as well as the complete suite of analyses conducted during the other two quarters indicate that the sampling equipment was not influencing the sampling results.

All of the quarterly mercury transfer blanks were below the MDL for mercury (0.2 ng/L). This result indicates that the sampling procedure or environment were not influencing the mercury results.

8.4 Compliance with Approved Work Plans

Quarterly sampling events were performed in accordance with approved Work Plans. The only notable deviation from the approved plans was during the 2nd Quarter 2013, the equipment blank sample collected from the spring sampling equipment (peristaltic pump and silicone tubing) was not analyzed for all sampling parameters by the laboratory.

All surface water sites sampled during the 2nd Quarter of 2013 and one site (Owyhee River downstream of Owyhee Dam) sampled during the 4th Quarter of 2013 were received by ACZ at temperatures above 6°C. To address this issue, the TRT requested by letter dated February 14, 2014 that Calico prepare a plan for revising sample preservation practices. A copy of this letter is included in Appendix B. A plan was prepared and submitted to the TRT on March 6, 2014, that proposed using high-grade ice chests and shipping all samples overnight. The TRT approved the plan on March 26, 2014, and the plan was implemented prior to the 1st Quarter 2014 sampling event. All surface water samples collected during the 2nd Quarter 2014 arrived to the laboratory at recommended preservation temperatures below 6°C.

9 CONCLUSIONS

The following can be concluded from the Grassy Mountain Gold Project baseline surface water study:

- No perennial surface water features are located within the immediate vicinity of the proposed Project. Surface water sites were selected to provide background flow and water quality data in the vicinity of the Project. No impacts to Owyhee River/Lake are anticipated from the proposed Project since the Owyhee River drainage is in a different watershed than the Project site.

- Flow and water quality data were collected from four surface water locations on three different occasions; a fifth location on Twin Springs Creek never had water during the quarterly site visits.
- Quarterly sampling events were performed in accordance with approved Work Plans. Modifications to the sampling protocol, approved by the TRT, were made to address minor issues that arose during sampling events.
- Laboratory sample variability was assessed by calculating the RPD between each quarterly analytical result and the median of the three quarterly events. In general, the surface water samples showed consistent and reliable results indicating adequate sampling and analyses techniques and minor seasonal variability.
- Surface water analytical results were compared to ODEQ water quality standards for aquatic life and human health. Arsenic exceeded the HHC at all of the sampling points during every quarterly event. The aquatic life CCC for iron was exceeded during two sampling events at both Dry Creek and Leslie Gulch, and the aquatic life CCC mercury limit was exceeded at Leslie Gulch during all of the sampling events.
- Geochemical characteristics of the surface water were evaluated using Piper diagrams and Stiff diagrams. Both diagrams consistently describe all four surface water sampling sites as having a geochemical signature of sodium-potassium bicarbonate (Na/K-HCO3).
- Duplicate samples, equipment blanks, transfer blanks, and mercury transfer blanks were collected during each quarterly event for QA/QC.
- Dissolved cobalt was significantly different in all three quarterly duplicate samples, while total manganese was significantly different in the 2nd Quarter 2014 duplicate. These results demonstrate that the original and duplicate samples showed similar results in nearly all the parameters sampled for.
- None of the quarterly equipment or transfer blanks showed any significant differences between any of the sampled parameters, indicating that the sampling equipment and procedure was not influencing the sampling results.
- The data collected during the quarterly sampling events are considered adequate to describe background surface water quality and flow in the vicinity of the Project.

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12 APPENDICES

Appendix A: Field Work Documentation

Appendix B: Technical Review Team Correspondence

Appendix C: ACZ Laboratories Analytical Report, QA/QC, Chain of Custody

Appendix D: Field Water Quality Data Charts

Appendix E: Laboratory Water Quality Results

Appendix F: Quality Assurance /Quality Control Results

Appendix A: Field Work Documentation

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Negro Rock Canyon Creek. Page No.: 1 of 1

Sampling Location Name: Small waterfall @ Negro Rock Canyon Creek.

Personnel: Erik Bove

Date: 6/26/13 Photos (#,Name): 3-2

Weather: cloudy

GPS Coord. (UTM 11N, NAD83)

Northing: — Easting: —

Notes sampled at small waterfall NKWTRFALL7 (GPS Coord)

Flow Rate: ~1 **Flow Rate Measurement Desc:** ~1 L/s waterfall, visual est.

Flow Units: L/s

Water Quality

Sample Time: 12:00

Field Filtered? Y — N — per WP

Samples Filtered: — per WP

Equip Blank Set Collected? Y ____ N X

Transfer Blank Set Collected? Y ____ N X

Duplicate Set Collected? Y ____ N X

Sampler Signature:

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
11:30	6.86	394.6	482.3	15.4	4.2	49%	
12:00							Sampled WQ

Appendix A: Field Work Documentation

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Negro Rock Canyon Creek. Page No.: 1 of 1

Sampling Location Name: Small waterfall @ Negro Rock Canyon Creek.

Personnel: Erik Bove

Date: 6/26/13 Photos (#,Name): 3-2

Weather: cloudy

GPS Coord. (UTM 11N, NAD83)

Northing: — Easting: —

Notes sampled at small waterfall NKWTRFALL7 (GPS Coord)

Flow Rate: ~1 **Flow Rate Measurement Desc:** ~1 L/s waterfall, visual est.

Flow Units: L/s

Water Quality

Sample Time: 12:00

Field Filtered? Y — N — per WP

Samples Filtered: — per WP

Equip Blank Set Collected? Y ____ N X

Transfer Blank Set Collected? Y ____ N X

Duplicate Set Collected? Y ____ N X

Sampler Signature:

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
11:30	6.86	394.6	482.3	15.4	4.2	49%	
12:00							Sampled WQ

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Dry Creek Arm Page No.: 1 of 1

Sampling Location Name: Dock @ dry creek arm of Owyhee

Personnel: Erik Bee

Date: 6/27/13 Photos (#,Name): 8-7

Weather: Sunny / warm

GPS Coord. (UTM 11N, NAD83) (Dry Crk Arm 8)

Northing: 4823307 Easting: 469153

Notes Re-GPS'd location, water receded since last time.

Flow Rate: _____ **Flow Rate Measurement Desc:** _____

Flow Units: _____

Water Quality

Sample Time: 14:20

Field Filtered? Y ~~N~~ per WP

Samples Filtered: _____ per WP

Equip Blank Set Collected? Y _____ N X

Transfer Blank Set Collected? Y _____ N X

Duplicate Set Collected? Y _____ N X

Sampler Signature:

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
13:50	8.74	229.5	243.0	22	8.5	113%	Re-receded since 1st dtr.
14:20							Sampled WQ

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Leslie Gulch Page No.: 1 of 1

Sampling Location Name: down gradient from concrete boat ramp

Personnel: Erik Boe

Date: 6/27/13 Photos (#,Name): 7-3

Weather: Sunny, clear skies

GPS Coord. (UTM 11N, NAD83)

Northing: 4796533 Easting: 473449

Notes Sampled ~ 300 ft down gradient from concrete boat ramp, reservoir receded.

Flow Rate: NA **Flow Rate Measurement Desc:** NA

Flow Units: NA

Water Quality

Sample Time: 9:00

Field Filtered? Y ____ N ____ per WP

Samples Filtered: ____ per WP

Equip Blank Set Collected? Y ____ N X

Transfer Blank Set Collected? Y ____ N X

Duplicate Set Collected? Y ____ N X

Sampler Signature: [signature]

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
8:50	8.08	330.4	349.7	22.1	8.0	99%	Calm water
9:00							WQ Samples Collected

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Owyee River Page No.: 1 of 1

Sampling Location Name: ~ 4mi north of dam

Personnel: Erik Boe

Date: 6/26/13 Photos (#,Name): 5-2

Weather: Overcast

GPS Coord. (UTM 11N, NAD83)

Northing: 4835877 Easting: 0480982

Notes Fly fisherman ~100 ft upstream of sampling site. Fisherman moved out of water, allowed to flow 10 min before sampling

Flow Rate: — **Flow Rate Measurement Desc:** —

Flow Units: —

Water Quality

Sample Time: 5:00 pm

Field Filtered? Y ____ N ____ per WP

Samples Filtered: ____ per WP

Equip Blank Set Collected? Y ____ N X

Transfer Blank Set Collected? Y ____ N X

Duplicate Set Collected? Y ____ N X

Sampler Signature: E.M.B.

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
16:50	8.67	187	239	13.3	10.7	116%	
17:00							Sampler Collected

Field Equipment Calibration Record

Instrument: pH Meter
Manufacturer / Model: YSI Ecosense pH100
Date / Time of Calibration: 6/27/13 8:10
Calibration Method: 2 - point
Buffers Used: 7 & 10
Slope Deviation:
Electrode Efficiency: 95.6%
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature:

Instrument: Conductivity Meter
Manufacturer / Model: YSI Ecosense EC300
Date / Time of Calibration: 6/27/13 8:20
Calibration Method: 1 point
Cell Constant: 4.83 Default? ____ Yes ____ No
Temperature Coefficient: ____ Default? ____ Yes ____ No
Temperature Reference: ____ Default? ____ Yes ____ No
Conductivity Standard: 1413 @ 25°C
Conductivity Standard @ 25C: 1413 @ 25°C
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature:

Instrument: Dissolved Oxygen Meter
Manufacturer / Model: OxyGuard Handy Polaris 2
Date / Time of Calibration: 6/27/13 8:25
Calibration Method: Auto Cal
Initial DO Saturation Reading: 101 % (Should read 100.5%)
Calibration Needed? ____ Yes X No
Calibration Precision: X Field ____ Normal ____ High
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature:

Field Equipment Calibration Record

Instrument: pH Meter
Manufacturer / Model: YSI Ecosense pH100
Date / Time of Calibration: 6/25/13 8:10
Calibration Method: 2 - point
Buffers Used: 7 & 10
Slope Deviation:
Electrode Efficiency: 95.1
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature:

Instrument: Conductivity Meter
Manufacturer / Model: YSI Ecosense EC300
Date / Time of Calibration: 6/26/13 8:00
Calibration Method: 1 pt.
Cell Constant: 4.83 Default? ____ Yes ____ No
Temperature Coefficient: ____ Default? ____ Yes ____ No
Temperature Reference: ____ Default? ____ Yes ____ No
Conductivity Standard: 1413 @ 25°C
Conductivity Standard @ 25C: 1413 @ 25°C
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: [signature]

Instrument: Dissolved Oxygen Meter
Manufacturer / Model: OxyGuard Handy Polaris 2
Date / Time of Calibration: 6/26/13 8:05
Calibration Method: Autocal
Initial DO Saturation Reading: 101 % (Should read 100.5%)
Calibration Needed? ____ Yes X No
Calibration Precision: X Field ____ Normal ____ High
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: [signature]

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Owyhee Reservoir Dry Creek arm Page No.: 1 of 1

Sampling Location Name: Dry Creek Arm

Personnel: Erik Boe

Date: 11/23/13 Photos (#,Name): 7-3

Weather: sunny, cold, no wind

GPS Coord. (UTM 11N, NAD83)

Northing: 4823359 Easting: 469151

Notes Reservoir has receded significantly since last time site is near edge (western most) of Reservoir dry creek arm.

Flow Rate: / **Flow Rate Measurement Desc:** /

Flow Units: /

Water Quality

Sample Time: 15:50

Field Filtered? Y ~~N~~

Samples Filtered: per work plan

Equip Blank Set Collected? Y ____ N X

Transfer Blank Set Collected? Y ____ N X

Duplicate Set Collected? Y ____ N X

Sampler Signature:

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
15:40	7.92	217	328	~~7.3~~	11.0	100%	measured params
15:50				7.3			collected WQ

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Twin Springs Creek above confluence at Dry Creek arm Page No.: 1 of 1

Sampling Location Name: NA

Personnel: Erik Boe

Date: 11/23/13 Photos (#,Name): 6-2

Weather: sunny, cold, no wind

GPS Coord. (UTM 11N, NAD83)

Northing: - Easting: -

Notes Dry, no water

Flow Rate: _____ **Flow Rate Measurement Desc:** _____

Flow Units: _____

Water Quality

Sample Time: _____ Equip Blank Set Collected? Y _____ N _____

Field Filtered? Y _____ N _____ Transfer Blank Set Collected? Y _____ N _____

Samples Filtered: _____ Duplicate Set Collected? Y _____ N _____

Sampler Signature: _____

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Negro Rock Canyon Creek Page No.: 1 of 1

Sampling Location Name: @ small waterfall

Personnel: Erik Bae

Date: 11/21/13 14:20 Photos (#,Name): 8-4

Weather: sunny, cold, windy

GPS Coord. (UTM 11N, NAD83)

Northing: — Easting: —

Notes low flows in Negro Creek at sample location (small waterfall). Approx 5 to 10 gpm

Flow Rate: 5→10 gpm **Flow Rate Measurement Desc:**

Flow Units: gpm visual ~~estimate~~ estimate

Water Quality

Sample Time: 14:55 Equip Blank Set Collected? Y ____ N X

Field Filtered? Y ~~____~~ N ~~____~~ Transfer Blank Set Collected? Y ____ N X

Samples Filtered: per work plan Duplicate Set Collected? Y ____ N X

Sampler Signature:

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
14:40	7.23		592	9.9	5.71	50.1	meas. parameters
14:55							collected WQ

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Owyhee River Down Stream of Owyhee Dam Page No.: 1 of 1

Sampling Location Name: Owyhee River DS of Owyhee Dam

Personnel: Erik Boe

Date: 11/20/13 Photos (#,Name): 2-3

Weather: partly cloudy, bit of sun, cool.

GPS Coord. (UTM 11N, NAD83)

Northing: 4835852 Easting: 480990

Notes Water flowing with slightly lower flow rate then was observed at Leslie Gulch earlier in the morning. Area ~~was~~ had no standing water, but appears to have recieved precip from the earlier system that blew through.

Flow Rate: NA **Flow Rate Measurement Desc:** NA

Flow Units: NA

Water Quality

Sample Time: 15:10

Field Filtered? Y ~~N~~

Samples Filtered: per work plan

Equip Blank Set Collected? Y ____ N X

Transfer Blank Set Collected? Y ____ N X

Duplicate Set Collected? Y ____ N X

Sampler Signature:

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
15:00	8.84	187	292	6.1	11.8	105%	~~Collected~~ measured parameters
15:10					~~11.8~~	~~105%~~	collected WQ samples

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Leslie Gulch Page No.: 1 of 1

Sampling Location Name: Leslie Gulch sample site at Owyhee Lake (River)

Personnel: Erik Boe

Date: 11/20/13 Photos (#,Name): 1-3

Weather: overcast, cold, rained earlier in day.

GPS Coord. (UTM 11N, NAD83)

Northing: 4796517 Easting: 473434

Notes Owyhee Lake drained/receded at Leslie Gulch site, Owyhee river flows. Water is relatively turbid, rain/snow receded while driving over the pass to Leslie Gulch.

Flow Rate: Unknown, but flowing. **Flow Rate Measurement Desc:** NA

Flow Units: NA

Water Quality

Sample Time: 11:00

Field Filtered? ~~Y~~ ~~N~~

Samples Filtered: Per work plan

Equip Blank Set Collected? Y ____ N X

Transfer Blank Set Collected? Y ____ N X

Duplicate Set Collected? Y ____ N X

Sampler Signature: E. T.

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
10:55	8.43	239	357	7.7	10.2	95%	meas. params.
11:00							collected WQ samples

Field Equipment Calibration Record

Instrument: pH Meter
Manufacturer / Model: YSI Ecosense pH100
Date / Time of Calibration: 11/20/13 10:40
Calibration Method: 2 - point
Buffers Used: 7 and 10
Slope Deviation:
Electrode Efficiency: 98.0
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: [signature]

Instrument: Conductivity Meter
Manufacturer / Model: YSI Ecosense EC300
Date / Time of Calibration: 11/12/13 10:35
Calibration Method: 1 pt, Cal SC to 1413 @ 25°C
Cell Constant: 5.34 Default? X Yes ____ No
Temperature Coefficient: ____ Default? X Yes ____ No
Temperature Reference: ____ Default? X Yes ____ No
Conductivity Standard: ~~1413~~
Conductivity Standard @ 25C: 1413 @ 25°C
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: [signature]

Instrument: Dissolved Oxygen Meter
Manufacturer / Model: OxyGuard Handy Polaris 2
Date / Time of Calibration: 11/20/13 10:45
Calibration Method: Auto Cal
Initial DO Saturation Reading: 100% (Should read 100.5%)
Calibration Needed? ____ Yes X No, But ~~auto~~ auto cal'd anyway.
Calibration Precision: X Field ____ Normal ____ High
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: [signature]

Field Equipment Calibration Record

Instrument: pH Meter
Manufacturer / Model: ~~YSI Ecosense pH100~~ YSI 556 MPS
Date / Time of Calibration: 11/21/13 9:30
Calibration Method: 2 - point
Buffers Used: 7 and 10 pH
Slope Deviation:
Electrode Efficiency:
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: [signature]

Instrument: Conductivity Meter
Manufacturer / Model: ~~YSI Ecosense EC300~~ YSI 556 MPS
Date / Time of Calibration: 11/21/13 9:35
Calibration Method: 1 pt
Cell Constant: — Default? X Yes ____ No
Temperature Coefficient: — Default? X Yes ____ No
Temperature Reference: — Default? X Yes ____ No
Conductivity Standard: —
Conductivity Standard @ 25C: 1413
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature:

Instrument: Dissolved Oxygen Meter
Manufacturer / Model: ~~OxyGuard Handy Polaris 2~~ YSI 556 MPS
Date / Time of Calibration: 11/21/13 9:45
Calibration Method: 1 pt
Initial DO Saturation Reading: NA (Should read 100.5%)
Calibration Needed? ____ Yes X No
Calibration Precision: X Field ____ Normal ____ High
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: [signature]

Field Equipment Calibration Record

Instrument: pH Meter
Manufacturer / Model: YSI Ecosense pH100
Date / Time of Calibration: 11/22/13 8:50
Calibration Method: 2 - point
Buffers Used: 7 and 10
Slope Deviation: —
Electrode Efficiency: 97.2 %
Successful Calibration? X Yes ____ No
If No, List Corrective Action: ____
Signature: [signature]

Instrument: Conductivity Meter
Manufacturer / Model: YSI Ecosense EC300
Date / Time of Calibration: 11/22/13 8:55
Calibration Method: 1 pt.
Cell Constant: — Default? X Yes ____ No
Temperature Coefficient: — Default? X Yes ____ No
Temperature Reference: — Default? X Yes ____ No
Conductivity Standard: ____
Conductivity Standard @ 25C: 1413 µS @ 25°C
Successful Calibration? X Yes ____ No
If No, List Corrective Action: ____
Signature: [signature]

Instrument: Dissolved Oxygen Meter
Manufacturer / Model: OxyGuard Handy Polaris 2
Date / Time of Calibration: 11/22/13 9:00
Calibration Method: Cal to air, Auto method
Initial DO Saturation Reading: 98.8 % (Should read 100.5%)
Calibration Needed? X Yes ____ No
Calibration Precision: X Field ____ Normal ____ High
Successful Calibration? X Yes ____ No
If No, List Corrective Action: ____
Signature: [signature]

Field Equipment Calibration Record

Instrument: pH Meter
Manufacturer / Model: YSI Ecosense pH100
Date / Time of Calibration: 11/23/13 9:30
Calibration Method: 2 - point
Buffers Used: 7 and 10
Slope Deviation: –
Electrode Efficiency: 95.0
Successful Calibration? X Yes ____ No
If No, List Corrective Action: ____
Signature: SMT

Instrument: Conductivity Meter
Manufacturer / Model: YSI Ecosense EC300
Date / Time of Calibration: 11/23/13 9:40
Calibration Method: 1 pt
Cell Constant: – Default? X Yes ____ No
Temperature Coefficient: – Default? X Yes ____ No
Temperature Reference: – Default? X Yes ____ No
Conductivity Standard: –
Conductivity Standard @ 25C: 1413 @ 25°C used
Successful Calibration? X Yes ____ No
If No, List Corrective Action: ____
Signature: SMT

Instrument: Dissolved Oxygen Meter
Manufacturer / Model: OxyGuard Handy Polaris 2
Date / Time of Calibration: 11/23/13 9:45
Calibration Method: to air
Initial DO Saturation Reading: 92% (Should read 100.5%)
Calibration Needed? X Yes ____ No
Calibration Precision: X Field ____ Normal ____ High
Successful Calibration? X Yes ____ No
If No, List Corrective Action: ____
Signature: SMT

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Dry Creek Arm Page No.: 1 of 1

Sampling Location Name: Dry Creek arm of Owyhee Lake

Personnel: Erik Boe

Date: 6/23/14 Photos (#,Name): 5-2

Weather: Sunny, warm, windy

GPS Coord. (UTM 11N, NAD83)

Northing: ~~from Same~~ Easting: Same

Notes Owyhee not recirded ~ 200 yds west of sample location

Flow Rate: NA **Flow Rate Measurement Desc:** NA

Flow Units: NA

Water Quality

Sample Time: 15:20

Field Filtered? Y ___ N per WP

Samples Filtered: ___ per WP

Equip Blank Set Collected? Y ___ N X

Transfer Blank Set Collected? Y ___ N X

Duplicate Set Collected? Y ___ N X

Sampler Signature:

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
15:15	8.57	263	275	22.8	8.7	112 %	
15:20							collected sample

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Leslie Gulch Page No.: 1 of 1

Sampling Location Name: Leslie Gulch sample site at Owyhee Lake/River

Personnel: Erik Boe

Date: 6/19/14 Photos (#,Name): 1-2

Weather: Sunny, clear skies, light breeze

GPS Coord. (UTM 11N, NAD83)

Northing: 4796517 Easting: 473434

Notes Owyhee Lake is low, river flows/conditions at Leslie Gulch. Water is turbid.

Flow Rate: unknown, but flowing **Flow Rate Measurement Desc:** NA

Flow Units: NA

Water Quality

Sample Time: 12:30

Field Filtered? Y ___ N ___ per W.P.

Samples Filtered: ___ per W.P.

Equip Blank Set Collected? Y ___ N X

Transfer Blank Set Collected? Y ___ N X

Duplicate Set Collected? Y ___ N X

Sampler Signature: E M. J

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
12:15	8.59	306	351	18.2	8.0	99 %	Meas. Parameters
12:30							Collected Samples

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Negro Rock Creek Page No.: 1 of 1

Sampling Location Name: Small waterfall on negro creek (same as before)

Personnel: Eric Bee

Date: 6/24/14 Photos (#,Name): 2-2

Weather: Sunny, windy

GPS Coord. (UTM 11N, NAD83)

Northing: same Easting: same

Notes Negro rock creek is at lower flows.

Flow Rate: 5-10 gpm **Flow Rate Measurement Desc:**

Flow Units: gpm visual estimate

Water Quality

Sample Time: 10:55

Field Filtered? Y ___ N ~~___~~ per WP

Samples Filtered: ~~___~~ per WP

Equip Blank Set Collected? Y ___ N X

Transfer Blank Set Collected? Y ___ N X

Duplicate Set Collected? Y ___ N X

Sampler Signature: E. R.

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
10:30	7.35	393	490	14.6	6.6	78%	
10:55							collected sample

flow ~ 5 gal / 10 sec

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Owyhee River DS Page No.: 1 of 1

Sampling Location Name: Owyhee River Site Down stream of Owyhee Dam

Personnel: Erik Bae

Date: 6/19/14 Photos (#,Name): 2-2

Weather: sunny, light wind

GPS Coord. (UTM 11N, NAD83)

Northing: 4835852 Easting: 480990

Notes Owyhee River flowing, lower flows than observed at Leslie Gulch earlier in the day. Fly fishermen approximately 100 yards upstream, and around 50 yards down stream of site.

Flow Rate: NA **Flow Rate Measurement Desc:** NA

Flow Units: NA

Water Quality

Sample Time: 15:45

Field Filtered? Y ___ N ___ per WP.

Samples Filtered: ___ per WP.

Equip Blank Set Collected? Y ___ N X

Transfer Blank Set Collected? Y ___ N X

Duplicate Set Collected? Y ___ N X

Sampler Signature:

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
15:30 ~~3:30 pm~~	8.81	230	~~285~~	14.3	10.4	116 %	
15:45 ~~3:45 pm~~			289				collected samples

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Twin Springs Creek Page No.: 1 of 1

Sampling Location Name: Twin Springs creek ~~north of~~ upstream of Dry Creek confluence.

Personnel: Erik Bae

Date: 6/23/14 Photos (#,Name): 4-2

Weather: Sunny, warm, windy

GPS Coord. (UTM 11N, NAD83)

Northing: same Easting: same

Notes Dry

Flow Rate: **Flow Rate Measurement Desc:**

Flow Units:

Water Quality

Sample Time: Equip Blank Set Collected? Y ___ N ___

Field Filtered? Y ___ N ___ Transfer Blank Set Collected? Y ___ N ___

Samples Filtered: Duplicate Set Collected? Y ___ N ___

Sampler Signature:

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
14:55							Dry

Field Equipment Calibration Record

Instrument: pH Meter
Manufacturer / Model: YSI Ecosense pH100
Date / Time of Calibration: 6/19/14 ~~10:45~~ 11:45
Calibration Method: 2 - point
Buffers Used: 7 and 10 pH Standards
Slope Deviation:
Electrode Efficiency: 93.6%
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: S.A.T.

Instrument: Conductivity Meter
Manufacturer / Model: YSI Ecosense EC300
Date / Time of Calibration: 6/19/14 11:50
Calibration Method: 1 pt
Cell Constant: ~~5.00~~ 5.00 Default? X Yes ____ No
Temperature Coefficient: ~~25~~ 1.91 % Default? X Yes ____ No
Temperature Reference: 25 °C Default? X Yes ____ No
Conductivity Standard: —
Conductivity Standard @ 25C: 1413
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: S.A.T.

Instrument: Dissolved Oxygen Meter
Manufacturer / Model: OxyGuard Handy Polaris 2
Date / Time of Calibration: ~~Pre~~ 6/19/14 12:00
Calibration Method: to air (Auto)
Initial DO Saturation Reading: 100.5 % (Should read 100.5%)
Calibration Needed? ____ Yes X No
Calibration Precision: X Field ____ Normal ____ High
Successful Calibration? X Yes ____ No
If No, List Corrective Action: —
Signature: S.A.T.

Field Equipment Calibration Record

Instrument: pH Meter
Manufacturer / Model: YSI Ecosense pH100
Date / Time of Calibration: 6/23/14 10:00
Calibration Method: 2 - point
Buffers Used: 7 and 10 pH Stds.
Slope Deviation:
Electrode Efficiency: 95.1 %
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: S.A.T.

Instrument: Conductivity Meter
Manufacturer / Model: YSI Ecosense EC300
Date / Time of Calibration: 6/23/14 10:10
Calibration Method: 1 pt
Cell Constant: 5.00 Default? X Yes ____ No
Temperature Coefficient: 1.91 % Default? X Yes ____ No
Temperature Reference: 25°C Default? X Yes ____ No
Conductivity Standard: —
Conductivity Standard @ 25C: 1413 µS
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: S.A.T.

Instrument: Dissolved Oxygen Meter
Manufacturer / Model: OxyGuard Handy Polaris 2
Date / Time of Calibration: 6/23/14 10:15
Calibration Method: to air, auto
Initial DO Saturation Reading: 100.5 % (Should read 100.5%)
Calibration Needed? ____ Yes X No
Calibration Precision: X Field ____ Normal ____ High
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: S.A.T.

Field Equipment Calibration Record

Instrument: pH Meter
Manufacturer / Model: YSI Ecosense pH100
Date / Time of Calibration: 6/24/14 8:50
Calibration Method: 2 - point
Buffers Used: pH 7 & 10 standards
Slope Deviation: —
Electrode Efficiency: 95.1
Successful Calibration? X Yes ____ No
If No, List Corrective Action: ____
Signature: [signature]

Instrument: Conductivity Meter
Manufacturer / Model: YSI Ecosense EC300
Date / Time of Calibration: 6/24/14 8:55
Calibration Method: 1 pt
Cell Constant: 5.00 Default? X Yes ____ No
Temperature Coefficient: 1.91 % Default? X Yes ____ No
Temperature Reference: 25 °C Default? X Yes ____ No
Conductivity Standard: —
Conductivity Standard @ 25C: 1413
Successful Calibration? X Yes ____ No
If No, List Corrective Action: ____
Signature: [signature]

Instrument: Dissolved Oxygen Meter
Manufacturer / Model: OxyGuard Handy Polaris 2
Date / Time of Calibration: 9:00 6/24/14
Calibration Method: 1 pt in air, auto cal
Initial DO Saturation Reading: 100 % (Should read 100.5%)
Calibration Needed? ____ Yes X No
Calibration Precision: X Field ____ Normal ____ High
Successful Calibration? X Yes ____ No
If No, List Corrective Action: ____
Signature: [signature]

Appendix B: Technical Review Team Correspondence

Oregon
Kate Brown, Governor

Department of Geology and Mineral Industries
Mineral Land Regulation & Reclamation
229 Broadalbin Street SW
Albany, OR 97321-2246
(541) 967-2039
Fax: (541) 967-2075
www.oregongeology.org

July 26, 2018

Calico Resources USA Corp.
Nancy Wolverson
665 Anderson Street
Winnemucca, NV 89445

Re: Grassy Mountain – Baseline Data – Surface Water - Response

(Sent via e-mail to nancy@paramountnevada.com and US Mail - return receipt requested)

Dear Ms. Wolverson:

Calico filed its surface water baseline data with the State on June 5, 2018. The baseline data has been reviewed by the Water Resources Subcommittee of the Technical Review Team and by the Oregon Department of Environmental Quality. DOGAMI responded to Calico requesting revisions to the baseline data report in a letter dated July 16, 2018. Calico's consultant subsequently discussed the DOGAMI response of 7/16/18 with DOGAMI staff.

In the letter, DOGAMI references, and reaffirms here, the applicable Oregon Water Quality Standards are included at Oregon Administrative Rules 340, Division 41. DOGAMI also references the applicable Oregon groundwater quality standards at OAR 340, Division 40; these groundwater standards are, however, applicable to the Groundwater baseline data (Section 3.4[1]) rather than the Surface Water baseline.

The surface water quality monitoring sites should report monitoring stations identified in the approved baseline work plan at 3.3.4.2.1.

Please revise the surface water baseline report and re-submit it to DOGAMI.

Please let me know if you have any questions regarding the State's review and comments.

Sincerely,

Randy Jones
Chemical Process Mining Coordinator
Oregon Department of Geology and Mineral Industries

cc: Richard DeLong, EM Strategies
Terry Scanlan/Jason Thompson, SPF Water Engineering
Calico Technical Review Team

[1] Calico Resources, Environmental Baseline Study Work Plans, 9/22/17

Oregon
John A. Kitzhaber, MD, Governor

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June 20, 2013

Vance Thornsberry
Calico Resources
PO Box Q
Vale, OR 98101

Re: Baseline Data Submittal – Sent electronically to vthornsberry@calicoresources.com & by US Mail (return receipt requested)

Dear Mr. Thornsberry:

We anticipate that Calico Resources will start filing baseline data with the State regarding the Calico project shortly. We strongly recommend that Calico file its individual baseline data with the State as it is collected to ensure that any questions raised by the baseline data can be resolved quickly and not delay the process.

Baseline Data Information

The Calico Technical Review Team has outlined some suggestions to make the review and tracking of the baseline data as efficient as possible, and they are outlined below:

1. Please file all baseline data collection information electronically as a PDF file and for water quality data, as an *Excel* spreadsheet also. Providing a PDF file provides a stable, searchable record of Calico's baseline data information; providing an *Excel* spreadsheet for the water quality data will allow the data to be graphed. Additional information on the water quality data submittal is below. We can access the information through the FTP site of your consultant, or we can provide you information on how to post the information to the DOGAMI FTP site.
2. Oregon Water Resources Department (WRD) needs the water level data entered in a specific spreadsheet that they are developing for use by Calico and its consultants. Use of the Water Resources Department water level spreadsheet will allow the Calico information to be integrated into the statewide water level tracking system. Please use the WRD-developed spreadsheet for reporting water level information. A copy of the spreadsheet is attached.
3. When baseline data is filed by Calico, it will be reviewed for completeness and consistency with the approved baseline data methodology by the appropriate members of the TRT. We will work with the TRT to ensure timely review. We will communicate the outcome of the baseline data review by discipline directly to Calico after the review.
4. For groundwater and surface water sampling information, please build a single *Excel* spreadsheet and include separate tabs for each quarterly sampling event.

5. The Oregon DEQ Laboratory and Environmental Assessment Division would like to participate in at least one groundwater sampling event to observe the sampling and possibly split samples for analysis at the DEQ laboratory. In order to accommodate the schedules of the DEQ field staff, please provide at least 45 days advance notice of a groundwater sampling event, in order that DEQ staff can plan to participate.
6. A reminder that the specifics of the detailed ambient air and meteorological monitoring plan must be submitted to DEQ for approval prior to implementation.
7. Please provide field notes as a separate PDF file.
8. A reminder that cultural resources should be maintained as confidential information per the State Historic Preservation Office guidelines and the Oregon Public Records Law; see ORS 192.501(11). Under state regulations, please also provide a paper copy of all cultural resources information mailed to Matt Diederich, Oregon Heritage, Oregon Parks & Recreation Department, 725 Summer St NE, Suite C, Salem, OR 97301.
9. Please provide all GIS-related information on a recordable DVD and send to Ed Buchner, GIS Specialist, DOGAMI, 229 Broadalbin SW, Albany, OR 97321.
10. Appropriate data quality control/quality assurance procedures, as outlined in the Final Revised Environmental Baseline Study Work Plan (March, 2013) should be included.

Water Quality Information

DEQ requests that for each round of water quality sampling, a Level 2 analytical report be submitted for the permanent file, along with a PDF copy sent to our Permit Coordinator for distribution to the Technical Review Team. A typical Level 2 analytical report includes:

1. Cover letter/sheet with authorized Project Manager signature
2. Sample Receipt Summary
3. Case narrative (if needed)
4. Analytical Results Summary
5. Batch QC Data Summary (Method Blank, LCS, Batch MS/MSD)
6. Data Qualifier Definitions and Legend
7. Field Chain of Custody Form and Sample Receipt Checklist

For ease of review, an Excel spreadsheet should be constructed that includes the necessary fields for each sampling event as tabs. The spreadsheet should be updated for each sampling event. This will ensure the complete data file is accessible to TRT members, Calico, and its consulting staff. An example *Excel* spread sheet is attached. This example may not include all necessary fields. All data collected for each site including field observations should be included, i.e. for wells, additional information such as depth to water; WRD well number; etc. should be included. This electronic format will facilitate review of the data.

If you have any questions regarding the water quality data submittal package request, please contact Lori Pillsbury, DEQ Laboratory and Environmental Assessment Division, in Hillsboro at (503) 693-5735 or by e-mail at pillsbury.lori@deq.state.or.us.

Confidential Business Information

All of the information submitted in the process above will be considered public information and maintained in the Calico files that are accessible to the public, if requested.

If Calico has information that it believes is exempt from public disclosure as a 'trade secret', that information should be separated from the other material, clearly marked as possibly exempt from public disclosure, and sent directly to Gary Lynch, Assistant Director of Regulation.

Should you or your consulting staff have any questions regarding submittal of baseline data, please let me know and we will work with the TRT to get your questions answered.

Sincerely,



Gary Lynch
Assistant Director of Regulation, Mineral Land Regulation and Reclamation Program
Oregon Department of Geology & Mineral Industries

Attachments:

1. *Example Excel file for water quality data*
2. *Water Resources Excel file template for water level monitoring*

cc: Calico Technical Review Team

Oregon
John A. Kitzhaber, MD, Governor

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August 6, 2013

Vance Thornsberry
Calico Resources
PO Box Q
Vale, OR 98101

Sent via e-mail to vthornsberry@calicoresources.com and US Post/Return Receipt

Dear Mr. Thornsberry:

Calico Resources and its water resources consultant, SPF Water Engineering, completed a quarterly water resources sampling event in March 2013, and filed the data and field notes with the State. The Technical Review Team – Water Resources Subcommittee reviewed the data, and we appreciate Calico and its consultants discussion with the TRT regarding the data in our call held July 18, 2013.

As we discussed in the TRT – Water Resources Subcommittee meeting, it would be useful to have a short (1 – 2 page) summary of the highlights of the sampling event to accompany the quarterly monitoring reports. We believe this summary will improve communication between the Calico team and the respective state agencies.

If you could also file copies of relevant photos that illustrate important points related to the sampling event that would also be useful.

Please let me know if you have any questions.

Sincerely,

Gary Lynch
Assistant Director of Regulation
Mineral Land Regulation and Reclamation Program
Oregon Department of Geology & Mineral Industries

cc: Rick Richins
Terry Scanlan, SPF Water Engineering
Jason Thompson, SPF Water Engineering
TRT – Water Resources Subcommittee

Oregon
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August 8, 2013

Vance Thornsberry
Calico Resources USA
PO Box Q
Vale, Oregon 97918

RE: Adjustments to Calico Resources Final Revised Baseline Methodologies approved 3/8/13

Sent via e-mail to vthornsberry@calicoresources.com & US Mail, return receipt requested

Dear Mr. Thornsberry:

At its July 18, 2013 meeting, the Calico Technical Review Team (TRT) Water Resources Subcommittee reviewed the first quarter 2013 water resources data supplied by the Company and its water consultants.

After reviewing the data, the TRT Water Resources Subcommittee is recommending that minor technical adjustments be made on the *Final Revised Environmental Baseline Study Work Plans*, approved by the TRT on 3/8/13, to ensure that baseline data collection is accurate, efficient, and complete.

These adjustments should be made to the *Final Revised Environmental Baseline Study Work Plans* for water resources:

1. **Nitrate/Nitrite Sampling**
   Replace nitrate and nitrite sampling with 48-hour hold times with a combined Nitrate+Nitrite (as N) analysis:
   a. *Laboratory Method:* SM4500-F or EPA 353.2
   b. *Hold Time:* 28 days
   c. *Preservation:* pH <2 with H_2O_4 (sulfuric acid), cool to <6 degrees
   d. *Bottle Type:* polyethylene or glass

   This change is being made to accommodate the short hold time (48 hours) for the previously approved method, and the remoteness of the proposed mine location. The Calico TRT Water Resources Subcommittee has concluded that the baseline data information from the revised methodology will provide adequate baseline data.

2. **Inorganic Arsenic**
   The TRT Water Resources Committee recommends that Inorganic Arsenic be removed from the required analytes on Table 15 (page 66) and Table 16 (page 67). Inorganic arsenic was erroneously included on the sample analyte list. Total arsenic is a required analyte.

Avian Count Form
Consulting wildlife biologists working for Calico have requested the attached *Avian Observation Data Sheet* be substituted for the *AZ IBA Point Count* form included in *Final Revised Environmental Baseline Study Work Plans,* **Appendix D – Data Field Forms, Terrestrial Wildlife**. The Oregon Department of Fish and Wildlife has reviewed this request, and concluded that the revised form (attached) will gather adequate baseline data. The attached *Avian Observation Data Sheet* will substitute for the *AZ IBA Point Count* form.

Acknowledgement and Agreement
Please respond within three (3) business days of receiving this request to indicate Calico Resources acceptance of the proposed baseline data methodology revisions, or disagreement.

Additional discussions by the Technical Review Team will be prompted by Calico's disagreement with the proposed revisions.

If you have any questions or need additional information, please contact me in Albany at 541-967-2053 or by e-mail at gary.w.lynch@mlrr.oregongeology.com.

Thank you for Calico's and your technical consultants continued collaboration with the Technical Review Team to gather high quality, comprehensive baseline data on the existing environmental conditions in the proposed mine site location.

Sincerely,

Gary W. Lynch
Assistant Director
Mined Land Regulation and Reclamation Division

Attachment - *Avian Observation Data Sheet*
cc: Rick Richins, Calico
Christine Whittaker, HDR
Terry Scanlan, SPF Water Engineering
Drew Martin, Yturri Rose Firm
Calico Technical Review Team

AVIAN OBSERVATION DATA SHEET **Grassy Mountain** **Plot *D***

DATE _____ OBSERVER_____ START TIME_____ END TIME_____ Page_____of_____

WEATHER: VISIBILITY (circle one) good fair poor CLOUD COVER (%)_____ TEMP_____ (C) (F) (circle one)

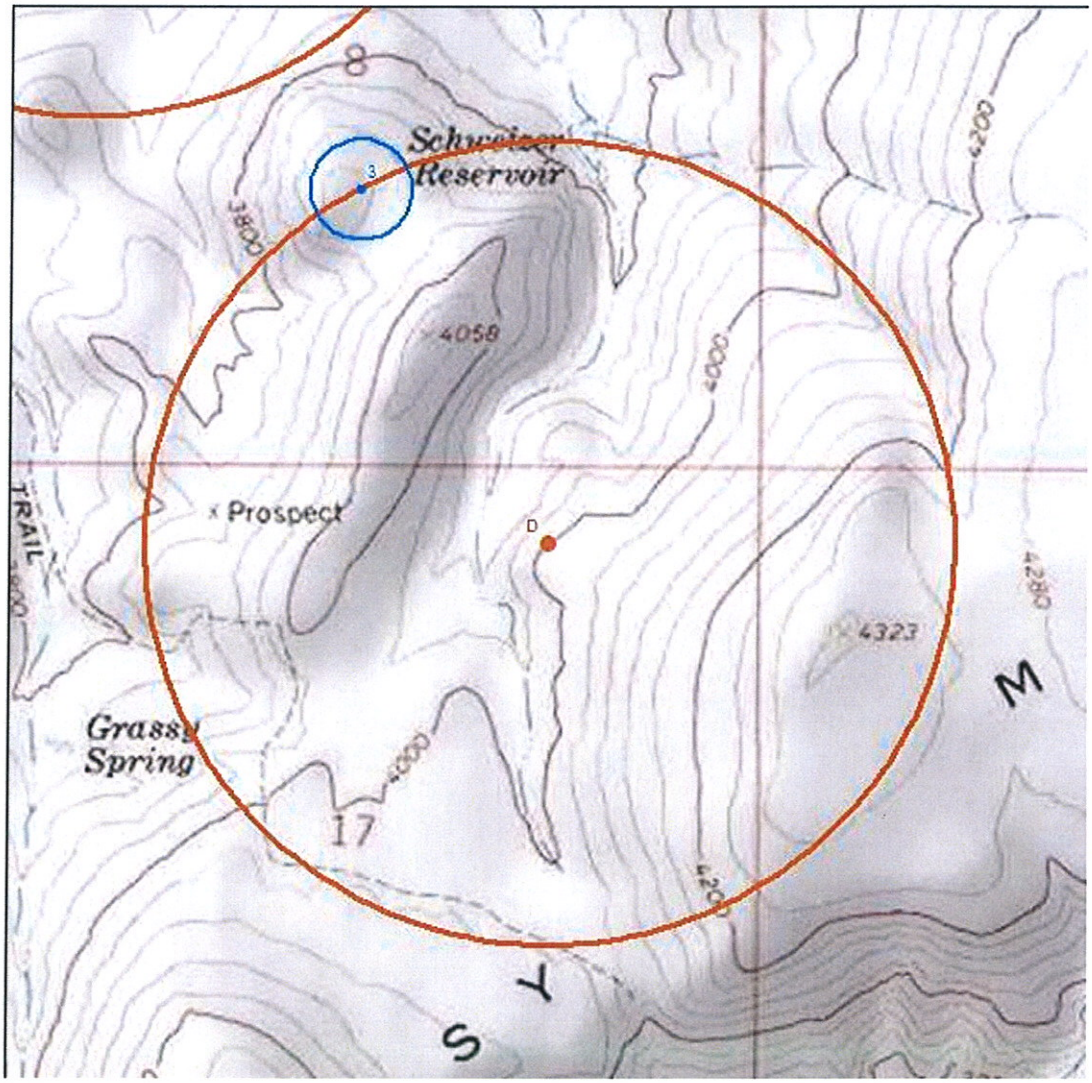
WIND: DIRECTION (circle one) N NE E SE S SW W NW n/a SPEED Low:_____ High:_____ (kph) (mph) (circle one)

PRECIPITATION (circle one) none light rain rain light snow snow sleet hail other

Obs. No.	Species	Sex	Age	No. of ind.	Dist.(m) from obs. 1st//closest	Activity			Flight Height (meters) 1st	low	high	Flight Dir.	Habitat				Inst. Count (height/distance) I1	I2	I3		A T	1st 2nd	Exposure Minutes/ Notes
1						PE	SO	FL					GR	SS	RO	UT							
						CS	HU	OT					AD	RI	DE	OT							
2						PE	SO	FL					GR	SS	RO	UT							
						CS	HU	OT					AD	RI	DE	OT							
3						PE	SO	FL					GR	SS	RO	UT							
						CS	HU	OT					AD	RI	DE	OT							
4						PE	SO	FL					GR	SS	RO	UT							
						CS	HU	OT					AD	RI	DE	OT							
5						PE	SO	FL					GR	SS	RO	UT							
						CS	HU	OT					AD	RI	DE	OT							
6						PE	SO	FL					GR	SS	RO	UT							
						CS	HU	OT					AD	RI	DE	OT							
7						PE	SO	FL					GR	SS	RO	UT							
						CS	HU	OT					AD	RI	DE	OT							
8						PE	SO	FL					GR	SS	RO	UT							
						CS	HU	OT					AD	RI	DE	OT							
9						PE	SO	FL					GR	SS	RO	UT							
						CS	HU	OT					AD	RI	DE	OT							
10						PE	SO	FL					GR	SS	RO	UT							
						CS	HU	OT					AD	RI	DE	OT							

Big Game-

Notes-



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February 14, 2014

Vance Thornsberry
Calico Resources
PO Box Q
Vale, OR 97918

Re: Review of Third Quarter 2013 Water Resources Data
Sent electronically to vthornsberry@calicoresources.com & by US Mail (return receipt requested)

Dear Mr. Thornsberry:

The Technical Review Committee (TRT) Water Resources Subcommittee has reviewed the third quarter 2013 water resources data filed with the State on 12/16/13. The data are being collected and analyzed as outlined in the approved *Final Revised Environmental Baseline Study Work Plan 3/13)*, with the subsequent revisions.

After discussion at the TRT Water Resources Subcommittee meeting held January 22, 2014, the Subcommittee is requesting that Calico, or its water resources contractor, prepare a plan for revising the sample preservation practices to ensure that temperature sensitive analytes are received at the contract laboratory at the recommended preservation temperature (<6°C). The 3Q2013 data will be considered estimated but it is acceptable. However, this problem needs to be corrected before the Q1 2014 sampling event. The State wants to avoid the added time and expense needed with re-sampling events because data from samples that are not preserved according to the approved methods are considered "estimated" values and limited for scientific conclusions particularly for pre-existing water quality conditions prior to proposed chemical mining operations.

Lori Pillsbury at Oregon DEQ will review the plan for the TRT Water Resource Subcommittee. Please provide the plan directly to her electronically at PILLSBURY.Lori@deq.state.or.us and copy the project permit coordinator Janet Gillaspie at janet@envirostrategies.com.

Please respond to this letter with your schedule for completing the plan and providing it to the State.

Also, as requested in June 2013, the water sampling wells must be surveyed, including both elevations and location. Depth-to-water measuring points of the sampling wells used by the sampling technicians must be accurately surveyed for precise groundwater elevations. Groundwater elevations of aquifers in the high desert of eastern Oregon often yield a very slight gradient where accurate groundwater elevations are necessary to see flow direction. To

effectively understand the groundwater dynamics of the study area; particularly to decipher issues such as cross-connectivity of aquifers; and most importantly, to develop a plan for a designed system of monitoring wells and piezometers, and determining availability of mining/mineral processing production water, we need accurate groundwater elevations from precise measurements, provided by surveyed locations and elevations of measuring points. Please survey the wells and provide datum elevations in time to analyze all four quarters of piezometric data.

Please contact me in Albany should you have any questions or concerns about this request. I can be reached by phone at 541/967-2053 or by e-mail at gary.lynch@mlrr.oregongeology.com.

Sincerely,



Gary Lynch
Assistant Director of Regulation, Mineral Land Regulation and Reclamation Program
Oregon Department of Geology & Mineral Industries

cc: Rick Richins
Calico Technical Review Team Water Resources Subcommittee Members

Oregon
John A. Kitzhaber, MD, Governor

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March 25, 2014

Vance Thornsberry
Calico Resources USA
PO Box Q
Vale, Oregon 97918

Re: Adjustments to Calico Resources
Final Revised Baseline Methodologies, approved 03/08/13

Sent via e-mail to vthornsberry@calicoresources.com and US Mail, return receipt requested

Dear Mr. Thornsberry:

In its January 22, 2014 meeting, the Water Resources Subcommittee of the Calico Technical Review Team requested Calico and its consultants prepare a plan for ensuring the water monitoring samples collected for the Calico baseline data study are delivered to the analytical laboratory at the correct temperature.

Baseline Data Adjustment

Calico's consultant SPF Water Engineering, provided a *Proposed Plan For Revising Sample Preservation Practices To Ensure That Temperature Sensitive Samples Arrive At The Laboratory At Recommended Preservation Temperatures* dated March 6, 2014 (letter to Lori Pillsbury DEQ from Erik Boe).

Ms. Pillsbury with the Oregon DEQ Laboratory is the QA/QC expert for the TRT Water Resources Subcommittee. She has reviewed your plan and accepts it.

The March 6, 2014 proposed plan for revising the sampling procedures included in the *Calico Final Revised Baseline Methodologies* approved by the State on 03/08/13 is now modified with this revision to ensure that samples reach the analytical laboratory at the recommended preservation temperatures. The proposed plan affects baseline data collected under *Surface Water* (Section 3.3) and *Groundwater* (Section 3.4).

Acknowledgement and Agreement

Please respond within eight (8) business days of receiving this letter to indicate Calico Resources acceptance of the proposed baseline data methodology revisions, as submitted by your water resources consultant, SPF Engineering.

If you have any questions or need additional information on the overall process for baseline data methodology collection, please contact me in Albany at 541-967-2053 or by e-mail at gary.lynch@mlrr.oregongeology.com. If you have questions regarding the specific proposed plan for

revising sample preservation practices, please contact Lori Pillsbury at the DEQ Laboratory at 503-693-5135 or by email at pillsbury.lori@deq.state.or.us

Thank you for Calico's and its consultants continued collaboration with the Technical Review Team and its subcommittees to gather high quality, comprehensive baseline data on the existing environmental conditions in the proposed mine site location.

Sincerely,

Gary W. Lynch
Assistant Director
Mined Land Regulation and Reclamation Program

ec: Rick Richins, Calico
Erik Boe, SPF Water Engineering
Calico Technical Review Team, Water Resources Subcommittee

SPF WATER ENGINEERING

MEMORANDUM

DATE: August 12, 2013

TO: Calico Technical Review Team

CC: Rick Richins, Vance Thornsberry

FROM: Jason Thompson, P.E.

RE: Transmittal of 2nd Quarter Water Resources Baseline Data

FILE: 971.0050

A. Introduction

SPF Water Engineering (SPF) has completed monitoring activities for the 2nd Quarter 2013 sampling period for Calico Resources' Grassy Mountain Gold Project Water Resources Baseline Study. This work is described in the Final Revised Environmental Baseline Study Work Plans for the Grassy Mountain Project, approved by the State of Oregon's Technical Review Team (TRT) on March 13, 2013. Sampling for the 2nd Quarter occurred between June 17 and 27, 2013. This memorandum describes the sites sampled, the data collected, the data being transmitted, and discusses compliance with the approved work plans.

B. Sampling Sites

Manual water-level measurements and water quality samples were collected from 12 wells. These wells are listed in Table 1, along with the Oregon Department of Water Resources (OWRD) tag number.

300 E. Mallard Drive, Suite 350, Boise, Idaho 83706 Tel: 208-383-4140 Fax: 208-383-4156

Table 1. Water Quality Monitoring Wells

Calico Well ID	OWRD Well Tag Number
GW-1	107469
GW-4	107460
Prod 1	107457
PW-1	109353
PW-4	109351
BLM	109398
59760	107462
59761	109400
59763	109356
59766	107468
59772	109352
Bishop Well	None

Manual water-level measurements, without water quality samples, were collected from an additional 7 wells. These wells are listed in Table 2, along with the Oregon Department of Water Resources (OWRD) tag number.

Table 2. Water-level Monitoring Wells

Calico Well ID	OWRD Well Tag Number
GW-2	109357
GW-3	107467
GW-6	109368
89-2	109360
59762	109371
59764	107466
26-092-915	109354

Water-level pressure transducers were installed in 3 monitoring wells during the 1st Quarter sampling event to collect continuous baseline water-level data. The wells selected for continuous water-level measurements are listed in Table 3. These transducers were downloaded during the 2nd Quarter sampling event.

Table 3. Wells Used for Continuous Water-level Monitoring

Calico Well ID	OWRD Well Tag Number
GW-1	107469
GW-2	109357
GW-4	107460

During the 2nd Quarter sampling event, 11 springs were visited within the Water Resources Study Area. These springs are listed in Table 4, along with the flow rate measured during the event. Water quality samples and flow measurements were collected from 10 springs. Samples were not collected from Grassy Spring due to low flow conditions. Note that Lower Sourdough Spring was sampled during this event because a stock tank fed from this spring was located. Prior to locating this tank, this spring was not sampled because there was not a suitable location.

Table 4. Springs and Flow Rate

Spring	Flow Rate (gpm)
Government Corral Spring	1.44
Sagebrush Spring	0.48
Deposit Stock Tank (aka Grassy Spring Stock Tank)	0.17
Twin Springs North	1.57
Twin Springs South	6.08
Sourdough Spring Upper	0.10
Sourdough Spring Lower	0.10
Whiskey Spring	0.83
Lowe Spring	0.02
Poison Spring	0.99
Grassy Spring	< 1/4 liter per minute

A total of 5 surface water sites were visited during the 2nd Quarter sampling event. These sites are identified in Table 5. Water quality samples were collected from 4 of the surface water sites. Twin Springs Creek upstream of Dry Creek was dry at the time of the site visit.

Table 5. Surface Water Sites

Surface Water
Dry Creek Arm of Owyhee Lake
Twin Springs Creek US Dry Creek
Negro Rock Canyon Creek at Northern Boundary of Study Area
Owyhee River DS of Owyhee Dam
Owyhee River US of Owyhee Dam

C. Data Transmittal

Data collected during the 2nd Quarter sampling event is being transmitted to the TRT with this memorandum. Both manually collected water-level data using an electric-line well sounder and continuous water-level data collected using pressure transducers are being transmitted to the TRT. The data has been entered in a specific Excel spreadsheet provided by the Oregon Department of Water Resources (ODWR). Water quality data is being provided to the TRT in an Excel spreadsheet received directly from the laboratory that performed the analyses (ACZ Laboratories). The water quality data includes equipment and transfer blanks. Field notes are being sent as a separate PDF file. The Level 2 analytical report prepared by the laboratory is also being transmitted to the TRT.

D. Compliance with Approved Work Plans

The 2nd Quarter sampling event was performed in accordance with the Final Revised Environmental Baseline Study Work Plans for the Grassy Mountain Project, approved by the State of Oregon's Technical Review Team (TRT) on March 13, 2013. The only notable deviation from the approved plans was the equipment blank sample collected from the spring sampling equipment (peristaltic pump and silicone tubing) was not analyzed for all sampling parameters. The laboratory reported not receiving the sample to be analyzed for chloride, fluoride, nitrate, nitrite, nitrate+nitrite, total dissolved solids, and sulfate. SPF was not immediately notified that the sample was not received, instead we found out about it when we did not receive the results and noticed on the chain of custody that the laboratory noted that the sample was not received.

SPF is confident that the sample was collected, and the sample is identified on the chain of custody. However, this sample was not analyzed by the laboratory and unfortunately SPF was not immediately notified by the laboratory that the sample was not received. If we had been notified, there may have been an opportunity to collect another equipment

blank. SPF contacted the laboratory about this issue and they have confirmed that should this occur again in the future, we will be notified immediately.

SPF understands the importance of collecting equipment blanks, and we believe that the issue encountered during this sampling event can be avoided in the future if the laboratory contacts us if a sample is not received. Fortunately we did collect an equipment blank during the 1st Quarter sampling event, and this blank indicated that the sampling equipment did not have a significant impact on water quality results. The blank had levels of fluoride, total dissolved solids, and sulfate below the sample detection limit. The levels of nitrate, nitrite, and nitrate+nitrite were also below the detection limit, but these were analyzed past the sample hold time. The chloride concentration was 0.54 mg/L, a level reported as estimated because it is between the minimum detection limit and the practical quantitation limit.

A TRT Water Resources Subcommittee Meeting was held on July 18, 2013 to review the 1st Quarter sampling results. This meeting was held after the 2nd Quarter sampling event that occurred between June 17 and 27, 2013. Therefore any recommended revisions to the sampling protocol were not incorporated into the 2nd Quarter sampling. For the 3rd Quarter sampling, modifications were implemented, including:

- The static water level in wells that may be affected by purge pumping was measured prior to pumping.
- The measurement interval for the pressure transducers was changed to 30 minutes.
- The BLM well was sampled after purging 6 casing volumes.
- Samples for nitrate and nitrite were still collected separately, but samples for nitrate+nitrite with a 28-day sample hold time were also collected.
- Conductivity units were recorded consistently as µS/cm.

SPF WATER ENGINEERING

MEMORANDUM

DATE: January 29, 2014

TO: Calico Technical Review Team

CC: Rick Richins, Vance Thornsberry

FROM: Jason Thompson, P.E.

RE: Transmittal of 4th Quarter Water Resources Baseline Data

FILE: 971.0070

A. Introduction

SPF Water Engineering (SPF) has completed monitoring activities for the 4th Quarter 2013 sampling period for Calico Resources' Grassy Mountain Gold Project Water Resources Baseline Study. This work is described in the Final Revised Environmental Baseline Study Work Plans for the Grassy Mountain Project, approved by the State of Oregon's Technical Review Team (TRT) on March 13, 2013. Sampling for the 4th Quarter occurred between November 18 and 25, 2013. This memorandum describes the sites sampled, the data collected, the data being transmitted, and discusses compliance with the approved work plans.

B. Sampling Sites

Manual water-level measurements and water quality samples were collected from 12 wells. These wells are listed in Table 1, along with the Oregon Department of Water Resources (OWRD) tag numbers.

300 E. Mallard Drive, Suite 350, Boise, Idaho 83706 Tel: 208-383-4140 Fax: 208-383-4156

Table 1. Water Quality Monitoring Wells

Calico Well ID	OWRD Well Tag Number
GW-1	107469
GW-4	107460
Prod 1	107457
PW-1	109353
PW-4	109351
BLM	109398
59760	107462
59761	109400
59763	109356
59766	107468
59772	109352
Bishop Well	None

Manual water-level measurements, without water quality samples, were collected from an additional 7 wells. These wells are listed in Table 2, along with the Oregon Department of Water Resources (OWRD) tag numbers.

Table 2. Water-level Monitoring Wells

Calico Well ID	OWRD Well Tag Number
GW-2	109357
GW-3	107467
GW-6	109368
89-2	109360
59762	109371
59764	107466
26-092-915	109354

Water-level pressure transducers were installed in 3 monitoring wells during the 1st Quarter (2013) sampling event to collect continuous baseline water-level data. The wells selected for continuous water-level measurements are listed in Table 3. These transducers were downloaded during the 4th Quarter sampling event.

Table 3. Wells Used for Continuous Water-level Monitoring

Calico Well ID	OWRD Well Tag Number
GW-1	107469
GW-2	109357
GW-4	107460

During the 4th Quarter sampling event, 11 springs were visited within the Water Resources Study Area for flow measurement and sample collection if there is adequate flow (> ¼ liter per minute). These baseline springs are listed in Table 4, along with the flow rate measured during the event. Water quality samples and flow measurements were collected from 9 springs. Samples were not collected from Grassy Spring and Lowe Spring due to low flow conditions.

Table 4. Baseline Springs and Flow Rate

Spring	Flow Rate (gpm)
Government Corral Spring	1.55
Sagebrush Spring	0.46
Deposit Stock Tank (aka Grassy Spring Stock Tank)	0.25
Twin Springs North	1.51
Twin Springs South	6.34
Sourdough Spring Upper	0.10
Sourdough Spring Lower	0.08
Whiskey Spring	0.90
Lowe Spring	(1) 0.023
Poison Spring	(2) 1.00
Grassy Spring	(1) 0.016
(1) Flow rate was less than 1/4 liters per minute (0.066 gpm). (2) Approximate measurement value because water was flowing from crack and running down the side of the 2'x2' concrete well.	

In addition to visiting the 11 baseline springs, 16 other springs located within the Water Resources Study Area were visited during the 4th Quarter sampling event. These springs are identified as background springs in the Final Revised Environmental Baseline Study Work Plans, and are scheduled to be visited semi-annually (2nd and 4th Quarters). Photographs were taken of each of these springs, and flow measured if observed and a

suitable location existed for measuring the flow. The background springs are listed in Table 5, along with the flow rate if measurement was possible.

Table 5. Background Springs and Flow Rate

Spring	Flow Rate (gpm)
Bull Spring	0.69
Central Grassy Mountain Spring	(1) No Measurement
East Grassy Mountain Spring	(1) No Measurement
West Grassy Mountain Spring	(2) No Measurement
Negro Rock Spring	(3) No Measurement
Negro Rock Canyon Spring	(4) 5-10 gpm
Oxbow Spring	0.30
Oxyoke Spring	No Flow to Stock Tank
Red Tank No. 3	(3) No Measurement
Tank E of Negro Rock	9.91
Spring North of Lowe Reservoir	(3) No Measurement
Spring in Section 13 T22S R44E	0.83
Spring in Section 23 T21S R43E	(1) No Measurement
Spring South of Poison Spring	(1) No Measurement
West Whiskey Spring	(1) No Measurement
Wildcat Spring	(1) No Measurement

(1) Stagnant water, no obvious spring source for flow measurement.
(2) No water present, hydric vegetation dried out.
(3) Spring feeds stock tank below water surface, flow measurement not possible.
(4) Visual estimate, no direct source for flow measurement.

There are two flowing wells located within the Water Resources Study Area that are also identified as background monitoring locations. Photographs are to be taken and flow measured on a semi-annual basis (2nd and 4th Quarters) in accordance with the Final Revised Environmental Baseline Study Work Plans. These two wells were visited during the 4th Quarter sampling event, and are listed in Table 6 with the measured flow rate.

Table 6. Background Flowing Wells and Flow Rate

Flowing Well	Flow Rate (gpm)
Darky Rock Well	11.32
Flowing Well	3.11

A total of 5 surface water sites were visited during the 4th Quarter sampling event. These sites are identified in Table 7. Water quality samples were collected from 4 of the surface water sites. Twin Springs Creek upstream of Dry Creek was dry at the time of the site visit.

Table 7. Surface Water Sites

Surface Water
Dry Creek Arm of Owyhee Lake
Twin Springs Creek US Dry Creek
Negro Rock Canyon Creek at Northern Boundary of Study Area
Owyhee River DS of Owyhee Dam
Owyhee River US of Owyhee Dam

C. Data Transmittal

Data collected during the 4th Quarter sampling event is being transmitted to the TRT with this memorandum. Both manually collected water-level data using an electric-line well sounder and continuous water-level data collected using pressure transducers are being transmitted to the TRT. The water-level data has been entered in a specific Excel spreadsheet provided by the Oregon Department of Water Resources (ODWR). Water quality data is being provided to the TRT in an Excel spreadsheet received directly from the laboratory that performed the analyses (ACZ Laboratories). The water quality data includes equipment and transfer blanks. Field notes are being sent as a separate PDF file. The Level 2 analytical report prepared by the laboratory is also being transmitted to the TRT. Photographs of each of the springs and flowing wells visited during the 4th Quarter event are included with this transmittal.

During the State of Oregon's TRT Review of 2nd Quarter results on October 3, 2013, it was requested that we provide photographs documenting the water level measurement point of each monitoring well. These photographs were taken during the 4th Quarter sampling event and provided to the TRT with the 3rd Quarter data.

D. Compliance with Approved Work Plans

The 4th Quarter sampling event was performed in accordance with the Final Revised Environmental Baseline Study Work Plans for the Grassy Mountain Project, approved by the State of Oregon's Technical Review Team (TRT) on March 13, 2013. As per

recommendations from the TRT Water Resources Subcommittee Meeting, held on July 18, 2013, the following modifications were initially implemented during the 3rd Quarter sampling event and continued during the 4th Quarter event:

- The static water level in wells that may be affected by purge pumping was measured prior to pumping.
- The measurement interval for the pressure transducers was changed to 30 minutes.
- The BLM well was sampled after purging 6 casing volumes.
- During the 4th Quarter, samples for nitrate+nirite were collected by SPF and analyzed by ACZ Laboratories using Method 353.2 within the method hold time.
- Conductivity units were recorded consistently as µS/cm.

One notable deviation from the approved plans was the elevated temperature inside some of the shipping containers (ice chests) measured by ACZ Laboratories upon receipt of the shipments (Table 8). The challenge of maintaining internal ice chest temperatures below the recommended 6°C was apparent during the first few quarters of sampling at Grassy Mountain. This issue was discussed during the State of Oregon's TRT Review of 2nd Quarter results on October 3, 2013, where it was collectively decided that SPF work with ACZ Laboratories to determine a potential solution. ACZ recommended packing ice chests with loose ice secured inside multiple Ziploc bags. This recommendation was received after completion of 3rd Quarter sampling event, and was implemented during the 4th Quarter sampling event. Likely due to a combination of the improved ice packing method and cooler ambient temperatures, ice chest temperatures during the 4th Quarter were significantly lower (all were less than 9°C) than those from the 3rd Quarter (Table 8). A total of seven ice chests exceeded the 6°C threshold during the 4th Quarter sampling period.

As per the State of Oregon's Field Sampling Reference Guide (DEQ86-LAB-0002-QAG) and communication with ACZ Laboratories, samples impacted by temperatures exceeding 6°C include those not containing a preservative, those preserved with sulfuric acid, and those preserved with sodium hydroxide. All affected sample results are designated with a "Q6" identifier in the Qualifier Report section of the ACZ Level 2 analytical report.

This matter was again discussed during State of Oregon's TRT Review of 3rd Quarter results on January 22, 2014, where it was collectively decided that SPF prepare an action plan to address the ice chest temperature issue. The plan will be prepared and submitted to Lori Pillsbury from the Oregon Department of Environmental Quality for approval. The plan will likely involve a combination of expedited shipping (UPS Next Day Air), using ice chests with better insulating properties, and ensuring that samples are adequately chilled prior to shipping.

Table 8. Table of ice chest internal temperatures as measured upon receipt at the Laboratory during 3rd and 4th Quarter Periods.

Sampling Period	Ice Chest	Temperature (°C)	Shipment Method
Q4	L15734	5.2	3-day
Q4	L15770	5.2	3-day
Q4	L15771	4.2	3-day
Q4	L15772	5.6	3-day
Q4	L15820	6.5	3-day
Q4	L15821	7.9	3-day
Q4	L15822	8.0	3-day
Q4	L15823	7.1	3-day
Q4	L15824	6.9	3-day
Q4	L15825	5.1	3-day
Q4	L15826	8.9	3-day
Q4	L15834	7.2	3-day
Q3	L13751	8.8	overnight
Q3	L13761	17.1	overnight
Q3	L13763	12.6	3-day
Q3	L13796	14.7	3-day
Q3	L13800	19.5	overnight
Q3	L13811	15.8	3-day
Q3	L13873	8.9	overnight
Q3	L13920	14.7	3-day
Q3	L13923	15.8	overnight
Q3	L13939	21.4	3-day
Q3	L13940	23.2	3-day

During the 4th Quarter event, sample collection from Sourdough Springs Upper was slightly modified due to low flow conditions. Upon arrival to the site, water was flowing down the side of the pipe that discharges spring water into the stock tank. To create a sufficient stream of water for sampling, a piece of No. 15 silicone tubing (used for the peristaltic pump) was wrapped around the end of the discharge pipe as illustrated in Figure 1. This tubing was new, and free from contamination. We do not consider this modified sampling procedure to have any effect on the integrity of the samples collected.



Figure 1. Photograph of discharge at Sourdough Spring Upper

SPF WATER ENGINEERING

MEMORANDUM

DATE: September 4, 2014

TO: Calico Technical Review Team

CC: Rick Richins, Vance Thornsberry

FROM: Jason Thompson, P.E.

RE: Transmittal of 2nd Quarter Water Resources Baseline Data

FILE: 971.0091

A. Introduction

SPF Water Engineering (SPF) has completed monitoring activities for the 2nd Quarter 2014 sampling period for Calico Resources' Grassy Mountain Gold Project Water Resources Baseline Study. This work is described in the Final Revised Environmental Baseline Study Work Plans for the Grassy Mountain Project, approved by the State of Oregon's Technical Review Team (TRT) on March 13, 2013. Sampling for the 2nd Quarter occurred between June 19 and 30, 2014. This memorandum describes the sites sampled, the data collected, the data being transmitted, and discusses compliance with the approved work plans.

B. Sampling Sites

Manual water-level measurements and water quality samples were collected from 12 wells. These wells are listed in Table 1, along with the Oregon Department of Water Resources (OWRD) tag numbers.

300 E. Mallard Drive, Suite 350, Boise, Idaho 83706 Tel: 208-383-4140 Fax: 208-383-4156

Table 1. Water Quality Monitoring Wells

Calico Well ID	OWRD Well Tag Number
GW-1	107469
GW-4	107460
Prod 1	107457
PW-1	109353
PW-4	109351
BLM	109398
59760	107462
59761	109400
59763	109356
59766	107468
59772	109352
Bishop Well	None

Manual water-level measurements, without water quality samples, were collected from an additional 7 wells. These wells are listed in Table 2, along with the Oregon Department of Water Resources (OWRD) tag numbers.

Table 2. Water-level Monitoring Wells

Calico Well ID	OWRD Well Tag Number
GW-2	109357
GW-3	107467
GW-6	109368
89-2	109360
59762	109371
59764	107466
26-092-915	109354

Water-level pressure transducers were installed in 3 monitoring wells during the 2nd Quarter 2013 sampling event to collect continuous baseline water-level data. The wells selected for continuous water-level measurements are listed in Table 3. These transducers were downloaded during the 2nd Quarter sampling event.

Table 3. Wells Used for Continuous Water-level Monitoring

Calico Well ID	OWRD Well Tag Number
GW-1	107469
GW-2	109357
GW-4	107460

During the 2nd Quarter sampling event, 11 baseline springs were visited within the Water Resources Study Area for flow measurement and sample collection, assuming adequate flow (> ¼ liter per minute). These baseline springs are listed in Table 4, along with the flow rates measured during the event. Water quality samples and flow measurements were collected from 9 springs. Samples were not collected from Grassy Spring, Lowe Spring, and Sourdough Spring Lower due to low flow conditions.

Table 4. Baseline Springs and Flow Rate

Spring	Flow Rate (gpm)
Government Corral Spring	2.14
Sagebrush Spring	1.17
Deposit Stock Tank	0.14
Twin Springs North	1.42
Twin Springs South	5.49
Sourdough Spring Upper	0.085
Sourdough Spring Lower	(1) 0.053
Whiskey Spring	0.77
Lowe Spring	(1) 0.003
Poison Spring	(2) 1
Grassy Spring	(1) 0.013

(1) Flow rate was less than 1/4 liters per minute (0.066 gpm).
(2) Approximate measurement value because water was flowing from crack and running down the side of the 2'x2' concrete well.

In addition to visiting the 11 baseline springs, 16 other springs located within the Water Resources Study Area were visited during the 2nd Quarter sampling event. These springs are identified as background springs in the Final Revised Environmental Baseline Study Work Plans, and are scheduled to be visited semi-annually (2nd and 4th Quarters). Photographs were taken of each of these springs, and flow measured if observed and a suitable location existed for measuring the flow. The background springs are listed in Table 5, along with the flow rate if measurement was possible.

Table 5. Background Springs and Flow Rate

Spring	Flow Rate (gpm)
Bull Spring	0.73
Central Grassy Mountain Spring	(1) No Measurement
East Grassy Mountain Spring	(1) No Measurement
West Grassy Mountain Spring	(2) No Measurement
Negro Rock Spring	(3) No Measurement
Negro Rock Canyon Spring	(4) Stagnant at Source
Oxbow Spring	0.27
Oxyoke Spring	No Flow to Stock Tank
Red Tank No. 3	0.20
Tank E of Negro Rock	6.89
Spring North of Lowe Reservoir	(3) No Measurement
East Boundary Spring (aka Spring in Section 13 T22S R44E)	1.02
Northwest Boundary Spring (aka Spring in Section 23 T21S R43E)	(1) No Measurement
Spring South of Poison Spring	(1) No Measurement
West Whiskey Spring	(1) No Measurement
Wildcat Spring	(1) No Measurement

(1) Stagnant water, no obvious spring source for flow measurement.
(2) No water present, hydric vegetation dried out.
(3) Spring feeds stock tank below water surface, flow measurement not possible.
(4) Visual observation, no direct source for flow measurement.

There are two flowing wells located within the Water Resources Study Area that are also identified as background monitoring locations. Photographs are to be taken and flow measured on a semi-annual basis (2nd and 4th Quarters) in accordance with the Final Revised Environmental Baseline Study Work Plans. These two wells were visited during the 2nd Quarter sampling event, and are listed in Table 6 with the measured flow rate.

Table 6. Background Flowing Wells and Flow Rate

Flowing Well	Flow Rate (gpm)
Darky Rock Well	8.34
Flowing Well	4.95

A total of 5 surface water sites were visited during the 2nd Quarter sampling event. These sites are identified in Table 7. Water quality samples were collected from 4 of the surface water sites. Twin Springs Creek upstream of Dry Creek was dry at the time of the site visit.

Table 7. Surface Water Sites

Surface Water
Dry Creek Arm of Owyhee Lake
Twin Springs Creek US Dry Creek
Negro Rock Canyon Creek at Northern Boundary of Study Area
Owyhee River DS of Owyhee Dam
Owyhee River US of Owyhee Dam

C. Data Transmittal

Data collected during the 2nd Quarter sampling event is being transmitted to the TRT with this memorandum. Both manually collected water-level data using an electric-line well sounder and continuous water-level data collected using pressure transducers are being transmitted to the TRT. The water-level data has been entered in a specific Excel spreadsheet provided by the Oregon Department of Water Resources (ODWR). Water quality data is being provided to the TRT in an Excel spreadsheet received directly from the laboratory that performed the analyses (ACZ Laboratories). The water quality data includes equipment and transfer blanks. Field notes are being sent as a separate PDF

file. The Level 2 analytical report prepared by the laboratory is also being transmitted to the TRT. Photographs of each of the springs and flowing wells visited during the 2nd Quarter event are included with this transmittal.

D. Compliance with Approved Work Plans

The 2nd Quarter sampling event was performed in accordance with the Final Revised Environmental Baseline Study Work Plans for the Grassy Mountain Project, approved by the State of Oregon's Technical Review Team (TRT) on March 13, 2013. As per recommendations from the TRT Water Resources Subcommittee Meeting, held on July 18, 2013, the following modifications were initially implemented during the 3rd Quarter (2013) sampling event and continued during the 2nd Quarter event:

- The static water level in wells that may be affected by purge pumping was measured prior to pumping.
- The measurement interval for the pressure transducers was changed to 30 minutes.
- The BLM well was sampled after purging 6 casing volumes.
- During the 4th Quarter 2013 event, samples for nitrate+nitrite were collected by SPF and analyzed by ACZ Laboratories using Method 353.2 within the method hold time.
- Conductivity units were recorded consistently as µS/cm.

During the 2nd Quarter event, sample collection from Sourdough Springs Upper was slightly modified due to relatively low flow conditions. Similar to what was observed during previous sampling events, water was flowing down the side of the pipe that discharges spring water into the stock tank. To create a sufficient stream of water for sampling, a piece of No. 15 silicone tubing (used for the peristaltic pump) was wrapped around the end of the discharge pipe as illustrated in Figure 1. This tubing was new, and free from contamination. We do not consider this modified sampling procedure to have any effect on the integrity of the samples collected.



Figure 1. Photographs of temporary modification to the discharge pipe at Sourdough Spring Upper; photographs were captured during 4th Quarter 2013 sampling event.

Revised Sample Preservation Practices

In response to *Review of Third Quarter 2013 Water Resources Data* letter, dated February 14, 2014, from the TRT Water Resources Subcommittee, SPF submitted a proposed plan for revising sample preservation practices to ensure that temperature sensitive samples arrive to the laboratory at recommended preservation temperatures, between 0°C and 6°C. The proposed plan, approved by the TRT on March 26, 2014, involved the use of higher grade ice chests along with expedited (UPS Next Day Air) shipping practices, and is described below:

1. **Higher Grade Ice Chests:** Ice chests with better insulating properties will be used for shipping temperature sensitive bottles to ACZ Laboratories (ACZ). Higher grade ice chests, such as those manufactured by Yeti, have thicker (insulated) walls and full-frame gaskets to maintain desired temperatures.

2. **Expedited Shipping:** All temperature sensitive sample bottles will be shipped to ACZ via Next Day Air.

During the 2nd Quarter sample period, all samples arrived to the laboratory at recommended preservation temperatures, between 0°C to 6°C. Actual temperatures measured by ACZ were between 1.7 and 4.5 °C.

59762 Evaluation

The mean annual water level elevation associated with 59762 is a consistent 3105 feet above sea level, which is approximately 400 to 600 feet lower than nearby monitoring wells. This difference in water level elevation suggests 59762 is hydraulically

disconnected from the local aquifer that is monitored by nearby monitoring wells including 26-092-915, GW-1, GW-3, and PW-1.

During the 2nd Quarter sample period, a slug test was conducted to determine whether 59762 is hydraulically connected to a different water bearing zone, or if it is plugged. The slug test was conducted by (1) measuring static water level, (2) injecting 10 gallons of distilled water, and (3) measuring the response in water level. Results presented in Table 8 suggest that 59762 is not plugged and is hydraulically connected to a different water bearing zone.

Table 8. 59762 Slug test results

Date Time	Duration (min)	DTW (ft BMP)	Notes
6/30/2014 10:55		619.91	Static water level
6/30/2014 11:07			Begin input of 10 gallons distilled water
6/30/2014 11:11	0		end input of 10 gallons distilled water
6/30/2014 11:12	1	619.73	
6/30/2014 11:13	2	619.87	
6/30/2014 11:15	4	619.73	
6/30/2014 11:20	9	619.90	
6/30/2014 11:35	24	619.90	

Appendix C: ACZ Laboratories Analytical Report, QA/QC, Chain of Custody

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 11, 2013

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 2nd Q samplin
ACZ Project ID: L12893

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 22, 2013. This project has been assigned to ACZ's project number, L12893. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L12893. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 10, 2013. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: SPRING TRANSFER BLANK

ACZ Sample ID: ***L12893-07***
Date Sampled: *06/20/13 15:40*
Date Received: *06/22/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	1		U	*	mg/L	0.5	2.5	07/08/13 12:50	jlf
Fluoride	M300.0 - Ion Chromatography	1		U	*	mg/L	0.1	0.5	07/08/13 12:50	jlf
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2			U		mg/L	0.02	0.1	07/11/13 10:17	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		U		mg/L	0.02	0.1	06/22/13 15:08	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		U	*	mg/L	0.01	0.05	06/22/13 15:08	pjb
Residue, Filterable (TDS) @180C	SM2540C	1		U		mg/L	10	20	06/26/13 11:01	dcw
Sulfate	M300.0 - Ion Chromatography	1		U		mg/L	0.5	2.5	07/08/13 12:50	jlf

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4)	EPA SW-846. Test Methods for Evaluating Solid Waste.
(5)	Standard Methods for the Examination of Water and Wastewater.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5)	If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L12893***

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346168													
WG346168ICV	ICV	06/24/13 18:44	WI130624-1	19.98		20.3	mg/L	101.6	90	110			
WG346168ICB	ICB	06/24/13 19:01				U	mg/L		-1.5	1.5			
WG347052													
WG347052LFB1	LFB	07/05/13 14:23	WI130501-1	30		30.6	mg/L	102	90	110			
L12739-01DUP	DUP	07/05/13 19:03			81.5	81.6	mg/L				0.1	20	RA
L12893-01AS	AS	07/05/13 19:38	WI130501-1	30	11.2	42.3	mg/L	103.7	90	110			
WG347052LFB2	LFB	07/08/13 13:42	WI130501-1	30		32.7	mg/L	109	90	110			

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346168													
WG346168ICV	ICV	06/24/13 18:44	WI130624-1	4.004		4.19	mg/L	104.6	90	110			
WG346168ICB	ICB	06/24/13 19:01				U	mg/L		-0.3	0.3			
WG347052													
WG347052LFB1	LFB	07/05/13 14:23	WI130501-1	1.5		1.55	mg/L	103.3	90	110			
L12739-01DUP	DUP	07/05/13 19:03			.55	.55	mg/L				0	20	RA
L12893-01AS	AS	07/05/13 19:38	WI130501-1	1.5	.38	1.95	mg/L	104.7	90	110			

Nitrate/Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346212													
WG346212ICV	ICV	06/22/13 14:50	WI130411-3	2.416		2.445	mg/L	101.2	90	110			
WG346212ICB	ICB	06/22/13 14:51				U	mg/L		-0.06	0.06			
WG346212LFB	LFB	06/22/13 14:55	WI130215-3	2		1.955	mg/L	97.8	90	110			
L12893-02DUP	DUP	06/22/13 14:59			2.37	2.364	mg/L				0.3	20	
L12893-01AS	AS	06/22/13 15:10	WI130215-3	6	2.42	8.478	mg/L	101	90	110			

Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346212													
WG346212ICV	ICV	06/22/13 14:50	WI130411-3	.609		.608	mg/L	99.8	90	110			
WG346212ICB	ICB	06/22/13 14:51				U	mg/L		-0.03	0.03			
WG346212LFB	LFB	06/22/13 14:55	WI130215-3	1		1.005	mg/L	100.5	90	110			
L12893-01AS	AS	06/22/13 14:57	WI130215-3	1	U	.978	mg/L	97.8	90	110			
L12893-02DUP	DUP	06/22/13 14:59			U	U	mg/L				0	20	RA

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346443													
WG346443PBW	PBW	06/26/13 10:20				U	mg/L		-20	20			
WG346443LCSW	LCSW	06/26/13 10:22	PCN42882	260		244	mg/L	93.8	80	120			
L12893-03DUP	DUP	06/26/13 10:51			370	372	mg/L				0.5	10	
L12936-02DUP	DUP	06/26/13 11:20			520	518	mg/L				0.4	10	

SPF Water Engineering

ACZ Project ID: ***L12893***

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346168													
WG346168ICV	ICV	06/24/13 18:44	WI130624-1	50		50.2	mg/L	100.4	90	110			
WG346168ICB	ICB	06/24/13 19:01				U	mg/L		-1.5	1.5			
WG347052													
WG347052LFB1	LFB	07/05/13 14:23	WI130501-1	30		30.5	mg/L	101.7	90	110			
L12739-01DUP	DUP	07/05/13 19:03			57.9	57.9	mg/L				0	20	
L12893-01AS	AS	07/05/13 19:38	WI130501-1	30	18.8	49.6	mg/L	102.7	90	110			
WG347052LFB2	LFB	07/08/13 13:42	WI130501-1	30		32.1	mg/L	107	90	110			

SPF Water Engineering ACZ Project ID: ***L12893***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L12893-01	WG347052	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346212	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L12893-02	WG347052	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346212	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L12893-03	WG347052	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346212	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L12893-04	WG347052	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346212	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

SPF Water Engineering

ACZ Project ID: ***L12893***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L12893-05	WG347052	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346212	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L12893-06	WG347052	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346212	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L12893-07	WG347052	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346212	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Certification Qualifiers

SPF Water Engineering ACZ Project ID: ***L12893***

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Q sampling

ACZ Project ID: L12893
Date Received: 06/22/2013 10:04
Received By: gac
Date Printed: 6/24/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?			X
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?		X	

Some parameters were received past hold time.

Chain of Custody Related Remarks

Sample "Spring Equip Blank" was not received and was not entered with the project.

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
1815	1.7	12	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc. L12893

CHAIN of CUSTODY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Report to:

Name: Erik Boe
Company: SPF Water Engineering
E-mail: eboe@spfwater.com
Address: 300 E. Mallard Dr., Ste 350
Boise, ID 83706
Telephone: 208-383-4140

Copy of Report to:

Name: SAME
Company:
E-mail: SAME
Telephone:

Invoice to:

Name: SAME
Company:
E-mail:
Address: SAME
Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SHORT-HOLDS-WETCHEM
PO#: Calico 2nd Quarter Sampling
Reporting state for compliance testing:
Check box if samples include NRC licensed material? [ ]

ANALYSIS REQUESTED (attach list or use quote number)

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	SHORT-HOLDS-WETCHEM Quote #							
Sagebrush Spring	6/20/13 9:40		1	X							
Government Corral Spring	6/20/13 10:20		1	X							
Prod - 1	6/20/13 11:50		1	X							
Grassy Spring Stock Tank	6/20/13 12:50		1	X							
Twin Springs North	6/20/13 15:00		1	X							
Twin Springs South	6/20/13 14:00		1	X							
Spring Equip. Blank	6/20/13 16:30		1	X	sample was not received =>						
Spring Transfer Blank	6/20/13 15:40		1	X	removed from the project. AHK 6/22/13						

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	6/21/13 10:50	AHK 6/22/13	1004

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L12893 Chain of Custody

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 15, 2013

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 2nd Q samplin
ACZ Project ID: L12940

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 25, 2013. This project has been assigned to ACZ's project number, L12940. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L12940. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 14, 2013. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: SPRING EQUIP BLANK

ACZ Sample ID: ***L12940-03***
Date Sampled: *06/20/13 15:20*
Date Received: *06/25/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/02/13 12:32	mla
Cyanide, WAD	SM4500-CN I- distillation								07/02/13 15:12	mla
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/05/13 16:13	mpb/bsu
Total Hot Plate Digestion	M200.2 ICP								07/02/13 16:49	jjc/scp
Total Hot Plate Digestion	M200.2 ICP-MS								07/08/13 15:28	las

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: SPRING EQUIP BLANK

ACZ Sample ID: ***L12940-03***
Date Sampled: *06/20/13 15:20*
Date Received: *06/25/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	07/03/13 17:35	aeb
Aluminum, total	M200.7 ICP	1		U		mg/L	0.03	0.2	07/03/13 14:07	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.002	07/06/13 13:42	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/10/13 22:33	msh
Arsenic, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	07/06/13 13:42	msh
Arsenic, total	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	07/10/13 22:33	msh
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	07/03/13 17:35	aeb
Barium, total	M200.7 ICP	1		U		mg/L	0.003	0.02	07/03/13 14:07	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/06/13 13:42	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/10/13 22:33	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/03/13 17:35	aeb
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/03/13 14:07	jjc
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 17:35	aeb
Boron, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 14:07	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/06/13 13:42	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/10/13 22:33	msh
Calcium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	07/03/13 17:35	aeb
Calcium, total	M200.7 ICP	1		U		mg/L	0.2	1	07/03/13 14:07	jjc
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/06/13 13:42	msh
Chromium, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/10/13 22:33	msh
Cobalt, dissolved	M200.8 ICP-MS	1	0.00007	B		mg/L	0.00005	0.0003	07/06/13 13:42	msh
Cobalt, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/10/13 22:33	msh
Copper, dissolved	M200.8 ICP-MS	1	0.0007	B		mg/L	0.0005	0.003	07/06/13 13:42	msh
Copper, total	M200.8 ICP-MS	1		U	*	mg/L	0.0005	0.003	07/10/13 22:33	msh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/13 17:35	aeb
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/13 14:07	jjc
Iron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.02	0.05	07/03/13 17:35	aeb
Iron, total	M200.7 ICP	1		U		mg/L	0.02	0.05	07/03/13 14:07	jjc
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/06/13 13:42	msh
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/10/13 22:33	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	07/03/13 17:35	aeb
Lithium, total	M200.7 ICP	1		U		mg/L	0.02	0.1	07/03/13 14:07	jjc
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	07/03/13 17:35	aeb
Magnesium, total	M200.7 ICP	1		U		mg/L	0.2	1	07/03/13 14:07	jjc
Manganese, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/06/13 13:42	msh
Manganese, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/10/13 22:33	msh
Mercury, dissolved	M1631, Atomic Fluorescence	1		U	*	ng/L	0.2	0.5	07/09/13 14:05	las
Mercury, total	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	07/02/13 15:20	las
Molybdenum, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/06/13 13:42	msh
Molybdenum, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/10/13 22:33	msh
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/06/13 13:42	msh
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/10/13 22:33	msh
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.3	2	07/03/13 17:35	aeb

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: SPRING EQUIP BLANK

ACZ Sample ID: ***L12940-03***
Date Sampled: *06/20/13 15:20*
Date Received: *06/25/13*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1		U		mg/L	0.3	2	07/03/13 14:07	jjc
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/13 17:35	aeb
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/13 14:07	jjc
Selenium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	07/06/13 13:42	msh
Selenium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	07/10/13 22:33	msh
Silver, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/06/13 13:42	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/10/13 22:33	msh
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.3	2	07/03/13 17:35	aeb
Sodium, total	M200.7 ICP	1		U		mg/L	0.3	2	07/03/13 14:07	jjc
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 17:35	aeb
Strontium, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 14:07	jjc
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/06/13 13:42	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/10/13 22:33	msh
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/06/13 13:42	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/10/13 22:33	msh
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	07/03/13 17:35	aeb
Titanium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	07/03/13 14:07	jjc
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/06/13 13:42	msh
Uranium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/10/13 22:33	msh
Vanadium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0002	0.001	07/06/13 13:42	msh
Vanadium, total	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	07/11/13 22:19	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 17:35	aeb
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 14:07	jjc

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U	*	mg/L	2	20	06/26/13 0:00	khw
Carbonate as CaCO3		1		U	*	mg/L	2	20	06/26/13 0:00	khw
Hydroxide as CaCO3		1		U	*	mg/L	2	20	06/26/13 0:00	khw
Total Alkalinity		1		U	*	mg/L	2	20	06/26/13 0:00	khw
Conductivity @25C	SM2510B	1		U	*	umhos/cm	1	10	06/26/13 5:11	khw
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/02/13 17:37	mpb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/02/13 18:07	mpb
Hardness as CaCO3	SM2340B - Calculation			U		mg/L	1	7	07/15/13 10:26	calc
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	07/08/13 14:04	mpb
pH (lab)	SM4500H+ B									
pH		1	6.2	H	*	units	0.1	0.1	06/26/13 0:00	khw
pH measured at		1	21.0		*	C	0.1	0.1	06/26/13 0:00	khw
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.01	0.05	07/06/13 0:22	pjb
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	06/27/13 12:16	mss3

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: SPRING TRANSFER BLANK

ACZ Sample ID: ***L12940-04***
Date Sampled: *06/20/13 15:40*
Date Received: *06/25/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/02/13 12:39	mla
Cyanide, WAD	SM4500-CN I- distillation								07/02/13 15:19	mla
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/05/13 16:24	mpb/bsu
Total Hot Plate Digestion	M200.2 ICP-MS								07/08/13 15:40	las
Total Hot Plate Digestion	M200.2 ICP								07/02/13 17:01	jjc/scp

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: SPRING TRANSFER BLANK

ACZ Sample ID: ***L12940-04***
Date Sampled: *06/20/13 15:40*
Date Received: *06/25/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.07	B		mg/L	0.03	0.2	07/03/13 17:38	aeb
Aluminum, total	M200.7 ICP	1		U		mg/L	0.03	0.2	07/03/13 14:11	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.002	07/06/13 13:45	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/10/13 22:36	msh
Arsenic, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	07/06/13 13:45	msh
Arsenic, total	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	07/10/13 22:36	msh
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	07/03/13 17:38	aeb
Barium, total	M200.7 ICP	1		U		mg/L	0.003	0.02	07/03/13 14:11	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/06/13 13:45	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/10/13 22:36	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/03/13 17:38	aeb
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/03/13 14:11	jjc
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 17:38	aeb
Boron, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 14:11	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/06/13 13:45	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/10/13 22:36	msh
Calcium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	07/03/13 17:38	aeb
Calcium, total	M200.7 ICP	1		U		mg/L	0.2	1	07/03/13 14:11	jjc
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/06/13 13:45	msh
Chromium, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/10/13 22:36	msh
Cobalt, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/06/13 13:45	msh
Cobalt, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/10/13 22:36	msh
Copper, dissolved	M200.8 ICP-MS	1	0.0012	B		mg/L	0.0005	0.003	07/06/13 13:45	msh
Copper, total	M200.8 ICP-MS	1		U	*	mg/L	0.0005	0.003	07/10/13 22:36	msh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/13 17:38	aeb
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/13 14:11	jjc
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	07/03/13 17:38	aeb
Iron, total	M200.7 ICP	1		U		mg/L	0.02	0.05	07/03/13 14:11	jjc
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/06/13 13:45	msh
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/10/13 22:36	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	07/03/13 17:38	aeb
Lithium, total	M200.7 ICP	1		U		mg/L	0.02	0.1	07/03/13 14:11	jjc
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	07/03/13 17:38	aeb
Magnesium, total	M200.7 ICP	1		U		mg/L	0.2	1	07/03/13 14:11	jjc
Manganese, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/06/13 13:45	msh
Manganese, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/10/13 22:36	msh
Mercury, total	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	07/02/13 15:26	las
Molybdenum, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/06/13 13:45	msh
Molybdenum, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/10/13 22:36	msh
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/06/13 13:45	msh
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/10/13 22:36	msh
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.3	2	07/03/13 17:38	aeb
Potassium, total	M200.7 ICP	1		U		mg/L	0.3	2	07/03/13 14:11	jjc

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: SPRING TRANSFER BLANK

ACZ Sample ID: ***L12940-04***
Date Sampled: *06/20/13 15:40*
Date Received: *06/25/13*
Sample Matrix: *Ground Water*

Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/13 17:38	aeb
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/13 14:11	jjc
Selenium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	07/06/13 13:45	msh
Selenium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	07/10/13 22:36	msh
Silver, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/06/13 13:45	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/10/13 22:36	msh
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.3	2	07/03/13 17:38	aeb
Sodium, total	M200.7 ICP	1		U		mg/L	0.3	2	07/03/13 14:11	jjc
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 17:38	aeb
Strontium, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 14:11	jjc
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/06/13 13:45	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/10/13 22:36	msh
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/06/13 13:45	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/10/13 22:36	msh
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	07/03/13 17:38	aeb
Titanium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	07/03/13 14:11	jjc
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/06/13 13:45	msh
Uranium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/10/13 22:36	msh
Vanadium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0002	0.001	07/06/13 13:45	msh
Vanadium, total	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	07/11/13 22:22	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 17:38	aeb
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 14:11	jjc

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U	*	mg/L	2	20	06/26/13 0:00	khw
Carbonate as CaCO3		1		U	*	mg/L	2	20	06/26/13 0:00	khw
Hydroxide as CaCO3		1		U	*	mg/L	2	20	06/26/13 0:00	khw
Total Alkalinity		1		U	*	mg/L	2	20	06/26/13 0:00	khw
Conductivity @25C	SM2510B	1		U	*	umhos/cm	1	10	06/26/13 5:23	khw
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/02/13 17:37	mpb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/02/13 18:08	mpb
Hardness as CaCO3	SM2340B - Calculation			U		mg/L	1	7	07/15/13 10:26	calc
Nitrogen, ammonia	M350.1 - Automated Phenate	1	0.09	B	*	mg/L	0.05	0.5	07/08/13 13:41	mpb
pH (lab)	SM4500H+ B									
pH		1	5.9	H	*	units	0.1	0.1	06/26/13 0:00	khw
pH measured at		1	21.0		*	C	0.1	0.1	06/26/13 0:00	khw
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.01	0.05	07/06/13 0:26	pjb
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	06/27/13 12:18	mss3

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: HG TRIP BLANK

ACZ Sample ID: ***L12940-05***
Date Sampled: *06/20/13 16:00*
Date Received: *06/25/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Mercury, total	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	07/02/13 15:33	las

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4)	EPA SW-846. Test Methods for Evaluating Solid Waste.
(5)	Standard Methods for the Examination of Water and Wastewater.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5)	If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L12940***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346393													
WG346393PBW1	PBW	06/25/13 17:26				14.7	mg/L		-20	20			
WG346393LCSW2	LCSW	06/25/13 17:47	WC130625-	820.0001		745.8	mg/L	91	90	110			
WG346393LCSW5	LCSW	06/25/13 21:05	WC130625-	820.0001		784.9	mg/L	95.7	90	110			
WG346393PBW2	PBW	06/25/13 21:13				2.9	mg/L		-20	20			
WG346393LCSW8	LCSW	06/26/13 0:02	WC130625-	820.0001		772.9	mg/L	94.3	90	110			
WG346393PBW3	PBW	06/26/13 0:10				3.1	mg/L		-20	20			
WG346393LCSW11	LCSW	06/26/13 3:26	WC130625-	820.0001		775.5	mg/L	94.6	90	110			
WG346393PBW4	PBW	06/26/13 3:35				2.6	mg/L		-20	20			
L12940-03DUP	DUP	06/26/13 5:17			U	U	mg/L				0	20	RA
L12948-01DUP	DUP	06/26/13 6:30			185	184.6	mg/L				0.2	20	
WG346393LCSW14	LCSW	06/26/13 6:43	WC130625-	820.0001		797.6	mg/L	97.3	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	2		2.061	mg/L	103.1	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.09	0.09			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	1.0011		1.069	mg/L	106.8	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	1.0011	U	1.067	mg/L	106.6	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	1.0011	U	1.086	mg/L	108.5	85	115	1.76	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	2		1.993	mg/L	99.7	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.09	0.09			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.066	0.066			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	1.0011		1.005	mg/L	100.4	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	1.0011	U	1.004	mg/L	100.3	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	1.0011	U	1.012	mg/L	101.1	70	130	0.79	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.02		.021	mg/L	105	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0012	0.0012			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.01		.00999	mg/L	99.9	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.01	U	.00777	mg/L	77.7	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.01	U	.00988	mg/L	98.8	70	130	23.91	20	R4

SPF Water Engineering

ACZ Project ID: ***L12940***

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.02		.02187	mg/L	109.4	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0012	0.0012			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00088	0.00088			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.01		.01049	mg/L	104.9	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.01	U	.0114	mg/L	114	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.01	U	.0107	mg/L	107	70	130	6.33	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.05111	mg/L	102.2	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0006	0.0006			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05005		.04824	mg/L	96.4	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05005	.0287	.0785	mg/L	99.5	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05005	.0287	.08241	mg/L	107.3	70	130	4.86	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.05191	mg/L	103.8	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0006	0.0006			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00044	0.00044			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05005		.05194	mg/L	103.8	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05005	.006	.0572	mg/L	102.3	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05005	.006	.05	mg/L	87.9	70	130	13.43	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	2		2.0468	mg/L	102.3	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.009	0.009			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	.5		.5175	mg/L	103.5	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	.5	.006	.52	mg/L	102.8	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	.5	.006	.5306	mg/L	104.9	85	115	2.02	20	

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	2		1.9682	mg/L	98.4	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.009	0.009			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.0066	0.0066			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	.5		.4811	mg/L	96.2	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	.5	.007	.493	mg/L	97.2	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	.5	.007	.5008	mg/L	98.8	70	130	1.57	20	

SPF Water Engineering

ACZ Project ID: ***L12940***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.04599	mg/L	92	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.00015	0.00015			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.0501		.0461	mg/L	92	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.0501	U	.04598	mg/L	91.8	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.0501	U	.04657	mg/L	93	70	130	1.27	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.04744	mg/L	94.9	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.00015	0.00015			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00011	0.00011			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.0501		.0491	mg/L	98	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.0501	U	.04326	mg/L	86.3	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.0501	U	.04017	mg/L	80.2	70	130	7.41	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	2		2.016	mg/L	100.8	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.12	0.12			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	1		1.009	mg/L	100.9	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	1	U	1.024	mg/L	102.4	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	1	U	1.026	mg/L	102.6	85	115	0.2	20	

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	2		1.996	mg/L	99.8	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.12	0.12			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.088	0.088			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	1		.989	mg/L	98.9	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	1	U	.99	mg/L	99	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	1	U	.999	mg/L	99.9	70	130	0.9	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	2		2.061	mg/L	103.1	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.03	0.03			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	.5005		.529	mg/L	105.7	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	.5005	.11	.631	mg/L	104.1	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	.5005	.11	.636	mg/L	105.1	85	115	0.79	20	

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ACZ Project ID: ***L12940***

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	2		2.008	mg/L	100.4	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.03	0.03			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.022	0.022			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	.5005		.499	mg/L	99.7	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	.5005	.1	.618	mg/L	103.5	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	.5005	.1	.622	mg/L	104.3	70	130	0.65	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.05051	mg/L	101	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0003	0.0003			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.0501		.049	mg/L	97.8	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.0501	U	.04734	mg/L	94.5	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.0501	U	.04847	mg/L	96.7	70	130	2.36	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.05104	mg/L	102.1	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0003	0.0003			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00022	0.00022			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.0501		.0495	mg/L	98.8	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.0501	U	.047	mg/L	93.8	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.0501	U	.04345	mg/L	86.7	70	130	7.85	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	100		99.64	mg/L	99.6	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.6	0.6			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	67.95918		70.4	mg/L	103.6	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	67.95918	26.6	96.12	mg/L	102.3	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	67.95918	26.6	97.55	mg/L	104.4	85	115	1.48	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	100		98.46	mg/L	98.5	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.6	0.6			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.44	0.44			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	67.95918		68.61	mg/L	101	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	67.95918	26.3	95.26	mg/L	101.5	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	67.95918	26.3	95.76	mg/L	102.2	70	130	0.52	20	

SPF Water Engineering

ACZ Project ID: ***L12940***

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.04842	mg/L	96.8	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0015	0.0015			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05005		.04804	mg/L	96	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05005	U	.04442	mg/L	88.8	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05005	U	.04599	mg/L	91.9	70	130	3.47	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.04944	mg/L	98.9	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0015	0.0015			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.0011	0.0011			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05005		.04632	mg/L	92.5	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05005	U	.0453	mg/L	90.5	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05005	U	.0384	mg/L	76.7	70	130	16.49	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.04615	mg/L	92.3	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.00015	0.00015			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05005		.04535	mg/L	90.6	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05005	.00029	.04305	mg/L	85.4	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05005	.00029	.04378	mg/L	86.9	70	130	1.68	20	

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.04798	mg/L	96	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.00015	0.00015			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00011	0.00011			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05005		.04474	mg/L	89.4	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05005	.0013	.046	mg/L	89.3	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05005	.0013	.04365	mg/L	84.6	70	130	5.24	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346393													
WG346393LCSW1	LCSW	06/25/13 17:27	PCN41764	1408.8		1432.5	µmhos/cm	101.7	90	110			
WG346393LCSW4	LCSW	06/25/13 20:53	PCN41764	1408.8		1403.8	µmhos/cm	99.6	90	110			
WG346393LCSW7	LCSW	06/25/13 23:51	PCN41764	1408.8		1375.1	µmhos/cm	97.6	90	110			
WG346393LCSW10	LCSW	06/26/13 3:16	PCN41764	1408.8		1350.5	µmhos/cm	95.9	90	110			
L12940-03DUP	DUP	06/26/13 5:17			U	U	µmhos/cm				0	20	RA
L12948-01DUP	DUP	06/26/13 6:30			1100	1100	µmhos/cm				0	20	
WG346393LCSW13	LCSW	06/26/13 6:31	PCN41764	1408.8		1332.1	µmhos/cm	94.6	90	110			

SPF Water Engineering

ACZ Project ID: ***L12940***

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.04767	mg/L	95.3	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0015	0.0015			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05005		.04661	mg/L	93.1	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05005	U	.04193	mg/L	83.8	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05005	U	.04359	mg/L	87.1	70	130	3.88	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.04868	mg/L	97.4	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0015	0.0015			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.0011	0.0011			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05005		.04529	mg/L	90.5	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05005	U	.0408	mg/L	81.5	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05005	U	.0347	mg/L	69.3	70	130	16.16	20	MA

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346872													
WG346872ICV	ICV	07/02/13 13:37	WI130621-6	.3		.2976	mg/L	99.2	90	110			
WG346872ICB	ICB	07/02/13 13:38				U	mg/L		-0.003	0.003			
WG346907													
WG346844LRB	LRB	07/02/13 17:01				U	mg/L		-0.003	0.003			
WG346844LFB	LFB	07/02/13 17:02	WI130621-2	.2		.1955	mg/L	97.8	90	110			
L12937-02DUP	DUP	07/02/13 17:29			U	U	mg/L				0	20	RA
L12937-03LFM	LFM	07/02/13 17:31	WI130621-2	.2	U	.1966	mg/L	98.3	90	110			

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346872													
WG346872ICV	ICV	07/02/13 13:37	WI130621-6	.3		.2976	mg/L	99.2	90	110			
WG346872ICB	ICB	07/02/13 13:38				U	mg/L		-0.003	0.003			
WG346908													
WG346871LRB	LRB	07/02/13 17:57				U	mg/L		-0.003	0.003			
WG346871LFB	LFB	07/02/13 17:57	WI130621-4	.2		.2004	mg/L	100.2	90	110			
L12937-01DUP	DUP	07/02/13 17:59			U	U	mg/L				0	20	RA
L12937-02LFM	LFM	07/02/13 18:01	WI130621-4	.2	U	.1915	mg/L	95.8	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	2		2.07	mg/L	103.5	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.3	0.3			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	1		1.03	mg/L	103	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	1	U	1.02	mg/L	102	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	1	U	1.03	mg/L	103	85	115	0.98	20	

SPF Water Engineering

ACZ Project ID: ***L12940***

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	2		2.02	mg/L	101	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.3	0.3			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.22	0.22			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	1		.97	mg/L	97	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	1	U	1	mg/L	100	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	1	U	.99	mg/L	99	70	130	1.01	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	2		2.027	mg/L	101.4	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.06	0.06			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	1		1.048	mg/L	104.8	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	1	U	1.046	mg/L	104.6	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	1	U	1.053	mg/L	105.3	85	115	0.67	20	

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	2		1.967	mg/L	98.4	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.06	0.06			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.044	0.044			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	1		.996	mg/L	99.6	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	1	U	1.024	mg/L	102.4	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	1	U	1.034	mg/L	103.4	70	130	0.97	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.04868	mg/L	97.4	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0003	0.0003			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05005		.04573	mg/L	91.4	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05005	U	.04513	mg/L	90.2	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05005	U	.04581	mg/L	91.5	70	130	1.5	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.05333	mg/L	106.7	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0003	0.0003			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00022	0.00022			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05005		.04729	mg/L	94.5	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05005	U	.0492	mg/L	98.3	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05005	U	.04661	mg/L	93.1	70	130	5.41	20	

SPF Water Engineering

ACZ Project ID: ***L12940***

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	2		2.057	mg/L	102.9	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.06	0.06			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	1		1.023	mg/L	102.3	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	1	U	1.037	mg/L	103.7	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	1	U	1.053	mg/L	105.3	85	115	1.53	20	

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	2		1.982	mg/L	99.1	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.06	0.06			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.044	0.044			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	1		.953	mg/L	95.3	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	1	U	.981	mg/L	98.1	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	1	U	.991	mg/L	99.1	70	130	1.01	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	100		98.94	mg/L	98.9	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.6	0.6			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	49.99941		49.88	mg/L	99.8	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	49.99941	15	64.86	mg/L	99.7	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	49.99941	15	65.62	mg/L	101.2	85	115	1.16	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	100		98.3	mg/L	98.3	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.6	0.6			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.44	0.44			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	49.99941		49.17	mg/L	98.3	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	49.99941	14.9	64.21	mg/L	98.6	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	49.99941	14.9	64.5	mg/L	99.2	70	130	0.45	20	

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.05072	mg/L	101.4	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0015	0.0015			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05005		.04906	mg/L	98	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05005	U	.04673	mg/L	93.4	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05005	U	.04795	mg/L	95.8	70	130	2.58	20	

SPF Water Engineering

ACZ Project ID: ***L12940***

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.04832	mg/L	96.6	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0015	0.0015			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.0011	0.0011			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05005		.04411	mg/L	88.1	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05005	.006	.0516	mg/L	91.1	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05005	.006	.049	mg/L	85.9	70	130	5.17	20	

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347159													
WG347159ICV	ICV	07/09/13 13:14	HG130517-4	10		10.58	ng/L	105.8	79	121			
WG347159ICB	ICB	07/09/13 13:21				U	ng/L		-0.5	0.5			
WG347159PQV	PQV	07/09/13 13:27	HG130517-6	.5		.43	ng/L	86	70	130			
WG347159LFB	LFB	07/09/13 13:34	HG130517-5	2		2.05	ng/L	102.5	71	125			
L12940-01MS	MS	07/09/13 14:18	HG130517-5	2	U	1.06	ng/L	53	71	125			M2
L12940-01MSD	MSD	07/09/13 14:25	HG130517-5	2	U	.96	ng/L	48	71	125	9.9	24	M2
WG347159CCV1	CCV	07/09/13 15:56	HG130517-4	10		8.58	ng/L	85.8	76.5	123.4			
WG347159CCB1	CCB	07/09/13 16:03				U	ng/L		-0.5	0.5			
WG347159CCV2	CCV	07/09/13 16:50	HG130517-4	10		9.06	ng/L	90.6	76.5	123.4			
WG347159CCB2	CCB	07/09/13 16:56				U	ng/L		-0.5	0.5			
WG347159CCV3	CCV	07/09/13 17:43	HG130517-4	10		10.06	ng/L	100.6	76.5	123.4			
WG347159CCB3	CCB	07/09/13 17:50				U	ng/L		-0.5	0.5			

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG345503													
WG345503ICV	ICV	06/17/13 11:57	HG130517-4	10		9.85	ng/L	98.5	79	121			
WG345503ICB	ICB	06/17/13 12:04				U	ng/L		-0.5	0.5			
WG346803													
WG346803CCV1	CCV	07/02/13 11:00	HG130517-4	10		11.8	ng/L	118	76.5	123.4			
WG346803CCB1	CCB	07/02/13 11:07				U	ng/L		-0.5	0.5			
WG346803PQV	PQV	07/02/13 11:14	HG130517-6	.5		.49	ng/L	98	70	130			
WG346803LFB	LFB	07/02/13 11:20	HG130517-5	2		2.31	ng/L	115.5	71	125			
WG346803CCV2	CCV	07/02/13 12:26	HG130517-4	10		10.97	ng/L	109.7	76.5	123.4			
WG346803CCB2	CCB	07/02/13 12:32				U	ng/L		-0.5	0.5			
WG346803CCV3	CCV	07/02/13 13:26	HG130517-4	10		11.09	ng/L	110.9	76.5	123.4			
WG346803CCB3	CCB	07/02/13 13:32				U	ng/L		-0.5	0.5			
L12940-02MS	MS	07/02/13 14:19	HG2XPREP	8	2.1	5.97	ng/L	96.8	71	125			
L12940-02MSD	MSD	07/02/13 14:26	HG2XPREP	8	2.1	5.91	ng/L	95.3	71	125	1.01	24	
WG346803CCV4	CCV	07/02/13 14:32	HG130517-4	10		10.64	ng/L	106.4	76.5	123.4			
WG346803CCB4	CCB	07/02/13 14:39				.26	ng/L		-0.5	0.5			
WG346803CCV5	CCV	07/02/13 15:40	HG130517-4	10		9.17	ng/L	91.7	76.5	123.4			
WG346803CCB5	CCB	07/02/13 15:46				U	ng/L		-0.5	0.5			

SPF Water Engineering

ACZ Project ID: ***L12940***

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.02006		.01845	mg/L	92	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0015	0.0015			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05		.04449	mg/L	89	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05	.0032	.04691	mg/L	87.4	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05	.0032	.04858	mg/L	90.8	70	130	3.5	20	

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.02006		.01978	mg/L	98.6	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0015	0.0015			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.0011	0.0011			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05		.04532	mg/L	90.6	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05	U	.0488	mg/L	97.6	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05	U	.0453	mg/L	90.6	70	130	7.44	20	

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.05028	mg/L	100.6	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0018	0.0018			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05005		.04822	mg/L	96.3	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05005	U	.04278	mg/L	85.5	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05005	U	.04483	mg/L	89.6	70	130	4.68	20	

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.0513	mg/L	102.6	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0018	0.0018			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00132	0.00132			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05005		.04655	mg/L	93	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05005	.011	.0545	mg/L	86.9	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05005	.011	.0464	mg/L	70.7	70	130	16.06	20	

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347124													
WG347124ICV	ICV	07/08/13 12:58	WI121105-5	1.003		.973	mg/L	97	90	110			
WG347124ICB	ICB	07/08/13 13:01				U	mg/L		-0.15	0.15			
WG347124LFB1	LFB	07/08/13 13:02	WI121218-3	1		.98	mg/L	98	90	110			
L12913-05AS	AS	07/08/13 13:19	WI121218-3	1	.08	1.098	mg/L	101.8	90	110			
L12936-01DUP	DUP	07/08/13 13:21			.62	.61	mg/L				1.6	20	
WG347124LFB2	LFB	07/08/13 13:33	WI121218-3	1		.993	mg/L	99.3	90	110			
L12940-02AS	AS	07/08/13 13:36	WI121218-3	1	U	.987	mg/L	98.7	90	110			
L12940-03DUP	DUP	07/08/13 14:05			U	U	mg/L				0	20	RA

SPF Water Engineering

ACZ Project ID: ***L12940***

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346393													
WG346393LCSW3	LCSW	06/25/13 17:51	PCN40853	6		5.99	units	99.8	98	102			
WG346393LCSW6	LCSW	06/25/13 21:08	PCN40853	6		6.01	units	100.2	98	102			
WG346393LCSW9	LCSW	06/26/13 0:05	PCN40853	6		6.01	units	100.2	98	102			
WG346393LCSW12	LCSW	06/26/13 3:30	PCN40853	6		6	units	100	98	102			
L12940-03DUP	DUP	06/26/13 5:17			6.2	5.99	units				3.4	20	
L12948-01DUP	DUP	06/26/13 6:30			8.1	8.12	units				0.2	20	
WG346393LCSW15	LCSW	06/26/13 6:47	PCN40853	6		6.01	units	100.2	98	102			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347081													
WG347081ICV	ICV	07/05/13 22:40	WI130620-3	.65228		.633	mg/L	97	90	110			
WG347081ICB	ICB	07/05/13 22:42				U	mg/L		-0.03	0.03			
WG347083													
WG347057LRB	LRB	07/05/13 23:58				U	mg/L		-0.03	0.03			
WG347057LFB	LFB	07/06/13 0:00	WI130705-2	.5		.478	mg/L	95.6	90	110			
L12937-04LFM	LFM	07/06/13 0:18	WI130705-2	.5	.03	.502	mg/L	94.4	90	110			
L12940-01DUP	DUP	07/06/13 0:20			.03	.028	mg/L				6.9	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	20		20.13	mg/L	100.7	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.9	0.9			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	99.97161		100.6	mg/L	100.6	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	99.97161	9.1	109.9	mg/L	100.8	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	99.97161	9.1	111.2	mg/L	102.1	85	115	1.18	20	

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	20		20	mg/L	100	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.9	0.9			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.66	0.66			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	99.97161		98.38	mg/L	98.4	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	99.97161	8.9	107.5	mg/L	98.6	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	99.97161	8.9	107.9	mg/L	99	70	130	0.37	20	

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346565													
WG346565PBW	PBW	06/27/13 12:00				U	mg/L		-15	15			
WG346565LCSW	LCSW	06/27/13 12:01	PCN42882	160		143	mg/L	89.4	80	120			
L12889-02DUP	DUP	06/27/13 12:11			U	5	mg/L				200	10	RA
L12952-08DUP	DUP	06/27/13 12:29			U	U	mg/L				0	10	RA

SPF Water Engineering

ACZ Project ID: ***L12940***

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	2		2.03	mg/L	101.5	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.3	0.3			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	1.0009		1.04	mg/L	103.9	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	1.0009	U	1.05	mg/L	104.9	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	1.0009	U	1.07	mg/L	106.9	85	115	1.89	20	

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	2		1.95	mg/L	97.5	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.3	0.3			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.22	0.22			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	1.0009		.97	mg/L	96.9	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	1.0009	U	.99	mg/L	98.9	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	1.0009	U	1	mg/L	99.9	70	130	1.01	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.05067	mg/L	101.3	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0003	0.0003			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05005		.04939	mg/L	98.7	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05005	.0051	.05182	mg/L	93.3	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05005	.0051	.05415	mg/L	98	70	130	4.4	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.05213	mg/L	104.3	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0003	0.0003			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00022	0.00022			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05005		.0521	mg/L	104.1	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05005	.0235	.07575	mg/L	104.4	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05005	.0235	.06635	mg/L	85.6	70	130	13.23	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.02002		.02001	mg/L	100	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.00015	0.00015			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.01001		.009544	mg/L	95.3	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.01001	U	.007238	mg/L	72.3	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.01001	U	.009031	mg/L	90.2	70	130	22.04	20	R4

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ACZ Project ID: ***L12940***

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.02002		.02017	mg/L	100.7	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.00015	0.00015			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00011	0.00011			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.01001		.009128	mg/L	91.2	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.01001	U	.00846	mg/L	84.5	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.01001	U	.00819	mg/L	81.8	70	130	3.24	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	100		100.4	mg/L	100.4	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.9	0.9			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	100.0416		100.7	mg/L	100.7	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	100.0416	42.7	141.7	mg/L	99	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	100.0416	42.7	142.6	mg/L	99.9	85	115	0.63	20	

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	100		99.98	mg/L	100	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.9	0.9			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.66	0.66			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	100.0416		97.68	mg/L	97.6	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	100.0416	42.5	141.1	mg/L	98.6	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	100.0416	42.5	141.3	mg/L	98.8	70	130	0.14	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	2		2.07	mg/L	103.5	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.03	0.03			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	.5		.515	mg/L	103	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	.5	.16	.667	mg/L	101.4	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	.5	.16	.675	mg/L	103	85	115	1.19	20	

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	2		1.992	mg/L	99.6	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.03	0.03			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.022	0.022			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	.5		.477	mg/L	95.4	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	.5	.15	.63	mg/L	96	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	.5	.15	.631	mg/L	96.2	70	130	0.16	20	

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ACZ Project ID: ***L12940***

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.05172	mg/L	103.4	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0003	0.0003			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05005		.04679	mg/L	93.5	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05005	U	.04676	mg/L	93.4	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05005	U	.04733	mg/L	94.6	70	130	1.21	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.05473	mg/L	109.5	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0003	0.0003			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00022	0.00022			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05005		.0494	mg/L	98.7	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05005	U	.0527	mg/L	105.3	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05005	U	.04993	mg/L	99.8	70	130	5.4	20	

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05015		.04846	mg/L	96.6	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0003	0.0003			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05005		.04316	mg/L	86.2	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05005	U	.04164	mg/L	83.2	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05005	U	.04274	mg/L	85.4	70	130	2.61	20	

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05015		.04971	mg/L	99.1	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0003	0.0003			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00022	0.00022			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05005		.04282	mg/L	85.6	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05005	U	.04529	mg/L	90.5	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05005	U	.04108	mg/L	82.1	70	130	9.75	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	2		2.0352	mg/L	101.8	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.015	0.015			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	1		1.029	mg/L	102.9	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	1	U	1.031	mg/L	103.1	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	1	U	1.043	mg/L	104.3	85	115	1.16	20	

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ACZ Project ID: ***L12940***

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	2		1.9632	mg/L	98.2	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.015	0.015			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.011	0.011			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	1		.9576	mg/L	95.8	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	1	U	.9723	mg/L	97.2	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	1	U	.9777	mg/L	97.8	70	130	0.55	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.05306	mg/L	106.1	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0003	0.0003			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05		.05019	mg/L	100.4	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05	.0022	.05311	mg/L	101.8	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05	.0022	.05417	mg/L	103.9	70	130	1.98	20	

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.05347	mg/L	106.9	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0003	0.0003			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00022	0.00022			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05		.04806	mg/L	96.1	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05	.0059	.0575	mg/L	103.2	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05	.0059	.0536	mg/L	95.4	70	130	7.02	20	

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.04786	mg/L	95.7	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0006	0.0006			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.0501		.04841	mg/L	96.6	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.0501	.039	.08494	mg/L	91.7	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.0501	.039	.08793	mg/L	97.7	70	130	3.46	20	

SPF Water Engineering

ACZ Project ID: ***L12940***

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.04867	mg/L	97.3	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0006	0.0006			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00044	0.00044			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.0501		.04695	mg/L	93.7	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.0501	U	.0478	mg/L	95.4	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.0501	U	.0418	mg/L	83.4	70	130	13.39	20	
WG347448													
WG347448ICV	ICV	07/11/13 22:08	MS130416-2	.05		.0484	mg/L	96.8	90	110			
WG347448ICB	ICB	07/11/13 22:11				U	mg/L		-0.0006	0.0006			
WG347108LRB	LRB	07/11/13 22:14				U	mg/L		-0.00044	0.00044			
WG347108LFB	LFB	07/11/13 22:16	MS130614-1	.0501		.04763	mg/L	95.1	85	115			
L12953-05LFM	LFM	07/11/13 22:27	MS130614-1	.0501	.0005	.04762	mg/L	94.1	70	130			
L12953-05LFMD	LFMD	07/11/13 22:30	MS130614-1	.0501	.0005	.04603	mg/L	90.9	70	130	3.4	20	
WG347209LRB	LRB	07/11/13 22:32				U	mg/L		-0.00044	0.00044			
WG347209LFB	LFB	07/11/13 22:35	MS130614-1	.0501		.04702	mg/L	93.9	85	115			

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	2		1.959	mg/L	98	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.03	0.03			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	.5		.507	mg/L	101.4	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	.5	U	.507	mg/L	101.4	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	.5	U	.513	mg/L	102.6	85	115	1.18	20	

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	2		1.964	mg/L	98.2	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.03	0.03			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.022	0.022			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	.5		.497	mg/L	99.4	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	.5	U	.497	mg/L	99.4	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	.5	U	.497	mg/L	99.4	70	130	0	20	

SPF Water Engineering ACZ Project ID: ***L12940***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L12940-01	WG347071	Antimony, dissolved	M200.8 ICP-MS	R4	RPD for a spike and spike duplicate exceeded the method or laboratory acceptance limit. At a minimum, one spike recovery met acceptance criteria.
	WG347262	Copper, total	M200.8 ICP-MS	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG347159	Mercury, dissolved	M1631, Atomic Fluorescence	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG347071	Silver, dissolved	M200.8 ICP-MS	R4	RPD for a spike and spike duplicate exceeded the method or laboratory acceptance limit. At a minimum, one spike recovery met acceptance criteria.
		Vanadium, dissolved	M200.8 ICP-MS	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG347262	Vanadium, total	M200.8 ICP-MS	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG346393	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
			SM2510B	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346907	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346908	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346393	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347124	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
	WG346393	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347083	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346565	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346393	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L12940***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L12940-02	WG347071	Antimony, dissolved	M200.8 ICP-MS	R4	RPD for a spike and spike duplicate exceeded the method or laboratory acceptance limit. At a minimum, one spike recovery met acceptance criteria.
	WG347262	Copper, total	M200.8 ICP-MS	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG347159	Mercury, dissolved	M1631, Atomic Fluorescence	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG347071	Silver, dissolved	M200.8 ICP-MS	R4	RPD for a spike and spike duplicate exceeded the method or laboratory acceptance limit. At a minimum, one spike recovery met acceptance criteria.
		Vanadium, dissolved	M200.8 ICP-MS	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG347262	Vanadium, total	M200.8 ICP-MS	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG346393	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
			SM2510B	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346907	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346908	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346393	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347124	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346393	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347083	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346565	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346393	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L12940***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L12940-03	WG347071	Antimony, dissolved	M200.8 ICP-MS	R4	RPD for a spike and spike duplicate exceeded the method or laboratory acceptance limit. At a minimum, one spike recovery met acceptance criteria.
	WG347262	Copper, total	M200.8 ICP-MS	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG347159	Mercury, dissolved	M1631, Atomic Fluorescence	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG347071	Silver, dissolved	M200.8 ICP-MS	R4	RPD for a spike and spike duplicate exceeded the method or laboratory acceptance limit. At a minimum, one spike recovery met acceptance criteria.
		Vanadium, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG346393	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
			SM2510B	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346907	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346908	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346393	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347124	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346393	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347083	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346565	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346393	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

SPF Water Engineering ACZ Project ID: ***L12940***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L12940-04	WG347071	Antimony, dissolved	M200.8 ICP-MS	R4	RPD for a spike and spike duplicate exceeded the method or laboratory acceptance limit. At a minimum, one spike recovery met acceptance criteria.
	WG347262	Copper, total	M200.8 ICP-MS	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG347071	Silver, dissolved	M200.8 ICP-MS	R4	RPD for a spike and spike duplicate exceeded the method or laboratory acceptance limit. At a minimum, one spike recovery met acceptance criteria.
		Vanadium, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG346393	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG346907	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346908	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346393	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347124	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346393	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347083	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346565	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346393	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

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Sample Receipt

SPF Water Engineering
Calico 2nd Q sampling

ACZ Project ID: L12940
Date Received: 06/25/2013 10:28
Received By: mtb
Date Printed: 6/26/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?	X		
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
3884	14.8	11	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s) but was thawed by receipt at ACZ.

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc. L12940

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name: SAME	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [✓]

PROJECT INFORMATION

Quote #: SPF-2013-GW

PO#: Calico 2nd Quarter Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	SPF-2013-GW		SPF-2013-GW but remove dissolved Hg.		HG Trip Blank analysis			
Twin Springs South	6/20/13 14:00		7	X							
Twin Springs North	6/20/13 15:00		7	X							
Spring Equip. Blank	6/20/13 15:20		7	X							
Spring Transfer Blank	6/20/13 15:40		6			X					
HG Trip Blank	6/20/13 16:00		1					X			

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	6/20/13 15:00		6.25.13 10:28

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L12940 Chain of Custody

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 11, 2013

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 2nd Q sampling
ACZ Project ID: L13015

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 28, 2013. This project has been assigned to ACZ's project number, L13015. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L13015. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 10, 2013. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: NEGRO ROCK CANYON CREEK

ACZ Sample ID: ***L13015-03***
Date Sampled: *06/26/13 12:00*
Date Received: *06/28/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	1	18.6		*	mg/L	0.5	2.5	07/09/13 6:55	jlf
Fluoride	M300.0 - Ion Chromatography	1	0.69		*	mg/L	0.1	0.5	07/09/13 6:55	jlf
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		0.16	H		mg/L	0.02	0.1	07/11/13 13:33	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.16	H	*	mg/L	0.02	0.1	06/28/13 18:13	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		UH	*	mg/L	0.01	0.05	06/28/13 18:13	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	370		*	mg/L	10	20	07/01/13 15:25	khw
Sulfate	M300.0 - Ion Chromatography	1	77.8		*	mg/L	0.5	2.5	07/09/13 6:55	jlf

** Please refer to Qualifier Reports for details.*

SPF Water Engineering
Project ID: Calico 2nd Q samplin
Sample ID: OWYHEE RIVER

ACZ Sample ID: ***L13015-04***
Date Sampled: *06/26/13 05:00*
Date Received: *06/28/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	1	8.60		*	mg/L	0.5	2.5	07/09/13 7:12	jlf
Fluoride	M300.0 - Ion Chromatography	1	1.18		*	mg/L	0.1	0.5	07/09/13 7:12	jlf
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2			UH		mg/L	0.02	0.1	07/11/13 13:33	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		UH	*	mg/L	0.02	0.1	06/28/13 18:14	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		UH	*	mg/L	0.01	0.05	06/28/13 18:14	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	150		*	mg/L	10	20	07/02/13 12:20	mss3
Sulfate	M300.0 - Ion Chromatography	1	22.7		*	mg/L	0.5	2.5	07/09/13 7:12	jlf

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L13015***

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346168													
WG346168ICV	ICV	06/24/13 18:44	WI130624-1	19.98		20.3	mg/L	101.6	90	110			
WG346168ICB	ICB	06/24/13 19:01				U	mg/L		-1.5	1.5			
WG347169													
WG347169LFB1	LFB	07/08/13 19:32	WI130501-1	30		31.9	mg/L	106.3	90	110			
WG347169LFB2	LFB	07/09/13 4:00	WI130501-1	30		31	mg/L	103.3	90	110			
L12957-01DUP	DUP	07/09/13 4:35			U	U	mg/L				0	20	RA
L12957-02AS	AS	07/09/13 5:45	WI130501-1	30	U	29	mg/L	96.7	90	110			

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346168													
WG346168ICV	ICV	06/24/13 18:44	WI130624-1	4.004		4.19	mg/L	104.6	90	110			
WG346168ICB	ICB	06/24/13 19:01				U	mg/L		-0.3	0.3			
WG347169													
WG347169LFB1	LFB	07/08/13 19:32	WI130501-1	1.5		1.62	mg/L	108	90	110			
WG347169LFB2	LFB	07/09/13 4:00	WI130501-1	1.5		1.55	mg/L	103.3	90	110			
L12957-01DUP	DUP	07/09/13 4:35			U	U	mg/L				0	20	RA
L12957-02AS	AS	07/09/13 5:45	WI130501-1	1.5	U	1.41	mg/L	94	90	110			

Nitrate/Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346710													
WG346710ICV	ICV	06/28/13 17:41	WI130411-3	2.416		2.44	mg/L	101	90	110			
WG346710ICB	ICB	06/28/13 17:42				U	mg/L		-0.06	0.06			
WG346710LFB	LFB	06/28/13 17:46	WI130215-3	2		2.017	mg/L	100.9	90	110			
L13010-02AS	AS	06/28/13 19:35	WI130215-3	6	2.77	8.106	mg/L	88.9	90	110			M2
L13010-03DUP	DUP	06/28/13 19:37			U	U	mg/L				0	20	RA

Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346710													
WG346710ICV	ICV	06/28/13 17:41	WI130411-3	.609		.579	mg/L	95.1	90	110			
WG346710ICB	ICB	06/28/13 17:42				U	mg/L		-0.03	0.03			
WG346710LFB	LFB	06/28/13 17:46	WI130215-3	1		1.022	mg/L	102.2	90	110			
L13010-02AS	AS	06/28/13 18:05	WI130215-3	1	U	1.005	mg/L	100.5	90	110			
L13010-03DUP	DUP	06/28/13 18:07			U	U	mg/L				0	20	RA

SPF Water Engineering

ACZ Project ID: ***L13015***

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346795													
L13015-03DUP	DUP	07/01/13 15:26			370	370	mg/L				0	10	
WG346795LCSW	LCSW	07/01/13 15:28	PCN42878	260		256	mg/L	98.5	80	120			
WG346795PBW	PBW	07/01/13 15:29				U	mg/L		-20	20			
WG346856													
WG346856PBW	PBW	07/02/13 11:15				U	mg/L		-20	20			
WG346856LCSW	LCSW	07/02/13 11:18	PCN42878	260		254	mg/L	97.7	80	120			
L13006-03DUP	DUP	07/02/13 12:10			160	168	mg/L				4.9	10	

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346168													
WG346168ICV	ICV	06/24/13 18:44	WI130624-1	50		50.2	mg/L	100.4	90	110			
WG346168ICB	ICB	06/24/13 19:01				U	mg/L		-1.5	1.5			
WG347169													
WG347169LFB1	LFB	07/08/13 19:32	WI130501-1	30		31.6	mg/L	105.3	90	110			
WG347169LFB2	LFB	07/09/13 4:00	WI130501-1	30		30.6	mg/L	102	90	110			
L12957-01DUP	DUP	07/09/13 4:35			U	U	mg/L				0	20	RA
L12957-02AS	AS	07/09/13 5:45	WI130501-1	30	U	28.5	mg/L	95	90	110			

SPF Water Engineering ACZ Project ID: ***L13015***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13015-01	WG347169	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346710	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
			M353.2 - Automated Cadmium Reduction	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
			M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346795	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
	WG347169	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L13015-02	WG347169	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346710	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346795	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
	WG347169	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L13015***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13015-03	WG347169	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346710	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346795	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
	WG347169	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L13015***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13015-04	WG347169	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346710	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
			M353.2 - Automated Cadmium Reduction	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
			M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346856	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG347169	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Certification Qualifiers

SPF Water Engineering ACZ Project ID: ***L13015***

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Q sampling

ACZ Project ID: L13015
Date Received: 06/28/2013 10:46
Received By: gac
Date Printed: 7/1/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?	X		

A change was made in the sample identification section prior to ACZ custody.

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?			X
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?		X	

Some parameters were received past hold time.

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
NA17896	20.7	13	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s) but was thawed by receipt at ACZ.

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc. L13015

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name: SAME	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SHORT-HOLDS-WETCHEM

PO#: Calico 2nd Quarter Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	*Short Hold WETCHEM
Lower Spring	6/26/13 9:20		1	X
Poison Spring	6/26/13 10:55		1	X
Negro Rock Canyon Creek	6/26/13 12:00		1	X
[illegible]				
Owyhee River	6/26/13 5:00		1	X

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	6/27/13 9:00	[illegible]	6/28/13 10:40

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L13015 Chain of Custody

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 12, 2013

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 2nd Q samplin
ACZ Project ID: L13026

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 29, 2013. This project has been assigned to ACZ's project number, L13026. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L13026. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 11, 2013. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

SPF Water Engineering
Project ID: Calico 2nd Q samplin
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L13026-01***
Date Sampled: *06/27/13 09:00*
Date Received: *06/29/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	1	14.4		*	mg/L	0.5	2.5	07/09/13 7:30	jlf
Fluoride	M300.0 - Ion Chromatography	1	2.30		*	mg/L	0.1	0.5	07/09/13 7:30	jlf
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		0.17	H		mg/L	0.02	0.1	07/12/13 13:08	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.17	H	*	mg/L	0.02	0.1	06/29/13 13:41	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		UH	*	mg/L	0.01	0.05	06/29/13 13:41	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	230		*	mg/L	10	20	07/02/13 12:30	mss3
Sulfate	M300.0 - Ion Chromatography	1	38.3		*	mg/L	0.5	2.5	07/09/13 7:30	jlf

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L13026-02***
Date Sampled: *06/27/13 14:20*
Date Received: *06/29/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	1	8.66		*	mg/L	0.5	2.5	07/09/13 7:47	jlf
Fluoride	M300.0 - Ion Chromatography	1	1.21		*	mg/L	0.1	0.5	07/09/13 7:47	jlf
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2			U		mg/L	0.02	0.1	07/12/13 13:08	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		U	*	mg/L	0.02	0.1	06/29/13 13:43	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		U	*	mg/L	0.01	0.05	06/29/13 13:43	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	160		*	mg/L	10	20	07/02/13 14:27	mss3
Sulfate	M300.0 - Ion Chromatography	1	24.2		*	mg/L	0.5	2.5	07/09/13 7:47	jlf

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: WHISKEY DUPLICATE

ACZ Sample ID: ***L13026-04***
Date Sampled: *06/27/13 15:55*
Date Received: *06/29/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	2	7.23		*	mg/L	1	5	07/09/13 17:00	jlf
Fluoride	M300.0 - Ion Chromatography	2	0.71	B	*	mg/L	0.2	1	07/09/13 17:00	jlf
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		0.06	B		mg/L	0.02	0.1	07/12/13 13:08	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.06	B	*	mg/L	0.02	0.1	06/29/13 13:47	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		U	*	mg/L	0.01	0.05	06/29/13 13:47	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	390		*	mg/L	10	20	07/02/13 14:31	mss3
Sulfate	M300.0 - Ion Chromatography	2	133		*	mg/L	1	5	07/09/13 17:00	jlf

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L13026***

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346168													
WG346168ICV	ICV	06/24/13 18:44	WI130624-1	19.98		20.3	mg/L	101.6	90	110			
WG346168ICB	ICB	06/24/13 19:01				U	mg/L		-1.5	1.5			
WG347169													
WG347169LFB1	LFB	07/08/13 19:32	WI130501-1	30		31.9	mg/L	106.3	90	110			
WG347169LFB2	LFB	07/09/13 4:00	WI130501-1	30		31	mg/L	103.3	90	110			
L12957-01DUP	DUP	07/09/13 4:35			U	U	mg/L				0	20	RA
L12957-02AS	AS	07/09/13 5:45	WI130501-1	30	U	29	mg/L	96.7	90	110			
WG347235													
L12895-01DUP	DUP	07/09/13 15:32			.89	.92	mg/L				3.3	20	RA
L12895-02AS	AS	07/09/13 16:07	WI130501-1	30	.93	35.7	mg/L	115.9	90	110			M1
WG347235LFB	LFB	07/10/13 13:08	WI130501-1	30		31.8	mg/L	106	90	110			

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346168													
WG346168ICV	ICV	06/24/13 18:44	WI130624-1	4.004		4.19	mg/L	104.6	90	110			
WG346168ICB	ICB	06/24/13 19:01				U	mg/L		-0.3	0.3			
WG347169													
WG347169LFB1	LFB	07/08/13 19:32	WI130501-1	1.5		1.62	mg/L	108	90	110			
WG347169LFB2	LFB	07/09/13 4:00	WI130501-1	1.5		1.55	mg/L	103.3	90	110			
L12957-01DUP	DUP	07/09/13 4:35			U	U	mg/L				0	20	RA
L12957-02AS	AS	07/09/13 5:45	WI130501-1	1.5	U	1.41	mg/L	94	90	110			
WG347235													
L12895-01DUP	DUP	07/09/13 15:32			U	.1	mg/L				200	20	RA
L12895-02AS	AS	07/09/13 16:07	WI130501-1	1.5	.12	1.88	mg/L	117.3	90	110			M1
WG347235LFB	LFB	07/10/13 13:08	WI130501-1	1.5		1.6	mg/L	106.7	90	110			

Nitrate/Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346726													
WG346726ICV	ICV	06/29/13 13:35	WI130411-3	2.416		2.379	mg/L	98.5	90	110			
WG346726ICB	ICB	06/29/13 13:36				U	mg/L		-0.06	0.06			
WG346726LFB	LFB	06/29/13 13:40	WI130215-3	2		1.969	mg/L	98.5	90	110			
L13026-01AS	AS	06/29/13 13:42	WI130215-3	2	.17	2.145	mg/L	98.8	90	110			
L13026-02DUP	DUP	06/29/13 13:44			U	U	mg/L				0	20	RA

Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346726													
WG346726ICV	ICV	06/29/13 13:35	WI130411-3	.609		.57	mg/L	93.6	90	110			
WG346726ICB	ICB	06/29/13 13:36				U	mg/L		-0.03	0.03			
WG346726LFB	LFB	06/29/13 13:40	WI130215-3	1		1.009	mg/L	100.9	90	110			
L13026-01AS	AS	06/29/13 13:42	WI130215-3	1	U	1.01	mg/L	101	90	110			
L13026-02DUP	DUP	06/29/13 13:44			U	U	mg/L				0	20	RA

SPF Water Engineering

ACZ Project ID: ***L13026***

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346856													
WG346856PBW	PBW	07/02/13 11:15				U	mg/L		-20	20			
WG346856LCSW	LCSW	07/02/13 11:18	PCN42878	260		254	mg/L	97.7	80	120			
L13006-03DUP	DUP	07/02/13 12:10			160	168	mg/L				4.9	10	
WG346878													
WG346878LCSW	LCSW	07/02/13 14:20	PCN42878	260		264	mg/L	101.5	80	120			
WG346878PBW	PBW	07/02/13 14:21				U	mg/L		-20	20			
L13026-05DUP	DUP	07/02/13 14:34			290	286	mg/L				1.4	10	

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346168													
WG346168ICV	ICV	06/24/13 18:44	WI130624-1	50		50.2	mg/L	100.4	90	110			
WG346168ICB	ICB	06/24/13 19:01				U	mg/L		-1.5	1.5			
WG347169													
WG347169LFB1	LFB	07/08/13 19:32	WI130501-1	30		31.6	mg/L	105.3	90	110			
WG347169LFB2	LFB	07/09/13 4:00	WI130501-1	30		30.6	mg/L	102	90	110			
L12957-01DUP	DUP	07/09/13 4:35			U	U	mg/L				0	20	RA
L12957-02AS	AS	07/09/13 5:45	WI130501-1	30	U	28.5	mg/L	95	90	110			
WG347235													
WG347235LFB	LFB	07/09/13 14:57	WI130501-1	30		32.9	mg/L	109.7	90	110			
L12895-01DUP	DUP	07/09/13 15:32			11.7	12	mg/L				2.5	20	
L12895-02AS	AS	07/09/13 16:07	WI130501-1	30	12.4	46.7	mg/L	114.3	90	110			M1
WG347235LFB	LFB	07/10/13 13:08	WI130501-1	30		31.5	mg/L	105	90	110			

SPF Water Engineering ACZ Project ID: ***L13026***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13026-01	WG347169	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346726	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
			M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
			M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346856	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG347169	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L13026-02	WG347169	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346726	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346878	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG347169	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L13026***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13026-03	WG347169	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346726	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346878	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG347169	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L13026-04	WG347235	Chloride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346726	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346878	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG347235	Sulfate	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.

SPF Water Engineering ACZ Project ID: ***L13026***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13026-05	WG347235	Chloride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346726	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346878	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG347235	Sulfate	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
L13026-06	WG347235	Chloride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346726	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346878	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG347235	Sulfate	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.

Certification Qualifiers

SPF Water Engineering ACZ Project ID: ***L13026***

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Q sampling

ACZ Project ID: L13026
Date Received: 06/29/2013 09:48
Received By: gac
Date Printed: 7/2/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?			X
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?		X	

Some parameters were received past hold time.

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
NA17899	17.8	13	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s) but was thawed by receipt at ACZ.

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

L13026

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name: SAME	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SHORT-HOLDS-WETCHEM

PO#: Calico 2nd Quarter Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	*SHORT-HOLDS-WETCHEM							
Leslie Gulch	6/27/13 9:00		1	X							
Dry Creek Arm	6/27/13 14:20		1	X							
Whiskey Spring	6/27/13 15:45		1	X							
Whiskey Duplicate	6/27/13 15:55		1	X							
Sourdough Spring Upper	6/27/13 17:15		1	X							
Sourdough Spring Lower	6/27/13 18:30		1	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	6/28/13 9:00		
			6.29.13 9:40

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L13026 Chain of Custody

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 19, 2013

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 2nd Q sampling
ACZ Project ID: L13032

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 01, 2013. This project has been assigned to ACZ's project number, L13032. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L13032. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 18, 2013. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

SPF Water Engineering

July 19, 2013

Project ID: Calico 2nd Q sampling
ACZ Project ID: L13032

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 5 ground water samples from SPF Water Engineering on July 1, 2013. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L13032. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The following anomaly required further explanation not provided by the Extended Qualifier Report:

1. For L13032-01, 02 and -04, the dissolved and total cobalt values were verified by re-digestion and re-analysis with no significant change.

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: NEGRO ROCK CANYON CREEK

ACZ Sample ID: ***L13032-03***
Date Sampled: *06/26/13 12:00*
Date Received: *07/01/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/10/13 11:48	mla
Cyanide, WAD	SM4500-CN I- distillation								07/09/13 13:12	mla
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/08/13 14:53	mla
Total Hot Plate Digestion	M200.2 ICP-MS								07/09/13 14:56	las
Total Hot Plate Digestion	M200.2 ICP								07/09/13 9:49	aeb

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: NEGRO ROCK CANYON CREEK

ACZ Sample ID: ***L13032-03***
Date Sampled: *06/26/13 12:00*
Date Received: *07/01/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	07/09/13 0:09	jjc
Aluminum, total	M200.7 ICP	1		U		mg/L	0.03	0.2	07/09/13 23:35	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/12/13 3:17	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/12/13 5:27	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0246			mg/L	0.0002	0.001	07/12/13 3:17	msh
Arsenic, total	M200.8 ICP-MS	1	0.0243			mg/L	0.0002	0.001	07/12/13 5:27	pmc
Barium, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.003	0.02	07/09/13 0:09	jjc
Barium, total	M200.7 ICP	1	0.016	B		mg/L	0.003	0.02	07/09/13 23:35	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 3:17	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 5:27	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/09/13 0:09	jjc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/09/13 23:35	aeb
Boron, dissolved	M200.7 ICP	1	0.11			mg/L	0.01	0.05	07/09/13 0:09	jjc
Boron, total	M200.7 ICP	1	0.12			mg/L	0.01	0.05	07/11/13 14:16	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 3:17	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 5:27	pmc
Calcium, dissolved	M200.7 ICP	1	31.2			mg/L	0.2	1	07/09/13 0:09	jjc
Calcium, total	M200.7 ICP	1	30.9			mg/L	0.2	1	07/09/13 23:35	aeb
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/12/13 3:17	msh
Chromium, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/12/13 5:27	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00028	B		mg/L	0.00005	0.0003	07/12/13 3:17	msh
Cobalt, total	M200.8 ICP-MS	1	0.00007	B		mg/L	0.00005	0.0003	07/12/13 5:27	pmc
Copper, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/12/13 3:17	msh
Copper, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/12/13 5:27	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 0:09	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 23:35	aeb
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	07/09/13 0:09	jjc
Iron, total	M200.7 ICP	1	0.03	B		mg/L	0.02	0.05	07/09/13 23:35	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 3:17	msh
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 5:27	pmc
Lithium, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.02	0.1	07/09/13 0:09	jjc
Lithium, total	M200.7 ICP	1	0.04	B		mg/L	0.02	0.1	07/09/13 23:35	aeb
Magnesium, dissolved	M200.7 ICP	1	10.1			mg/L	0.2	1	07/09/13 0:09	jjc
Magnesium, total	M200.7 ICP	1	10.0			mg/L	0.2	1	07/09/13 23:35	aeb
Manganese, dissolved	M200.8 ICP-MS	1	0.0109			mg/L	0.0005	0.003	07/12/13 3:17	msh
Manganese, total	M200.8 ICP-MS	1	0.0125			mg/L	0.0005	0.003	07/12/13 5:27	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	1	0.6		*	ng/L	0.2	0.5	07/09/13 16:23	las
Mercury, total	M1631, Atomic Fluorescence	2	0.7	B	*	ng/L	0.4	1	07/11/13 13:50	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0094			mg/L	0.0005	0.003	07/12/13 3:17	msh
Molybdenum, total	M200.8 ICP-MS	1	0.0095			mg/L	0.0005	0.003	07/12/13 5:27	pmc
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/12/13 3:17	msh
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/12/13 5:27	pmc
Potassium, dissolved	M200.7 ICP	1	8.0			mg/L	0.3	2	07/09/13 0:09	jjc

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: NEGRO ROCK CANYON CREEK

ACZ Sample ID: ***L13032-03***
Date Sampled: *06/26/13 12:00*
Date Received: *07/01/13*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	7.8			mg/L	0.3	2	07/09/13 23:35	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 0:09	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 23:35	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0003	07/12/13 3:17	msh
Selenium, total	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0003	07/12/13 5:27	pmc
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 3:17	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 5:27	pmc
Sodium, dissolved	M200.7 ICP	1	62.8			mg/L	0.3	2	07/09/13 0:09	jjc
Sodium, total	M200.7 ICP	1	61.5			mg/L	0.3	2	07/09/13 23:35	aeb
Strontium, dissolved	M200.7 ICP	1	0.17			mg/L	0.01	0.05	07/09/13 0:09	jjc
Strontium, total	M200.7 ICP	1	0.17			mg/L	0.01	0.05	07/09/13 23:35	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 3:17	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 5:27	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/12/13 3:17	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/12/13 5:27	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	07/09/13 0:09	jjc
Titanium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	07/09/13 23:35	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0022			mg/L	0.0001	0.0005	07/12/13 3:17	msh
Uranium, total	M200.8 ICP-MS	1	0.0023			mg/L	0.0001	0.0005	07/12/13 5:27	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0198		*	mg/L	0.0002	0.001	07/12/13 3:17	msh
Vanadium, total	M200.8 ICP-MS	1	0.0205			mg/L	0.0002	0.001	07/12/13 5:27	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/09/13 0:09	jjc
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/09/13 23:35	aeb

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	156		*	mg/L	2	20	07/02/13 0:00	abm
Carbonate as CaCO3		1		U	*	mg/L	2	20	07/02/13 0:00	abm
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/02/13 0:00	abm
Total Alkalinity		1	156		*	mg/L	2	20	07/02/13 0:00	abm
Conductivity @25C	SM2510B	1	515		*	umhos/cm	1	10	07/02/13 3:46	abm
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/10/13 23:03	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/09/13 14:28	bsu
Hardness as CaCO3	SM2340B - Calculation		120			mg/L	1	7	07/19/13 13:43	calc
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	07/08/13 18:19	mpb
pH (lab)	SM4500H+ B									
pH		1	8.1	H	*	units	0.1	0.1	07/02/13 0:00	abm
pH measured at		1	23.0		*	C	0.1	0.1	07/02/13 0:00	abm
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.06		*	mg/L	0.01	0.05	07/09/13 17:22	mpb
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	07/03/13 9:10	mss3

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: OWYHEE RIVER

ACZ Sample ID: ***L13032-04***
Date Sampled: *06/26/13 05:00*
Date Received: *07/01/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/10/13 11:54	mla
Cyanide, WAD	SM4500-CN I- distillation								07/09/13 13:20	mla
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/08/13 14:59	mla
Total Hot Plate Digestion	M200.2 ICP								07/09/13 10:01	aeb
Total Hot Plate Digestion	M200.2 ICP-MS				*				07/16/13 11:48	scp

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: OWYHEE RIVER

ACZ Sample ID: ***L13032-04***
Date Sampled: *06/26/13 05:00*
Date Received: *07/01/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	07/09/13 0:12	jjc
Aluminum, total	M200.7 ICP	1	0.22			mg/L	0.03	0.2	07/09/13 23:38	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/12/13 3:21	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/12/13 5:37	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0059			mg/L	0.0002	0.001	07/12/13 3:21	msh
Arsenic, total	M200.8 ICP-MS	1	0.0054			mg/L	0.0002	0.001	07/12/13 5:37	pmc
Barium, dissolved	M200.7 ICP	1	0.015	B		mg/L	0.003	0.02	07/09/13 0:12	jjc
Barium, total	M200.7 ICP	1	0.020			mg/L	0.003	0.02	07/09/13 23:38	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 3:21	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 5:37	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/09/13 0:12	jjc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/09/13 23:38	aeb
Boron, dissolved	M200.7 ICP	1	0.08			mg/L	0.01	0.05	07/09/13 0:12	jjc
Boron, total	M200.7 ICP	1	0.09			mg/L	0.01	0.05	07/11/13 14:19	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 3:21	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 5:37	pmc
Calcium, dissolved	M200.7 ICP	1	20.6			mg/L	0.2	1	07/09/13 0:12	jjc
Calcium, total	M200.7 ICP	1	20.4			mg/L	0.2	1	07/09/13 23:38	aeb
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/12/13 3:21	msh
Chromium, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/12/13 5:37	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00049			mg/L	0.00005	0.0003	07/18/13 0:31	msh
Cobalt, total	M200.8 ICP-MS	2		U		mg/L	0.0001	0.0005	07/18/13 3:40	pmc
Copper, dissolved	M200.8 ICP-MS	1	0.0007	B		mg/L	0.0005	0.003	07/12/13 3:21	msh
Copper, total	M200.8 ICP-MS	1	0.0011	B		mg/L	0.0005	0.003	07/12/13 5:37	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 0:12	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 23:38	aeb
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	07/09/13 0:12	jjc
Iron, total	M200.7 ICP	1	0.16			mg/L	0.02	0.05	07/09/13 23:38	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 3:21	msh
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 5:37	pmc
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	07/09/13 0:12	jjc
Lithium, total	M200.7 ICP	1		U		mg/L	0.02	0.1	07/09/13 23:38	aeb
Magnesium, dissolved	M200.7 ICP	1	5.5			mg/L	0.2	1	07/09/13 0:12	jjc
Magnesium, total	M200.7 ICP	1	5.4			mg/L	0.2	1	07/09/13 23:38	aeb
Manganese, dissolved	M200.8 ICP-MS	1	0.0010	B		mg/L	0.0005	0.003	07/12/13 3:21	msh
Manganese, total	M200.8 ICP-MS	1	0.0029	B		mg/L	0.0005	0.003	07/12/13 5:37	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	2	1.3		*	ng/L	0.4	1	07/09/13 16:30	las
Mercury, total	M1631, Atomic Fluorescence	2	1.6			ng/L	0.4	1	07/11/13 13:56	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0035			mg/L	0.0005	0.003	07/12/13 3:21	msh
Molybdenum, total	M200.8 ICP-MS	1	0.0035			mg/L	0.0005	0.003	07/12/13 5:37	pmc
Nickel, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0006	0.003	07/12/13 3:21	msh
Nickel, total	M200.8 ICP-MS	1	0.0008	B		mg/L	0.0006	0.003	07/12/13 5:37	pmc
Potassium, dissolved	M200.7 ICP	1	3.4			mg/L	0.3	2	07/09/13 0:12	jjc

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: OWYHEE RIVER

ACZ Sample ID: ***L13032-04***
Date Sampled: *06/26/13 05:00*
Date Received: *07/01/13*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	3.3			mg/L	0.3	2	07/09/13 23:38	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 0:12	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 23:38	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0003	07/12/13 3:21	msh
Selenium, total	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	07/12/13 5:37	pmc
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 3:21	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 5:37	pmc
Sodium, dissolved	M200.7 ICP	1	27.0			mg/L	0.3	2	07/09/13 0:12	jjc
Sodium, total	M200.7 ICP	1	26.3			mg/L	0.3	2	07/09/13 23:38	aeb
Strontium, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	07/09/13 0:12	jjc
Strontium, total	M200.7 ICP	1	0.10			mg/L	0.01	0.05	07/09/13 23:38	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 3:21	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 5:37	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/12/13 3:21	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/12/13 5:37	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	07/09/13 0:12	jjc
Titanium, total	M200.7 ICP	1	0.007	B		mg/L	0.005	0.03	07/09/13 23:38	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0014			mg/L	0.0001	0.0005	07/12/13 3:21	msh
Uranium, total	M200.8 ICP-MS	1	0.0015			mg/L	0.0001	0.0005	07/12/13 5:37	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0037			mg/L	0.0002	0.001	07/12/13 23:31	msh
Vanadium, total	M200.8 ICP-MS	1	0.0050			mg/L	0.0002	0.001	07/12/13 5:37	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/09/13 0:12	jjc
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/09/13 23:38	aeb

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	90		*	mg/L	2	20	07/02/13 0:00	abm
Carbonate as CaCO3		1	5	B	*	mg/L	2	20	07/02/13 0:00	abm
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/02/13 0:00	abm
Total Alkalinity		1	95		*	mg/L	2	20	07/02/13 0:00	abm
Conductivity @25C	SM2510B	1	264		*	umhos/cm	1	10	07/02/13 3:55	abm
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/10/13 23:04	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/09/13 14:31	bsu
Hardness as CaCO3	SM2340B - Calculation		74			mg/L	1	7	07/19/13 13:44	calc
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	07/08/13 18:20	mpb
pH (lab)	SM4500H+ B									
pH		1	8.4	H	*	units	0.1	0.1	07/02/13 0:00	abm
pH measured at		1	23.0		*	C	0.1	0.1	07/02/13 0:00	abm
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B	*	mg/L	0.01	0.05	07/09/13 17:23	mpb
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	07/03/13 9:11	mss3

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: HG TRIP BLANK

ACZ Sample ID: ***L13032-05***
Date Sampled: *06/26/13 17:30*
Date Received: *07/01/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Mercury, total	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	07/11/13 13:03	las

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.

(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.

(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.

(4) EPA SW-846. Test Methods for Evaluating Solid Waste.

(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.

(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.

(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.

(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.

(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L13032***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346808													
WG346808PBW1	PBW	07/01/13 16:53				3.7	mg/L		-20	20			
WG346808LCSW2	LCSW	07/01/13 17:07	WC130625-	820.0001		775.1	mg/L	94.5	90	110			
WG346808LCSW5	LCSW	07/01/13 20:04	WC130625-	820.0001		769.7	mg/L	93.9	90	110			
WG346808PBW2	PBW	07/01/13 20:13				3	mg/L		-20	20			
WG346808LCSW8	LCSW	07/01/13 23:09	WC130625-	820.0001		791.4	mg/L	96.5	90	110			
WG346808PBW3	PBW	07/01/13 23:17				2.9	mg/L		-20	20			
L13032-01DUP	DUP	07/02/13 3:05			348	329.3	mg/L				5.5	20	
WG346808LCSW11	LCSW	07/02/13 3:19	WC130625-	820.0001		778	mg/L	94.9	90	110			
WG346808PBW4	PBW	07/02/13 3:28				3.9	mg/L		-20	20			
L13032-04DUP	DUP	07/02/13 4:04			95	96.4	mg/L				1.5	20	
WG346808LCSW14	LCSW	07/02/13 4:17	WC130625-	820.0001		795	mg/L	97	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.037	mg/L	101.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.09	0.09			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1.0011		1.044	mg/L	104.3	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	1.0011	U	1.043	mg/L	104.2	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	1.0011	U	1.044	mg/L	104.3	85	115	0.1	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.986	mg/L	99.3	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.09	0.09			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.066	0.066			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1.0011		1.007	mg/L	100.6	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1.0011	U	.995	mg/L	99.4	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1.0011	U	.983	mg/L	98.2	70	130	1.21	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.02		.02184	mg/L	109.2	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0012	0.0012			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.01		.0099	mg/L	99	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.01	U	.00832	mg/L	83.2	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.01	U	.00893	mg/L	89.3	70	130	7.07	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.01	U	.00872	mg/L	87.2	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.01	U	.00886	mg/L	88.6	70	130	1.59	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.02		.02045	mg/L	102.3	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0012	0.0012			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00088	0.00088			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.01		.01046	mg/L	104.6	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.01	U	.01058	mg/L	105.8	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.01	U	.01061	mg/L	106.1	70	130	0.28	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05457	mg/L	109.1	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0006	0.0006			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.05269	mg/L	105.3	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05005	.0016	.05527	mg/L	107.2	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05005	.0016	.05761	mg/L	111.9	70	130	4.15	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.0059	.06096	mg/L	110	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.0059	.06136	mg/L	110.8	70	130	0.65	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.05103	mg/L	102.1	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0006	0.0006			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00044	0.00044			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05005		.0494	mg/L	98.7	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05005	.0054	.05517	mg/L	99.4	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05005	.0054	.05444	mg/L	98	70	130	1.33	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.0295	mg/L	101.5	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.009	0.009			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5		.5063	mg/L	101.3	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	.5	.192	.6907	mg/L	99.7	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	.5	.192	.6941	mg/L	100.4	85	115	0.49	20	

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.9378	mg/L	96.9	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.009	0.009			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.0066	0.0066			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	.5		.4766	mg/L	95.3	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	.5	.005	.467	mg/L	92.4	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	.5	.005	.4601	mg/L	91	70	130	1.49	20	

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ACZ Project ID: ***L13032***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.04782	mg/L	95.6	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.00015	0.00015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.0501		.04741	mg/L	94.6	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.0501	U	.0478	mg/L	95.4	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.0501	U	.04973	mg/L	99.3	70	130	3.96	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.0501	U	.04977	mg/L	99.3	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.0501	U	.04944	mg/L	98.7	70	130	0.67	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.04682	mg/L	93.6	90	110			
WG347452ICB	ICB	07/12/13 4:58				.000077	mg/L		-0.00015	0.00015			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00011	0.00011			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.0501		.04615	mg/L	92.1	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.0501	U	.04824	mg/L	96.3	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.0501	U	.04834	mg/L	96.5	70	130	0.21	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		1.995	mg/L	99.8	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.12	0.12			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.007	mg/L	100.7	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	1	U	.999	mg/L	99.9	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	1	U	1.015	mg/L	101.5	85	115	1.59	20	

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.971	mg/L	98.6	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.12	0.12			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.088	0.088			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		1.016	mg/L	101.6	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	1.011	mg/L	101.1	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	.977	mg/L	97.7	70	130	3.42	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.047	mg/L	102.4	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.03	0.03			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5005		.514	mg/L	102.7	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	.5005	.38	.891	mg/L	102.1	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	.5005	.38	.89	mg/L	101.9	85	115	0.11	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		2.016	mg/L	100.8	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.03	0.03			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.022	0.022			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	.5005		.482	mg/L	96.3	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	.5005	.12	.604	mg/L	96.7	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	.5005	.12	.607	mg/L	97.3	70	130	0.5	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.0506	mg/L	101.2	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.0501		.04923	mg/L	98.3	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.0501	U	.04835	mg/L	96.5	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.0501	U	.05047	mg/L	100.7	70	130	4.29	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.0501	U	.04976	mg/L	99.3	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.0501	U	.04917	mg/L	98.1	70	130	1.19	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.05028	mg/L	100.6	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0003	0.0003			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00022	0.00022			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.0501		.04848	mg/L	96.8	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.0501	U	.04856	mg/L	96.9	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.0501	U	.04867	mg/L	97.1	70	130	0.23	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	100		99.86	mg/L	99.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.6	0.6			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	68.0028		71.18	mg/L	104.7	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	68.0028	2.4	73.16	mg/L	104.1	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	68.0028	2.4	72.96	mg/L	103.8	85	115	0.27	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	100		98.28	mg/L	98.3	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.6	0.6			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.44	0.44			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	68.0028		68.43	mg/L	100.6	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	68.0028	1.1	69.08	mg/L	100	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	68.0028	1.1	67.97	mg/L	98.3	70	130	1.62	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05152	mg/L	103	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0015	0.0015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.05088	mg/L	101.7	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05005	U	.04713	mg/L	94.2	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05005	U	.04896	mg/L	97.8	70	130	3.81	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	U	.04827	mg/L	96.4	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	U	.04885	mg/L	97.6	70	130	1.19	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.04865	mg/L	97.3	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0015	0.0015			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.0011	0.0011			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05005		.04781	mg/L	95.5	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05005	U	.04754	mg/L	95	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05005	U	.04734	mg/L	94.6	70	130	0.42	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.04724	mg/L	94.5	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.00015	0.00015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.04697	mg/L	93.8	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05005	.00015	.04434	mg/L	88.3	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05005	.00015	.04578	mg/L	91.2	70	130	3.2	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.00046	.04597	mg/L	90.9	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.00046	.04537	mg/L	89.7	70	130	1.31	20	
WG347770													
WG347770ICV	ICV	07/18/13 0:11	MS130717-9	.05		.04703	mg/L	94.1	90	110			
WG347770ICB	ICB	07/18/13 0:14				U	mg/L		-0.00015	0.00015			
WG347770LFB	LFB	07/18/13 0:17	MS130717-1	.05005		.04866	mg/L	97.2	85	115			
L13141-02AS	AS	07/18/13 0:45	MS130717-1	.1001	.003	.11272	mg/L	109.6	70	130			
L13141-02ASD	ASD	07/18/13 0:55	MS130717-1	.1001	.003	.10496	mg/L	101.9	70	130	7.13	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.04923	mg/L	98.5	90	110			
WG347452ICB	ICB	07/12/13 4:58				.000063	mg/L		-0.00015	0.00015			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00011	0.00011			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05005		.05001	mg/L	99.9	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05005	.0001	.04869	mg/L	97.1	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05005	.0001	.04891	mg/L	97.5	70	130	0.45	20	
WG347782													
WG347782ICV	ICV	07/18/13 3:21	MS130717-9	.05		.05008	mg/L	100.2	90	110			
WG347782ICB	ICB	07/18/13 3:24				U	mg/L		-0.00015	0.00015			
WG347677LRB	LRB	07/18/13 3:27				U	mg/L		-0.00011	0.00011			
WG347677LFB	LFB	07/18/13 3:30	MS130614-1	.05005		.05029	mg/L	100.5	85	115			
L13179-02LFM	LFM	07/18/13 3:53	MS130614-1	.05005	.00263	.05186	mg/L	98.4	70	130			
L13179-02LFMD	LFMD	07/18/13 4:02	MS130614-1	.05005	.00263	.05147	mg/L	97.6	70	130	0.75	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346808													
WG346808LCSW1	LCSW	07/01/13 16:55	PCN42820	1408.8		1434.5	umhos/cm	101.8	90	110			
WG346808LCSW4	LCSW	07/01/13 19:53	PCN42820	1408.8		1402.8	umhos/cm	99.6	90	110			
WG346808LCSW7	LCSW	07/01/13 22:57	PCN42820	1408.8		1382.3	umhos/cm	98.1	90	110			
L13032-01DUP	DUP	07/02/13 3:05			885	886	umhos/cm				0.1	20	
WG346808LCSW10	LCSW	07/02/13 3:07	PCN42820	1408.8		1364.9	umhos/cm	96.9	90	110			
L13032-04DUP	DUP	07/02/13 4:04			264	263	umhos/cm				0.4	20	
WG346808LCSW13	LCSW	07/02/13 4:06	PCN42820	1408.8		1347.6	umhos/cm	95.7	90	110			

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05134	mg/L	102.7	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0015	0.0015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.04955	mg/L	99	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05005	U	.04616	mg/L	92.2	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05005	U	.04798	mg/L	95.9	70	130	3.87	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.0007	.0471	mg/L	92.7	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.0007	.04755	mg/L	93.6	70	130	0.95	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.04936	mg/L	98.7	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0015	0.0015			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.0011	0.0011			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05005		.04796	mg/L	95.8	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05005	.0011	.04724	mg/L	92.2	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05005	.0011	.04753	mg/L	92.8	70	130	0.61	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347370													
WG347370ICV	ICV	07/10/13 22:36	WI130708-6	.3		.287	mg/L	95.7	90	110			
WG347370ICB	ICB	07/10/13 22:37				U	mg/L		-0.003	0.003			
WG347291LRB	LRB	07/10/13 22:39				U	mg/L		-0.003	0.003			
WG347291LFB	LFB	07/10/13 22:40	WI130708-2	.2		.2073	mg/L	103.7	90	110			
L13004-05DUP	DUP	07/10/13 22:54			U	U	mg/L				0	20	RA
L13004-06LFM	LFM	07/10/13 22:56	WI130708-2	.2	U	.1915	mg/L	95.8	90	110			

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347220													
WG347220ICV	ICV	07/09/13 11:40	WI130708-6	.3		.2844	mg/L	94.8	90	110			
WG347220ICB	ICB	07/09/13 11:41				U	mg/L		-0.003	0.003			
WG347242													
WG347195LRB	LRB	07/09/13 14:09				U	mg/L		-0.003	0.003			
WG347195LFB	LFB	07/09/13 14:10	WI130708-4	.2		.1967	mg/L	98.4	90	110			
L13029-04DUP	DUP	07/09/13 14:24			U	U	mg/L				0	20	RA
L13032-01LFM	LFM	07/09/13 14:38	WI130708-4	.2	U	.1858	mg/L	92.9	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.07	mg/L	103.5	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.3	0.3			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.04	mg/L	104	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	1	U	1.03	mg/L	103	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	1	U	1.06	mg/L	106	85	115	2.87	20	

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.99	mg/L	99.5	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.3	0.3			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.22	0.22			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		1.03	mg/L	103	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	1.03	mg/L	103	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	1.01	mg/L	101	70	130	1.96	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.003	mg/L	100.2	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.06	0.06			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1.0014		1.021	mg/L	102	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	1.0014	U	1.023	mg/L	102.2	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	1.0014	U	1.02	mg/L	101.9	85	115	0.29	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.963	mg/L	98.2	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.06	0.06			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.044	0.044			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1.0014		.979	mg/L	97.8	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1.0014	U	.957	mg/L	95.6	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1.0014	U	.948	mg/L	94.7	70	130	0.94	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05172	mg/L	103.4	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.04923	mg/L	98.4	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05005	U	.04767	mg/L	95.2	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05005	U	.04933	mg/L	98.6	70	130	3.42	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	U	.04888	mg/L	97.7	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	U	.04821	mg/L	96.3	70	130	1.38	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.05091	mg/L	101.8	90	110			
WG347452ICB	ICB	07/12/13 4:58				.00014	mg/L		-0.0003	0.0003			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00022	0.00022			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05005		.04748	mg/L	94.9	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05005	U	.04783	mg/L	95.6	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05005	U	.04804	mg/L	96	70	130	0.44	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.04	mg/L	102	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.06	0.06			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.021	mg/L	102.1	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	1	.1	1.101	mg/L	100.1	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	1	.1	1.107	mg/L	100.7	85	115	0.54	20	

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.952	mg/L	97.6	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.06	0.06			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.044	0.044			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		.995	mg/L	99.5	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	.977	mg/L	97.7	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	.966	mg/L	96.6	70	130	1.13	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	100		98.9	mg/L	98.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.6	0.6			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	49.99752		50.08	mg/L	100.2	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	49.99752	2.1	51.55	mg/L	98.9	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	49.99752	2.1	51.42	mg/L	98.6	85	115	0.25	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	100		97.76	mg/L	97.8	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.6	0.6			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.44	0.44			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	49.99752		48.97	mg/L	97.9	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	49.99752	U	48.32	mg/L	96.6	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	49.99752	U	47.34	mg/L	94.7	70	130	2.05	20	

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.04731	mg/L	94.6	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0015	0.0015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.04638	mg/L	92.7	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05005	.0037	.04785	mg/L	88.2	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05005	.0037	.0495	mg/L	91.5	70	130	3.39	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.001	.04651	mg/L	90.9	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.001	.04585	mg/L	89.6	70	130	1.43	20	

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.05007	mg/L	100.1	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0015	0.0015			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.0011	0.0011			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05005		.04955	mg/L	99	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05005	.0029	.05151	mg/L	97.1	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05005	.0029	.05183	mg/L	97.8	70	130	0.62	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347159													
WG347159ICV	ICV	07/09/13 13:14	HG130517-4	10		10.58	ng/L	105.8	79	121			
WG347159ICB	ICB	07/09/13 13:21				U	ng/L		-0.5	0.5			
WG347159PQV	PQV	07/09/13 13:27	HG130517-6	.5		.43	ng/L	86	70	130			
WG347159LFB	LFB	07/09/13 13:34	HG130517-5	2		2.05	ng/L	102.5	71	125			
L12940-01MS	MS	07/09/13 14:18	HG130517-5	2	U	1.06	ng/L	53	71	125			M2
L12940-01MSD	MSD	07/09/13 14:25	HG130517-5	2	U	.96	ng/L	48	71	125	9.9	24	M2
WG347159CCV1	CCV	07/09/13 15:56	HG130517-4	10		8.58	ng/L	85.8	76.5	123.4			
WG347159CCB1	CCB	07/09/13 16:03				U	ng/L		-0.5	0.5			
WG347159CCV2	CCV	07/09/13 16:50	HG130517-4	10		9.06	ng/L	90.6	76.5	123.4			
WG347159CCB2	CCB	07/09/13 16:56				U	ng/L		-0.5	0.5			
WG347159CCV3	CCV	07/09/13 17:43	HG130517-4	10		10.06	ng/L	100.6	76.5	123.4			
WG347159CCB3	CCB	07/09/13 17:50				U	ng/L		-0.5	0.5			

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347365													
WG347365ICV	ICV	07/11/13 12:36	HG130517-4	10		10.44	ng/L	104.4	79	121			
WG347365ICB	ICB	07/11/13 12:42				U	ng/L		-0.5	0.5			
WG347365PQV	PQV	07/11/13 12:49	HG130517-6	.5		.54	ng/L	108	70	130			
WG347365LFB	LFB	07/11/13 12:55	HG130517-5	2		1.96	ng/L	98	71	125			
L13032-01MS	MS	07/11/13 13:30	HG2XPREP	8	1.5	5.05	ng/L	88.8	71	125			
L13032-01MSD	MSD	07/11/13 13:36	HG2XPREP	8	1.5	4.82	ng/L	83	71	125	4.66	24	
WG347365CCV1	CCV	07/11/13 14:03	HG130517-4	10		9.01	ng/L	90.1	76.5	123.4			
WG347365CCB1	CCB	07/11/13 14:10				U	ng/L		-0.5	0.5			
WG347365CCV2	CCV	07/11/13 14:56	HG130517-4	10		9.25	ng/L	92.5	76.5	123.4			
WG347365CCB2	CCB	07/11/13 15:03				U	ng/L		-0.5	0.5			
WG347365CCV3	CCV	07/11/13 15:43	HG130517-4	10		9.95	ng/L	99.5	76.5	123.4			
WG347365CCB3	CCB	07/11/13 15:50				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.02006		.02012	mg/L	100.3	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0015	0.0015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05		.04835	mg/L	96.7	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05	.0011	.04741	mg/L	92.6	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05	.0011	.04968	mg/L	97.2	70	130	4.68	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05	.0035	.05147	mg/L	95.9	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05	.0035	.05116	mg/L	95.3	70	130	0.6	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.02006		.01939	mg/L	96.7	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0015	0.0015			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.0011	0.0011			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05		.04765	mg/L	95.3	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05	.0035	.05178	mg/L	96.6	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05	.0035	.05133	mg/L	95.7	70	130	0.87	20	

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05279	mg/L	105.6	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0018	0.0018			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.05114	mg/L	102.2	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05005	U	.04666	mg/L	93.2	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05005	U	.04857	mg/L	97	70	130	4.01	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.0006	.04799	mg/L	94.7	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.0006	.04864	mg/L	96	70	130	1.35	20	

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.05059	mg/L	101.2	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0018	0.0018			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00132	0.00132			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05005		.0482	mg/L	96.3	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05005	.0008	.04808	mg/L	94.5	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05005	.0008	.0479	mg/L	94.1	70	130	0.38	20	

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347124													
WG347124ICV	ICV	07/08/13 12:58	WI121105-5	1.003		.973	mg/L	97	90	110			
WG347124ICB	ICB	07/08/13 13:01				U	mg/L		-0.15	0.15			
WG347161													
WG347161LFB1	LFB	07/08/13 16:54	WI121218-3	1		.982	mg/L	98.2	90	110			
WG347161ICV	ICV	07/08/13 17:47	WI121105-5	1.003		.975	mg/L	97.2	90	110			
WG347161ICB	ICB	07/08/13 17:50				U	mg/L		-0.15	0.15			
WG347161LFB2	LFB	07/08/13 18:10	WI121218-3	1		1.042	mg/L	104.2	90	110			
L13030-06AS	AS	07/08/13 18:12	WI121218-3	1	U	1.019	mg/L	101.9	90	110			
L13030-07DUP	DUP	07/08/13 18:14			U	U	mg/L				0	20	RA

SPF Water Engineering

ACZ Project ID: ***L13032***

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346808													
WG346808LCSW3	LCSW	07/01/13 17:10	PCN40853	6		5.99	units	99.8	98	102			
WG346808LCSW6	LCSW	07/01/13 20:08	PCN40853	6		6.01	units	100.2	98	102			
WG346808LCSW9	LCSW	07/01/13 23:12	PCN40853	6		6.01	units	100.2	98	102			
L13032-01DUP	DUP	07/02/13 3:05			8.3	8.37	units				0.8	20	
WG346808LCSW12	LCSW	07/02/13 3:22	PCN40853	6		6	units	100	98	102			
L13032-04DUP	DUP	07/02/13 4:04			8.4	8.46	units				0.7	20	
WG346808LCSW15	LCSW	07/02/13 4:21	PCN40853	6		6	units	100	98	102			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347250													
WG347250ICV	ICV	07/09/13 14:53	WI130620-3	.65228		.633	mg/L	97	90	110			
WG347250ICB	ICB	07/09/13 14:54				U	mg/L		-0.03	0.03			
WG347256													
WG347133LRB	LRB	07/09/13 17:06				U	mg/L		-0.03	0.03			
WG347133LFB	LFB	07/09/13 17:07	WI130705-2	.5		.53	mg/L	106	90	110			
L13031-02LFM	LFM	07/09/13 17:09	WI130705-2	.5	.03	.542	mg/L	102.4	90	110			
L13031-03DUP	DUP	07/09/13 17:11			.04	.034	mg/L				16.2	20	RA
L13032-04LFM	LFM	07/09/13 17:24	WI130705-2	.5	.02	.527	mg/L	101.4	90	110			
L13046-16DUP	DUP	07/09/13 17:55			1.05	1.051	mg/L				0.1	20	

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	20		20.16	mg/L	100.8	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.9	0.9			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	99.96112		100.6	mg/L	100.6	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	99.96112	.6	100.3	mg/L	99.7	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	99.96112	.6	100.7	mg/L	100.1	85	115	0.4	20	

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	20		19.82	mg/L	99.1	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.9	0.9			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.66	0.66			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	99.96112		97.83	mg/L	97.9	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	99.96112	5.8	102.2	mg/L	96.4	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	99.96112	5.8	100.5	mg/L	94.7	70	130	1.68	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346839													
WG346839PBW	PBW	07/02/13 10:55				U	mg/L		-15	15			
WG346839LCSW	LCSW	07/02/13 10:56	PCN42878	160		149	mg/L	93.1	80	120			
L13030-07DUP	DUP	07/02/13 11:16			71	72	mg/L				1.4	10	
WG346926													
WG346926PBW	PBW	07/03/13 8:40				U	mg/L		-15	15			
WG346926LCSW	LCSW	07/03/13 8:41	PCN42878	160		158	mg/L	98.8	80	120			
L13032-02DUP	DUP	07/03/13 9:08			U	U	mg/L				0	10	RA

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.01	mg/L	100.5	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.3	0.3			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1.0009		1.05	mg/L	104.9	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	1.0009	U	1.05	mg/L	104.9	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	1.0009	U	1.05	mg/L	104.9	85	115	0	20	

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.92	mg/L	96	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.3	0.3			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.22	0.22			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1.0009		1.01	mg/L	100.9	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1.0009	U	.98	mg/L	97.9	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1.0009	U	.97	mg/L	96.9	70	130	1.03	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05509	mg/L	110.2	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.05133	mg/L	102.6	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05005	.0001	.05146	mg/L	102.6	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05005	.0001	.05509	mg/L	109.9	70	130	6.81	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.0002	.05349	mg/L	106.5	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.0002	.05344	mg/L	106.4	70	130	0.09	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.05279	mg/L	105.6	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0003	0.0003			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00022	0.00022			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05005		.04886	mg/L	97.6	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05005	.0003	.04966	mg/L	98.6	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05005	.0003	.04947	mg/L	98.2	70	130	0.38	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.02002		.02074	mg/L	103.6	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.00015	0.00015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.01001		.009802	mg/L	97.9	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.01001	U	.008351	mg/L	83.4	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.01001	U	.0091	mg/L	90.9	70	130	8.58	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.01001	U	.008807	mg/L	88	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.01001	U	.008673	mg/L	86.6	70	130	1.53	20	

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.02002		.01996	mg/L	99.7	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.00015	0.00015			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00011	0.00011			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.01001		.009554	mg/L	95.4	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.01001	U	.009342	mg/L	93.3	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.01001	U	.009311	mg/L	93	70	130	0.33	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	100		100.7	mg/L	100.7	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.9	0.9			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	100.0495		100.9	mg/L	100.9	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	100.0495	316	407.6	mg/L	91.6	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	100.0495	316	405.7	mg/L	89.7	85	115	0.47	20	

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	100		98.87	mg/L	98.9	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.9	0.9			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.66	0.66			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	100.0495		97.32	mg/L	97.3	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	100.0495	110	203	mg/L	93	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	100.0495	110	199.3	mg/L	89.3	70	130	1.84	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.054	mg/L	102.7	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.03	0.03			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5		.511	mg/L	102.2	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	.5	.39	.886	mg/L	99.2	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	.5	.39	.888	mg/L	99.6	85	115	0.23	20	

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.977	mg/L	98.9	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.03	0.03			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.022	0.022			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	.5		.484	mg/L	96.8	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	.5	U	.48	mg/L	96	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	.5	U	.472	mg/L	94.4	70	130	1.68	20	

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05415	mg/L	108.3	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.05203	mg/L	104	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05005	U	.05104	mg/L	102	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05005	U	.05271	mg/L	105.3	70	130	3.22	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	U	.05221	mg/L	104.3	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	U	.05143	mg/L	102.8	70	130	1.51	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.05333	mg/L	106.7	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0003	0.0003			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00022	0.00022			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05005		.04945	mg/L	98.8	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05005	U	.04972	mg/L	99.3	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05005	U	.05021	mg/L	100.3	70	130	0.98	20	

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05015		.05222	mg/L	104.1	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.04558	mg/L	91.1	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05005	U	.042	mg/L	83.9	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05005	U	.04418	mg/L	88.3	70	130	5.06	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	U	.04402	mg/L	88	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	U	.04402	mg/L	88	70	130	0	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05015		.05054	mg/L	100.8	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0003	0.0003			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00022	0.00022			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05005		.04643	mg/L	92.8	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05005	U	.04785	mg/L	95.6	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05005	U	.04567	mg/L	91.2	70	130	4.66	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.0275	mg/L	101.4	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.015	0.015			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.033	mg/L	103.3	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	1	U	1.034	mg/L	103.4	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	1	U	1.035	mg/L	103.5	85	115	0.1	20	

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.9495	mg/L	97.5	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.015	0.015			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.011	0.011			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		.997	mg/L	99.7	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	.9898	mg/L	99	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	.9777	mg/L	97.8	70	130	1.23	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05288	mg/L	105.8	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05		.05079	mg/L	101.6	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05	.0002	.0502	mg/L	100	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05	.0002	.05189	mg/L	103.4	70	130	3.31	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05	.0014	.0527	mg/L	102.6	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05	.0014	.05187	mg/L	100.9	70	130	1.59	20	

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.05278	mg/L	105.6	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0003	0.0003			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00022	0.00022			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05		.04997	mg/L	99.9	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05	.0015	.05362	mg/L	104.2	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05	.0015	.05314	mg/L	103.3	70	130	0.9	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05088	mg/L	101.8	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0006	0.0006			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.0501		.05098	mg/L	101.8	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.0501	.0005	.04939	mg/L	97.6	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.0501	.0005	.05144	mg/L	101.7	70	130	4.07	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.0501	.0045	.05429	mg/L	99.4	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.0501	.0045	.05528	mg/L	101.4	70	130	1.81	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.04707	mg/L	94.1	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0006	0.0006			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.0501		.04942	mg/L	98.6	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.0501	.027	.07561	mg/L	97	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.0501	.027	.07594	mg/L	97.7	70	130	0.44	20	
WG347530													
WG347530ICV	ICV	07/13/13 22:18	MS130416-2	.05		.04938	mg/L	98.8	90	110			
WG347530ICB	ICB	07/13/13 22:21				U	mg/L		-0.0006	0.0006			
WG347530LFB	LFB	07/13/13 22:24	MS130614-1	.0501		.05187	mg/L	103.5	85	115			
L13105-01AS	AS	07/13/13 22:47	MS130614-1	.0501	U	.05215	mg/L	104.1	70	130			
L13105-01ASD	ASD	07/13/13 22:50	MS130614-1	.0501	U	.05178	mg/L	103.4	70	130	0.71	20	

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.04846	mg/L	96.9	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0006	0.0006			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00044	0.00044			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.0501		.04862	mg/L	97	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.0501	.005	.05358	mg/L	97	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.0501	.005	.05338	mg/L	96.6	70	130	0.37	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		1.958	mg/L	97.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.03	0.03			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5		.513	mg/L	102.6	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	.5	U	.512	mg/L	102.4	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	.5	U	.512	mg/L	102.4	85	115	0	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.946	mg/L	97.3	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.03	0.03			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.022	0.022			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	.5		.504	mg/L	100.8	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	.5	U	.496	mg/L	99.2	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	.5	U	.486	mg/L	97.2	70	130	2.04	20	

SPF Water Engineering ACZ Project ID: ***L13032***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13032-01	WG347159	Mercury, dissolved	M1631, Atomic Fluorescence	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG346808	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG347370	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347242	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346808	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347161	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346808	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347256	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346839	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
	WG346808	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.

SPF Water Engineering ACZ Project ID: ***L13032***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13032-02	WG347159	Mercury, dissolved	M1631, Atomic Fluorescence	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG347365	Mercury, total	M1631, Atomic Fluorescence	DF	Sample required dilution due to high sediment.
	WG347432	Vanadium, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG346808	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG347370	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347242	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346808	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347161	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346808	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347256	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346926	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346808	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.

SPF Water Engineering ACZ Project ID: ***L13032***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13032-03	WG347159	Mercury, dissolved	M1631, Atomic Fluorescence	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG347365	Mercury, total	M1631, Atomic Fluorescence	DF	Sample required dilution due to high sediment.
	WG347432	Vanadium, dissolved	M200.8 ICP-MS	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG346808	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG347370	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347242	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346808	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347161	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346808	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347256	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346926	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346808	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.

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2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

SPF Water Engineering ACZ Project ID: ***L13032***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13032-04	WG347677	Total Hot Plate Digestion	M200.2 ICP-MS	DJ	Sample dilution required due to insufficient sample.
	WG347159	Mercury, dissolved	M1631, Atomic Fluorescence	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG346808	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG347370	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347242	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346808	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347161	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346808	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347256	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
	WG346926	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346808	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

ACZ Laboratories, Inc.
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Sample Receipt

SPF Water Engineering
Calico 2nd Q sampling

ACZ Project ID: L13032
Date Received: 07/01/2013 10:09
Received By: gac
Date Printed: 7/2/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?		X	

L13032-01 : HG-1631's not in sealed double bags.

L13032-02 : HG-1631's not in sealed double bags.

L13032-03 : HG-1631's not in sealed double bags.

L13032-04 : HG-1631's not in sealed double bags.

L13032-05 : HG-1631 not in sealed double bags.

16) Is there an Hg-1631 trip blank present?	X		
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
4110	20.9	13	Yes

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Q sampling

ACZ Project ID:	L13032
Date Received:	07/01/2013 10:09
Received By:	gac
Date Printed:	7/2/2013

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s) but was thawed by receipt at ACZ.

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

C13032

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name:	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SPF-2013-GW

PO#: Calico 2nd Quarter Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	SPF-2013-GW	HG-trip Blank
Lowe Spring	6/26/13 9:20		7	X	
Poison Spring	6/26/13 10:55		7	X	
Negro Rock Canyon Creek	6/26/13 12:00		7	X	
Gunnison River	6/26/13 5:00		7	X	
HG-Trip Blank	6/26/13 5:30		1		X

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	6/27/13 9:08		
			7-1-13 10:09

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

C13032 Chain of Custody

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 19, 2013

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 2nd Q sampling
ACZ Project ID: L13047

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 02, 2013. This project has been assigned to ACZ's project number, L13047. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L13047. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 18, 2013. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

SPF Water Engineering July 19, 2013

Project ID: Calico 2nd Q sampling
ACZ Project ID: L13047

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 2 ground water samples from SPF Water Engineering on July 2, 2013. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L13047. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The following anomaly required further explanation not provided by the Extended Qualifier Report:

1. For L13047-01, the dissolved and total cobalt values were verified by re-digestion and re-analysis with no significant change.

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L13047-01***
Date Sampled: *06/27/13 09:00*
Date Received: *07/02/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/10/13 11:59	mla
Cyanide, WAD	SM4500-CN I- distillation								07/10/13 20:06	mla
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/08/13 15:44	mla
Total Hot Plate Digestion	M200.2 ICP-MS								07/10/13 11:04	las
Total Hot Plate Digestion	M200.2 ICP								07/09/13 10:12	aeb

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L13047-01***
Date Sampled: *06/27/13 09:00*
Date Received: *07/02/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	07/09/13 0:15	jjc
Aluminum, total	M200.7 ICP	1	1.34			mg/L	0.03	0.2	07/09/13 23:41	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/12/13 0:52	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/12/13 7:20	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0111			mg/L	0.0002	0.001	07/12/13 0:52	msh
Arsenic, total	M200.8 ICP-MS	1	0.0114			mg/L	0.0002	0.001	07/12/13 7:20	pmc
Barium, dissolved	M200.7 ICP	1	0.028			mg/L	0.003	0.02	07/09/13 0:15	jjc
Barium, total	M200.7 ICP	1	0.042			mg/L	0.003	0.02	07/09/13 23:41	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/13/13 1:47	msh
Beryllium, total	M200.8 ICP-MS	1	0.00009	B		mg/L	0.00005	0.0003	07/12/13 7:20	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/09/13 0:15	jjc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/09/13 23:41	aeb
Boron, dissolved	M200.7 ICP	1	0.17			mg/L	0.01	0.05	07/09/13 0:15	jjc
Boron, total	M200.7 ICP	1	0.17			mg/L	0.01	0.05	07/11/13 14:22	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 0:52	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 7:20	pmc
Calcium, dissolved	M200.7 ICP	1	21.5			mg/L	0.2	1	07/09/13 0:15	jjc
Calcium, total	M200.7 ICP	1	21.4			mg/L	0.2	1	07/09/13 23:41	aeb
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/12/13 0:52	msh
Chromium, total	M200.8 ICP-MS	1	0.0013	B		mg/L	0.0005	0.002	07/12/13 7:20	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00216			mg/L	0.00005	0.0003	07/12/13 0:52	msh
Cobalt, total	M200.8 ICP-MS	1	0.00054			mg/L	0.00005	0.0003	07/12/13 7:20	pmc
Copper, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0005	0.003	07/12/13 0:52	msh
Copper, total	M200.8 ICP-MS	1	0.0021	B		mg/L	0.0005	0.003	07/13/13 3:49	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 0:15	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 23:41	aeb
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	07/09/13 0:15	jjc
Iron, total	M200.7 ICP	1	1.15			mg/L	0.02	0.05	07/09/13 23:41	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 0:52	msh
Lead, total	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	07/13/13 3:49	pmc
Lithium, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.02	0.1	07/09/13 0:15	jjc
Lithium, total	M200.7 ICP	1	0.03	B		mg/L	0.02	0.1	07/09/13 23:41	aeb
Magnesium, dissolved	M200.7 ICP	1	6.2			mg/L	0.2	1	07/09/13 0:15	jjc
Magnesium, total	M200.7 ICP	1	6.3			mg/L	0.2	1	07/09/13 23:41	aeb
Manganese, dissolved	M200.8 ICP-MS	1	0.0184			mg/L	0.0005	0.003	07/12/13 0:52	msh
Manganese, total	M200.8 ICP-MS	1	0.0662			mg/L	0.0005	0.003	07/12/13 7:20	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	2	1.4			ng/L	0.4	1	07/09/13 16:36	las
Mercury, total	M1631, Atomic Fluorescence	5	23			ng/L	1	3	07/11/13 14:16	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0066			mg/L	0.0005	0.003	07/12/13 0:52	msh
Molybdenum, total	M200.8 ICP-MS	1	0.0066			mg/L	0.0005	0.003	07/12/13 7:20	pmc
Nickel, dissolved	M200.8 ICP-MS	1	0.0007	B		mg/L	0.0006	0.003	07/12/13 0:52	msh
Nickel, total	M200.8 ICP-MS	1	0.0014	B		mg/L	0.0006	0.003	07/12/13 7:20	pmc
Potassium, dissolved	M200.7 ICP	1	4.9			mg/L	0.3	2	07/09/13 0:15	jjc

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L13047-01***
Date Sampled: *06/27/13 09:00*
Date Received: *07/02/13*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	5.0			mg/L	0.3	2	07/09/13 23:41	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 0:15	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 23:41	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0003	07/12/13 0:52	msh
Selenium, total	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0003	07/12/13 7:20	pmc
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 0:52	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 7:20	pmc
Sodium, dissolved	M200.7 ICP	1	49.0			mg/L	0.3	2	07/09/13 0:15	jjc
Sodium, total	M200.7 ICP	1	47.8			mg/L	0.3	2	07/09/13 23:41	aeb
Strontium, dissolved	M200.7 ICP	1	0.11			mg/L	0.01	0.05	07/09/13 0:15	jjc
Strontium, total	M200.7 ICP	1	0.11			mg/L	0.01	0.05	07/09/13 23:41	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 0:52	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 7:20	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/12/13 0:52	msh
Tin, total	M200.8 ICP-MS	1	0.0001	B	*	mg/L	0.0001	0.0005	07/12/13 7:20	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	07/09/13 0:15	jjc
Titanium, total	M200.7 ICP	1	0.047			mg/L	0.005	0.03	07/09/13 23:41	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0027			mg/L	0.0001	0.0005	07/12/13 0:52	msh
Uranium, total	M200.8 ICP-MS	1	0.0028			mg/L	0.0001	0.0005	07/12/13 7:20	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0100			mg/L	0.0002	0.001	07/12/13 0:52	msh
Vanadium, total	M200.8 ICP-MS	1	0.0129			mg/L	0.0002	0.001	07/12/13 7:20	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/09/13 0:15	jjc
Zinc, total	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	07/09/13 23:41	aeb

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	139		*	mg/L	2	20	07/04/13 0:00	abm
Carbonate as CaCO3		1	4	B	*	mg/L	2	20	07/04/13 0:00	abm
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/04/13 0:00	abm
Total Alkalinity		1	143		*	mg/L	2	20	07/04/13 0:00	abm
Conductivity @25C	SM2510B	1	373		*	umhos/cm	1	10	07/04/13 0:52	abm
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/10/13 23:05	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/11/13 14:15	mpb
Hardness as CaCO3	SM2340B - Calculation		79			mg/L	1	7	07/19/13 13:57	calc
Nitrogen, ammonia	M350.1 - Automated Phenate	1	0.12	B	*	mg/L	0.05	0.5	07/10/13 12:34	bsu
pH (lab)	SM4500H+ B									
pH		1	8.3	H	*	units	0.1	0.1	07/04/13 0:00	abm
pH measured at		1	22.0		*	C	0.1	0.1	07/04/13 0:00	abm
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.08		*	mg/L	0.01	0.05	07/09/13 17:33	mpb
Residue, Non-Filterable (TSS) @105C	SM2540D	1	26		*	mg/L	5	20	07/03/13 11:08	mss3

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L13047-02***
Date Sampled: *06/27/13 14:20*
Date Received: *07/02/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/11/13 11:44	mla
Cyanide, WAD	SM4500-CN I- distillation								07/10/13 20:56	mla
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/08/13 15:50	mla
Total Hot Plate Digestion	M200.2 ICP-MS								07/16/13 12:00	scp
Total Hot Plate Digestion	M200.2 ICP								07/09/13 10:24	aeb

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L13047-02***
Date Sampled: *06/27/13 14:20*
Date Received: *07/02/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.08	B		mg/L	0.03	0.2	07/09/13 0:18	jjc
Aluminum, total	M200.7 ICP	1	0.64			mg/L	0.03	0.2	07/09/13 23:44	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/12/13 0:55	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/12/13 7:23	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0057			mg/L	0.0002	0.001	07/12/13 0:55	msh
Arsenic, total	M200.8 ICP-MS	1	0.0057			mg/L	0.0002	0.001	07/12/13 7:23	pmc
Barium, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.003	0.02	07/09/13 0:18	jjc
Barium, total	M200.7 ICP	1	0.019	B		mg/L	0.003	0.02	07/09/13 23:44	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/13/13 1:58	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 7:23	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/09/13 0:18	jjc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/09/13 23:44	aeb
Boron, dissolved	M200.7 ICP	1	0.08			mg/L	0.01	0.05	07/09/13 0:18	jjc
Boron, total	M200.7 ICP	1	0.09			mg/L	0.01	0.05	07/11/13 14:25	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 0:55	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 7:23	pmc
Calcium, dissolved	M200.7 ICP	1	20.0			mg/L	0.2	1	07/09/13 0:18	jjc
Calcium, total	M200.7 ICP	1	19.8			mg/L	0.2	1	07/09/13 23:44	aeb
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/12/13 0:55	msh
Chromium, total	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0005	0.002	07/12/13 7:23	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00039			mg/L	0.00005	0.0003	07/12/13 0:55	msh
Cobalt, total	M200.8 ICP-MS	1	0.00030			mg/L	0.00005	0.0003	07/12/13 7:23	pmc
Copper, dissolved	M200.8 ICP-MS	1	0.0128			mg/L	0.0005	0.003	07/12/13 0:55	msh
Copper, total	M200.8 ICP-MS	1	0.0021	B		mg/L	0.0005	0.003	07/18/13 3:43	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 0:18	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 23:44	aeb
Iron, dissolved	M200.7 ICP	1	0.07			mg/L	0.02	0.05	07/09/13 0:18	jjc
Iron, total	M200.7 ICP	1	0.59			mg/L	0.02	0.05	07/09/13 23:44	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	07/12/13 0:55	msh
Lead, total	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	07/13/13 3:51	pmc
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	07/09/13 0:18	jjc
Lithium, total	M200.7 ICP	1		U		mg/L	0.02	0.1	07/09/13 23:44	aeb
Magnesium, dissolved	M200.7 ICP	1	5.3			mg/L	0.2	1	07/09/13 0:18	jjc
Magnesium, total	M200.7 ICP	1	5.3			mg/L	0.2	1	07/09/13 23:44	aeb
Manganese, dissolved	M200.8 ICP-MS	1	0.0031			mg/L	0.0005	0.003	07/12/13 0:55	msh
Manganese, total	M200.8 ICP-MS	1	0.0163			mg/L	0.0005	0.003	07/12/13 7:23	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	2	0.7	B	*	ng/L	0.4	1	07/09/13 16:43	las
Mercury, total	M1631, Atomic Fluorescence	5	4			ng/L	1	3	07/11/13 14:23	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0035			mg/L	0.0005	0.003	07/12/13 0:55	msh
Molybdenum, total	M200.8 ICP-MS	1	0.0036			mg/L	0.0005	0.003	07/12/13 7:23	pmc
Nickel, dissolved	M200.8 ICP-MS	1	0.0007	B		mg/L	0.0006	0.003	07/12/13 0:55	msh
Nickel, total	M200.8 ICP-MS	1	0.0011	B		mg/L	0.0006	0.003	07/12/13 7:23	pmc
Potassium, dissolved	M200.7 ICP	1	3.5			mg/L	0.3	2	07/09/13 0:18	jjc

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L13047-02***
Date Sampled: *06/27/13 14:20*
Date Received: *07/02/13*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	3.5			mg/L	0.3	2	07/09/13 23:44	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 0:18	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 23:44	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	07/12/13 0:55	msh
Selenium, total	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	07/12/13 7:23	pmc
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 0:55	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 7:23	pmc
Sodium, dissolved	M200.7 ICP	1	26.9			mg/L	0.3	2	07/09/13 0:18	jjc
Sodium, total	M200.7 ICP	1	26.3			mg/L	0.3	2	07/09/13 23:44	aeb
Strontium, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	07/09/13 0:18	jjc
Strontium, total	M200.7 ICP	1	0.10			mg/L	0.01	0.05	07/09/13 23:44	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 0:55	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 7:23	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/12/13 0:55	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/12/13 7:23	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	07/09/13 0:18	jjc
Titanium, total	M200.7 ICP	1	0.033			mg/L	0.005	0.03	07/09/13 23:44	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0014			mg/L	0.0001	0.0005	07/12/13 0:55	msh
Uranium, total	M200.8 ICP-MS	1	0.0014			mg/L	0.0001	0.0005	07/12/13 7:23	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0051			mg/L	0.0002	0.001	07/12/13 0:55	msh
Vanadium, total	M200.8 ICP-MS	1	0.0069			mg/L	0.0002	0.001	07/12/13 7:23	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/09/13 0:18	jjc
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/09/13 23:44	aeb

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	86		*	mg/L	2	20	07/04/13 0:00	abm
Carbonate as CaCO3		1	5	B	*	mg/L	2	20	07/04/13 0:00	abm
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/04/13 0:00	abm
Total Alkalinity		1	91		*	mg/L	2	20	07/04/13 0:00	abm
Conductivity @25C	SM2510B	1	261		*	umhos/cm	1	10	07/04/13 1:01	abm
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/11/13 14:56	mpb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/11/13 14:16	mpb
Hardness as CaCO3	SM2340B - Calculation		72			mg/L	1	7	07/19/13 13:57	calc
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	07/10/13 12:35	bsu
pH (lab)	SM4500H+ B									
pH		1	8.4	H	*	units	0.1	0.1	07/04/13 0:00	abm
pH measured at		1	22.0		*	C	0.1	0.1	07/04/13 0:00	abm
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.04	B	*	mg/L	0.01	0.05	07/09/13 17:34	mpb
Residue, Non-Filterable (TSS) @105C	SM2540D	1	5	B	*	mg/L	5	20	07/03/13 11:09	mss3

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.

(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.

(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.

(4) EPA SW-846. Test Methods for Evaluating Solid Waste.

(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.

(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.

(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.

(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.

(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L13047***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346995													
WG346995PBW1	PBW	07/03/13 17:11				U	mg/L		-20	20			
WG346995LCSW2	LCSW	07/03/13 17:24	WC130625-	820.0001		777	mg/L	94.8	90	110			
WG346995LCSW5	LCSW	07/03/13 20:41	WC130625-	820.0001		788.2	mg/L	96.1	90	110			
WG346995PBW2	PBW	07/03/13 20:49				2.7	mg/L		-20	20			
WG346995LCSW8	LCSW	07/03/13 23:48	WC130625-	820.0001		776.4	mg/L	94.7	90	110			
WG346995PBW3	PBW	07/03/13 23:56				2.4	mg/L		-20	20			
L13050-01DUP	DUP	07/04/13 1:36			U	U	mg/L				0	20	RA
WG346995LCSW11	LCSW	07/04/13 3:07	WC130625-	820.0001		776.2	mg/L	94.7	90	110			
WG346995PBW4	PBW	07/04/13 3:15				2.6	mg/L		-20	20			
WG346995LCSW14	LCSW	07/04/13 6:16	WC130625-	820.0001		783	mg/L	95.5	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.037	mg/L	101.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.09	0.09			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1.0011		1.044	mg/L	104.3	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1.0011	.08	1.138	mg/L	105.7	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1.0011	.08	1.143	mg/L	106.2	85	115	0.44	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.986	mg/L	99.3	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.09	0.09			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.066	0.066			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1.0011		1.007	mg/L	100.6	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1.0011	U	.995	mg/L	99.4	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1.0011	U	.983	mg/L	98.2	70	130	1.21	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.02		.02147	mg/L	107.4	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0012	0.0012			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.01		.00949	mg/L	94.9	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.01	U	.00835	mg/L	83.5	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.01	U	.00869	mg/L	86.9	70	130	3.99	20	

SPF Water Engineering

ACZ Project ID: ***L13047***

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.02		.02062	mg/L	103.1	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0012	0.0012			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00088	0.00088			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.01		.01038	mg/L	103.8	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.01	U	.01044	mg/L	104.4	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.01	U	.01043	mg/L	104.3	70	130	0.1	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.05092	mg/L	101.8	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0006	0.0006			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05005		.04742	mg/L	94.7	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05005	.0004	.05184	mg/L	102.8	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05005	.0004	.05245	mg/L	104	70	130	1.17	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05152	mg/L	103	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0006	0.0006			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00044	0.00044			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.05103	mg/L	102	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.0004	.05044	mg/L	100	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.0004	.04981	mg/L	98.7	70	130	1.26	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.0295	mg/L	101.5	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.009	0.009			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5		.5063	mg/L	101.3	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	.5	.011	.5154	mg/L	100.9	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	.5	.011	.5196	mg/L	101.7	85	115	0.81	20	

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.9378	mg/L	96.9	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.009	0.009			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.0066	0.0066			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	.5		.4766	mg/L	95.3	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	.5	.005	.467	mg/L	92.4	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	.5	.005	.4601	mg/L	91	70	130	1.49	20	

SPF Water Engineering

ACZ Project ID: ***L13047***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347511													
WG347511ICV	ICV	07/13/13 1:37	MS130416-2	.05		.04746	mg/L	94.9	90	110			
WG347511ICB	ICB	07/13/13 1:40				U	mg/L		-0.00015	0.00015			
WG347511LFB	LFB	07/13/13 1:44	MS130614-1	.0501		.0478	mg/L	95.4	85	115			
L13047-01AS	AS	07/13/13 1:51	MS130614-1	.0501	U	.05	mg/L	99.8	70	130			
L13047-01ASD	ASD	07/13/13 1:54	MS130614-1	.0501	U	.05162	mg/L	103	70	130	3.19	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.04696	mg/L	93.9	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.00015	0.00015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00011	0.00011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.0501		.04685	mg/L	93.5	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.0501	U	.0468	mg/L	93.4	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.0501	U	.0471	mg/L	94	70	130	0.64	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		1.995	mg/L	99.8	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.12	0.12			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.007	mg/L	100.7	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1	U	.988	mg/L	98.8	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1	U	1.001	mg/L	100.1	85	115	1.31	20	

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.971	mg/L	98.6	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.12	0.12			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.088	0.088			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		1.016	mg/L	101.6	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	1.011	mg/L	101.1	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	.977	mg/L	97.7	70	130	3.42	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.047	mg/L	102.4	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.03	0.03			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5005		.514	mg/L	102.7	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	.5005	.08	.592	mg/L	102.3	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	.5005	.08	.601	mg/L	104.1	85	115	1.51	20	

SPF Water Engineering

ACZ Project ID: ***L13047***

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		2.016	mg/L	100.8	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.03	0.03			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.022	0.022			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	.5005		.482	mg/L	96.3	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	.5005	.12	.604	mg/L	96.7	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	.5005	.12	.607	mg/L	97.3	70	130	0.5	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.05	mg/L	100	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0003	0.0003			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.0501		.04726	mg/L	94.3	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.0501	U	.04912	mg/L	98	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.0501	U	.04974	mg/L	99.3	70	130	1.25	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05094	mg/L	101.9	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00022	0.00022			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.0501		.04936	mg/L	98.5	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.0501	.0009	.04971	mg/L	97.4	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.0501	.0009	.04899	mg/L	96	70	130	1.46	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	100		99.86	mg/L	99.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.6	0.6			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	68.0028		71.18	mg/L	104.7	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	68.0028	20	89.99	mg/L	102.9	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	68.0028	20	90.37	mg/L	103.5	85	115	0.42	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	100		98.28	mg/L	98.3	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.6	0.6			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.44	0.44			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	68.0028		68.43	mg/L	100.6	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	68.0028	1.1	69.08	mg/L	100	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	68.0028	1.1	67.97	mg/L	98.3	70	130	1.62	20	

SPF Water Engineering

ACZ Project ID: ***L13047***

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.0488	mg/L	97.6	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0015	0.0015			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05005		.0461	mg/L	92.1	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05005	U	.04596	mg/L	91.8	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05005	U	.04633	mg/L	92.6	70	130	0.8	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.04882	mg/L	97.6	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0015	0.0015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.0011	0.0011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.0473	mg/L	94.5	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.0008	.04803	mg/L	94.4	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.0008	.04781	mg/L	93.9	70	130	0.46	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.0469	mg/L	93.8	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.00015	0.00015			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05005		.04604	mg/L	92	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05005	.00018	.04455	mg/L	88.7	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05005	.00018	.0448	mg/L	89.2	70	130	0.56	20	

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05058	mg/L	101.2	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.00015	0.00015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00011	0.00011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04897	mg/L	97.8	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.00067	.04951	mg/L	97.6	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.00067	.04885	mg/L	96.3	70	130	1.34	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346995													
WG346995LCSW1	LCSW	07/03/13 17:12	PCN42820	1408.8		1448.7	µmhos/cm	102.8	90	110			
WG346995LCSW4	LCSW	07/03/13 20:29	PCN42820	1408.8		1420.1	µmhos/cm	100.8	90	110			
WG346995LCSW7	LCSW	07/03/13 23:37	PCN42820	1408.8		1397.7	µmhos/cm	99.2	90	110			
L13050-01DUP	DUP	07/04/13 1:36			1440	1437	µmhos/cm				0.2	20	
WG346995LCSW10	LCSW	07/04/13 2:56	PCN42820	1408.8		1380.4	µmhos/cm	98	90	110			
WG346995LCSW13	LCSW	07/04/13 6:04	PCN42820	1408.8		1370.2	µmhos/cm	97.3	90	110			

SPF Water Engineering

ACZ Project ID: ***L13047***

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.0482	mg/L	96.4	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0015	0.0015			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05005		.04459	mg/L	89.1	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05005	.0007	.04484	mg/L	88.2	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05005	.0007	.04533	mg/L	89.2	70	130	1.09	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347525													
WG347525ICV	ICV	07/13/13 3:38	MS130416-2	.05		.05016	mg/L	100.3	90	110			
WG347525ICB	ICB	07/13/13 3:41				U	mg/L		-0.0015	0.0015			
WG347265LRB	LRB	07/13/13 3:43				U	mg/L		-0.0011	0.0011			
WG347265LFB	LFB	07/13/13 3:46	MS130614-1	.05005		.05099	mg/L	101.9	85	115			
L13067-01LFM	LFM	07/13/13 4:00	MS130614-1	.05005	.0014	.05077	mg/L	98.6	70	130			
L13067-01LFMD	LFMD	07/13/13 4:02	MS130614-1	.05005	.0014	.05078	mg/L	98.7	70	130	0.02	20	
WG347782													
WG347782ICV	ICV	07/18/13 3:21	MS130717-9	.05		.04915	mg/L	98.3	90	110			
WG347782ICB	ICB	07/18/13 3:24				U	mg/L		-0.0015	0.0015			
WG347677LRB	LRB	07/18/13 3:27				U	mg/L		-0.0011	0.0011			
WG347677LFB	LFB	07/18/13 3:30	MS130614-1	.05005		.0489	mg/L	97.7	85	115			
L13179-02LFM	LFM	07/18/13 3:53	MS130614-1	.05005	.0074	.05281	mg/L	90.7	70	130			
L13179-02LFMD	LFMD	07/18/13 4:02	MS130614-1	.05005	.0074	.05173	mg/L	88.6	70	130	2.07	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347370													
WG347370ICV	ICV	07/10/13 22:36	WI130708-6	.3		.287	mg/L	95.7	90	110			
WG347370ICB	ICB	07/10/13 22:37				U	mg/L		-0.003	0.003			
WG347291LRB	LRB	07/10/13 22:39				U	mg/L		-0.003	0.003			
WG347291LFB	LFB	07/10/13 22:40	WI130708-2	.2		.2073	mg/L	103.7	90	110			
L13004-05DUP	DUP	07/10/13 22:54			U	U	mg/L				0	20	RA
L13004-06LFM	LFM	07/10/13 22:56	WI130708-2	.2	U	.1915	mg/L	95.8	90	110			
WG347421													
WG347421ICV	ICV	07/11/13 14:08	WI130708-6	.3		.2842	mg/L	94.7	90	110			
WG347421ICB	ICB	07/11/13 14:09				U	mg/L		-0.003	0.003			
WG347426													
WG347404LRB	LRB	07/11/13 14:54				U	mg/L		-0.003	0.003			
WG347404LFB	LFB	07/11/13 14:55	WI130708-2	.2		.1979	mg/L	99	90	110			
L13047-02DUP	DUP	07/11/13 14:57			U	U	mg/L				0	20	RA
L13048-01LFM	LFM	07/11/13 14:59	WI130708-2	.2	U	.195	mg/L	97.5	90	110			

SPF Water Engineering

ACZ Project ID: ***L13047***

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347421													
WG347421ICV	ICV	07/11/13 14:08	WI130708-6	.3		.2842	mg/L	94.7	90	110			
WG347421ICB	ICB	07/11/13 14:09				U	mg/L		-0.003	0.003			
WG347335LRB	LRB	07/11/13 14:10				U	mg/L		-0.003	0.003			
WG347335LFB	LFB	07/11/13 14:11	WI130708-4	.2		.1922	mg/L	96.1	90	110			
L13001-06DUP	DUP	07/11/13 14:12			U	U	mg/L				0	20	RA
L13001-07LFM	LFM	07/11/13 14:14	WI130708-4	.2	U	.1727	mg/L	86.4	90	110			M2

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.07	mg/L	103.5	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.3	0.3			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.04	mg/L	104	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1	U	1.04	mg/L	104	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1	U	1.05	mg/L	105	85	115	0.96	20	

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.99	mg/L	99.5	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.3	0.3			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.22	0.22			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		1.03	mg/L	103	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	1.03	mg/L	103	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	1.01	mg/L	101	70	130	1.96	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.003	mg/L	100.2	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.06	0.06			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1.0014		1.021	mg/L	102	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1.0014	.07	1.093	mg/L	102.2	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1.0014	.07	1.1	mg/L	102.9	85	115	0.64	20	

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.963	mg/L	98.2	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.06	0.06			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.044	0.044			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1.0014		.979	mg/L	97.8	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1.0014	U	.957	mg/L	95.6	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1.0014	U	.948	mg/L	94.7	70	130	0.94	20	

SPF Water Engineering

ACZ Project ID: ***L13047***

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.05168	mg/L	103.4	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0003	0.0003			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05005		.04831	mg/L	96.5	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05005	U	.04852	mg/L	96.9	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05005	U	.04865	mg/L	97.2	70	130	0.27	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347525													
WG347525ICV	ICV	07/13/13 3:38	MS130416-2	.05		.05215	mg/L	104.3	90	110			
WG347525ICB	ICB	07/13/13 3:41				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/13/13 3:43				U	mg/L		-0.00022	0.00022			
WG347265LFB	LFB	07/13/13 3:46	MS130614-1	.05005		.04844	mg/L	96.8	85	115			
L13067-01LFM	LFM	07/13/13 4:00	MS130614-1	.05005	.0025	.05155	mg/L	98	70	130			
L13067-01LFMD	LFMD	07/13/13 4:02	MS130614-1	.05005	.0025	.05124	mg/L	97.4	70	130	0.6	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.04	mg/L	102	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.06	0.06			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.021	mg/L	102.1	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1	U	1.025	mg/L	102.5	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1	U	1.028	mg/L	102.8	85	115	0.29	20	

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.952	mg/L	97.6	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.06	0.06			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.044	0.044			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		.995	mg/L	99.5	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	.977	mg/L	97.7	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	.966	mg/L	96.6	70	130	1.13	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	100		98.9	mg/L	98.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.6	0.6			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	49.99752		50.08	mg/L	100.2	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	49.99752	5.3	55.22	mg/L	99.8	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	49.99752	5.3	55.48	mg/L	100.4	85	115	0.47	20	

SPF Water Engineering

ACZ Project ID: ***L13047***

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	100		97.76	mg/L	97.8	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.6	0.6			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.44	0.44			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	49.99752		48.97	mg/L	97.9	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	49.99752	U	48.32	mg/L	96.6	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	49.99752	U	47.34	mg/L	94.7	70	130	2.05	20	

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.04803	mg/L	96.1	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0015	0.0015			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05005		.04619	mg/L	92.3	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05005	.005	.05233	mg/L	94.6	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05005	.005	.05287	mg/L	95.6	70	130	1.03	20	

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.0507	mg/L	101.4	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0015	0.0015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.0011	0.0011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04878	mg/L	97.5	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.1275	.1749	mg/L	94.7	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.1275	.1728	mg/L	90.5	70	130	1.21	20	

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347159													
WG347159ICV	ICV	07/09/13 13:14	HG130517-4	10		10.58	ng/L	105.8	79	121			
WG347159ICB	ICB	07/09/13 13:21				U	ng/L		-0.5	0.5			
WG347159PQV	PQV	07/09/13 13:27	HG130517-6	.5		.43	ng/L	86	70	130			
WG347159LFB	LFB	07/09/13 13:34	HG130517-5	2		2.05	ng/L	102.5	71	125			
WG347159CCV1	CCV	07/09/13 15:56	HG130517-4	10		8.58	ng/L	85.8	76.5	123.4			
WG347159CCB1	CCB	07/09/13 16:03				U	ng/L		-0.5	0.5			
WG347159CCV2	CCV	07/09/13 16:50	HG130517-4	10		9.06	ng/L	90.6	76.5	123.4			
WG347159CCB2	CCB	07/09/13 16:56				U	ng/L		-0.5	0.5			
L13048-04MS	MS	07/09/13 17:30	HG2XPREP	8	1.1	4.23	ng/L	78.3	71	125			
L13048-04MSD	MSD	07/09/13 17:36	HG2XPREP	8	1.1	4.66	ng/L	89	71	125	9.67	24	
WG347159CCV3	CCV	07/09/13 17:43	HG130517-4	10		10.06	ng/L	100.6	76.5	123.4			
WG347159CCB3	CCB	07/09/13 17:50				U	ng/L		-0.5	0.5			

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ACZ Project ID: ***L13047***

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347365													
WG347365ICV	ICV	07/11/13 12:36	HG130517-4	10		10.44	ng/L	104.4	79	121			
WG347365ICB	ICB	07/11/13 12:42				U	ng/L		-0.5	0.5			
WG347365PQV	PQV	07/11/13 12:49	HG130517-6	.5		.54	ng/L	108	70	130			
WG347365LFB	LFB	07/11/13 12:55	HG130517-5	2		1.96	ng/L	98	71	125			
L13032-01MS	MS	07/11/13 13:30	HG2XPREP	8	1.5	5.05	ng/L	88.8	71	125			
L13032-01MSD	MSD	07/11/13 13:36	HG2XPREP	8	1.5	4.82	ng/L	83	71	125	4.66	24	
WG347365CCV1	CCV	07/11/13 14:03	HG130517-4	10		9.01	ng/L	90.1	76.5	123.4			
WG347365CCB1	CCB	07/11/13 14:10				U	ng/L		-0.5	0.5			
WG347365CCV2	CCV	07/11/13 14:56	HG130517-4	10		9.25	ng/L	92.5	76.5	123.4			
WG347365CCB2	CCB	07/11/13 15:03				U	ng/L		-0.5	0.5			
WG347365CCV3	CCV	07/11/13 15:43	HG130517-4	10		9.95	ng/L	99.5	76.5	123.4			
WG347365CCB3	CCB	07/11/13 15:50				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.02006		.01968	mg/L	98.1	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0015	0.0015			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05		.04776	mg/L	95.5	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05	.0008	.04737	mg/L	93.1	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05	.0008	.04801	mg/L	94.4	70	130	1.34	20	

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.02006		.01971	mg/L	98.3	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0015	0.0015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.0011	0.0011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05		.04786	mg/L	95.7	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05	U	.04819	mg/L	96.4	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05	U	.04781	mg/L	95.6	70	130	0.79	20	

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.04998	mg/L	100	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0018	0.0018			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05005		.04608	mg/L	92.1	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05005	.0008	.04516	mg/L	88.6	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05005	.0008	.04568	mg/L	89.7	70	130	1.14	20	

SPF Water Engineering

ACZ Project ID: ***L13047***

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05167	mg/L	103.3	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0018	0.0018			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00132	0.00132			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04888	mg/L	97.7	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.0048	.05277	mg/L	95.8	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.0048	.05311	mg/L	96.5	70	130	0.64	20	

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347305													
WG347305ICV	ICV	07/10/13 12:15	WI121105-5	1.003		1.002	mg/L	99.9	90	110			
WG347305ICB	ICB	07/10/13 12:18				U	mg/L		-0.15	0.15			
WG347305LFB1	LFB	07/10/13 12:19	WI121218-3	1		.989	mg/L	98.9	90	110			
L13031-01AS	AS	07/10/13 12:21	WI121218-3	1	U	1.014	mg/L	101.4	90	110			
L13031-02DUP	DUP	07/10/13 12:23			U	U	mg/L				0	20	RA
L13047-02AS	AS	07/10/13 12:36	WI121218-3	1	U	.991	mg/L	99.1	90	110			
L13048-01DUP	DUP	07/10/13 12:38			U	U	mg/L				0	20	RA
WG347305LFB2	LFB	07/10/13 12:50	WI121218-3	1		.973	mg/L	97.3	90	110			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346995													
WG346995LCSW3	LCSW	07/03/13 17:27	PCN40853	6		5.99	units	99.8	98	102			
WG346995LCSW6	LCSW	07/03/13 20:44	PCN40853	6		6.01	units	100.2	98	102			
WG346995LCSW9	LCSW	07/03/13 23:51	PCN40853	6		6.01	units	100.2	98	102			
L13050-01DUP	DUP	07/04/13 1:36			4	3.8	units				5.1	20	
WG346995LCSW12	LCSW	07/04/13 3:10	PCN40853	6		6.02	units	100.3	98	102			
WG346995LCSW15	LCSW	07/04/13 6:19	PCN40853	6		6.02	units	100.3	98	102			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347250													
WG347250ICV	ICV	07/09/13 14:53	WI130620-3	.65228		.633	mg/L	97	90	110			
WG347250ICB	ICB	07/09/13 14:54				U	mg/L		-0.03	0.03			
WG347256													
WG347133LRB	LRB	07/09/13 17:06				U	mg/L		-0.03	0.03			
WG347133LFB	LFB	07/09/13 17:07	WI130705-2	.5		.53	mg/L	106	90	110			
L13032-04LFM	LFM	07/09/13 17:24	WI130705-2	.5	.02	.527	mg/L	101.4	90	110			
L13046-16DUP	DUP	07/09/13 17:55			1.05	1.051	mg/L				0.1	20	

SPF Water Engineering

ACZ Project ID: ***L13047***

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	20		20.16	mg/L	100.8	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.9	0.9			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	99.96112		100.6	mg/L	100.6	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	99.96112	3.5	104	mg/L	100.5	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	99.96112	3.5	104.3	mg/L	100.8	85	115	0.29	20	

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	20		19.82	mg/L	99.1	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.9	0.9			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.66	0.66			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	99.96112		97.83	mg/L	97.9	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	99.96112	5.8	102.2	mg/L	96.4	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	99.96112	5.8	100.5	mg/L	94.7	70	130	1.68	20	

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346943													
WG346943PBW	PBW	07/03/13 10:45				U	mg/L		-15	15			
WG346943LCSW	LCSW	07/03/13 10:46	PCN42878	160		157	mg/L	98.1	80	120			
L13047-02DUP	DUP	07/03/13 11:11			5	6	mg/L				18.2	10	RA
L13048-02DUP	DUP	07/03/13 11:14			U	U	mg/L				0	10	RA

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.01	mg/L	100.5	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.3	0.3			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1.0009		1.05	mg/L	104.9	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1.0009	U	1.05	mg/L	104.9	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1.0009	U	1.05	mg/L	104.9	85	115	0	20	

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.92	mg/L	96	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.3	0.3			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.22	0.22			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1.0009		1.01	mg/L	100.9	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1.0009	U	.98	mg/L	97.9	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1.0009	U	.97	mg/L	96.9	70	130	1.03	20	

SPF Water Engineering

ACZ Project ID: ***L13047***

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.05318	mg/L	106.4	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0003	0.0003			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05005		.04705	mg/L	94	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05005	.0002	.05355	mg/L	106.6	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05005	.0002	.05241	mg/L	104.3	70	130	2.15	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05287	mg/L	105.7	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00022	0.00022			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.05193	mg/L	103.8	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.0001	.04929	mg/L	98.3	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.0001	.04955	mg/L	98.8	70	130	0.53	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.02002		.02027	mg/L	101.2	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.00015	0.00015			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.01001		.009222	mg/L	92.1	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.01001	U	.00859	mg/L	85.8	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.01001	U	.008839	mg/L	88.3	70	130	2.86	20	

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.02002		.0202	mg/L	100.9	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.00015	0.00015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00011	0.00011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.01001		.009514	mg/L	95	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.01001	.0001	.009428	mg/L	93.2	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.01001	.0001	.009457	mg/L	93.5	70	130	0.31	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	100		100.7	mg/L	100.7	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.9	0.9			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	100.0495		100.9	mg/L	100.9	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	100.0495	26.9	127.1	mg/L	100.2	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	100.0495	26.9	126.9	mg/L	100	85	115	0.16	20	

SPF Water Engineering

ACZ Project ID: ***L13047***

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	100		98.87	mg/L	98.9	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.9	0.9			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.66	0.66			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	100.0495		97.32	mg/L	97.3	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	100.0495	110	203	mg/L	93	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	100.0495	110	199.3	mg/L	89.3	70	130	1.84	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.054	mg/L	102.7	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.03	0.03			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5		.511	mg/L	102.2	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	.5	.1	.602	mg/L	100.4	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	.5	.1	.603	mg/L	100.6	85	115	0.17	20	

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.977	mg/L	98.9	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.03	0.03			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.022	0.022			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	.5		.484	mg/L	96.8	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	.5	U	.48	mg/L	96	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	.5	U	.472	mg/L	94.4	70	130	1.68	20	

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.05496	mg/L	109.9	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0003	0.0003			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05005		.05159	mg/L	103.1	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05005	U	.05241	mg/L	104.7	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05005	U	.05248	mg/L	104.9	70	130	0.13	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05394	mg/L	107.9	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00022	0.00022			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04953	mg/L	99	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	U	.0501	mg/L	100.1	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	U	.04977	mg/L	99.4	70	130	0.66	20	

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05015		.05027	mg/L	100.2	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0003	0.0003			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05005		.04547	mg/L	90.8	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05005	U	.04383	mg/L	87.6	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05005	U	.04307	mg/L	86.1	70	130	1.75	20	

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05015		.05125	mg/L	102.2	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/12/13 7:14				.0002	mg/L		-0.00022	0.00022			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04633	mg/L	92.6	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	U	.04562	mg/L	91.1	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	U	.04587	mg/L	91.6	70	130	0.55	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.0275	mg/L	101.4	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.015	0.015			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.033	mg/L	103.3	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1	U	1.037	mg/L	103.7	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1	U	1.039	mg/L	103.9	85	115	0.19	20	

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.9495	mg/L	97.5	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.015	0.015			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.011	0.011			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		.997	mg/L	99.7	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	.9898	mg/L	99	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	.9777	mg/L	97.8	70	130	1.23	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.05257	mg/L	105.1	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0003	0.0003			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05		.04952	mg/L	99	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05	.0004	.05079	mg/L	100.8	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05	.0004	.05126	mg/L	101.7	70	130	0.92	20	

SPF Water Engineering

ACZ Project ID: ***L13047***

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05317	mg/L	106.3	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00022	0.00022			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05		.04927	mg/L	98.5	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05	U	.05125	mg/L	102.5	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05	U	.05059	mg/L	101.2	70	130	1.3	20	

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.04797	mg/L	95.9	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0006	0.0006			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.0501		.04538	mg/L	90.6	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.0501	U	.04745	mg/L	94.7	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.0501	U	.04805	mg/L	95.9	70	130	1.26	20	

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.04917	mg/L	98.3	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0006	0.0006			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00044	0.00044			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.0501		.04825	mg/L	96.3	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.0501	.0004	.04925	mg/L	97.5	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.0501	.0004	.04868	mg/L	96.4	70	130	1.16	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		1.958	mg/L	97.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.03	0.03			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5		.513	mg/L	102.6	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	.5	U	.51	mg/L	102	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	.5	U	.515	mg/L	103	85	115	0.98	20	

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.946	mg/L	97.3	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.03	0.03			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.022	0.022			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	.5		.504	mg/L	100.8	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	.5	U	.496	mg/L	99.2	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	.5	U	.486	mg/L	97.2	70	130	2.04	20	

SPF Water Engineering ACZ Project ID: ***L13047***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13047-01	WG346995	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG347370	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347421	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347305	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347256	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
	WG346943	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L13047***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13047-02	WG347159	Mercury, dissolved	M1631, Atomic Fluorescence	DF	Sample required dilution due to high sediment.
	WG346995	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG347426	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347421	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347305	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347256	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
	WG346943	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Q sampling

ACZ Project ID: L13047
Date Received: 07/02/2013 10:17
Received By: gac
Date Printed: 7/3/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
NA17912	22.5	15	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s) but was thawed by receipt at ACZ.

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc. L13047

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name:	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SPF-2013-GW

PO#: Calico 2nd Quarter Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	*SPF-2013-GW
Leslie Gulch	6/27/13 9:00		7	X
Dry Creek Arm	6/27/13 14:20		7	X

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	6/28/13 9:00		7/2/13 10:10

L13047 Chain of Custody

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 19, 2013

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 2nd Q sampling
ACZ Project ID: L13048

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 02, 2013. This project has been assigned to ACZ's project number, L13048. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L13048. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 18, 2013. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

SPF Water Engineering July 19, 2013

Project ID: Calico 2nd Q sampling
ACZ Project ID: L13048

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 4 ground water samples from SPF Water Engineering on July 2, 2013. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L13048. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The following anomaly required further explanation not provided by the Extended Qualifier Report:

1. For L13048-01, -04, the dissolved and total cobalt values were verified by re-digestion and re-analysis with no significant change.

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: WHISKEY DUPLICATE

ACZ Sample ID: ***L13048-02***
Date Sampled: *06/27/13 15:55*
Date Received: *07/02/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	07/09/13 0:31	jjc
Aluminum, total	M200.7 ICP	1		U		mg/L	0.03	0.2	07/09/13 23:57	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0008	B		mg/L	0.0004	0.002	07/12/13 23:34	msh
Antimony, total	M200.8 ICP-MS	1	0.0007	B		mg/L	0.0004	0.002	07/12/13 7:30	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0889			mg/L	0.0002	0.001	07/12/13 23:34	msh
Arsenic, total	M200.8 ICP-MS	1	0.0821			mg/L	0.0002	0.001	07/12/13 7:30	pmc
Barium, dissolved	M200.7 ICP	1	0.046			mg/L	0.003	0.02	07/09/13 0:31	jjc
Barium, total	M200.7 ICP	1	0.047			mg/L	0.003	0.02	07/09/13 23:57	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 23:34	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 7:30	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/09/13 0:31	jjc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/09/13 23:57	aeb
Boron, dissolved	M200.7 ICP	1	0.18			mg/L	0.01	0.05	07/09/13 0:31	jjc
Boron, total	M200.7 ICP	1	0.18			mg/L	0.01	0.05	07/11/13 14:38	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 23:34	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 7:30	pmc
Calcium, dissolved	M200.7 ICP	1	37.2			mg/L	0.2	1	07/09/13 0:31	jjc
Calcium, total	M200.7 ICP	1	36.8			mg/L	0.2	1	07/09/13 23:57	aeb
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/12/13 23:34	msh
Chromium, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/12/13 7:30	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00022	B		mg/L	0.00005	0.0003	07/12/13 23:34	msh
Cobalt, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 7:30	pmc
Copper, dissolved	M200.8 ICP-MS	1	0.0017	B		mg/L	0.0005	0.003	07/12/13 23:34	msh
Copper, total	M200.8 ICP-MS	1		U	*	mg/L	0.0005	0.003	07/12/13 7:30	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 0:31	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 23:57	aeb
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	07/09/13 0:31	jjc
Iron, total	M200.7 ICP	1		U		mg/L	0.02	0.05	07/09/13 23:57	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 23:34	msh
Lead, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/12/13 7:30	pmc
Lithium, dissolved	M200.7 ICP	1	0.11			mg/L	0.02	0.1	07/09/13 0:31	jjc
Lithium, total	M200.7 ICP	1	0.10			mg/L	0.02	0.1	07/09/13 23:57	aeb
Magnesium, dissolved	M200.7 ICP	1	6.2			mg/L	0.2	1	07/09/13 0:31	jjc
Magnesium, total	M200.7 ICP	1	6.1			mg/L	0.2	1	07/09/13 23:57	aeb
Manganese, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/12/13 23:34	msh
Manganese, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/12/13 7:30	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	1	0.4	B		ng/L	0.2	0.5	07/09/13 17:10	las
Mercury, total	M1631, Atomic Fluorescence	1	0.3	B		ng/L	0.2	0.5	07/11/13 14:36	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0214			mg/L	0.0005	0.003	07/12/13 23:34	msh
Molybdenum, total	M200.8 ICP-MS	1	0.0210			mg/L	0.0005	0.003	07/12/13 7:30	pmc
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/12/13 23:34	msh
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/12/13 7:30	pmc
Potassium, dissolved	M200.7 ICP	1	6.0			mg/L	0.3	2	07/09/13 0:31	jjc

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: WHISKEY DUPLICATE

ACZ Sample ID: ***L13048-02***
Date Sampled: *06/27/13 15:55*
Date Received: *07/02/13*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	5.8			mg/L	0.3	2	07/09/13 23:57	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 0:31	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 23:57	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0022			mg/L	0.0001	0.0003	07/12/13 23:34	msh
Selenium, total	M200.8 ICP-MS	1	0.0021			mg/L	0.0001	0.0003	07/12/13 7:30	pmc
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 23:34	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 7:30	pmc
Sodium, dissolved	M200.7 ICP	1	70.6			mg/L	0.3	2	07/09/13 0:31	jjc
Sodium, total	M200.7 ICP	1	69.6			mg/L	0.3	2	07/09/13 23:57	aeb
Strontium, dissolved	M200.7 ICP	1	0.16			mg/L	0.01	0.05	07/09/13 0:31	jjc
Strontium, total	M200.7 ICP	1	0.16			mg/L	0.01	0.05	07/09/13 23:57	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 23:34	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 7:30	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/12/13 23:34	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/12/13 7:30	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	07/09/13 0:31	jjc
Titanium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	07/09/13 23:57	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0055			mg/L	0.0001	0.0005	07/12/13 23:34	msh
Uranium, total	M200.8 ICP-MS	1	0.0054			mg/L	0.0001	0.0005	07/12/13 7:30	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0206			mg/L	0.0002	0.001	07/12/13 23:34	msh
Vanadium, total	M200.8 ICP-MS	1	0.0215			mg/L	0.0002	0.001	07/12/13 7:30	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/09/13 0:31	jjc
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/09/13 23:57	aeb

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	136		*	mg/L	2	20	07/04/13 0:00	abm
Carbonate as CaCO3		1		U	*	mg/L	2	20	07/04/13 0:00	abm
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/04/13 0:00	abm
Total Alkalinity		1	136		*	mg/L	2	20	07/04/13 0:00	abm
Conductivity @25C	SM2510B	1	542		*	umhos/cm	1	10	07/04/13 1:19	abm
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/11/13 14:59	mpb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/11/13 14:17	mpb
Hardness as CaCO3	SM2340B - Calculation		118			mg/L	1	7	07/19/13 9:25	calc
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	07/10/13 12:39	bsu
pH (lab)	SM4500H+ B									
pH		1	8.2	H	*	units	0.1	0.1	07/04/13 0:00	abm
pH measured at		1	22.0		*	C	0.1	0.1	07/04/13 0:00	abm
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.05		*	mg/L	0.01	0.05	07/09/13 17:36	mpb
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	07/03/13 11:13	mss3

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4)	EPA SW-846. Test Methods for Evaluating Solid Waste.
(5)	Standard Methods for the Examination of Water and Wastewater.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5)	If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L13048***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346995													
WG346995PBW1	PBW	07/03/13 17:11				U	mg/L		-20	20			
WG346995LCSW2	LCSW	07/03/13 17:24	WC130625-	820.0001		777	mg/L	94.8	90	110			
WG346995LCSW5	LCSW	07/03/13 20:41	WC130625-	820.0001		788.2	mg/L	96.1	90	110			
WG346995PBW2	PBW	07/03/13 20:49				2.7	mg/L		-20	20			
WG346995LCSW8	LCSW	07/03/13 23:48	WC130625-	820.0001		776.4	mg/L	94.7	90	110			
WG346995PBW3	PBW	07/03/13 23:56				2.4	mg/L		-20	20			
L13050-01DUP	DUP	07/04/13 1:36			U	U	mg/L				0	20	RA
WG346995LCSW11	LCSW	07/04/13 3:07	WC130625-	820.0001		776.2	mg/L	94.7	90	110			
WG346995PBW4	PBW	07/04/13 3:15				2.6	mg/L		-20	20			
WG346995LCSW14	LCSW	07/04/13 6:16	WC130625-	820.0001		783	mg/L	95.5	90	110			
WG347030													
WG347030PBW1	PBW	07/05/13 11:33				2.6	mg/L		-20	20			
WG347030LCSW2	LCSW	07/05/13 11:47	WC130625-	820.0001		778.1	mg/L	94.9	90	110			
L13053-01DUP	DUP	07/05/13 12:51			10	13.3	mg/L				28.3	20	RA
WG347030LCSW5	LCSW	07/05/13 14:55	WC130625-	820.0001		773.2	mg/L	94.3	90	110			
WG347030PBW2	PBW	07/05/13 15:03				3.1	mg/L		-20	20			
WG347030LCSW8	LCSW	07/05/13 15:59	WC130625-	820.0001		793.2	mg/L	96.7	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.037	mg/L	101.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.09	0.09			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1.0011		1.044	mg/L	104.3	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1.0011	.08	1.138	mg/L	105.7	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1.0011	.08	1.143	mg/L	106.2	85	115	0.44	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.986	mg/L	99.3	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.09	0.09			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.066	0.066			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1.0011		1.007	mg/L	100.6	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1.0011	U	.995	mg/L	99.4	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1.0011	U	.983	mg/L	98.2	70	130	1.21	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		1.998	mg/L	99.9	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.09	0.09			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.066	0.066			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	1.0011		.995	mg/L	99.4	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	1.0011	U	.995	mg/L	99.4	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	1.0011	U	.984	mg/L	98.3	70	130	1.11	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.02		.02184	mg/L	109.2	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0012	0.0012			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.01		.0099	mg/L	99	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.01	U	.00872	mg/L	87.2	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.01	U	.00886	mg/L	88.6	70	130	1.59	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.02		.02143	mg/L	107.2	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0012	0.0012			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.01		.01019	mg/L	101.9	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.01	U	.00922	mg/L	92.2	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.01	U	.00976	mg/L	97.6	70	130	5.69	20	

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.02		.02062	mg/L	103.1	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0012	0.0012			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00088	0.00088			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.01		.01038	mg/L	103.8	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.01	U	.01044	mg/L	104.4	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.01	U	.01043	mg/L	104.3	70	130	0.1	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05457	mg/L	109.1	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0006	0.0006			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.05269	mg/L	105.3	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.0059	.06096	mg/L	110	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.0059	.06136	mg/L	110.8	70	130	0.65	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.04985	mg/L	99.7	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0006	0.0006			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05005		.04984	mg/L	99.6	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05005	.0283	.08147	mg/L	106.2	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05005	.0283	.08186	mg/L	107	70	130	0.48	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05152	mg/L	103	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0006	0.0006			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00044	0.00044			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.05103	mg/L	102	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.0004	.05044	mg/L	100	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.0004	.04981	mg/L	98.7	70	130	1.26	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.0295	mg/L	101.5	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.009	0.009			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5		.5063	mg/L	101.3	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	.5	.011	.5154	mg/L	100.9	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	.5	.011	.5196	mg/L	101.7	85	115	0.81	20	

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.9378	mg/L	96.9	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.009	0.009			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.0066	0.0066			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	.5		.4766	mg/L	95.3	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	.5	.005	.467	mg/L	92.4	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	.5	.005	.4601	mg/L	91	70	130	1.49	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		1.9615	mg/L	98.1	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.009	0.009			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.0066	0.0066			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	.5		.4663	mg/L	93.3	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	.5	U	.4692	mg/L	93.8	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	.5	U	.4673	mg/L	93.5	70	130	0.41	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.04782	mg/L	95.6	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.00015	0.00015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.0501		.04741	mg/L	94.6	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.0501	U	.04977	mg/L	99.3	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.0501	U	.04944	mg/L	98.7	70	130	0.67	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.0474	mg/L	94.8	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.00015	0.00015			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.0501		.04793	mg/L	95.7	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.0501	U	.04981	mg/L	99.4	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.0501	U	.05008	mg/L	100	70	130	0.54	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.04696	mg/L	93.9	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.00015	0.00015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00011	0.00011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.0501		.04685	mg/L	93.5	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.0501	U	.0468	mg/L	93.4	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.0501	U	.0471	mg/L	94	70	130	0.64	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		1.995	mg/L	99.8	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.12	0.12			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.007	mg/L	100.7	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1	U	.988	mg/L	98.8	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1	U	1.001	mg/L	100.1	85	115	1.31	20	

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.971	mg/L	98.6	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.12	0.12			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.088	0.088			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		1.016	mg/L	101.6	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	1.011	mg/L	101.1	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	.977	mg/L	97.7	70	130	3.42	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		1.998	mg/L	99.9	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.12	0.12			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.088	0.088			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	1		1.014	mg/L	101.4	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	1	U	1.014	mg/L	101.4	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	1	U	1.011	mg/L	101.1	70	130	0.3	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.047	mg/L	102.4	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.03	0.03			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5005		.514	mg/L	102.7	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	.5005	.08	.592	mg/L	102.3	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	.5005	.08	.601	mg/L	104.1	85	115	1.51	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		2.016	mg/L	100.8	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.03	0.03			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.022	0.022			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	.5005		.482	mg/L	96.3	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	.5005	.12	.604	mg/L	96.7	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	.5005	.12	.607	mg/L	97.3	70	130	0.5	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.0506	mg/L	101.2	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.0501		.04923	mg/L	98.3	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.0501	U	.04976	mg/L	99.3	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.0501	U	.04917	mg/L	98.1	70	130	1.19	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.04963	mg/L	99.3	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0003	0.0003			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.0501		.04919	mg/L	98.2	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.0501	U	.04899	mg/L	97.8	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.0501	U	.0498	mg/L	99.4	70	130	1.64	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05094	mg/L	101.9	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00022	0.00022			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.0501		.04936	mg/L	98.5	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.0501	.0009	.04971	mg/L	97.4	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.0501	.0009	.04899	mg/L	96	70	130	1.46	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	100		99.86	mg/L	99.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.6	0.6			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	68.0028		71.18	mg/L	104.7	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	68.0028	20	89.99	mg/L	102.9	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	68.0028	20	90.37	mg/L	103.5	85	115	0.42	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	100		98.28	mg/L	98.3	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.6	0.6			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.44	0.44			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	68.0028		68.43	mg/L	100.6	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	68.0028	1.1	69.08	mg/L	100	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	68.0028	1.1	67.97	mg/L	98.3	70	130	1.62	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	100		98.45	mg/L	98.5	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.6	0.6			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.44	0.44			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	68.0028		68.07	mg/L	100.1	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	68.0028	1.1	69.05	mg/L	99.9	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	68.0028	1.1	68.24	mg/L	98.7	70	130	1.18	20	

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05152	mg/L	103	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0015	0.0015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.05088	mg/L	101.7	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	U	.04827	mg/L	96.4	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	U	.04885	mg/L	97.6	70	130	1.19	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.04748	mg/L	95	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0015	0.0015			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05005		.0496	mg/L	99.1	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05005	U	.04666	mg/L	93.2	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05005	U	.04684	mg/L	93.6	70	130	0.39	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.04882	mg/L	97.6	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0015	0.0015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.0011	0.0011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.0473	mg/L	94.5	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.0008	.04803	mg/L	94.4	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.0008	.04781	mg/L	93.9	70	130	0.46	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.04724	mg/L	94.5	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.00015	0.00015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.04697	mg/L	93.8	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.00046	.04597	mg/L	90.9	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.00046	.04537	mg/L	89.7	70	130	1.31	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.04699	mg/L	94	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.00015	0.00015			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05005		.04841	mg/L	96.7	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05005	.00027	.04639	mg/L	92.1	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05005	.00027	.04646	mg/L	92.3	70	130	0.15	20	

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05058	mg/L	101.2	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.00015	0.00015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00011	0.00011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04897	mg/L	97.8	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.00067	.04951	mg/L	97.6	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.00067	.04885	mg/L	96.3	70	130	1.34	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346995													
WG346995LCSW1	LCSW	07/03/13 17:12	PCN42820	1408.8		1448.7	umhos/cm	102.8	90	110			
WG346995LCSW4	LCSW	07/03/13 20:29	PCN42820	1408.8		1420.1	umhos/cm	100.8	90	110			
WG346995LCSW7	LCSW	07/03/13 23:37	PCN42820	1408.8		1397.7	umhos/cm	99.2	90	110			
L13050-01DUP	DUP	07/04/13 1:36			1440	1437	umhos/cm				0.2	20	
WG346995LCSW10	LCSW	07/04/13 2:56	PCN42820	1408.8		1380.4	umhos/cm	98	90	110			
WG346995LCSW13	LCSW	07/04/13 6:04	PCN42820	1408.8		1370.2	umhos/cm	97.3	90	110			
WG347030													
WG347030LCSW1	LCSW	07/05/13 11:35	PCN42820	1408.8		1469	umhos/cm	104.3	90	110			
L13053-01DUP	DUP	07/05/13 12:51			125	123.6	umhos/cm				1.1	20	
WG347030LCSW4	LCSW	07/05/13 14:44	PCN42820	1408.8		1428.3	umhos/cm	101.4	90	110			
WG347030LCSW7	LCSW	07/05/13 15:47	PCN42820	1408.8		1415	umhos/cm	100.4	90	110			

SPF Water Engineering

ACZ Project ID: ***L13048***

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05134	mg/L	102.7	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0015	0.0015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.04955	mg/L	99	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.0007	.0471	mg/L	92.7	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.0007	.04755	mg/L	93.6	70	130	0.95	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.04834	mg/L	96.7	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0015	0.0015			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05005		.04944	mg/L	98.8	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05005	.0013	.04593	mg/L	89.2	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05005	.0013	.04602	mg/L	89.4	70	130	0.2	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.0489	mg/L	97.8	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0015	0.0015			
WG347265LRB	LRB	07/12/13 7:14				.00433	mg/L		-0.0011	0.0011			BF
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04698	mg/L	93.9	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.0011	.04771	mg/L	93.1	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.0011	.04755	mg/L	92.8	70	130	0.34	20	
WG347525													
WG347525ICV	ICV	07/13/13 3:38	MS130416-2	.05		.05016	mg/L	100.3	90	110			
WG347525ICB	ICB	07/13/13 3:41				U	mg/L		-0.0015	0.0015			
WG347265LRB	LRB	07/13/13 3:43				U	mg/L		-0.0011	0.0011			
WG347265LFB	LFB	07/13/13 3:46	MS130614-1	.05005		.05099	mg/L	101.9	85	115			
L13067-01LFM	LFM	07/13/13 4:00	MS130614-1	.05005	.0014	.05077	mg/L	98.6	70	130			
L13067-01LFMD	LFMD	07/13/13 4:02	MS130614-1	.05005	.0014	.05078	mg/L	98.7	70	130	0.02	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347421													
WG347421ICV	ICV	07/11/13 14:08	WI130708-6	.3		.2842	mg/L	94.7	90	110			
WG347421ICB	ICB	07/11/13 14:09				U	mg/L		-0.003	0.003			
WG347426													
WG347404LRB	LRB	07/11/13 14:54				U	mg/L		-0.003	0.003			
WG347404LFB	LFB	07/11/13 14:55	WI130708-2	.2		.1979	mg/L	99	90	110			
L13047-02DUP	DUP	07/11/13 14:57			U	U	mg/L				0	20	RA
L13048-01LFM	LFM	07/11/13 14:59	WI130708-2	.2	U	.195	mg/L	97.5	90	110			

SPF Water Engineering

ACZ Project ID: ***L13048***

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347421													
WG347421ICV	ICV	07/11/13 14:08	WI130708-6	.3		.2842	mg/L	94.7	90	110			
WG347421ICB	ICB	07/11/13 14:09				U	mg/L		-0.003	0.003			
WG347335LRB	LRB	07/11/13 14:10				U	mg/L		-0.003	0.003			
WG347335LFB	LFB	07/11/13 14:11	WI130708-4	.2		.1922	mg/L	96.1	90	110			
L13001-06DUP	DUP	07/11/13 14:12			U	U	mg/L				0	20	RA
L13001-07LFM	LFM	07/11/13 14:14	WI130708-4	.2	U	.1727	mg/L	86.4	90	110			M2

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.07	mg/L	103.5	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.3	0.3			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.04	mg/L	104	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1	U	1.04	mg/L	104	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1	U	1.05	mg/L	105	85	115	0.96	20	

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.99	mg/L	99.5	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.3	0.3			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.22	0.22			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		1.03	mg/L	103	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	1.03	mg/L	103	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	1.01	mg/L	101	70	130	1.96	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		2.03	mg/L	101.5	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.3	0.3			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.22	0.22			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	1		1.01	mg/L	101	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	1	U	1.01	mg/L	101	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	1	U	1.02	mg/L	102	70	130	0.99	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.003	mg/L	100.2	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.06	0.06			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1.0014		1.021	mg/L	102	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1.0014	.07	1.093	mg/L	102.2	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1.0014	.07	1.1	mg/L	102.9	85	115	0.64	20	
WG347659													
WG347659ICV	ICV	07/16/13 16:41	II130711-2	2		2.019	mg/L	101	95	105			
WG347659ICB	ICB	07/16/13 16:45				U	mg/L		-0.06	0.06			
WG347659LFB	LFB	07/16/13 16:57	II130708-3	1.0014		1.058	mg/L	105.7	85	115			
L13202-01AS	AS	07/16/13 17:10	II130708-3	1.0014	.18	1.225	mg/L	104.4	85	115			
L13202-01ASD	ASD	07/16/13 17:13	II130708-3	1.0014	.18	1.221	mg/L	104	85	115	0.33	20	

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.963	mg/L	98.2	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.06	0.06			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.044	0.044			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1.0014		.979	mg/L	97.8	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1.0014	U	.957	mg/L	95.6	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1.0014	U	.948	mg/L	94.7	70	130	0.94	20	
WG347728													
WG347728ICV	ICV	07/17/13 16:32	II130711-1	2		2.023	mg/L	101.2	95	105			
WG347728ICB	ICB	07/17/13 16:36				U	mg/L		-0.06	0.06			
WG347669LRB	LRB	07/17/13 16:48				.102	mg/L		-0.044	0.044			BF
WG347669LFB	LFB	07/17/13 16:51	II130708-3	1.0014		1.054	mg/L	105.3	85	115			
L13179-01LFM	LFM	07/17/13 17:13	II130708-3	1.0014	.92	1.908	mg/L	98.7	70	130			
L13179-01LFMD	LFMD	07/17/13 17:16	II130708-3	1.0014	.92	1.901	mg/L	98	70	130	0.37	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05172	mg/L	103.4	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.04923	mg/L	98.4	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	U	.04888	mg/L	97.7	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	U	.04821	mg/L	96.3	70	130	1.38	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.04958	mg/L	99.2	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0003	0.0003			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05005		.04872	mg/L	97.3	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05005	U	.04794	mg/L	95.8	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05005	U	.0481	mg/L	96.1	70	130	0.33	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05191	mg/L	103.8	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/12/13 7:14				.00041	mg/L		-0.00022	0.00022			BF
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04756	mg/L	95	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.0024	.05088	mg/L	96.9	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.0024	.05025	mg/L	95.6	70	130	1.25	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.04	mg/L	102	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.06	0.06			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.021	mg/L	102.1	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1	U	1.025	mg/L	102.5	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1	U	1.028	mg/L	102.8	85	115	0.29	20	

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.952	mg/L	97.6	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.06	0.06			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.044	0.044			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		.995	mg/L	99.5	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	.977	mg/L	97.7	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	.966	mg/L	96.6	70	130	1.13	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		1.976	mg/L	98.8	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.06	0.06			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.044	0.044			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	1		.979	mg/L	97.9	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	1	U	.984	mg/L	98.4	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	1	U	.98	mg/L	98	70	130	0.41	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	100		98.9	mg/L	98.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.6	0.6			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	49.99752		50.08	mg/L	100.2	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	49.99752	5.3	55.22	mg/L	99.8	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	49.99752	5.3	55.48	mg/L	100.4	85	115	0.47	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	100		97.76	mg/L	97.8	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.6	0.6			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.44	0.44			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	49.99752		48.97	mg/L	97.9	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	49.99752	U	48.32	mg/L	96.6	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	49.99752	U	47.34	mg/L	94.7	70	130	2.05	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	100		99.1	mg/L	99.1	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.6	0.6			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.44	0.44			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	49.99752		48.59	mg/L	97.2	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	49.99752	U	48.68	mg/L	97.4	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	49.99752	U	48.07	mg/L	96.1	70	130	1.26	20	

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.04731	mg/L	94.6	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0015	0.0015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.04638	mg/L	92.7	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.001	.04651	mg/L	90.9	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.001	.04585	mg/L	89.6	70	130	1.43	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.04745	mg/L	94.9	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0015	0.0015			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05005		.04887	mg/L	97.6	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05005	U	.04608	mg/L	92.1	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05005	U	.04633	mg/L	92.6	70	130	0.54	20	

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.0507	mg/L	101.4	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0015	0.0015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.0011	0.0011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04878	mg/L	97.5	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.1275	.1749	mg/L	94.7	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.1275	.1728	mg/L	90.5	70	130	1.21	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347159													
WG347159ICV	ICV	07/09/13 13:14	HG130517-4	10		10.58	ng/L	105.8	79	121			
WG347159ICB	ICB	07/09/13 13:21				U	ng/L		-0.5	0.5			
WG347159PQV	PQV	07/09/13 13:27	HG130517-6	.5		.43	ng/L	86	70	130			
WG347159LFB	LFB	07/09/13 13:34	HG130517-5	2		2.05	ng/L	102.5	71	125			
WG347159CCV1	CCV	07/09/13 15:56	HG130517-4	10		8.58	ng/L	85.8	76.5	123.4			
WG347159CCB1	CCB	07/09/13 16:03				U	ng/L		-0.5	0.5			
WG347159CCV2	CCV	07/09/13 16:50	HG130517-4	10		9.06	ng/L	90.6	76.5	123.4			
WG347159CCB2	CCB	07/09/13 16:56				U	ng/L		-0.5	0.5			
L13048-04MS	MS	07/09/13 17:30	HG2XPREP	8	1.1	4.23	ng/L	78.3	71	125			
L13048-04MSD	MSD	07/09/13 17:36	HG2XPREP	8	1.1	4.66	ng/L	89	71	125	9.67	24	
WG347159CCV3	CCV	07/09/13 17:43	HG130517-4	10		10.06	ng/L	100.6	76.5	123.4			
WG347159CCB3	CCB	07/09/13 17:50				U	ng/L		-0.5	0.5			

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347365													
WG347365ICV	ICV	07/11/13 12:36	HG130517-4	10		10.44	ng/L	104.4	79	121			
WG347365ICB	ICB	07/11/13 12:42				U	ng/L		-0.5	0.5			
WG347365PQV	PQV	07/11/13 12:49	HG130517-6	.5		.54	ng/L	108	70	130			
WG347365LFB	LFB	07/11/13 12:55	HG130517-5	2		1.96	ng/L	98	71	125			
L13032-01MS	MS	07/11/13 13:30	HG2XPREP	8	1.5	5.05	ng/L	88.8	71	125			
L13032-01MSD	MSD	07/11/13 13:36	HG2XPREP	8	1.5	4.82	ng/L	83	71	125	4.66	24	
WG347365CCV1	CCV	07/11/13 14:03	HG130517-4	10		9.01	ng/L	90.1	76.5	123.4			
WG347365CCB1	CCB	07/11/13 14:10				U	ng/L		-0.5	0.5			
WG347365CCV2	CCV	07/11/13 14:56	HG130517-4	10		9.25	ng/L	92.5	76.5	123.4			
WG347365CCB2	CCB	07/11/13 15:03				U	ng/L		-0.5	0.5			
L13113-02MS	MS	07/11/13 15:23	HG5XPREP	50	3	11.3	ng/L	81.4	71	125			
L13113-02MSD	MSD	07/11/13 15:30	HG5XPREP	50	3	11.3	ng/L	81.4	71	125	0	24	
WG347365CCV3	CCV	07/11/13 15:43	HG130517-4	10		9.95	ng/L	99.5	76.5	123.4			
WG347365CCB3	CCB	07/11/13 15:50				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.02006		.02012	mg/L	100.3	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0015	0.0015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05		.04835	mg/L	96.7	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05	.0035	.05147	mg/L	95.9	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05	.0035	.05116	mg/L	95.3	70	130	0.6	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.02006		.01959	mg/L	97.7	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0015	0.0015			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05		.04885	mg/L	97.7	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05	.0037	.0521	mg/L	96.8	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05	.0037	.05281	mg/L	98.2	70	130	1.35	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.02006		.01971	mg/L	98.3	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0015	0.0015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.0011	0.0011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05		.04786	mg/L	95.7	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05	U	.04819	mg/L	96.4	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05	U	.04781	mg/L	95.6	70	130	0.79	20	

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05279	mg/L	105.6	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0018	0.0018			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.05114	mg/L	102.2	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.0006	.04799	mg/L	94.7	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.0006	.04864	mg/L	96	70	130	1.35	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.04848	mg/L	97	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0018	0.0018			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05005		.04948	mg/L	98.9	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05005	U	.046	mg/L	91.9	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05005	U	.04637	mg/L	92.6	70	130	0.8	20	

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05167	mg/L	103.3	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0018	0.0018			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00132	0.00132			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04888	mg/L	97.7	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.0048	.05277	mg/L	95.8	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.0048	.05311	mg/L	96.5	70	130	0.64	20	

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347305													
WG347305ICV	ICV	07/10/13 12:15	WI121105-5	1.003		1.002	mg/L	99.9	90	110			
WG347305ICB	ICB	07/10/13 12:18				U	mg/L		-0.15	0.15			
WG347305LFB1	LFB	07/10/13 12:19	WI121218-3	1		.989	mg/L	98.9	90	110			
L13047-02AS	AS	07/10/13 12:36	WI121218-3	1	U	.991	mg/L	99.1	90	110			
L13048-01DUP	DUP	07/10/13 12:38			U	U	mg/L				0	20	RA
WG347305LFB2	LFB	07/10/13 12:50	WI121218-3	1		.973	mg/L	97.3	90	110			

SPF Water Engineering

ACZ Project ID: ***L13048***

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346995													
WG346995LCSW3	LCSW	07/03/13 17:27	PCN40853	6		5.99	units	99.8	98	102			
WG346995LCSW6	LCSW	07/03/13 20:44	PCN40853	6		6.01	units	100.2	98	102			
WG346995LCSW9	LCSW	07/03/13 23:51	PCN40853	6		6.01	units	100.2	98	102			
L13050-01DUP	DUP	07/04/13 1:36			4	3.8	units				5.1	20	
WG346995LCSW12	LCSW	07/04/13 3:10	PCN40853	6		6.02	units	100.3	98	102			
WG346995LCSW15	LCSW	07/04/13 6:19	PCN40853	6		6.02	units	100.3	98	102			
WG347030													
WG347030LCSW3	LCSW	07/05/13 11:50	PCN40853	6		5.98	units	99.7	98	102			
L13053-01DUP	DUP	07/05/13 12:51			7.5	7.4	units				1.3	20	
WG347030LCSW6	LCSW	07/05/13 14:58	PCN40853	6		5.96	units	99.3	98	102			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347250													
WG347250ICV	ICV	07/09/13 14:53	WI130620-3	.65228		.633	mg/L	97	90	110			
WG347250ICB	ICB	07/09/13 14:54				U	mg/L		-0.03	0.03			
WG347256													
WG347133LRB	LRB	07/09/13 17:06				U	mg/L		-0.03	0.03			
WG347133LFB	LFB	07/09/13 17:07	WI130705-2	.5		.53	mg/L	106	90	110			
L13032-04LFM	LFM	07/09/13 17:24	WI130705-2	.5	.02	.527	mg/L	101.4	90	110			
L13046-16DUP	DUP	07/09/13 17:55			1.05	1.051	mg/L				0.1	20	
WG347280													
WG347280ICV	ICV	07/10/13 0:00	WI130620-3	.65228		.635	mg/L	97.4	90	110			
WG347280ICB	ICB	07/10/13 0:02				U	mg/L		-0.03	0.03			
WG347229LRB	LRB	07/10/13 0:04				.011	mg/L		-0.03	0.03			
WG347229LFB	LFB	07/10/13 0:05	WI130705-2	.5		.478	mg/L	95.6	90	110			
L13048-04LFM	LFM	07/10/13 0:07	WI130705-2	.5	.02	.488	mg/L	93.6	90	110			
L13049-01DUP	DUP	07/10/13 0:09			.03	.026	mg/L				14.3	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	20		20.16	mg/L	100.8	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.9	0.9			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	99.96112		100.6	mg/L	100.6	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	99.96112	3.5	104	mg/L	100.5	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	99.96112	3.5	104.3	mg/L	100.8	85	115	0.29	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	20		19.82	mg/L	99.1	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.9	0.9			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.66	0.66			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	99.96112		97.83	mg/L	97.9	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	99.96112	5.8	102.2	mg/L	96.4	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	99.96112	5.8	100.5	mg/L	94.7	70	130	1.68	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	20		19.97	mg/L	99.9	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.9	0.9			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.66	0.66			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	99.96112		96.93	mg/L	97	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	99.96112	5.8	102.3	mg/L	96.5	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	99.96112	5.8	101.3	mg/L	95.5	70	130	0.98	20	

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346943													
WG346943PBW	PBW	07/03/13 10:45				U	mg/L		-15	15			
WG346943LCSW	LCSW	07/03/13 10:46	PCN42878	160		157	mg/L	98.1	80	120			
L13048-02DUP	DUP	07/03/13 11:14			U	U	mg/L				0	10	RA
WG346974													
WG346974PBW	PBW	07/03/13 14:00				U	mg/L		-15	15			
WG346974LCSW	LCSW	07/03/13 14:01	PCN42878	160		162	mg/L	101.3	80	120			
L13049-01DUP	DUP	07/03/13 14:15			10	10	mg/L				0	10	RA

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.01	mg/L	100.5	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.3	0.3			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1.0009		1.05	mg/L	104.9	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1.0009	U	1.05	mg/L	104.9	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1.0009	U	1.05	mg/L	104.9	85	115	0	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.92	mg/L	96	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.3	0.3			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.22	0.22			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1.0009		1.01	mg/L	100.9	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1.0009	U	.98	mg/L	97.9	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1.0009	U	.97	mg/L	96.9	70	130	1.03	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		1.94	mg/L	97	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.3	0.3			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.22	0.22			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	1.0009		.99	mg/L	98.9	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	1.0009	U	.99	mg/L	98.9	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	1.0009	U	.99	mg/L	98.9	70	130	0	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05509	mg/L	110.2	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.05133	mg/L	102.6	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.0002	.05349	mg/L	106.5	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.0002	.05344	mg/L	106.4	70	130	0.09	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.05022	mg/L	100.4	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0003	0.0003			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05005		.04923	mg/L	98.4	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05005	.0013	.05189	mg/L	101.1	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05005	.0013	.05284	mg/L	103	70	130	1.81	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05287	mg/L	105.7	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00022	0.00022			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.05193	mg/L	103.8	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.0001	.04929	mg/L	98.3	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.0001	.04955	mg/L	98.8	70	130	0.53	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.02002		.02074	mg/L	103.6	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.00015	0.00015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.01001		.009802	mg/L	97.9	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.01001	U	.008807	mg/L	88	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.01001	U	.008673	mg/L	86.6	70	130	1.53	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.02002		.01997	mg/L	99.8	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.00015	0.00015			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.01001		.00968	mg/L	96.7	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.01001	U	.009088	mg/L	90.8	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.01001	U	.009442	mg/L	94.3	70	130	3.82	20	

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.02002		.0202	mg/L	100.9	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.00015	0.00015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00011	0.00011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.01001		.009514	mg/L	95	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.01001	.0001	.009428	mg/L	93.2	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.01001	.0001	.009457	mg/L	93.5	70	130	0.31	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	100		100.7	mg/L	100.7	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.9	0.9			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	100.0495		100.9	mg/L	100.9	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	100.0495	26.9	127.1	mg/L	100.2	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	100.0495	26.9	126.9	mg/L	100	85	115	0.16	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	100		98.87	mg/L	98.9	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.9	0.9			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.66	0.66			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	100.0495		97.32	mg/L	97.3	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	100.0495	110	203	mg/L	93	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	100.0495	110	199.3	mg/L	89.3	70	130	1.84	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	100		99.37	mg/L	99.4	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.9	0.9			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.66	0.66			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	100.0495		96.24	mg/L	96.2	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	100.0495	110	203.7	mg/L	93.7	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	100.0495	110	202.5	mg/L	92.5	70	130	0.59	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.054	mg/L	102.7	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.03	0.03			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5		.511	mg/L	102.2	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	.5	.1	.602	mg/L	100.4	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	.5	.1	.603	mg/L	100.6	85	115	0.17	20	

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.977	mg/L	98.9	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.03	0.03			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.022	0.022			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	.5		.484	mg/L	96.8	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	.5	U	.48	mg/L	96	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	.5	U	.472	mg/L	94.4	70	130	1.68	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		1.995	mg/L	99.8	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.03	0.03			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.022	0.022			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	.5		.477	mg/L	95.4	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	.5	U	.479	mg/L	95.8	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	.5	U	.474	mg/L	94.8	70	130	1.05	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05415	mg/L	108.3	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.05203	mg/L	104	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	U	.05221	mg/L	104.3	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	U	.05143	mg/L	102.8	70	130	1.51	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.04949	mg/L	99	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0003	0.0003			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05005		.04889	mg/L	97.7	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05005	U	.04862	mg/L	97.1	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05005	U	.04846	mg/L	96.8	70	130	0.33	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05394	mg/L	107.9	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00022	0.00022			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04953	mg/L	99	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	U	.0501	mg/L	100.1	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	U	.04977	mg/L	99.4	70	130	0.66	20	

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05015		.05222	mg/L	104.1	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.04558	mg/L	91.1	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	U	.04402	mg/L	88	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	U	.04402	mg/L	88	70	130	0	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05015		.05061	mg/L	100.9	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0003	0.0003			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05005		.04631	mg/L	92.5	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05005	U	.04427	mg/L	88.5	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05005	U	.04469	mg/L	89.3	70	130	0.94	20	

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05015		.05125	mg/L	102.2	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/12/13 7:14				.0002	mg/L		-0.00022	0.00022			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04633	mg/L	92.6	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	U	.04562	mg/L	91.1	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	U	.04587	mg/L	91.6	70	130	0.55	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.0275	mg/L	101.4	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.015	0.015			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.033	mg/L	103.3	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1	U	1.037	mg/L	103.7	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1	U	1.039	mg/L	103.9	85	115	0.19	20	

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.9495	mg/L	97.5	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.015	0.015			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.011	0.011			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		.997	mg/L	99.7	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	.9898	mg/L	99	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	.9777	mg/L	97.8	70	130	1.23	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		1.9678	mg/L	98.4	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.015	0.015			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.011	0.011			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	1		.9899	mg/L	99	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	1	U	.9883	mg/L	98.8	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	1	U	.9866	mg/L	98.7	70	130	0.17	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05288	mg/L	105.8	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05		.05079	mg/L	101.6	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05	.0014	.0527	mg/L	102.6	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05	.0014	.05187	mg/L	100.9	70	130	1.59	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.0516	mg/L	103.2	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0003	0.0003			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05		.05131	mg/L	102.6	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05	.0026	.05435	mg/L	103.5	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05	.0026	.05462	mg/L	104	70	130	0.5	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05317	mg/L	106.3	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00022	0.00022			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05		.04927	mg/L	98.5	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05	U	.05125	mg/L	102.5	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05	U	.05059	mg/L	101.2	70	130	1.3	20	

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05088	mg/L	101.8	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0006	0.0006			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.0501		.05098	mg/L	101.8	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.0501	.0045	.05429	mg/L	99.4	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.0501	.0045	.05528	mg/L	101.4	70	130	1.81	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.04707	mg/L	94.1	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0006	0.0006			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.0501		.04942	mg/L	98.6	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.0501	.027	.07561	mg/L	97	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.0501	.027	.07594	mg/L	97.7	70	130	0.44	20	

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.04917	mg/L	98.3	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0006	0.0006			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00044	0.00044			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.0501		.04825	mg/L	96.3	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.0501	.0004	.04925	mg/L	97.5	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.0501	.0004	.04868	mg/L	96.4	70	130	1.16	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		1.958	mg/L	97.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.03	0.03			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5		.513	mg/L	102.6	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	.5	U	.51	mg/L	102	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	.5	U	.515	mg/L	103	85	115	0.98	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.946	mg/L	97.3	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.03	0.03			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.022	0.022			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	.5		.504	mg/L	100.8	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	.5	U	.496	mg/L	99.2	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	.5	U	.486	mg/L	97.2	70	130	2.04	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		1.963	mg/L	98.2	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.03	0.03			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.022	0.022			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	.5		.493	mg/L	98.6	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	.5	U	.493	mg/L	98.6	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	.5	U	.49	mg/L	98	70	130	0.61	20	

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Inorganic Extended Qualifier Report

SPF Water Engineering ACZ Project ID: ***L13048***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13048-01	WG347453	Copper, total	M200.8 ICP-MS	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG347728	Iron, total	M200.7 ICP	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG347453	Lead, total	M200.8 ICP-MS	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG347432	Vanadium, dissolved	M200.8 ICP-MS	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG346995	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG347426	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347421	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347305	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347256	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
	WG346943	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L13048***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13048-02	WG347453	Copper, total	M200.8 ICP-MS	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
		Lead, total	M200.8 ICP-MS	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG346995	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG347426	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347421	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347305	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347256	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
	WG346943	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L13048***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13048-03	WG347453	Lead, total	M200.8 ICP-MS	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG346995	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG347426	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347421	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347305	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347256	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
	WG346974	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L13048***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13048-04	WG347453	Copper, total	M200.8 ICP-MS	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
		Lead, total	M200.8 ICP-MS	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG347030	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG347426	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347421	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347030	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347305	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347030	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347280	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346974	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347030	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Q sampling

ACZ Project ID: L13048
Date Received: 07/02/2013 10:18
Received By: gac
Date Printed: 7/3/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
3554	25.7	16	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s) but was thawed by receipt at ACZ.

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc. L13048

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name:	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SPF-2013-GW

PO#: Calico 2nd Quarter Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	*SPF-2013-GW
Whiskey Spring	6/27/13 15:45		7	X
Whiskey Duplicate	6/27/13 15:55		7	X
Sourdough Spring Upper	6/27/13 17:15		7	X
Sourdough Spring Lower	6/27/13 18:30		7	X

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	6/28/13 9:00	[signature]	7.2.13 10:18

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L13048 Chain of Custody

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 09, 2014

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 2nd Quarter 2014 Sampli
ACZ Project ID: L19044

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 24, 2014. This project has been assigned to ACZ's project number, L19044. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L19044. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 08, 2014. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Max Janicek has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Case Narrative

SPF Water Engineering

July 09, 2014

Project ID: Calico 2nd Quarter 2014 Sampli
ACZ Project ID: L19044

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 2 ground water samples from SPF Water Engineering on June 24, 2014. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L19044. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

Any analyses not performed within EPA recommended holding times have been qualified with an "H" flag.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

Some of the dissolved Cobalt values exceed the corresponding total values for project L19044. In some cases, RPDs between dissolved and total values exceed the standard acceptance limit of 20%. Samples were re-analyzed for verification, and results for both parameters were confirmed. This is a consistent anomaly with these sample types, and discrepancies may be attributed to a matrix or field sampling issue.

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L19044-01***
Date Sampled: *06/19/14 12:30*
Date Received: *06/24/14*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/02/14 12:38	mpb
Cyanide, WAD	SM4500-CN I- distillation								06/30/14 14:33	mss2
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/01/14 10:33	mss2
Total Hot Plate Digestion	M200.2 ICP-MS								06/26/14 21:21	las
Total Hot Plate Digestion	M200.2 ICP								06/30/14 16:06	aeb

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L19044-01***
Date Sampled: *06/19/14 12:30*
Date Received: *06/24/14*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	06/25/14 22:34	aeb
Aluminum, total	M200.7 ICP	1	1.42		*	mg/L	0.03	0.2	07/01/14 12:31	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	06/28/14 4:30	pmc
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	06/27/14 23:22	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0110			mg/L	0.0002	0.001	06/28/14 4:30	pmc
Arsenic, total	M200.8 ICP-MS	1	0.0108			mg/L	0.0002	0.001	06/27/14 23:22	msh
Barium, dissolved	M200.7 ICP	1	0.024			mg/L	0.003	0.02	06/25/14 22:34	aeb
Barium, total	M200.7 ICP	1	0.040			mg/L	0.003	0.02	07/01/14 12:31	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/28/14 4:30	pmc
Beryllium, total	M200.8 ICP-MS	1	0.00006	B		mg/L	0.00005	0.0003	06/27/14 23:22	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/25/14 22:34	aeb
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/01/14 12:31	aeb
Boron, dissolved	M200.7 ICP	1	0.17			mg/L	0.01	0.05	06/27/14 0:05	aeb
Boron, total	M200.7 ICP	1	0.17			mg/L	0.01	0.05	07/01/14 12:31	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/28/14 4:30	pmc
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/27/14 23:22	msh
Calcium, dissolved	M200.7 ICP	1	22.4		*	mg/L	0.1	0.5	06/25/14 22:34	aeb
Calcium, total	M200.7 ICP	1	22			mg/L	0.1	0.5	07/01/14 12:31	aeb
Chromium, dissolved	M200.8 ICP-MS	1	0.0008	B		mg/L	0.0005	0.002	06/28/14 4:30	pmc
Chromium, total	M200.8 ICP-MS	1	0.0017	B		mg/L	0.0005	0.002	06/27/14 23:22	msh
Cobalt, dissolved	M200.8 ICP-MS	1	0.00055			mg/L	0.00005	0.0003	06/28/14 4:30	pmc
Cobalt, total	M200.8 ICP-MS	1	0.00056			mg/L	0.00005	0.0003	06/27/14 23:22	msh
Copper, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0005	0.003	06/28/14 4:30	pmc
Copper, total	M200.8 ICP-MS	1	0.0021	B		mg/L	0.0005	0.003	06/27/14 23:22	msh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/27/14 0:05	aeb
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/01/14 12:31	aeb
Iron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.02	0.05	06/25/14 22:34	aeb
Iron, total	M200.7 ICP	1	1.22			mg/L	0.02	0.05	07/01/14 12:31	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/28/14 4:30	pmc
Lead, total	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	06/27/14 23:22	msh
Lithium, dissolved	M200.7 ICP	1	0.023	B		mg/L	0.008	0.04	06/25/14 22:34	aeb
Lithium, total	M200.7 ICP	1	0.027	B		mg/L	0.008	0.04	07/01/14 12:31	aeb
Magnesium, dissolved	M200.7 ICP	1	6.5			mg/L	0.2	1	06/25/14 22:34	aeb
Magnesium, total	M200.7 ICP	1	6.8			mg/L	0.2	1	07/01/14 12:31	aeb
Manganese, dissolved	M200.8 ICP-MS	1	0.0068			mg/L	0.0005	0.003	06/28/14 4:30	pmc
Manganese, total	M200.8 ICP-MS	1	0.0357			mg/L	0.0005	0.003	06/27/14 23:22	msh
Mercury, dissolved	M1631, Atomic Fluorescence	1	1.2			ng/L	0.2	0.5	06/26/14 15:24	las
Mercury, total	M1631, Atomic Fluorescence	2	19.9			ng/L	0.4	1	06/26/14 16:22	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0067			mg/L	0.0005	0.003	06/28/14 4:30	pmc
Molybdenum, total	M200.8 ICP-MS	1	0.0064			mg/L	0.0005	0.003	06/27/14 23:22	msh
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	06/28/14 4:30	pmc
Nickel, total	M200.8 ICP-MS	1	0.0014	B		mg/L	0.0006	0.003	06/27/14 23:22	msh
Potassium, dissolved	M200.7 ICP	1	4.6			mg/L	0.2	1	06/25/14 22:34	aeb

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L19044-01***
Date Sampled: *06/19/14 12:30*
Date Received: *06/24/14*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	4.9			mg/L	0.2	1	07/01/14 12:31	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/25/14 22:34	aeb
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/01/14 12:31	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0003	06/28/14 4:30	pmc
Selenium, total	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0003	06/27/14 23:22	msh
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/28/14 4:30	pmc
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/27/14 23:22	msh
Sodium, dissolved	M200.7 ICP	1	47.5		*	mg/L	0.2	1	06/25/14 22:34	aeb
Sodium, total	M200.7 ICP	1	47.3			mg/L	0.2	1	07/01/14 12:31	aeb
Strontium, dissolved	M200.7 ICP	1	0.113		*	mg/L	0.005	0.03	06/25/14 22:34	aeb
Strontium, total	M200.7 ICP	1	0.113			mg/L	0.005	0.03	07/01/14 12:31	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/28/14 4:30	pmc
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/27/14 23:22	msh
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	06/28/14 4:30	pmc
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	06/27/14 23:22	msh
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/25/14 22:34	aeb
Titanium, total	M200.7 ICP	1	0.061			mg/L	0.005	0.03	07/01/14 12:31	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0026			mg/L	0.0001	0.0005	06/28/14 4:30	pmc
Uranium, total	M200.8 ICP-MS	1	0.0027			mg/L	0.0001	0.0005	06/27/14 23:22	msh
Vanadium, dissolved	M200.8 ICP-MS	1	0.0103			mg/L	0.0002	0.001	06/28/14 4:30	pmc
Vanadium, total	M200.8 ICP-MS	1	0.0121			mg/L	0.0002	0.001	06/27/14 23:22	msh
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/25/14 22:34	aeb
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/01/14 12:31	aeb

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L19044-01***
Date Sampled: *06/19/14 12:30*
Date Received: *06/24/14*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	98			mg/L	2	20	06/30/14 0:00	abd
Carbonate as CaCO3		1	8	B		mg/L	2	20	06/30/14 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	06/30/14 0:00	abd
Total Alkalinity		1	106			mg/L	2	20	06/30/14 0:00	abd
Chloride	M300.0 - Ion Chromatography	1	13.7		*	mg/L	0.5	2.5	07/01/14 10:07	tcd
Conductivity @25C	SM2510B	1	365			umhos/cm	1	10	06/30/14 19:50	abd
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/02/14 22:26	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	06/30/14 18:51	mpb
Fluoride	M300.0 - Ion Chromatography	1	2.21		*	mg/L	0.05	0.25	07/01/14 10:07	tcd
Hardness as CaCO3	SM2340B - Calculation		83			mg/L	0.8	4	07/08/14 11:40	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.20		*	mg/L	0.02	0.1	07/02/14 23:59	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.2	07/02/14 12:33	bsu
pH (lab)	SM4500H+ B									
pH		1	8.6	H		units	0.1	0.1	06/30/14 0:00	abd
pH measured at		1	21			C	0.1	0.1	06/30/14 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.05		*	mg/L	0.01	0.05	07/01/14 17:37	mpb
Residue, Filterable (TDS) @180C	SM2540C	1	200			mg/L	10	20	06/25/14 15:44	eaa
Residue, Non-Filterable (TSS) @105C	SM2540D	1	34		*	mg/L	5	20	04/26/14 13:31	eaa
Sulfate	M300.0 - Ion Chromatography	1	33.1			mg/L	0.5	2.5	07/02/14 21:25	tcd

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: OWYHEE RIVER DS

ACZ Sample ID: ***L19044-02***
Date Sampled: *06/19/14 15:45*
Date Received: *06/24/14*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/02/14 12:57	mpb
Cyanide, WAD	SM4500-CN I- distillation								07/01/14 16:14	mpb
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/01/14 10:38	mss2
Total Hot Plate Digestion	M200.2 ICP-MS								06/26/14 21:31	las
Total Hot Plate Digestion	M200.2 ICP								06/30/14 17:13	aeb

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: OWYHEE RIVER DS

ACZ Sample ID: ***L19044-02***
Date Sampled: *06/19/14 15:45*
Date Received: *06/24/14*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.09	B		mg/L	0.03	0.2	06/25/14 22:37	aeb
Aluminum, total	M200.7 ICP	1	0.54		*	mg/L	0.03	0.2	07/01/14 12:41	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	06/28/14 4:40	pmc
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	06/27/14 23:25	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0063			mg/L	0.0002	0.001	06/28/14 4:40	pmc
Arsenic, total	M200.8 ICP-MS	1	0.0061			mg/L	0.0002	0.001	06/27/14 23:25	msh
Barium, dissolved	M200.7 ICP	1	0.016	B		mg/L	0.003	0.02	06/25/14 22:37	aeb
Barium, total	M200.7 ICP	1	0.021			mg/L	0.003	0.02	07/01/14 12:41	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/28/14 4:40	pmc
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/27/14 23:25	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/25/14 22:37	aeb
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/01/14 12:41	aeb
Boron, dissolved	M200.7 ICP	1	0.11			mg/L	0.01	0.05	06/27/14 0:08	aeb
Boron, total	M200.7 ICP	1	0.11			mg/L	0.01	0.05	07/01/14 12:41	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/28/14 4:40	pmc
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/27/14 23:25	msh
Calcium, dissolved	M200.7 ICP	1	21.7		*	mg/L	0.1	0.5	06/25/14 22:37	aeb
Calcium, total	M200.7 ICP	1	21.6			mg/L	0.1	0.5	07/01/14 12:41	aeb
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	06/28/14 4:40	pmc
Chromium, total	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0005	0.002	06/27/14 23:25	msh
Cobalt, dissolved	M200.8 ICP-MS	1	0.00066			mg/L	0.00005	0.0003	06/28/14 4:40	pmc
Cobalt, total	M200.8 ICP-MS	1	0.00019	B		mg/L	0.00005	0.0003	06/27/14 23:25	msh
Copper, dissolved	M200.8 ICP-MS	1	0.0007	B		mg/L	0.0005	0.003	06/28/14 4:40	pmc
Copper, total	M200.8 ICP-MS	1	0.0010	B		mg/L	0.0005	0.003	06/27/14 23:25	msh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/27/14 0:08	aeb
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/01/14 12:41	aeb
Iron, dissolved	M200.7 ICP	1	0.06			mg/L	0.02	0.05	06/25/14 22:37	aeb
Iron, total	M200.7 ICP	1	0.42			mg/L	0.02	0.05	07/01/14 12:41	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/28/14 4:40	pmc
Lead, total	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	06/27/14 23:25	msh
Lithium, dissolved	M200.7 ICP	1	0.014	B		mg/L	0.008	0.04	06/25/14 22:37	aeb
Lithium, total	M200.7 ICP	1	0.018	B		mg/L	0.008	0.04	07/01/14 12:41	aeb
Magnesium, dissolved	M200.7 ICP	1	5.8			mg/L	0.2	1	06/25/14 22:37	aeb
Magnesium, total	M200.7 ICP	1	5.9			mg/L	0.2	1	07/01/14 12:41	aeb
Manganese, dissolved	M200.8 ICP-MS	1	0.0032			mg/L	0.0005	0.003	06/28/14 4:40	pmc
Manganese, total	M200.8 ICP-MS	1	0.0070			mg/L	0.0005	0.003	06/27/14 23:25	msh
Mercury, dissolved	M1631, Atomic Fluorescence	1	1.2			ng/L	0.2	0.5	06/26/14 15:29	las
Mercury, total	M1631, Atomic Fluorescence	2	2.7			ng/L	0.4	1	06/26/14 16:27	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0045			mg/L	0.0005	0.003	06/28/14 4:40	pmc
Molybdenum, total	M200.8 ICP-MS	1	0.0042			mg/L	0.0005	0.003	06/27/14 23:25	msh
Nickel, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0006	0.003	06/28/14 4:40	pmc
Nickel, total	M200.8 ICP-MS	1	0.0008	B		mg/L	0.0006	0.003	06/27/14 23:25	msh
Potassium, dissolved	M200.7 ICP	1	3.8			mg/L	0.2	1	06/25/14 22:37	aeb

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: OWYHEE RIVER DS

ACZ Sample ID: ***L19044-02***
Date Sampled: *06/19/14 15:45*
Date Received: *06/24/14*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	3.8			mg/L	0.2	1	07/01/14 12:41	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/25/14 22:37	aeb
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/01/14 12:41	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	06/28/14 4:40	pmc
Selenium, total	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	06/27/14 23:25	msh
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/28/14 4:40	pmc
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/27/14 23:25	msh
Sodium, dissolved	M200.7 ICP	1	34.5		*	mg/L	0.2	1	06/25/14 22:37	aeb
Sodium, total	M200.7 ICP	1	34.1			mg/L	0.2	1	07/01/14 12:41	aeb
Strontium, dissolved	M200.7 ICP	1	0.101		*	mg/L	0.005	0.03	06/25/14 22:37	aeb
Strontium, total	M200.7 ICP	1	0.103			mg/L	0.005	0.03	07/01/14 12:41	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/28/14 4:40	pmc
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/27/14 23:25	msh
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	06/28/14 4:40	pmc
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	06/27/14 23:25	msh
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/25/14 22:37	aeb
Titanium, total	M200.7 ICP	1	0.023	B		mg/L	0.005	0.03	07/01/14 12:41	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0017			mg/L	0.0001	0.0005	06/28/14 4:40	pmc
Uranium, total	M200.8 ICP-MS	1	0.0017			mg/L	0.0001	0.0005	06/27/14 23:25	msh
Vanadium, dissolved	M200.8 ICP-MS	1	0.0048			mg/L	0.0002	0.001	06/28/14 4:40	pmc
Vanadium, total	M200.8 ICP-MS	1	0.0055			mg/L	0.0002	0.001	06/27/14 23:25	msh
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/25/14 22:37	aeb
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/01/14 12:41	aeb

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: OWYHEE RIVER DS

ACZ Sample ID: ***L19044-02***
Date Sampled: *06/19/14 15:45*
Date Received: *06/24/14*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	81			mg/L	2	20	06/30/14 0:00	abd
Carbonate as CaCO3		1	6	B		mg/L	2	20	06/30/14 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	06/30/14 0:00	abd
Total Alkalinity		1	87			mg/L	2	20	06/30/14 0:00	abd
Chloride	M300.0 - Ion Chromatography	1	10.00		*	mg/L	0.5	2.5	07/01/14 10:25	tcd
Conductivity @25C	SM2510B	1	304			umhos/cm	1	10	06/30/14 19:58	abd
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/02/14 22:27	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/02/14 23:35	pjb
Fluoride	M300.0 - Ion Chromatography	1	1.49		*	mg/L	0.05	0.25	07/01/14 10:25	tcd
Hardness as CaCO3	SM2340B - Calculation		78			mg/L	0.8	4	07/08/14 11:40	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.06	B	*	mg/L	0.02	0.1	07/03/14 0:01	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.2	07/02/14 12:34	bsu
pH (lab)	SM4500H+ B									
pH		1	8.6	H		units	0.1	0.1	06/30/14 0:00	abd
pH measured at		1	21			C	0.1	0.1	06/30/14 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B	*	mg/L	0.01	0.05	07/01/14 17:38	mpb
Residue, Filterable (TDS) @180C	SM2540C	1	180			mg/L	10	20	06/25/14 15:46	eaa
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	04/26/14 13:33	eaa
Sulfate	M300.0 - Ion Chromatography	1	30.5			mg/L	0.5	2.5	07/02/14 22:01	tcd

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L19044***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366783													
WG366783PBW1	PBW	06/30/14 16:45				U	mg/L		-20	20			
WG366783LCSW3	LCSW	06/30/14 17:03	WC140610-	820.0001		830.7	mg/L	101.3	90	110			
L19046-02DUP	DUP	06/30/14 20:43			167	167	mg/L				0	20	
WG366783LCSW6	LCSW	06/30/14 21:02	WC140610-	820.0001		848	mg/L	103.4	90	110			
WG366783PBW2	PBW	06/30/14 21:11				2.3	mg/L		-20	20			
WG366783LCSW9	LCSW	07/01/14 0:39	WC140610-	820.0001		848.3	mg/L	103.5	90	110			
WG366783PBW3	PBW	07/01/14 0:48				2.7	mg/L		-20	20			
WG366783LCSW12	LCSW	07/01/14 4:18	WC140610-	820.0001		831.1	mg/L	101.4	90	110			
WG366783PBW4	PBW	07/01/14 4:27				2.2	mg/L		-20	20			
WG366783LCSW15	LCSW	07/01/14 7:59	WC140610-	820.0001		823.2	mg/L	100.4	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	2		2.006	mg/L	100.3	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.09	0.09			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	1.0011		1.095	mg/L	109.4	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	1.0011	1.62	2.622	mg/L	100.1	85	115			
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	1.0011	1.62	2.664	mg/L	104.3	85	115	1.59	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	2		2	mg/L	100	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.09	0.09			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.066	0.066			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	1.0011		1.082	mg/L	108.1	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	1.0011	1.42	2.805	mg/L	138.3	70	130			M1
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	1.0011	1.42	2.787	mg/L	136.5	70	130	0.64	20	M1

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.02002		.02046	mg/L	102.2	90	110			
WG366719ICB	ICB	06/28/14 3:57				.00046	mg/L		-0.0012	0.0012			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.01		.01032	mg/L	103.2	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.01	U	.00967	mg/L	96.7	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.01	U	.0101	mg/L	101	70	130	4.35	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.02002		.01945	mg/L	97.2	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0012	0.0012			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00088	0.00088			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.01		.01031	mg/L	103.1	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.01	U	.01038	mg/L	103.8	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.01	U	.0103	mg/L	103	70	130	0.77	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.0521	mg/L	104.2	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0006	0.0006			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.0501		.05069	mg/L	101.2	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.0501	.0011	.05256	mg/L	102.7	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.0501	.0011	.0521	mg/L	101.8	70	130	0.88	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.05204	mg/L	104.1	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0006	0.0006			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00044	0.00044			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.0501		.05197	mg/L	103.7	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.0501	.0061	.05592	mg/L	99.4	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.0501	.0061	.05699	mg/L	101.6	70	130	1.9	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	2		2.0008	mg/L	100	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.009	0.009			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	.5		.509	mg/L	101.8	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	.5	.079	.5749	mg/L	99.2	85	115			
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	.5	.079	.5743	mg/L	99.1	85	115	0.1	20	

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	2		1.9838	mg/L	99.2	95	105			
WG366836ICB	ICB	07/01/14 12:09				.0031	mg/L		-0.009	0.009			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.0066	0.0066			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	.5		.5101	mg/L	102	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	.5	.04	.5504	mg/L	102.1	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	.5	.04	.553	mg/L	102.6	70	130	0.47	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.0484	mg/L	96.8	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.00015	0.00015			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.05005		.04852	mg/L	96.9	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.05005	U	.04609	mg/L	92.1	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.05005	U	.04665	mg/L	93.2	70	130	1.21	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.04759	mg/L	95.2	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.00015	0.00015			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00011	0.00011			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.05005		.04796	mg/L	95.8	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.05005	U	.04725	mg/L	94.4	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.05005	U	.04626	mg/L	92.4	70	130	2.12	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	2		1.988	mg/L	99.4	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.12	0.12			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	.999		1.009	mg/L	101	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	.999	U	1.024	mg/L	102.5	85	115			
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	.999	U	1.023	mg/L	102.4	85	115	0.1	20	

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	2		1.985	mg/L	99.3	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.12	0.12			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.088	0.088			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	.999		1.019	mg/L	102	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	.999	U	1.037	mg/L	103.8	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	.999	U	1.046	mg/L	104.7	70	130	0.86	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366570													
WG366570ICV	ICV	06/26/14 23:04	II140512-2	2		2.016	mg/L	100.8	95	105			
WG366570ICB	ICB	06/26/14 23:11				U	mg/L		-0.03	0.03			
WG366570LFB	LFB	06/26/14 23:23	II140611-2	.5005		.507	mg/L	101.3	85	115			
L19036-04AS	AS	06/26/14 23:43	II140611-2	2.5025	U	2.603	mg/L	104	85	115			
L19036-04ASD	ASD	06/26/14 23:46	II140611-2	2.5025	U	2.611	mg/L	104.3	85	115	0.31	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	2		2.02	mg/L	101	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.03	0.03			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.022	0.022			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	.5005		.515	mg/L	102.9	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	.5005	.17	.687	mg/L	103.3	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	.5005	.17	.686	mg/L	103.1	70	130	0.15	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.04944	mg/L	98.9	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0003	0.0003			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.0501		.04885	mg/L	97.5	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.0501	U	.04581	mg/L	91.4	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.0501	U	.04683	mg/L	93.5	70	130	2.2	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.05031	mg/L	100.6	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0003	0.0003			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00022	0.00022			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.0501		.0501	mg/L	100	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.0501	U	.04819	mg/L	96.2	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.0501	U	.04758	mg/L	95	70	130	1.27	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	100		100.41	mg/L	100.4	95	105			
WG366492ICB	ICB	06/25/14 21:16				.1	mg/L		-0.3	0.3			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	67.98099		73.39	mg/L	108	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	67.98099	924	945.4	mg/L	31.5	85	115			M3
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	67.98099	924	934.5	mg/L	15.4	85	115	1.16	20	M3

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	100		99.82	mg/L	99.8	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.3	0.3			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.22	0.22			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	67.98099		73.1	mg/L	107.5	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	67.98099	22	95.79	mg/L	108.5	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	67.98099	22	96.16	mg/L	109.1	70	130	0.39	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	19.98		20.3	mg/L	101.6	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-1.5	1.5			
WG366755													
WG366755LFB	LFB	06/30/14 13:36	WI140610-6	30		31.2	mg/L	104	90	110			
L18963-07DUP	DUP	06/30/14 18:23			41.9	42.1	mg/L				0.5	20	RA
L18963-08AS	AS	06/30/14 18:59	WI140610-6	30000	14500	45500	mg/L	103.3	90	110			

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.05016	mg/L	100.3	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0015	0.0015			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.05005		.05074	mg/L	101.4	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.05005	U	.04691	mg/L	93.7	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.05005	U	.04687	mg/L	93.6	70	130	0.09	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.04831	mg/L	96.6	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0015	0.0015			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.0011	0.0011			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.05005		.04738	mg/L	94.7	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.05005	.0006	.04699	mg/L	92.7	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.05005	.0006	.04664	mg/L	92	70	130	0.75	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.05021	mg/L	100.4	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.00015	0.00015			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.05005		.05163	mg/L	103.2	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.05005	.00121	.0502	mg/L	97.9	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.05005	.00121	.05094	mg/L	99.4	70	130	1.46	20	

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.0488	mg/L	97.6	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.00015	0.00015			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00011	0.00011			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.05005		.04991	mg/L	99.7	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.05005	.00019	.04934	mg/L	98.2	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.05005	.00019	.04831	mg/L	96.1	70	130	2.11	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366783													
WG366783LCSW2	LCSW	06/30/14 16:50	PCN44568	1408.8		1454.5	umhos/cm	103.2	90	110			
L19046-02DUP	DUP	06/30/14 20:43			950	947	umhos/cm				0.3	20	
WG366783LCSW5	LCSW	06/30/14 20:48	PCN44568	1408.8		1443.4	umhos/cm	102.5	90	110			
WG366783LCSW8	LCSW	07/01/14 0:25	PCN44568	1408.8		1439.3	umhos/cm	102.2	90	110			
WG366783LCSW11	LCSW	07/01/14 4:04	PCN44568	1408.8		1433.2	umhos/cm	101.7	90	110			
WG366783LCSW14	LCSW	07/01/14 7:45	PCN44568	1408.8		1422.1	umhos/cm	100.9	90	110			

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.04878	mg/L	97.6	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0015	0.0015			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.05		.04854	mg/L	97.1	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.05	.0009	.04167	mg/L	81.5	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.05	.0009	.04118	mg/L	80.6	70	130	1.18	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.04792	mg/L	95.8	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0015	0.0015			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.0011	0.0011			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.05		.04674	mg/L	93.5	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.05	.001	.04551	mg/L	89	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.05	.001	.04556	mg/L	89.1	70	130	0.11	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366995													
WG366995ICV	ICV	07/02/14 22:20	WI140702-5	.3		.289	mg/L	96.3	90	110			
WG366995ICB	ICB	07/02/14 22:21				U	mg/L		-0.003	0.003			
WG366949LRB	LRB	07/02/14 22:22				U	mg/L		-0.003	0.003			
WG366949LFB	LFB	07/02/14 22:23	WI140702-2	.2		.1977	mg/L	98.9	90	110			
L19044-01DUP	DUP	07/02/14 22:26			U	U	mg/L				0	20	RA
L19044-02LFM	LFM	07/02/14 22:28	WI140702-2	.2	U	.1972	mg/L	98.6	90	110			

SPF Water Engineering

ACZ Project ID: ***L19044***

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366801													
WG366801ICV	ICV	06/30/14 17:57	WI140617-1	.3		.3018	mg/L	100.6	90	110			
WG366801ICB	ICB	06/30/14 17:58				U	mg/L		-0.003	0.003			
WG366802													
WG366758LRB	LRB	06/30/14 18:36				U	mg/L		-0.003	0.003			
WG366758LFB	LFB	06/30/14 18:37	WI140617-1	.2		.2004	mg/L	100.2	90	110			
L19038-04DUP	DUP	06/30/14 18:51			U	U	mg/L				0	20	RA
L19099-02LFM	LFM	06/30/14 19:00	WI140617-1	.2	U	.2016	mg/L	100.8	90	110			
WG366995													
WG366995ICV	ICV	07/02/14 22:20	WI140702-5	.3		.289	mg/L	96.3	90	110			
WG366995ICB	ICB	07/02/14 22:21				U	mg/L		-0.003	0.003			
WG366909													
WG366886LRB	LRB	07/02/14 23:33				U	mg/L		-0.003	0.003			
WG366886LFB	LFB	07/02/14 23:34	WI140617-1	.2		.2024	mg/L	101.2	90	110			
L19044-02DUP	DUP	07/02/14 23:36			U	U	mg/L				0	20	RA
L19067-01LFM	LFM	07/02/14 23:37	WI140617-1	.2	U	.2016	mg/L	100.8	90	110			

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	4.02		4.17	mg/L	103.7	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-0.3	0.3			
WG366755													
WG366755LFB	LFB	06/30/14 13:36	WI140610-6	1.5		1.56	mg/L	104	90	110			
L18963-07DUP	DUP	06/30/14 18:23			.92	.92	mg/L				0	20	RA
L18963-08AS	AS	06/30/14 18:59	WI140610-6	1500	292	1860	mg/L	104.5	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366570													
WG366570ICV	ICV	06/26/14 23:04	II140512-2	2		2.03	mg/L	101.5	95	105			
WG366570ICB	ICB	06/26/14 23:11				U	mg/L		-0.3	0.3			
WG366570LFB	LFB	06/26/14 23:23	II140611-2	1.001		1.06	mg/L	105.9	85	115			
L19036-04AS	AS	06/26/14 23:43	II140611-2	5.005	U	5.26	mg/L	105.1	85	115			
L19036-04ASD	ASD	06/26/14 23:46	II140611-2	5.005	U	5.29	mg/L	105.7	85	115	0.57	20	

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	2		2.03	mg/L	101.5	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.3	0.3			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.22	0.22			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	1.001		1.05	mg/L	104.9	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	1.001	U	1.06	mg/L	105.9	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	1.001	U	1.07	mg/L	106.9	70	130	0.94	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	2		1.998	mg/L	99.9	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.06	0.06			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	1.0014		1.037	mg/L	103.6	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	1.0014	.06	1.027	mg/L	97.6	85	115			
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	1.0014	.06	1.024	mg/L	97.3	85	115	0.29	20	

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	2		2.007	mg/L	100.4	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.06	0.06			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.044	0.044			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	1.0014		1.032	mg/L	103.1	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	1.0014	1.22	2.273	mg/L	105.2	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	1.0014	1.22	2.294	mg/L	107.2	70	130	0.92	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.05141	mg/L	102.8	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0003	0.0003			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.05005		.05056	mg/L	101	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.05005	U	.05093	mg/L	101.8	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.05005	U	.05128	mg/L	102.5	70	130	0.68	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.05	mg/L	100	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0003	0.0003			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00022	0.00022			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.05005		.04767	mg/L	95.2	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.05005	.0002	.04745	mg/L	94.4	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.05005	.0002	.04799	mg/L	95.5	70	130	1.13	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	2		2.0108	mg/L	100.5	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.024	0.024			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	1.002		1.005	mg/L	100.3	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	1.002	.148	1.156	mg/L	100.6	85	115			
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	1.002	.148	1.158	mg/L	100.8	85	115	0.17	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	2		1.9972	mg/L	99.9	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.024	0.024			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.0176	0.0176			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	1.002		1.023	mg/L	102.1	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	1.002	.027	1.042	mg/L	101.3	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	1.002	.027	1.045	mg/L	101.6	70	130	0.29	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	100		97.29	mg/L	97.3	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.6	0.6			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	50.00131		50.22	mg/L	100.4	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	50.00131	81.3	126.8	mg/L	91	85	115			
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	50.00131	81.3	126.7	mg/L	90.8	85	115	0.08	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	100		96.98	mg/L	97	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.6	0.6			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.44	0.44			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	50.00131		50.11	mg/L	100.2	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	50.00131	6.8	57.28	mg/L	101	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	50.00131	6.8	57.55	mg/L	101.5	70	130	0.47	20	

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.05224	mg/L	104.5	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0015	0.0015			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.0501		.05146	mg/L	102.7	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.0501	.3949	.4391	mg/L	88.2	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.0501	.3949	.4429	mg/L	95.8	70	130	0.86	20	

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.05168	mg/L	103.4	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0015	0.0015			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.0011	0.0011			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.0501		.04948	mg/L	98.8	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.0501	.007	.05656	mg/L	98.9	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.0501	.007	.05645	mg/L	98.7	70	130	0.19	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366407													
WG366407ICV	ICV	06/24/14 15:11	HG140624-4	10		10.2	ng/L	102	79	121			
WG366407ICB	ICB	06/24/14 15:16				U	ng/L		-0.5	0.5			
WG366551													
WG366551CCV	CCV	06/26/14 14:34	HG140624-4	10		9.87	ng/L	98.7	76.5	123.4			
WG366551CCB	CCB	06/26/14 14:39				U	ng/L		-0.5	0.5			
WG366551PQV	PQV	06/26/14 14:44	HG140624-6	.5		.52	ng/L	104	70	130			
WG366551LFB	LFB	06/26/14 14:49	HG140624-5	2		1.93	ng/L	96.5	71	125			
L18942-01MS	MS	06/26/14 14:59	HG140624-5	2	U	1.98	ng/L	99	71	125			
L18942-01MSD	MSD	06/26/14 15:04	HG140624-5	2	U	1.96	ng/L	98	71	125	1.02	24	
WG366551CCV1	CCV	06/26/14 15:34	HG140624-4	10		10.1	ng/L	101	76.5	123.4			
WG366551CCB1	CCB	06/26/14 15:39				U	ng/L		-0.5	0.5			

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366407													
WG366407ICV	ICV	06/24/14 15:11	HG140624-4	10		10.2	ng/L	102	79	121			
WG366407ICB	ICB	06/24/14 15:16				U	ng/L		-0.5	0.5			
WG366605													
WG366605CCV	CCV	06/26/14 15:34	HG140624-4	10		10.1	ng/L	101	76.5	123.4			
WG366605CCB	CCB	06/26/14 15:39				U	ng/L		-0.5	0.5			
WG366605PQV	PQV	06/26/14 15:46	HG140624-6	.5		.52	ng/L	104	70	130			
WG366605LFB	LFB	06/26/14 15:51	HG140624-5	2		1.99	ng/L	99.5	71	125			
L19008-01MS	MS	06/26/14 16:01	HG140624-5	2	.2	2.2	ng/L	100	71	125			
L19008-01MSD	MSD	06/26/14 16:06	HG140624-5	2	.2	2.21	ng/L	100.5	71	125	0.45	24	
WG366605CCV1	CCV	06/26/14 16:32	HG140624-4	10		10.2	ng/L	102	76.5	123.4			
WG366605CCB1	CCB	06/26/14 16:37				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.01998		.01867	mg/L	93.4	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0015	0.0015			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.0502		.04958	mg/L	98.8	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.0502	.045	.09547	mg/L	100.5	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.0502	.045	.09729	mg/L	104.2	70	130	1.89	20	

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.01998		.01822	mg/L	91.2	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0015	0.0015			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.0011	0.0011			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.0502		.04637	mg/L	92.4	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.0502	.0042	.05059	mg/L	92.4	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.0502	.0042	.05034	mg/L	91.9	70	130	0.5	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.05024	mg/L	100.5	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0018	0.0018			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.05		.0501	mg/L	100.2	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.05	.0018	.04443	mg/L	85.3	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.05	.0018	.04394	mg/L	84.3	70	130	1.11	20	

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.04952	mg/L	99	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0018	0.0018			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00132	0.00132			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.05		.04784	mg/L	95.7	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.05	.0008	.04632	mg/L	91	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.05	.0008	.04633	mg/L	91.1	70	130	0.02	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366994													
WG366994ICV	ICV	07/02/14 21:46	WI140417-3	2.416		2.361	mg/L	97.7	90	110			
WG366994ICB	ICB	07/02/14 21:48				U	mg/L		-0.06	0.06			
WG366998													
WG366998LFB1	LFB	07/02/14 23:24	WI140215-3	2		1.983	mg/L	99.2	90	110			
WG366998LFB2	LFB	07/02/14 23:58	WI140215-3	2		2.024	mg/L	101.2	90	110			
L19044-01AS	AS	07/03/14 0:00	WI140215-3	2	.2	2.207	mg/L	100.4	90	110			
L19044-02DUP	DUP	07/03/14 0:02			.06	.058	mg/L				3.4	20	RA

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366944													
WG366944ICV	ICV	07/02/14 12:03	WI131021-1	1.003		1.025	mg/L	102.2	90	110			
WG366944ICB	ICB	07/02/14 12:06				U	mg/L		-0.15	0.15			
WG366944LFB1	LFB	07/02/14 12:07	WI140113-8	1		.984	mg/L	98.4	90	110			
L19035-05AS	AS	07/02/14 12:24	WI140113-8	1	U	1.03	mg/L	103	90	110			
L19035-06DUP	DUP	07/02/14 12:26			.06	.08	mg/L				28.6	20	RA
WG366944LFB2	LFB	07/02/14 12:38	WI140113-8	1		.991	mg/L	99.1	90	110			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366783													
WG366783LCSW1	LCSW	06/30/14 16:48	PCN45265	5.99		6.04	units	100.8	5.89	6.09			
L19046-02DUP	DUP	06/30/14 20:43			8.2	8.16	units				0.5	20	
WG366783LCSW4	LCSW	06/30/14 20:46	PCN45265	5.99		6.09	units	101.7	5.89	6.09			
WG366783LCSW7	LCSW	07/01/14 0:23	PCN45265	5.99		6.09	units	101.7	5.89	6.09			
WG366783LCSW10	LCSW	07/01/14 4:02	PCN45265	5.99		6.09	units	101.7	5.89	6.09			
WG366783LCSW13	LCSW	07/01/14 7:44	PCN45265	5.99		6.09	units	101.7	5.89	6.09			

SPF Water Engineering

ACZ Project ID: ***L19044***

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366873													
WG366873ICV	ICV	07/01/14 15:57	WI140620-3	.65228		.677	mg/L	103.8	90	110			
WG366873ICB	ICB	07/01/14 15:58				.011	mg/L		-0.03	0.03			
WG366894													
WG366843LRB	LRB	07/01/14 17:29				.011	mg/L		-0.03	0.03			
WG366843LFB	LFB	07/01/14 17:30	WI140701-2	.5		.498	mg/L	99.6	90	110			
L18897-01LFM	LFM	07/01/14 17:32	WI140701-2	.5	.01	.486	mg/L	95.2	90	110			
L19035-07DUP	DUP	07/01/14 17:34			.01	.012	mg/L				18.2	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	20		19.92	mg/L	99.6	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.6	0.6			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	99.99364		101.9	mg/L	101.9	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	99.99364	13.5	116.8	mg/L	103.3	85	115			
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	99.99364	13.5	116.9	mg/L	103.4	85	115	0.09	20	

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	20		19.76	mg/L	98.8	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.6	0.6			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.44	0.44			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	99.99364		101.2	mg/L	101.2	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	99.99364	4.9	106.9	mg/L	102	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	99.99364	4.9	107.4	mg/L	102.5	70	130	0.47	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366515													
WG366515PBW	PBW	06/25/14 15:15				U	mg/L		-20	20			
WG366515LCSW	LCSW	06/25/14 15:16	PCN46083	260		246	mg/L	94.6	80	120			
L19048-04DUP	DUP	06/25/14 15:55			160	158	mg/L				1.3	10	

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366584													
WG366584PBW	PBW	04/26/14 12:55				U	mg/L		-6	6			
WG366584LCSW	LCSW	04/26/14 12:56	PCN46084	160		151	mg/L	94.4	80	120			
L19044-02DUP	DUP	04/26/14 13:34			U	U	mg/L				0	10	RA

SPF Water Engineering

ACZ Project ID: ***L19044***

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	2		2.05	mg/L	102.5	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.3	0.3			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	1.0009		1.06	mg/L	105.9	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	1.0009	U	1.04	mg/L	103.9	85	115			
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	1.0009	U	1.04	mg/L	103.9	85	115	0	20	

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	2		2.02	mg/L	101	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.3	0.3			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.22	0.22			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	1.0009		1.08	mg/L	107.9	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	1.0009	U	1.08	mg/L	107.9	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	1.0009	U	1.09	mg/L	108.9	70	130	0.92	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.05152	mg/L	103	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0003	0.0003			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.05005		.05006	mg/L	100	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.05005	.0002	.05208	mg/L	103.7	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.05005	.0002	.05231	mg/L	104.1	70	130	0.44	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.05196	mg/L	103.9	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0003	0.0003			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00022	0.00022			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.05005		.05222	mg/L	104.3	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.05005	.0003	.04934	mg/L	98	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.05005	.0003	.04922	mg/L	97.7	70	130	0.24	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.02002		.02002	mg/L	100	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.00015	0.00015			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.01002		.009868	mg/L	98.5	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.01002	U	.007203	mg/L	71.9	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.01002	U	.008316	mg/L	83	70	130	14.34	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.02002		.01957	mg/L	97.8	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.00015	0.00015			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00011	0.00011			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.01002		.009514	mg/L	95	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.01002	U	.009107	mg/L	90.9	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.01002	U	.00912	mg/L	91	70	130	0.14	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	100		99.61	mg/L	99.6	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.6	0.6			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	100.0393		102.3	mg/L	102.3	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	100.0393	375	456	mg/L	81	85	115			M3
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	100.0393	375	466	mg/L	91	85	115	2.17	20	

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	100		98.61	mg/L	98.6	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.6	0.6			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.44	0.44			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	100.0393		101.4	mg/L	101.4	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	100.0393	47.3	149.2	mg/L	101.9	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	100.0393	47.3	149.9	mg/L	102.6	70	130	0.47	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	2		2.0092	mg/L	100.5	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.015	0.015			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	.5005		.5176	mg/L	103.4	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	.5005	2.38	2.783	mg/L	80.5	85	115			M3
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	.5005	2.38	2.791	mg/L	82.1	85	115	0.29	20	M3

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	2		1.995	mg/L	99.8	95	105			
WG366836ICB	ICB	07/01/14 12:09				.005	mg/L		-0.015	0.015			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.011	0.011			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	.5005		.5149	mg/L	102.9	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	.5005	.113	.6277	mg/L	102.8	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	.5005	.113	.63	mg/L	103.3	70	130	0.37	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	49.95		51.2	mg/L	102.5	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-1.5	1.5			
WG366969													
WG366969LFB1	LFB	07/02/14 19:56	WI140610-6	30		31.5	mg/L	105	90	110			
L19044-01DUP	DUP	07/02/14 21:43			33.1	33.4	mg/L				0.9	20	
L19044-02AS	AS	07/02/14 22:19	WI140610-6	30	30.5	60.9	mg/L	101.3	90	110			
WG366969LFB2	LFB	07/03/14 12:32	WI140610-6	30		30.4	mg/L	101.3	90	110			

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.05343	mg/L	106.9	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0003	0.0003			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.0502		.05194	mg/L	103.5	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.0502	U	.05345	mg/L	106.5	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.0502	U	.05356	mg/L	106.7	70	130	0.21	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.05487	mg/L	109.7	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0003	0.0003			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00022	0.00022			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.0502		.05029	mg/L	100.2	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.0502	U	.05001	mg/L	99.6	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.0502	U	.05043	mg/L	100.5	70	130	0.84	20	

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.0501		.0521	mg/L	104	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0003	0.0003			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.05005		.05181	mg/L	103.5	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.05005	U	.04884	mg/L	97.6	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.05005	U	.05031	mg/L	100.5	70	130	2.97	20	

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.0501		.04795	mg/L	95.7	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0003	0.0003			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00022	0.00022			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.05005		.04852	mg/L	96.9	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.05005	U	.04758	mg/L	95.1	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.05005	U	.04696	mg/L	93.8	70	130	1.31	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	2		2.0295	mg/L	101.5	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.015	0.015			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	1		1.037	mg/L	103.7	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	1		.9919	mg/L	99.2	85	115			
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	1		.9878	mg/L	98.8	85	115	0.41	20	

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	2		1.9998	mg/L	100	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.015	0.015			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.011	0.011			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	1		1.036	mg/L	103.6	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	1	.061	1.096	mg/L	103.5	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	1	.061	1.103	mg/L	104.2	70	130	0.64	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.05106	mg/L	102.1	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0003	0.0003			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.05005		.05058	mg/L	101.1	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.05005	.0106	.06306	mg/L	104.8	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.05005	.0106	.06252	mg/L	103.7	70	130	0.86	20	

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.05218	mg/L	104.4	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0003	0.0003			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00022	0.00022			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.05005		.0487	mg/L	97.3	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.05005	.0017	.0523	mg/L	101.1	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.05005	.0017	.0527	mg/L	101.9	70	130	0.76	20	

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.05013	mg/L	100.3	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0006	0.0006			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.05005		.05248	mg/L	104.9	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.05005	.003	.05411	mg/L	102.1	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.05005	.003	.05367	mg/L	101.2	70	130	0.82	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.04852	mg/L	97	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0006	0.0006			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00044	0.00044			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.05005		.04905	mg/L	98	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.05005	.0055	.05463	mg/L	98.2	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.05005	.0055	.05435	mg/L	97.6	70	130	0.51	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	2		2.006	mg/L	100.3	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.03	0.03			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	.5005		.529	mg/L	105.7	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	.5005	.27	.775	mg/L	100.9	85	115			
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	.5005	.27	.777	mg/L	101.3	85	115	0.26	20	

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	2		1.933	mg/L	96.7	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.03	0.03			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.022	0.022			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	.5005		.523	mg/L	104.5	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	.5005	U	.529	mg/L	105.7	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	.5005	U	.534	mg/L	106.7	70	130	0.94	20	

SPF Water Engineering ACZ Project ID: ***L19044***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L19044-01	WG366836	Aluminum, total	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG366492	Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Sodium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG366755	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366995	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366802	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366755	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366998	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366944	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366894	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366584	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L19044***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L19044-02	WG366836	Aluminum, total	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG366492	Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Sodium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG366755	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366995	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366909	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366755	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366998	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366944	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366894	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366584	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Quarter 2014 Sampling

ACZ Project ID: L19044
Date Received: 06/24/2014 09:38
Received By: mtb
Date Printed: 6/24/2014

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
NA19884	1.8	15	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

L19044

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name:	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SPF-2014-GW

PO#: Calico 2nd Quarter 2014 Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	*SPF-2014-GW
Leslie Gulch	6/19/14 12:30	SW	8	X
Owyhee River DS	6/19/14 15:45	SW	8	X

Matrix: (SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	6/23/14 9:00	MPC	6/24/14 0930

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L19044 Chain of Custody

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Bottle Order Packing List

Account: SPFWATER/SPF Water Engineering
Bottle Order: BO31482

Bill to Account: Bill to ACZ
Ship Date Requested: 05/07/2014
Request Placed at: 05/05/2014 10:29
Service Requested: UPS SecondDay

Sampling supplies

PACK	Qty	ACZ ID	Type	Description
	4	COC	Chain of Custody	Chain of Custody, 1 for 10 samples.
	2	SEAL	Custody Seal	Custody seals for cooler, two for each cooler.
	1	RETURN	Return Address	Return Address label, one for each cooler.
	272	LABELS	Sample Labels	ACZ supplied labels for sample containers
	4	TRIP CN		
	4	TRIP HG		

ACZ Coolers

PACK	Qty	ACZ ID	Size	Weight	UPS Tracking Number
	1	box	Small	55	1Z8101300275007472

Quote number: SPF-2014-GW
Sample Quantity: 33

Quarterly Analysis of Groundwater and Springs

Client is responsible for necessary field filtering

PACK	Qty	Type	Size	Filter/Raw/Preserve	Instructions
	1	GREEN PC	250 ML	Green pre-cleaned Filtered/Nitiric	Metals (dissolved including ICPMS) - Filter sample with .45 micron filter. Do not overfill as there is Nitric Acid in the bottle.
	1	HG-1631	250 ML	Mercury 1631	Mercury by 1631 - See method specific sampling instructions.
	1	HG-1631 D	250 ML	Mercury 1631 Dissolved	Mercury (dissolved) by 1631 - See method specific sampling instructions.
	1	PURPLE	500 ML	Raw/NaOH	Cyanide - Do not overfill as there is Sodium Hydroxide in the bottle.
	1	RAW	500 ML	Raw	Wet Chemistry (analyses that do not require preservative or filtration) - Completely fill container.
	1	RED PC	250 ML	Red pre-cleaned Raw/Nitric	Metals (total including ICPMS) - Do not overfill as there is Nitric Acid in the bottle.
	1	WHITE	250 ML	Filtered	Wet chemistry (dissolved) - Filter sample with .45 micron filter. Completely fill container.
	1	YELLOW	250 ML	Raw/Sulfuric	For total wet chemistry analyses. Do not overfill as there is Sulfuric Acid in the bottle.

Prepared By/Date: _____

mjj

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 11, 2014

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 2nd Quarter 2
ACZ Project ID: L19105

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 26, 2014. This project has been assigned to ACZ's project number, L19105. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L19105. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 10, 2014. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Max Janicek has reviewed and approved this report.

SPF Water Engineering July 11, 2014

Project ID: Calico 2nd Quarter 2
ACZ Project ID: L19105

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 4 miscellaneous samples from SPF Water Engineering on June 26, 2014. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L19105. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

Any analyses not performed within EPA recommended holding times have been qualified with an "H" flag.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

Some of the dissolved Cobalt values exceed the corresponding total values for project L19105. In some cases, RPDs between dissolved and total values exceed the standard acceptance limit of 20%. Samples were re-analyzed for verification, and results for both parameters were confirmed. This is a consistent anomaly with these sample types, and discrepancies may be attributed to a matrix or field sampling issue.

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L19105-02***
Date Sampled: *06/23/14 15:20*
Date Received: *06/26/14*
Sample Matrix: *Surface Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/02/14 16:49	mpb
Cyanide, WAD	SM4500-CN I- distillation								07/03/14 11:38	mss2
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/07/14 10:04	tcd
Total Hot Plate Digestion	M200.2 ICP								07/02/14 10:54	jjc
Total Hot Plate Digestion	M200.2 ICP-MS								07/02/14 9:42	las

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L19105-02***
Date Sampled: *06/23/14 15:20*
Date Received: *06/26/14*
Sample Matrix: *Surface Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.17	B		mg/L	0.03	0.2	06/30/14 22:13	jjc
Aluminum, total	M200.7 ICP	1	1.73			mg/L	0.03	0.2	07/03/14 14:19	jjc
Antimony, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0004	0.002	06/30/14 23:19	pmc
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/09/14 18:05	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0063			mg/L	0.0002	0.001	06/30/14 23:19	pmc
Arsenic, total	M200.8 ICP-MS	1	0.0064			mg/L	0.0002	0.001	07/09/14 18:05	pmc
Barium, dissolved	M200.7 ICP	1	0.014	B		mg/L	0.003	0.02	06/30/14 22:13	jjc
Barium, total	M200.7 ICP	1	0.021			mg/L	0.003	0.02	07/03/14 14:19	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/30/14 23:19	pmc
Beryllium, total	M200.8 ICP-MS	1	0.00007	B		mg/L	0.00005	0.0003	07/09/14 18:05	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/30/14 22:13	jjc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/03/14 14:19	jjc
Boron, dissolved	M200.7 ICP	1	0.11			mg/L	0.01	0.05	06/30/14 22:13	jjc
Boron, total	M200.7 ICP	1	0.09			mg/L	0.01	0.05	07/03/14 14:19	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/30/14 23:19	pmc
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:05	pmc
Calcium, dissolved	M200.7 ICP	1	20.1			mg/L	0.1	0.5	06/30/14 22:13	jjc
Calcium, total	M200.7 ICP	1	20.7			mg/L	0.1	0.5	07/03/14 14:19	jjc
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	06/30/14 23:19	pmc
Chromium, total	M200.8 ICP-MS	1	0.0014	B		mg/L	0.0005	0.002	07/09/14 18:05	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00113			mg/L	0.00005	0.0003	06/30/14 23:19	pmc
Cobalt, total	M200.8 ICP-MS	1	0.00048			mg/L	0.00005	0.0003	07/09/14 18:05	pmc
Copper, dissolved	M200.8 ICP-MS	1	0.0008	B		mg/L	0.0005	0.003	06/30/14 23:19	pmc
Copper, total	M200.8 ICP-MS	1	0.0020	B		mg/L	0.0005	0.003	07/10/14 19:14	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/30/14 22:13	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/14 14:19	jjc
Iron, dissolved	M200.7 ICP	1	0.17			mg/L	0.02	0.05	06/30/14 22:13	jjc
Iron, total	M200.7 ICP	1	1.45			mg/L	0.02	0.05	07/03/14 14:19	jjc
Lead, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	06/30/14 23:19	pmc
Lead, total	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	07/09/14 18:05	pmc
Lithium, dissolved	M200.7 ICP	1	0.016	B		mg/L	0.008	0.04	06/30/14 22:13	jjc
Lithium, total	M200.7 ICP	1	0.018	B		mg/L	0.008	0.04	07/03/14 14:19	jjc
Magnesium, dissolved	M200.7 ICP	1	5.3			mg/L	0.2	1	06/30/14 22:13	jjc
Magnesium, total	M200.7 ICP	1	5.8			mg/L	0.2	1	07/03/14 14:19	jjc
Manganese, dissolved	M200.8 ICP-MS	1	0.0093			mg/L	0.0005	0.003	06/30/14 23:19	pmc
Manganese, total	M200.8 ICP-MS	1	0.0308			mg/L	0.0005	0.003	07/09/14 18:05	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	1	2.4			ng/L	0.2	0.5	07/01/14 14:03	las
Mercury, total	M1631, Atomic Fluorescence	2	5.1			ng/L	0.4	1	07/01/14 10:45	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0045			mg/L	0.0005	0.003	06/30/14 23:19	pmc
Molybdenum, total	M200.8 ICP-MS	1	0.0043			mg/L	0.0005	0.003	07/09/14 18:05	pmc
Nickel, dissolved	M200.8 ICP-MS	1	0.0009	B		mg/L	0.0006	0.003	06/30/14 23:19	pmc
Nickel, total	M200.8 ICP-MS	1	0.0016	B		mg/L	0.0006	0.003	07/09/14 18:05	pmc
Potassium, dissolved	M200.7 ICP	1	3.7			mg/L	0.2	1	06/30/14 22:13	jjc

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L19105-02***
Date Sampled: *06/23/14 15:20*
Date Received: *06/26/14*
Sample Matrix: *Surface Water*

Potassium, total	M200.7 ICP	1	3.8			mg/L	0.2	1	07/03/14 14:19	jjc
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/30/14 22:13	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/14 14:19	jjc
Selenium, dissolved	M200.8 ICP-MS	1	0.0004			mg/L	0.0001	0.0003	06/30/14 23:19	pmc
Selenium, total	M200.8 ICP-MS	1	0.0004			mg/L	0.0001	0.0003	07/09/14 18:05	pmc
Silver, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	06/30/14 23:19	pmc
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/09/14 18:05	pmc
Sodium, dissolved	M200.7 ICP	1	31.4			mg/L	0.2	1	06/30/14 22:13	jjc
Sodium, total	M200.7 ICP	1	31.8			mg/L	0.2	1	07/03/14 14:19	jjc
Strontium, dissolved	M200.7 ICP	1	0.093			mg/L	0.005	0.03	06/30/14 22:13	jjc
Strontium, total	M200.7 ICP	1	0.095			mg/L	0.005	0.03	07/03/14 14:19	jjc
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/30/14 23:19	pmc
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:05	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	06/30/14 23:19	pmc
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/09/14 18:05	pmc
Titanium, dissolved	M200.7 ICP	1	0.007	B		mg/L	0.005	0.03	06/30/14 22:13	jjc
Titanium, total	M200.7 ICP	1	0.084			mg/L	0.005	0.03	07/03/14 14:19	jjc
Uranium, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0005	06/30/14 23:19	pmc
Uranium, total	M200.8 ICP-MS	1	0.0015			mg/L	0.0001	0.0005	07/09/14 18:05	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0067			mg/L	0.0002	0.001	06/30/14 23:19	pmc
Vanadium, total	M200.8 ICP-MS	1	0.0087			mg/L	0.0002	0.001	07/09/14 18:05	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/30/14 22:13	jjc
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/14 14:19	jjc

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L19105-02***
Date Sampled: *06/23/14 15:20*
Date Received: *06/26/14*
Sample Matrix: *Surface Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	89			mg/L	2	20	07/02/14 0:00	abd
Carbonate as CaCO3		1	4	B		mg/L	2	20	07/02/14 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	07/02/14 0:00	abd
Total Alkalinity		1	92		*	mg/L	2	20	07/02/14 0:00	abd
Chloride	M300.0 - Ion Chromatography	1	9.40		*	mg/L	0.5	2.5	07/07/14 22:04	jlf
Conductivity @25C	SM2510B	1	287		*	umhos/cm	1	10	07/02/14 2:41	abd
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/02/14 23:11	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/04/14 1:11	pjb
Fluoride	M300.0 - Ion Chromatography	1	1.42		*	mg/L	0.05	0.25	07/07/14 22:04	jlf
Hardness as CaCO3	SM2340B - Calculation		72			mg/L	0.8	4	07/11/14 11:50	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U		mg/L	0.02	0.1	07/05/14 15:15	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.2	07/02/14 15:57	bsu
pH (lab)	SM4500H+ B									
pH		1	8.5	H		units	0.1	0.1	07/02/14 0:00	abd
pH measured at		1	22			C	0.1	0.1	07/02/14 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.03	B	*	mg/L	0.01	0.05	07/09/14 0:17	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	180			mg/L	10	20	06/30/14 11:24	nml
Residue, Non-Filterable (TSS) @105C	SM2540D	1	9	B	*	mg/L	5	20	06/30/14 15:17	eaa
Sulfate	M300.0 - Ion Chromatography	1	29.4			mg/L	0.5	2.5	07/07/14 22:04	jlf

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: EQUIPMENT BLANK

ACZ Sample ID: ***L19105-04***
Date Sampled: *06/24/14 13:40*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/02/14 17:14	mpb
Cyanide, WAD	SM4500-CN I- distillation								07/01/14 18:09	mpb
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/07/14 10:04	tcd
Total Hot Plate Digestion	M200.2 ICP-MS								07/02/14 10:25	las
Total Hot Plate Digestion	M200.2 ICP								07/01/14 20:25	aeb

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: EQUIPMENT BLANK

ACZ Sample ID: ***L19105-04***
Date Sampled: *06/24/14 13:40*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	06/30/14 22:19	jjc
Aluminum, total	M200.7 ICP	1		U		mg/L	0.03	0.2	07/03/14 12:43	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	06/30/14 23:26	pmc
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/09/14 18:18	pmc
Arsenic, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	06/30/14 23:26	pmc
Arsenic, total	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	07/09/14 18:18	pmc
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	06/30/14 22:19	jjc
Barium, total	M200.7 ICP	1		U		mg/L	0.003	0.02	07/03/14 12:43	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/30/14 23:26	pmc
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/09/14 18:18	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/30/14 22:19	jjc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/03/14 12:43	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/30/14 22:19	jjc
Boron, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/14 12:43	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/30/14 23:26	pmc
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:18	pmc
Calcium, dissolved	M200.7 ICP	1		U		mg/L	0.1	0.5	06/30/14 22:19	jjc
Calcium, total	M200.7 ICP	1		U		mg/L	0.1	0.5	07/03/14 12:43	aeb
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	06/30/14 23:26	pmc
Chromium, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/09/14 18:18	pmc
Cobalt, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/30/14 23:26	pmc
Cobalt, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/09/14 18:18	pmc
Copper, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	06/30/14 23:26	pmc
Copper, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/10/14 19:24	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/30/14 22:19	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/14 12:43	aeb
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	06/30/14 22:19	jjc
Iron, total	M200.7 ICP	1		U	*	mg/L	0.02	0.05	07/03/14 12:43	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/30/14 23:26	pmc
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:18	pmc
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/30/14 22:19	jjc
Lithium, total	M200.7 ICP	1		U		mg/L	0.008	0.04	07/03/14 12:43	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/30/14 22:19	jjc
Magnesium, total	M200.7 ICP	1		U		mg/L	0.2	1	07/03/14 12:43	aeb
Manganese, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	06/30/14 23:26	pmc
Manganese, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/09/14 18:18	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	1	0.2	B		ng/L	0.2	0.5	07/01/14 14:13	las
Mercury, total	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	07/01/14 10:55	las
Molybdenum, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	06/30/14 23:26	pmc
Molybdenum, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/09/14 18:18	pmc
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	06/30/14 23:26	pmc
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/09/14 18:18	pmc
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/30/14 22:19	jjc

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: EQUIPMENT BLANK

ACZ Sample ID: ***L19105-04***
Date Sampled: *06/24/14 13:40*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1		U		mg/L	0.2	1	07/03/14 12:43	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/30/14 22:19	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/14 12:43	aeb
Selenium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	06/30/14 23:26	pmc
Selenium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	07/09/14 18:18	pmc
Silver, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	06/30/14 23:26	pmc
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/09/14 18:18	pmc
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/30/14 22:19	jjc
Sodium, total	M200.7 ICP	1		U		mg/L	0.2	1	07/03/14 12:43	aeb
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/30/14 22:19	jjc
Strontium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	07/03/14 12:43	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/30/14 23:26	pmc
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:18	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	06/30/14 23:26	pmc
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/09/14 18:18	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/30/14 22:19	jjc
Titanium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	07/03/14 12:43	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/30/14 23:26	pmc
Uranium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:18	pmc
Vanadium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	06/30/14 23:26	pmc
Vanadium, total	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0002	0.001	07/09/14 18:18	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/30/14 22:19	jjc
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/14 12:43	aeb

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: EQUIPMENT BLANK

ACZ Sample ID: ***L19105-04***
Date Sampled: *06/24/14 13:40*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	07/02/14 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	07/02/14 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	07/02/14 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	07/02/14 0:00	abd
Chloride	M300.0 - Ion Chromatography	1		U	*	mg/L	0.5	2.5	07/07/14 22:40	jlf
Conductivity @25C	SM2510B	1	1	B	*	umhos/cm	1	10	07/02/14 2:57	abd
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/02/14 23:13	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U		mg/L	0.003	0.01	07/02/14 23:51	pjb
Fluoride	M300.0 - Ion Chromatography	1		U	*	mg/L	0.05	0.25	07/07/14 22:40	jlf
Hardness as CaCO3	SM2340B - Calculation			U		mg/L	0.8	4	07/11/14 11:51	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U		mg/L	0.02	0.1	07/05/14 15:41	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.2	07/02/14 15:59	bsu
pH (lab)	SM4500H+ B									
pH		1	6.2	H		units	0.1	0.1	07/02/14 0:00	abd
pH measured at		1	22			C	0.1	0.1	07/02/14 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.01	0.05	07/09/14 0:19	pjb
Residue, Filterable (TDS) @180C	SM2540C	1		U		mg/L	10	20	06/27/14 10:56	eaa
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	07/01/14 9:01	nml
Sulfate	M300.0 - Ion Chromatography	1		U	*	mg/L	0.5	2.5	07/07/14 22:40	jlf

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4)	EPA SW-846. Test Methods for Evaluating Solid Waste.
(5)	Standard Methods for the Examination of Water and Wastewater.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5)	If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L19105***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366884													
WG366884PBW1	PBW	07/01/14 19:03				U	mg/L		-20	20			
WG366884LCSW3	LCSW	07/01/14 19:22	WC140630-	820.0001		841.6	mg/L	102.6	90	110			
WG366884LCSW6	LCSW	07/01/14 23:36	WC140630-	820.0001		826.8	mg/L	100.8	90	110			
WG366884PBW2	PBW	07/01/14 23:44				U	mg/L		-20	20			
L19101-01DUP	DUP	07/02/14 1:50			U	U	mg/L				0	20	RA
WG366884LCSW9	LCSW	07/02/14 3:26	WC140630-	820.0001		830.4	mg/L	101.3	90	110			
WG366884PBW3	PBW	07/02/14 3:35				U	mg/L		-20	20			
WG366884LCSW12	LCSW	07/02/14 7:22	WC140630-	820.0001		830.4	mg/L	101.3	90	110			
WG366884PBW4	PBW	07/02/14 7:31				2.1	mg/L		-20	20			
WG366884LCSW15	LCSW	07/02/14 11:01	WC140630-	820.0001		831.9	mg/L	101.5	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.006	mg/L	100.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.09	0.09			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.0011		1.101	mg/L	110	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	1.0011	U	1.148	mg/L	114.7	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	1.0011	U	1.141	mg/L	114	85	115	0.61	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.0011	U	1.091	mg/L	109	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.0011	U	1.093	mg/L	109.2	85	115	0.18	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	2		1.989	mg/L	99.5	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.09	0.09			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.066	0.066			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	1.0011		1.123	mg/L	112.2	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	1.0011	.03	1.136	mg/L	110.5	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	1.0011	.03	1.134	mg/L	110.3	70	130	0.18	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.995	mg/L	99.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.09	0.09			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.066	0.066			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.0011		1.09	mg/L	108.9	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1.0011	U	1.099	mg/L	109.8	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1.0011	U	1.084	mg/L	108.3	70	130	1.37	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.02002		.02046	mg/L	102.2	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0012	0.0012			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.01		.01018	mg/L	101.8	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.01	U	.00975	mg/L	97.5	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.01	U	.01004	mg/L	100.4	70	130	2.93	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.02002		.02018	mg/L	100.8	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0012	0.0012			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00088	0.00088			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.01		.01083	mg/L	108.3	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.01	.0004	.01131	mg/L	109.1	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.01	.0004	.01124	mg/L	108.4	70	130	0.62	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.05406	mg/L	108.1	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0006	0.0006			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.0501		.04938	mg/L	98.6	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.0501	.0348	.08717	mg/L	104.5	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.0501	.0348	.08687	mg/L	103.9	70	130	0.34	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05318	mg/L	106.4	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0006	0.0006			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00044	0.00044			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.0501		.05519	mg/L	110.2	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.0501	.0268	.07832	mg/L	102.8	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.0501	.0268	.07833	mg/L	102.9	70	130	0.01	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.9683	mg/L	98.4	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.009	0.009			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5		.5041	mg/L	100.8	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	.5	.059	.5626	mg/L	100.7	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	.5	.059	.5682	mg/L	101.8	85	115	0.99	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5	.005	.5081	mg/L	100.6	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5	.005	.5103	mg/L	101.1	85	115	0.43	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	2		1.9735	mg/L	98.7	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.009	0.009			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.0066	0.0066			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	.5		.5089	mg/L	101.8	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	.5	.313	.8203	mg/L	101.5	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	.5	.313	.8187	mg/L	101.1	70	130	0.2	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.976	mg/L	98.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.009	0.009			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.0066	0.0066			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5		.5114	mg/L	102.3	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	.5	U	.5147	mg/L	102.9	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	.5	U	.511	mg/L	102.2	70	130	0.72	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.04797	mg/L	95.9	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.00015	0.00015			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.05005		.04803	mg/L	96	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.05005	U	.05188	mg/L	103.7	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.05005	U	.05319	mg/L	106.3	70	130	2.49	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05115	mg/L	102.3	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.00015	0.00015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00011	0.00011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.05167	mg/L	103.2	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	U	.05111	mg/L	102.1	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	U	.05162	mg/L	103.1	70	130	0.99	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.007	mg/L	100.4	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.12	0.12			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.999		1.044	mg/L	104.5	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	.999	U	1.045	mg/L	104.6	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	.999	U	1.027	mg/L	102.8	85	115	1.74	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	.999	U	1.023	mg/L	102.4	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.999	U	1.019	mg/L	102	85	115	0.39	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	2		2.02	mg/L	101	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.12	0.12			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.088	0.088			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	.999		1.039	mg/L	104	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	.999	U	1.036	mg/L	103.7	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	.999	U	1.039	mg/L	104	70	130	0.29	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.003	mg/L	100.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.12	0.12			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.088	0.088			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.999		1.034	mg/L	103.5	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	.999	U	1.072	mg/L	107.3	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	.999	U	1.029	mg/L	103	70	130	4.09	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.015	mg/L	100.8	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.03	0.03			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5005		.525	mg/L	104.9	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	.5005	.14	.657	mg/L	103.3	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	.5005	.14	.652	mg/L	102.3	85	115	0.76	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5005	.11	.625	mg/L	102.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5005	.11	.625	mg/L	102.9	85	115	0	20	

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	2		2.04	mg/L	102	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.03	0.03			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.022	0.022			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	.5005		.52	mg/L	103.9	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	.5005	U	.508	mg/L	101.5	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	.5005	U	.511	mg/L	102.1	70	130	0.59	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.004	mg/L	100.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.03	0.03			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.022	0.022			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5005		.506	mg/L	101.1	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	.5005	.11	.617	mg/L	101.3	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	.5005	.11	.616	mg/L	101.1	70	130	0.16	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.04941	mg/L	98.8	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0003	0.0003			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.0501		.04851	mg/L	96.8	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.0501	U	.04976	mg/L	99.3	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.0501	U	.0507	mg/L	101.2	70	130	1.87	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.04962	mg/L	99.2	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.0501		.04942	mg/L	98.6	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.0501	U	.04846	mg/L	96.7	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.0501	U	.04787	mg/L	95.5	70	130	1.22	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	100		99.28	mg/L	99.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.3	0.3			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	67.98099		73.58	mg/L	108.2	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	67.98099	230	292.8	mg/L	92.4	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	67.98099	230	293.3	mg/L	93.1	85	115	0.17	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	67.98099	26.8	99.64	mg/L	107.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	67.98099	26.8	99.62	mg/L	107.1	85	115	0.02	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	100		100.45	mg/L	100.5	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.3	0.3			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.22	0.22			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	67.98099		76.54	mg/L	112.6	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	67.98099	14	89.4	mg/L	110.9	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	67.98099	14	89.27	mg/L	110.7	70	130	0.15	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	100		99.24	mg/L	99.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.3	0.3			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.22	0.22			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	67.98099		74.57	mg/L	109.7	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	67.98099	1.1	76.22	mg/L	110.5	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	67.98099	1.1	75.38	mg/L	109.3	70	130	1.11	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	19.98		20.3	mg/L	101.6	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-1.5	1.5			
WG367124													
WG367124LFB1	LFB	07/07/14 18:11	WI140610-6	30		31.1	mg/L	103.7	90	110			
L19103-01DUP	DUP	07/07/14 19:59			2.36	2.34	mg/L				0.9	20	RA
L19103-02AS	AS	07/07/14 20:34	WI140610-6	30	3.19	33	mg/L	99.4	90	110			
L19105-04DUP	DUP	07/07/14 22:58			U	U	mg/L				0	20	RA
L19106-01AS	AS	07/07/14 23:34	WI140610-6	30	10.5	41.5	mg/L	103.3	90	110			
WG367124LFB2	LFB	07/08/14 2:51	WI140610-6	30		31.2	mg/L	104	90	110			

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.05148	mg/L	103	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0015	0.0015			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.05005		.05036	mg/L	100.6	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.05005	U	.04852	mg/L	96.9	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.05005	U	.04782	mg/L	95.5	70	130	1.45	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05067	mg/L	101.3	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0015	0.0015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.0011	0.0011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.04994	mg/L	99.8	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	U	.04846	mg/L	96.8	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	U	.04908	mg/L	98.1	70	130	1.27	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.04961	mg/L	99.2	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.00015	0.00015			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.05005		.05104	mg/L	102	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.05005	.0001	.05119	mg/L	102.1	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.05005	.0001	.05189	mg/L	103.5	70	130	1.36	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.04989	mg/L	99.8	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.00015	0.00015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00011	0.00011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.05064	mg/L	101.2	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	.00008	.04872	mg/L	97.2	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	.00008	.04874	mg/L	97.2	70	130	0.04	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366884													
WG366884LCSW2	LCSW	07/01/14 19:09	PCN44568	1408.8		1433.3	umhos/cm	101.7	90	110			
WG366884LCSW5	LCSW	07/01/14 23:21	PCN44568	1408.8		1422.1	umhos/cm	100.9	90	110			
L19101-01DUP	DUP	07/02/14 1:50			1	1.1	umhos/cm				9.5	20	RA
WG366884LCSW8	LCSW	07/02/14 3:12	PCN44568	1408.8		1403.9	umhos/cm	99.7	90	110			
WG366884LCSW11	LCSW	07/02/14 7:08	PCN44568	1408.8		1391.7	umhos/cm	98.8	90	110			
WG366884LCSW14	LCSW	07/02/14 10:46	PCN44568	1408.8		1372.4	umhos/cm	97.4	90	110			

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.05008	mg/L	100.2	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0015	0.0015			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.05		.04763	mg/L	95.3	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.05	U	.04374	mg/L	87.5	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.05	U	.04296	mg/L	85.9	70	130	1.8	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367311													
WG367311ICV	ICV	07/10/14 19:01	MS140513-1	.05		.04899	mg/L	98	90	110			
WG367311ICB	ICB	07/10/14 19:04				U	mg/L		-0.0015	0.0015			
WG366912LRB	LRB	07/10/14 19:06				U	mg/L		-0.0011	0.0011			
WG366912LFB	LFB	07/10/14 19:09	MS140625-3	.05		.04703	mg/L	94.1	85	115			
L19105-03LFM	LFM	07/10/14 19:19	MS140625-3	.05	U	.04547	mg/L	90.9	70	130			
L19105-03LFMD	LFMD	07/10/14 19:21	MS140625-3	.05	U	.045	mg/L	90	70	130	1.04	20	
WG367077LRB	LRB	07/10/14 19:46				.00068	mg/L		-0.0011	0.0011			
WG367077LFB	LFB	07/10/14 19:49	MS140625-3	.05		.04713	mg/L	94.3	85	115			

SPF Water Engineering

ACZ Project ID: ***L19105***

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366995													
WG366995ICV	ICV	07/02/14 22:20	WI140702-5	.3		.289	mg/L	96.3	90	110			
WG366995ICB	ICB	07/02/14 22:21				U	mg/L		-0.003	0.003			
WG366997													
WG366967LRB	LRB	07/02/14 22:57				U	mg/L		-0.003	0.003			
WG366967LFB	LFB	07/02/14 22:58	WI140702-2	.2		.2005	mg/L	100.3	90	110			
L19067-01DUP	DUP	07/02/14 23:00			U	U	mg/L				0	20	RA
L19067-02LFM	LFM	07/02/14 23:02	WI140702-2	.2	U	.2033	mg/L	101.7	90	110			
L19105-03DUP	DUP	07/02/14 23:12			U	U	mg/L				0	20	RA
L19105-04LFM	LFM	07/02/14 23:14	WI140702-2	.2	U	.2016	mg/L	100.8	90	110			

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366995													
WG366995ICV	ICV	07/02/14 22:20	WI140702-5	.3		.289	mg/L	96.3	90	110			
WG366995ICB	ICB	07/02/14 22:21				U	mg/L		-0.003	0.003			
WG366909													
WG366886LRB	LRB	07/02/14 23:33				U	mg/L		-0.003	0.003			
WG366886LFB	LFB	07/02/14 23:34	WI140617-1	.2		.2024	mg/L	101.2	90	110			
L19094-01DUP	DUP	07/02/14 23:48			.03	.0293	mg/L				2.4	20	
L19105-03LFM	LFM	07/02/14 23:50	WI140617-1	.2	U	.2031	mg/L	101.6	90	110			
WG367056													
WG367056ICV	ICV	07/04/14 0:14	WI140702-5	.3		.2924	mg/L	97.5	90	110			
WG367056ICB	ICB	07/04/14 0:15				U	mg/L		-0.003	0.003			
WG367057													
WG367029LRB	LRB	07/04/14 1:07				U	mg/L		-0.003	0.003			
WG367029LFB	LFB	07/04/14 1:08	WI140702-4	.2		.18	mg/L	90	90	110			
L19105-01LFM	LFM	07/04/14 1:10	WI140702-4	.2	U	.1625	mg/L	81.3	90	110			M2
L19105-02DUP	DUP	07/04/14 1:11			U	U	mg/L				0	20	RA

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	4.02		4.17	mg/L	103.7	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-0.3	0.3			
WG367124													
WG367124LFB1	LFB	07/07/14 18:11	WI140610-6	1.5		1.54	mg/L	102.7	90	110			
L19103-01DUP	DUP	07/07/14 19:59			.46	.46	mg/L				0	20	RA
L19103-02AS	AS	07/07/14 20:34	WI140610-6	1.5	.57	2.1	mg/L	102	90	110			
L19105-04DUP	DUP	07/07/14 22:58			U	U	mg/L				0	20	RA
L19106-01AS	AS	07/07/14 23:34	WI140610-6	1.5	.62	2.18	mg/L	104	90	110			
WG367124LFB2	LFB	07/08/14 2:51	WI140610-6	1.5		1.55	mg/L	103.3	90	110			

SPF Water Engineering

ACZ Project ID: ***L19105***

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.06	mg/L	103	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.3	0.3			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.001		1.05	mg/L	104.9	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	1.001	U	1.07	mg/L	106.9	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	1.001	U	1.1	mg/L	109.9	85	115	2.76	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.001	U	1.05	mg/L	104.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.001	U	1.04	mg/L	103.9	85	115	0.96	20	

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	2		2	mg/L	100	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.3	0.3			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.22	0.22			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	1.001		1.11	mg/L	110.9	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	1.001	U	1.08	mg/L	107.9	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	1.001	U	1.06	mg/L	105.9	70	130	1.87	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.03	mg/L	101.5	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.3	0.3			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.22	0.22			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.001		1.04	mg/L	103.9	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1.001	U	1.05	mg/L	104.9	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1.001	U	1.01	mg/L	100.9	70	130	3.88	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.966	mg/L	98.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.06	0.06			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.0014		1.029	mg/L	102.8	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	1.0014	U	1.024	mg/L	102.3	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	1.0014	U	1.029	mg/L	102.8	85	115	0.49	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.0014	U	1.021	mg/L	102	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.0014	U	1.024	mg/L	102.3	85	115	0.29	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	2		1.975	mg/L	98.8	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.06	0.06			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.044	0.044			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	1.0014		1.053	mg/L	105.2	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	1.0014	42.1	42.06	mg/L	-4	70	130			M3
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	1.0014	42.1	41.7	mg/L	-39.9	70	130	0.86	20	M3
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.965	mg/L	98.3	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.06	0.06			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.044	0.044			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.0014		1.046	mg/L	104.5	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1.0014	U	1.045	mg/L	104.4	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1.0014	U	1.036	mg/L	103.5	70	130	0.86	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.05113	mg/L	102.3	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0003	0.0003			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.05005		.04989	mg/L	99.7	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.05005	U	.05084	mg/L	101.6	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.05005	U	.05128	mg/L	102.5	70	130	0.86	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05152	mg/L	103	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.04887	mg/L	97.6	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	U	.04932	mg/L	98.5	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	U	.04962	mg/L	99.1	70	130	0.61	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.9912	mg/L	99.6	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.024	0.024			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.002		1.005	mg/L	100.3	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	1.002	.058	1.079	mg/L	101.9	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	1.002	.058	1.086	mg/L	102.6	85	115	0.65	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.002	.013	.999	mg/L	98.4	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.002	.013	1.009	mg/L	99.4	85	115	1	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	2		1.9822	mg/L	99.1	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.024	0.024			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.0176	0.0176			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	1.002		1.035	mg/L	103.3	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	1.002	.019	1.048	mg/L	102.7	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	1.002	.019	1.046	mg/L	102.5	70	130	0.19	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.9815	mg/L	99.1	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.024	0.024			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.0176	0.0176			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.002		1.01	mg/L	100.8	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1.002	U	1.016	mg/L	101.4	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1.002	U	1.013	mg/L	101.1	70	130	0.3	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	100		96.44	mg/L	96.4	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.6	0.6			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	50.00131		50.21	mg/L	100.4	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	50.00131	155	201.2	mg/L	92.4	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	50.00131	155	200.8	mg/L	91.6	85	115	0.2	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	50.00131	15	64.79	mg/L	99.6	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	50.00131	15	64.82	mg/L	99.6	85	115	0.05	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	100		97.52	mg/L	97.5	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.6	0.6			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.44	0.44			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	50.00131		52.62	mg/L	105.2	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	50.00131	3.8	55.59	mg/L	103.6	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	50.00131	3.8	55.5	mg/L	103.4	70	130	0.16	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	100		96.61	mg/L	96.6	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.6	0.6			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.44	0.44			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	50.00131		51.21	mg/L	102.4	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	50.00131	.2	51.32	mg/L	102.2	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	50.00131	.2	50.69	mg/L	101	70	130	1.24	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.05173	mg/L	103.5	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0015	0.0015			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.0501		.0501	mg/L	100	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.0501	.001	.0502	mg/L	98.2	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.0501	.001	.05091	mg/L	99.6	70	130	1.4	20	

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05216	mg/L	104.3	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0015	0.0015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.0011	0.0011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.0501		.05004	mg/L	99.9	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.0501	U	.04919	mg/L	98.2	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.0501	U	.0497	mg/L	99.2	70	130	1.03	20	

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366407													
WG366407ICV	ICV	06/24/14 15:11	HG140624-4	10		10.2	ng/L	102	79	121			
WG366407ICB	ICB	06/24/14 15:16				U	ng/L		-0.5	0.5			
WG366851													
WG366851CCV1	CCV	07/01/14 13:19	HG140624-4	10		10.2	ng/L	102	76.5	123.4			
WG366851CCB1	CCB	07/01/14 13:24				U	ng/L		-0.5	0.5			
WG366851PQV	PQV	07/01/14 13:48	HG140624-6	.5		.65	ng/L	130	70	130			
WG366851LFB	LFB	07/01/14 13:53	HG140624-5	2		1.87	ng/L	93.5	71	125			
L19106-01MS	MS	07/01/14 14:23	HG140624-5	2	U	1.98	ng/L	99	71	125			
L19106-01MSD	MSD	07/01/14 14:28	HG140624-5	2	U	2	ng/L	100	71	125	1.01	24	
WG366851CCV2	CCV	07/01/14 14:43	HG140624-4	10		10.1	ng/L	101	76.5	123.4			
WG366851CCB2	CCB	07/01/14 14:48				U	ng/L		-0.5	0.5			
WG366851CCV3	CCV	07/01/14 16:35	HG140624-4	10		9.9	ng/L	99	76.5	123.4			
WG366851CCB3	CCB	07/01/14 16:40				U	ng/L		-0.5	0.5			
WG366851CCV4	CCV	07/01/14 17:36	HG140624-4	10		9.95	ng/L	99.5	76.5	123.4			
WG366851CCB4	CCB	07/01/14 17:41				U	ng/L		-0.5	0.5			
WG366851CCV5	CCV	07/01/14 18:11	HG140624-4	10		10.1	ng/L	101	76.5	123.4			
WG366851CCB5	CCB	07/01/14 18:16				U	ng/L		-0.5	0.5			

SPF Water Engineering

ACZ Project ID: ***L19105***

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366407													
WG366407ICV	ICV	06/24/14 15:11	HG140624-4	10		10.2	ng/L	102	79	121			
WG366407ICB	ICB	06/24/14 15:16				U	ng/L		-0.5	0.5			
WG366793													
WG366793CCV1	CCV	07/01/14 9:39	HG140624-4	10		9.66	ng/L	96.6	76.5	123.4			
WG366793CCB1	CCB	07/01/14 9:44				U	ng/L		-0.5	0.5			
WG366793PQV	PQV	07/01/14 9:49	HG140624-6	.5		.59	ng/L	118	70	130			
WG366793LFB	LFB	07/01/14 9:54	HG140624-5	2		1.83	ng/L	91.5	71	125			
L19086-01MS	MS	07/01/14 10:04	HG5XPREP	50	20	29.3	ng/L	93	71	125			
L19086-01MSD	MSD	07/01/14 10:09	HG5XPREP	50	20	29.1	ng/L	91	71	125	0.68	24	
WG366793CCV2	CCV	07/01/14 10:30	HG140624-4	10		9.99	ng/L	99.9	76.5	123.4			
WG366793CCB2	CCB	07/01/14 10:35				U	ng/L		-0.5	0.5			
WG366793CCV3	CCV	07/01/14 11:20	HG140624-4	10		10	ng/L	100	76.5	123.4			
WG366793CCB3	CCB	07/01/14 11:25				U	ng/L		-0.5	0.5			
WG366793CCV4	CCV	07/01/14 12:34	HG140624-4	10		10.2	ng/L	102	76.5	123.4			
WG366793CCB4	CCB	07/01/14 12:39				U	ng/L		-0.5	0.5			
WG366793CCV5	CCV	07/01/14 13:19	HG140624-4	10		10.2	ng/L	102	76.5	123.4			
WG366793CCB5	CCB	07/01/14 13:24				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.01998		.01856	mg/L	92.9	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0015	0.0015			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.0502		.04678	mg/L	93.2	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.0502	.0168	.06744	mg/L	100.9	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.0502	.0168	.06778	mg/L	101.6	70	130	0.5	20	

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.01998		.01835	mg/L	91.8	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0015	0.0015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.0011	0.0011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.0502		.04825	mg/L	96.1	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.0502	.0033	.05198	mg/L	97	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.0502	.0033	.05236	mg/L	97.7	70	130	0.73	20	

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.05171	mg/L	103.4	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0018	0.0018			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.05		.04971	mg/L	99.4	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.05	U	.04609	mg/L	92.2	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.05	U	.04525	mg/L	90.5	70	130	1.84	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05168	mg/L	103.4	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0018	0.0018			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00132	0.00132			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05		.04999	mg/L	100	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05	U	.04781	mg/L	95.6	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05	U	.04731	mg/L	94.6	70	130	1.05	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367059													
WG367059ICV	ICV	07/05/14 14:41	WI140417-3	2.416		2.4	mg/L	99.3	90	110			
WG367059ICB	ICB	07/05/14 14:42				U	mg/L		-0.06	0.06			
WG367059LFB1	LFB	07/05/14 14:45	WI140215-3	2		1.985	mg/L	99.3	90	110			
L19051-01AS	AS	07/05/14 15:04	WI140215-3	2	.06	2.135	mg/L	103.8	90	110			
L19051-02DUP	DUP	07/05/14 15:06			.58	.593	mg/L				2.2	20	
WG367059LFB2	LFB	07/05/14 15:19	WI140215-3	2		2.059	mg/L	103	90	110			

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366944													
WG366944ICV	ICV	07/02/14 12:03	WI131021-1	1.003		1.025	mg/L	102.2	90	110			
WG366944ICB	ICB	07/02/14 12:06				U	mg/L		-0.15	0.15			
WG366971													
WG366971LFB1	LFB	07/02/14 15:11	WI140113-8	1		1.016	mg/L	101.6	90	110			
L19069-02AS	AS	07/02/14 15:28	WI140113-8	1	U	1.039	mg/L	103.9	90	110			
L19079-01DUP	DUP	07/02/14 15:30			U	U	mg/L				0	20	RA
WG366971LFB2	LFB	07/02/14 16:00	WI140113-8	1		.969	mg/L	96.9	90	110			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366884													
WG366884LCSW1	LCSW	07/01/14 19:07	PCN45265	5.99		6.04	units	100.8	5.89	6.09			
WG366884LCSW4	LCSW	07/01/14 23:19	PCN45265	5.99		6.06	units	101.2	5.89	6.09			
L19101-01DUP	DUP	07/02/14 1:50			6.3	6.12	units				2.9	20	
WG366884LCSW7	LCSW	07/02/14 3:10	PCN45265	5.99		6.06	units	101.2	5.89	6.09			
WG366884LCSW10	LCSW	07/02/14 7:06	PCN45265	5.99		6.07	units	101.3	5.89	6.09			
WG366884LCSW13	LCSW	07/02/14 10:44	PCN45265	5.99		6.07	units	101.3	5.89	6.09			

SPF Water Engineering

ACZ Project ID: ***L19105***

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367218													
WG367218ICV	ICV	07/08/14 23:45	WI140620-3	.65228		.677	mg/L	103.8	90	110			
WG367218ICB	ICB	07/08/14 23:48				.013	mg/L		-0.03	0.03			
WG367043LRB	LRB	07/08/14 23:49				U	mg/L		-0.03	0.03			
WG367043LFB	LFB	07/08/14 23:50	WI140701-2	.5		.466	mg/L	93.2	90	110			
L19095-03LFM	LFM	07/09/14 0:08	WI140701-2	.5	.03	.502	mg/L	94.4	90	110			
L19095-04DUP	DUP	07/09/14 0:10			.06	.053	mg/L				12.4	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	20		19.69	mg/L	98.5	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.6	0.6			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	99.99364		102	mg/L	102	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	99.99364	4.5	108.9	mg/L	104.4	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	99.99364	4.5	109.6	mg/L	105.1	85	115	0.64	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	99.99364	9	111.1	mg/L	102.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	99.99364	9	111.3	mg/L	102.3	85	115	0.18	20	

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	20		19.75	mg/L	98.8	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.6	0.6			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.44	0.44			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	99.99364		104.9	mg/L	104.9	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	99.99364	6.2	110.3	mg/L	104.1	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	99.99364	6.2	110.4	mg/L	104.2	70	130	0.09	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	20		19.54	mg/L	97.7	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.6	0.6			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.44	0.44			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	99.99364		102.1	mg/L	102.1	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	99.99364	5.7	108.4	mg/L	102.7	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	99.99364	5.7	107.6	mg/L	101.9	70	130	0.74	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366654													
WG366654PBW	PBW	06/27/14 10:27				U	mg/L		-20	20			
WG366654LCSW	LCSW	06/27/14 10:28	PCN46084	260		240	mg/L	92.3	80	120			
L19121-02DUP	DUP	06/27/14 11:06			730	732	mg/L				0.3	10	
WG366693													
WG366693PBW	PBW	06/27/14 13:59				U	mg/L		-20	20			
WG366693LCSW	LCSW	06/27/14 14:00	PCN46084	260		260	mg/L	100	80	120			
L19131-02DUP	DUP	06/27/14 14:38			2000	2042	mg/L				2.1	10	
WG366743													
WG366743PBW	PBW	06/30/14 10:45				U	mg/L		-20	20			
WG366743LCSW	LCSW	06/30/14 10:47	PCN46084	260		254	mg/L	97.7	80	120			
L19136-04DUP	DUP	06/30/14 11:45			1190	1230	mg/L				3.3	10	

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366744													
WG366744PBW	PBW	06/30/14 14:55				U	mg/L		-15	15			
WG366744LCSW	LCSW	06/30/14 14:56	PCN46084	160		144	mg/L	90	80	120			
L19121-03DUP	DUP	06/30/14 15:34			U	U	mg/L				0	10	RA
WG366814													
WG366814PBW	PBW	07/01/14 8:20				U	mg/L		-15	15			
WG366814LCSW	LCSW	07/01/14 8:22	PCN46080	160		138	mg/L	86.3	80	120			
L19107-03DUP	DUP	07/01/14 9:09			U	U	mg/L				0	10	RA

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.02	mg/L	101	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.3	0.3			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.0009		1.05	mg/L	104.9	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	1.0009	U	1.05	mg/L	104.9	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	1.0009	U	1.06	mg/L	105.9	85	115	0.95	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.0009	U	1.05	mg/L	104.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.0009	U	1.06	mg/L	105.9	85	115	0.95	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	2		2.01	mg/L	100.5	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.3	0.3			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.22	0.22			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	1.0009		1.11	mg/L	110.9	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	1.0009	U	1.1	mg/L	109.9	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	1.0009	U	1.11	mg/L	110.9	70	130	0.9	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.01	mg/L	100.5	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.3	0.3			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.22	0.22			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.0009		1.06	mg/L	105.9	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1.0009	U	1.07	mg/L	106.9	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1.0009	U	1.06	mg/L	105.9	70	130	0.94	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.05097	mg/L	101.9	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0003	0.0003			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.05005		.05115	mg/L	102.2	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.05005	U	.05359	mg/L	107.1	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.05005	U	.05342	mg/L	106.7	70	130	0.32	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05149	mg/L	103	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.05207	mg/L	104	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	.0011	.04974	mg/L	97.2	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	.0011	.04952	mg/L	96.7	70	130	0.44	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.02002		.02007	mg/L	100.2	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.00015	0.00015			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.01002		.009884	mg/L	98.6	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.01002	U	.007403	mg/L	73.9	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.01002	U	.005995	mg/L	59.8	70	130	21.02	20	M2 RF

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.02002		.01977	mg/L	98.8	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.00015	0.00015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00011	0.00011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.01002		.009615	mg/L	96	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.01002	U	.009348	mg/L	93.3	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.01002	U	.009246	mg/L	92.3	70	130	1.1	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	100		98.24	mg/L	98.2	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.6	0.6			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	100.0393		102.3	mg/L	102.3	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	100.0393	141	241.1	mg/L	100.1	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	100.0393	141	240.1	mg/L	99.1	85	115	0.42	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	100.0393	42.7	142.8	mg/L	100.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	100.0393	42.7	143.2	mg/L	100.5	85	115	0.28	20	

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	100		98.87	mg/L	98.9	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.6	0.6			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.44	0.44			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	100.0393		104.5	mg/L	104.5	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	100.0393	3.7	107.6	mg/L	103.9	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	100.0393	3.7	107.8	mg/L	104.1	70	130	0.19	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	100		97.84	mg/L	97.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.6	0.6			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.44	0.44			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	100.0393		102.1	mg/L	102.1	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	100.0393	108	210.4	mg/L	102.4	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	100.0393	108	211.2	mg/L	103.2	70	130	0.38	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.9738	mg/L	98.7	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.015	0.015			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5005		.5175	mg/L	103.4	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	.5005	1.43	1.884	mg/L	90.7	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	.5005	1.43	1.889	mg/L	91.7	85	115	0.27	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5005	.15	.6609	mg/L	102.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5005	.15	.661	mg/L	102.1	85	115	0.02	20	

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	2		1.9905	mg/L	99.5	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.015	0.015			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.011	0.011			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	.5005		.5279	mg/L	105.5	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	.5005	.226	.7495	mg/L	104.6	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	.5005	.226	.7495	mg/L	104.6	70	130	0	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.9695	mg/L	98.5	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.015	0.015			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.011	0.011			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5005		.514	mg/L	102.7	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	.5005	U	.5235	mg/L	104.6	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	.5005	U	.5187	mg/L	103.6	70	130	0.92	20	

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	49.95		51.2	mg/L	102.5	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-1.5	1.5			
WG367124													
WG367124LFB1	LFB	07/07/14 18:11	WI140610-6	30		30.9	mg/L	103	90	110			
L19103-01DUP	DUP	07/07/14 19:59			17	17.3	mg/L				1.7	20	
L19103-02AS	AS	07/07/14 20:34	WI140610-6	30	7.52	37.1	mg/L	98.6	90	110			
L19105-04DUP	DUP	07/07/14 22:58			U	U	mg/L				0	20	RA
L19106-01AS	AS	07/07/14 23:34	WI140610-6	30	44	73.8	mg/L	99.3	90	110			
WG367124LFB2	LFB	07/08/14 2:51	WI140610-6	30		30.8	mg/L	102.7	90	110			

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.05466	mg/L	109.3	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0003	0.0003			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.0502		.05241	mg/L	104.4	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.0502	U	.05313	mg/L	105.8	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.0502	U	.05344	mg/L	106.5	70	130	0.58	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05459	mg/L	109.2	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.0502		.05019	mg/L	100	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.0502	U	.05127	mg/L	102.1	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.0502	U	.05136	mg/L	102.3	70	130	0.18	20	

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ACZ Project ID: ***L19105***

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.0501		.05206	mg/L	103.9	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0003	0.0003			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.05005		.051	mg/L	101.9	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.05005	U	.05112	mg/L	102.1	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.05005	U	.05291	mg/L	105.7	70	130	3.44	20	

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.0501		.04959	mg/L	99	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.05509	mg/L	110.1	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	U	.04974	mg/L	99.4	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	U	.05242	mg/L	104.7	70	130	5.25	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2	mg/L	100	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.015	0.015			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1		1.027	mg/L	102.7	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	1	U	1.026	mg/L	102.6	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	1	U	1.033	mg/L	103.3	85	115	0.68	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	1	U	1.022	mg/L	102.2	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1	U	1.025	mg/L	102.5	85	115	0.29	20	

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	2		2.0008	mg/L	100	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.015	0.015			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.011	0.011			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	1		1.068	mg/L	106.8	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	1	U	1.065	mg/L	106.5	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	1	U	1.062	mg/L	106.2	70	130	0.28	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.9955	mg/L	99.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.015	0.015			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.011	0.011			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1		1.035	mg/L	103.5	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1	U	1.041	mg/L	104.1	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1	U	1.032	mg/L	103.2	70	130	0.87	20	

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ACZ Project ID: ***L19105***

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.05146	mg/L	102.9	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0003	0.0003			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.05005		.05015	mg/L	100.2	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.05005	U	.05174	mg/L	103.4	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.05005	U	.05239	mg/L	104.7	70	130	1.25	20	

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05136	mg/L	102.7	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.04828	mg/L	96.5	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	.0025	.05283	mg/L	100.6	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	.0025	.05285	mg/L	100.6	70	130	0.04	20	

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.05152	mg/L	103	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0006	0.0006			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.05005		.05207	mg/L	104	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.05005	.0002	.05203	mg/L	103.6	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.05005	.0002	.05192	mg/L	103.3	70	130	0.21	20	

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05107	mg/L	102.1	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0006	0.0006			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00044	0.00044			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.05141	mg/L	102.7	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	.0308	.08198	mg/L	102.3	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	.0308	.08372	mg/L	105.7	70	130	2.1	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.985	mg/L	99.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.03	0.03			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5005		.534	mg/L	106.7	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	.5005	U	.54	mg/L	107.9	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	.5005	U	.54	mg/L	107.9	85	115	0	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5005	U	.535	mg/L	106.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5005	U	.536	mg/L	107.1	85	115	0.19	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	2		1.953	mg/L	97.7	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.03	0.03			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.022	0.022			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	.5005		.548	mg/L	109.5	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	.5005	.07	.605	mg/L	106.9	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	.5005	.07	.607	mg/L	107.3	70	130	0.33	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.944	mg/L	97.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.03	0.03			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.022	0.022			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5005		.532	mg/L	106.3	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	.5005	U	.534	mg/L	106.7	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	.5005	U	.528	mg/L	105.5	70	130	1.13	20	

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L19105-01	WG366807	Silver, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.8 ICP-MS	RF	Relative Percent Difference (RPD) for Ag in spiked samples exceeded limit. In the absence of HCl, precipitation of Ag may occur at different rates.
	WG367124	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366884	Conductivity @25C	SM2510B	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366997	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367057	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366971	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367218	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366814	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366884	Total Alkalinity	SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L19105-02	WG366807	Silver, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.8 ICP-MS	RF	Relative Percent Difference (RPD) for Ag in spiked samples exceeded limit. In the absence of HCl, precipitation of Ag may occur at different rates.
	WG367124	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366884	Conductivity @25C	SM2510B	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366997	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367057	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366971	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367218	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366744	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366884	Total Alkalinity	SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L19105-03	WG366925	Iron, total	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG366807	Silver, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.8 ICP-MS	RF	Relative Percent Difference (RPD) for Ag in spiked samples exceeded limit. In the absence of HCl, precipitation of Ag may occur at different rates.
	WG367124	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366884	Conductivity @25C	SM2510B	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366997	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366971	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367218	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366744	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366884	Total Alkalinity	SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L19105***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L19105-04	WG366925	Iron, total	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG366807	Silver, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.8 ICP-MS	RF	Relative Percent Difference (RPD) for Ag in spiked samples exceeded limit. In the absence of HCl, precipitation of Ag may occur at different rates.
	WG367124	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366884	Conductivity @25C	SM2510B	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366997	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366971	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367218	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366814	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Sulfate	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366884	Total Alkalinity	SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Quarter 2014 Sampling

ACZ Project ID: L19105
Date Received: 06/26/2014 09:48
Received By: mtb
Date Printed: 6/26/2014

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?	X		

A change was made in the Matrix Line 1 section prior to ACZ custody.

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
NA19902	2.2	13	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Quarter 2014 Sampling

ACZ Project ID:	L19105
Date Received:	06/26/2014 09:48
Received By:	mtb
Date Printed:	6/26/2014

L19105
~~L19105~~ R 6-26-14

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name:	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SPF-2014-GW

PO#: Calico 2nd Quarter 2014 Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	*SPF-2014-GW							
Poison Spring	6/24/14 9:40	Gw	8	X							
Dry Creek Arm	6/23/14 15:20	Sw	8	X							
Sourdough Upper	6/23/14 16:50	Gw	8	X							
Equipment Blank	6/24/14 13:40	GW	8	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	6/25/14 7:00		6-26-14 0940

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L19105 Chain of Custody

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Bottle Order Packing List

Account: SPFWATER/SPF Water Engineering
Bottle Order: BO31482

Bill to Account: Bill to ACZ
Ship Date Requested: 05/07/2014
Request Placed at: 05/05/2014 10:29
Service Requested: UPS SecondDay

Sampling supplies

PACK	Qty	ACZ ID	Type	Description
	4	COC	Chain of Custody	Chain of Custody, 1 for 10 samples.
	2	SEAL	Custody Seal	Custody seals for cooler, two for each cooler.
	1	RETURN	Return Address	Return Address label, one for each cooler.
	272	LABELS	Sample Labels	ACZ supplied labels for sample containers
	4	TRIP CN		
	4	TRIP HG		

ACZ Coolers

PACK	Qty	ACZ ID	Size	Weight	UPS Tracking Number
	1	box	Small	55	1Z8101300275007472

Quote number: SPF-2014-GW
Sample Quantity: 33

Quarterly Analysis of Groundwater and Springs

Client is responsible for necessary field filtering

PACK	Qty	Type	Size	Filter/Raw/Preserve	Instructions
	1	GREEN PC	250 ML	Green pre-cleaned Filtered/Nitiric	Metals (dissolved including ICPMS) - Filter sample with .45 micron filter. Do not overfill as there is Nitric Acid in the bottle.
	1	HG-1631	250 ML	Mercury 1631	Mercury by 1631 - See method specific sampling instructions.
	1	HG-1631 D	250 ML	Mercury 1631 Dissolved	Mercury (dissolved) by 1631 - See method specific sampling instructions.
	1	PURPLE	500 ML	Raw/NaOH	Cyanide - Do not overfill as there is Sodium Hydroxide in the bottle.
	1	RAW	500 ML	Raw	Wet Chemistry (analyses that do not require preservative or filtration) - Completely fill container.
	1	RED PC	250 ML	Red pre-cleaned Raw/Nitric	Metals (total including ICPMS) - Do not overfill as there is Nitric Acid in the bottle.
	1	WHITE	250 ML	Filtered	Wet chemistry (dissolved) - Filter sample with .45 micron filter. Completely fill container.
	1	YELLOW	250 ML	Raw/Sulfuric	For total wet chemistry analyses. Do not overfill as there is Sulfuric Acid in the bottle.

Prepared By/Date: _____

mjj

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 15, 2014

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 2nd Quarter 2
ACZ Project ID: L19106

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 26, 2014. This project has been assigned to ACZ's project number, L19106. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L19106. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 14, 2014. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Max Janicek has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Case Narrative

SPF Water Engineering

July 15, 2014

Project ID: Calico 2nd Quarter 2
ACZ Project ID: L19106

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 4 ground water samples from SPF Water Engineering on June 26, 2014. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L19106. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

Any analyses not performed within EPA recommended holding times have been qualified with an "H" flag.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

Some of the dissolved Cobalt values exceed the corresponding total values for project L19106. In some cases, RPDs between dissolved and total values exceed the standard acceptance limit of 20%. Samples were re-analyzed for verification, and results for both parameters were confirmed. This is a consistent anomaly with these sample types, and discrepancies may be attributed to a matrix or field sampling issue.

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: TS SOUTH DUPLICATE

ACZ Sample ID: ***L19106-03***
Date Sampled: *06/23/14 12:25*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/03/14 9:57	mss2
Cyanide, WAD	SM4500-CN I- distillation								07/03/14 12:16	mss2
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/07/14 10:03	tcd
Total Hot Plate Digestion	M200.2 ICP								07/02/14 11:28	jjc
Total Hot Plate Digestion	M200.2 ICP-MS								07/01/14 12:37	las

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: TS SOUTH DUPLICATE

ACZ Sample ID: ***L19106-03***
Date Sampled: *06/23/14 12:25*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	06/30/14 22:35	jjc
Aluminum, total	M200.7 ICP	1		U		mg/L	0.03	0.2	07/03/14 14:35	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/07/14 19:07	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/02/14 23:33	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0394			mg/L	0.0002	0.001	07/07/14 19:07	msh
Arsenic, total	M200.8 ICP-MS	1	0.0409			mg/L	0.0002	0.001	07/02/14 23:33	msh
Barium, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.003	0.02	06/30/14 22:35	jjc
Barium, total	M200.7 ICP	1	0.003	B		mg/L	0.003	0.02	07/03/14 14:35	jjc
Beryllium, dissolved	M200.8 ICP-MS	5		U		mg/L	0.0003	0.001	07/15/14 0:33	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/02/14 23:33	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/30/14 22:35	jjc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/03/14 14:35	jjc
Boron, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	06/30/14 22:35	jjc
Boron, total	M200.7 ICP	1	0.09			mg/L	0.01	0.05	07/03/14 14:35	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/07/14 19:07	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/02/14 23:33	msh
Calcium, dissolved	M200.7 ICP	1	26.9			mg/L	0.1	0.5	06/30/14 22:35	jjc
Calcium, total	M200.7 ICP	1	26.7			mg/L	0.1	0.5	07/03/14 14:35	jjc
Chromium, dissolved	M200.8 ICP-MS	1	0.0008	B		mg/L	0.0005	0.002	07/07/14 19:07	msh
Chromium, total	M200.8 ICP-MS	1	0.0010	B		mg/L	0.0005	0.002	07/02/14 23:33	msh
Cobalt, dissolved	M200.8 ICP-MS	1	0.00012	B		mg/L	0.00005	0.0003	07/07/14 19:07	msh
Cobalt, total	M200.8 ICP-MS	1	0.00007	B		mg/L	0.00005	0.0003	07/02/14 23:33	msh
Copper, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/07/14 19:07	msh
Copper, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/02/14 23:33	msh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/30/14 22:35	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/14 14:35	jjc
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	06/30/14 22:35	jjc
Iron, total	M200.7 ICP	1		U		mg/L	0.02	0.05	07/03/14 14:35	jjc
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/07/14 19:07	msh
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/02/14 23:33	msh
Lithium, dissolved	M200.7 ICP	1	0.013	B		mg/L	0.008	0.04	06/30/14 22:35	jjc
Lithium, total	M200.7 ICP	1	0.013	B		mg/L	0.008	0.04	07/03/14 14:35	jjc
Magnesium, dissolved	M200.7 ICP	1	15			mg/L	0.2	1	06/30/14 22:35	jjc
Magnesium, total	M200.7 ICP	1	14.9			mg/L	0.2	1	07/03/14 14:35	jjc
Manganese, dissolved	M200.8 ICP-MS	1	0.0015	B		mg/L	0.0005	0.003	07/07/14 19:07	msh
Manganese, total	M200.8 ICP-MS	1	0.0024	B	*	mg/L	0.0005	0.003	07/02/14 23:33	msh
Mercury, dissolved	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	07/01/14 14:38	las
Mercury, total	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	07/01/14 11:10	las
Molybdenum, dissolved	M200.8 ICP-MS	5	0.009	B		mg/L	0.003	0.01	07/15/14 0:33	msh
Molybdenum, total	M200.8 ICP-MS	1	0.0090			mg/L	0.0005	0.003	07/02/14 23:33	msh
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/07/14 19:07	msh
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/02/14 23:33	msh
Potassium, dissolved	M200.7 ICP	1	9			mg/L	0.2	1	06/30/14 22:35	jjc

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: TS SOUTH DUPLICATE

ACZ Sample ID: ***L19106-03***
Date Sampled: *06/23/14 12:25*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	8.8			mg/L	0.2	1	07/03/14 14:35	jjc
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/30/14 22:35	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/14 14:35	jjc
Selenium, dissolved	M200.8 ICP-MS	1	0.0046			mg/L	0.0001	0.0003	07/07/14 19:07	msh
Selenium, total	M200.8 ICP-MS	1	0.0042			mg/L	0.0001	0.0003	07/02/14 23:33	msh
Silver, dissolved	M200.8 ICP-MS	5		U		mg/L	0.0003	0.001	07/15/14 0:33	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/02/14 23:33	msh
Sodium, dissolved	M200.7 ICP	1	42.8			mg/L	0.2	1	06/30/14 22:35	jjc
Sodium, total	M200.7 ICP	1	42.2			mg/L	0.2	1	07/03/14 14:35	jjc
Strontium, dissolved	M200.7 ICP	1	0.150			mg/L	0.005	0.03	06/30/14 22:35	jjc
Strontium, total	M200.7 ICP	1	0.147			mg/L	0.005	0.03	07/03/14 14:35	jjc
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/07/14 19:07	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/02/14 23:33	msh
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/07/14 19:07	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/02/14 23:33	msh
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/30/14 22:35	jjc
Titanium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	07/03/14 14:35	jjc
Uranium, dissolved	M200.8 ICP-MS	1	0.0032			mg/L	0.0001	0.0005	07/07/14 19:07	msh
Uranium, total	M200.8 ICP-MS	1	0.0032			mg/L	0.0001	0.0005	07/02/14 23:33	msh
Vanadium, dissolved	M200.8 ICP-MS	1	0.0419			mg/L	0.0002	0.001	07/07/14 19:07	msh
Vanadium, total	M200.8 ICP-MS	1	0.0449			mg/L	0.0002	0.001	07/02/14 23:33	msh
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/30/14 22:35	jjc
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/14 14:35	jjc

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: TS SOUTH DUPLICATE

ACZ Sample ID: ***L19106-03***
Date Sampled: *06/23/14 12:25*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	133			mg/L	2	20	07/02/14 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	07/02/14 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	07/02/14 0:00	abd
Total Alkalinity		1	135			mg/L	2	20	07/02/14 0:00	abd
Chloride	M300.0 - Ion Chromatography	1	10.6		*	mg/L	0.5	2.5	07/08/14 0:09	jlf
Conductivity @25C	SM2510B	1	454			umhos/cm	1	10	07/02/14 3:53	abd
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/04/14 0:19	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/04/14 1:14	pjb
Fluoride	M300.0 - Ion Chromatography	1	0.63		*	mg/L	0.05	0.25	07/08/14 0:09	jlf
Hardness as CaCO3	SM2340B - Calculation		129			mg/L	0.8	4	07/15/14 13:42	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	1.93			mg/L	0.02	0.1	07/05/14 15:25	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.2	07/02/14 16:08	bsu
pH (lab)	SM4500H+ B									
pH		1	8.3	H		units	0.1	0.1	07/02/14 0:00	abd
pH measured at		1	22			C	0.1	0.1	07/02/14 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B		mg/L	0.01	0.05	07/09/14 0:54	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	300			mg/L	10	20	06/30/14 11:32	nml
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	06/30/14 15:24	eaa
Sulfate	M300.0 - Ion Chromatography	1	43.9		*	mg/L	0.5	2.5	07/08/14 0:09	jlf

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: MERCURY TRIP BLANK

ACZ Sample ID: ***L19106-04***
Date Sampled: *06/23/14 12:50*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Mercury, total	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	07/01/14 11:15	las

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L19106***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366884													
WG366884PBW1	PBW	07/01/14 19:03				U	mg/L		-20	20			
WG366884LCSW3	LCSW	07/01/14 19:22	WC140630-	820.0001		841.6	mg/L	102.6	90	110			
WG366884LCSW6	LCSW	07/01/14 23:36	WC140630-	820.0001		826.8	mg/L	100.8	90	110			
WG366884PBW2	PBW	07/01/14 23:44				U	mg/L		-20	20			
L19101-01DUP	DUP	07/02/14 1:50			U	U	mg/L				0	20	RA
WG366884LCSW9	LCSW	07/02/14 3:26	WC140630-	820.0001		830.4	mg/L	101.3	90	110			
WG366884PBW3	PBW	07/02/14 3:35				U	mg/L		-20	20			
L19111-01DUP	DUP	07/02/14 5:18			432	446.4	mg/L				3.3	20	
WG366884LCSW12	LCSW	07/02/14 7:22	WC140630-	820.0001		830.4	mg/L	101.3	90	110			
WG366884PBW4	PBW	07/02/14 7:31				2.1	mg/L		-20	20			
WG366884LCSW15	LCSW	07/02/14 11:01	WC140630-	820.0001		831.9	mg/L	101.5	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.006	mg/L	100.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.09	0.09			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.0011		1.101	mg/L	110	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.0011	U	1.091	mg/L	109	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.0011	U	1.093	mg/L	109.2	85	115	0.18	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.995	mg/L	99.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.09	0.09			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.066	0.066			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.0011		1.09	mg/L	108.9	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1.0011	U	1.099	mg/L	109.8	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1.0011	U	1.084	mg/L	108.3	70	130	1.37	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.02002		.01968	mg/L	98.3	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0012	0.0012			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.01		.00986	mg/L	98.6	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.01	U	.00908	mg/L	90.8	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.01	U	.00891	mg/L	89.1	70	130	1.89	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.02002		.02004	mg/L	100.1	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0012	0.0012			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00088	0.00088			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.01		.01077	mg/L	107.7	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.01	U	.01099	mg/L	109.9	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.01	U	.01101	mg/L	110.1	70	130	0.18	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.05303	mg/L	106.1	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0006	0.0006			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.0501		.04817	mg/L	96.1	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.0501	.038	.08752	mg/L	98.8	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.0501	.038	.08786	mg/L	99.5	70	130	0.39	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.05141	mg/L	102.8	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0006	0.0006			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00044	0.00044			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.0501		.05148	mg/L	102.8	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.0501	.0055	.05671	mg/L	102.2	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.0501	.0055	.05576	mg/L	100.3	70	130	1.69	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.9683	mg/L	98.4	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.009	0.009			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5		.5041	mg/L	100.8	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5	.005	.5081	mg/L	100.6	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5	.005	.5103	mg/L	101.1	85	115	0.43	20	

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.976	mg/L	98.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.009	0.009			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.0066	0.0066			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5		.5114	mg/L	102.3	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	.5	U	.5147	mg/L	102.9	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	.5	U	.511	mg/L	102.2	70	130	0.72	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367303													
WG367303ICV	ICV	07/10/14 11:18	MS140513-1	.05		.04782	mg/L	95.6	90	110			
WG367303ICB	ICB	07/10/14 11:21				U	mg/L		-0.00015	0.00015			
WG367303LFB	LFB	07/10/14 11:24	MS140625-3	.05005		.04925	mg/L	98.4	85	115			
L19102-02AS	AS	07/10/14 11:46	MS140625-3	.25025	U	.23765	mg/L	95	70	130			
L19102-02ASD	ASD	07/10/14 11:50	MS140625-3	.25025	U	.25295	mg/L	101.1	70	130	6.24	20	
WG367481													
WG367481ICV	ICV	07/15/14 0:16	MS140513-1	.05		.04683	mg/L	93.7	90	110			
WG367481ICB	ICB	07/15/14 0:19				.000052	mg/L		-0.00015	0.00015			
WG367481LFB	LFB	07/15/14 0:23	MS140625-3	.05005		.04749	mg/L	94.9	85	115			
L19187-01AS	AS	07/15/14 0:50	MS140625-3	.05005	U	.04687	mg/L	93.6	70	130			
L19187-01ASD	ASD	07/15/14 1:00	MS140625-3	.05005	U	.04862	mg/L	97.1	70	130	3.67	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.04686	mg/L	93.7	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.00015	0.00015			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00011	0.00011			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.05005		.04737	mg/L	94.6	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.05005	.00792	.05715	mg/L	98.4	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.05005	.00792	.0564	mg/L	96.9	70	130	1.32	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.007	mg/L	100.4	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.12	0.12			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.999		1.044	mg/L	104.5	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	.999	U	1.023	mg/L	102.4	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.999	U	1.019	mg/L	102	85	115	0.39	20	

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.003	mg/L	100.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.12	0.12			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.088	0.088			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.999		1.034	mg/L	103.5	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	.999	U	1.072	mg/L	107.3	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	.999	U	1.029	mg/L	103	70	130	4.09	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.015	mg/L	100.8	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.03	0.03			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5005		.525	mg/L	104.9	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5005	.11	.625	mg/L	102.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5005	.11	.625	mg/L	102.9	85	115	0	20	

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.004	mg/L	100.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.03	0.03			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.022	0.022			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5005		.506	mg/L	101.1	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	.5005	.11	.617	mg/L	101.3	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	.5005	.11	.616	mg/L	101.1	70	130	0.16	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.05057	mg/L	101.1	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.0501		.0493	mg/L	98.4	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.0501	U	.0447	mg/L	89.2	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.0501	U	.04432	mg/L	88.5	70	130	0.85	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.04878	mg/L	97.6	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0003	0.0003			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00022	0.00022			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.0501		.04771	mg/L	95.2	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.0501	U	.04767	mg/L	95.1	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.0501	U	.0479	mg/L	95.6	70	130	0.48	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	100		99.28	mg/L	99.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.3	0.3			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	67.98099		73.58	mg/L	108.2	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	67.98099	26.8	99.64	mg/L	107.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	67.98099	26.8	99.62	mg/L	107.1	85	115	0.02	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	100		99.24	mg/L	99.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.3	0.3			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.22	0.22			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	67.98099		74.57	mg/L	109.7	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	67.98099	1.1	76.22	mg/L	110.5	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	67.98099	1.1	75.38	mg/L	109.3	70	130	1.11	20	

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	19.98		20.3	mg/L	101.6	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-1.5	1.5			
WG367124													
WG367124LFB1	LFB	07/07/14 18:11	WI140610-6	30		31.1	mg/L	103.7	90	110			
L19105-04DUP	DUP	07/07/14 22:58			U	U	mg/L				0	20	RA
L19106-01AS	AS	07/07/14 23:34	WI140610-6	30	10.5	41.5	mg/L	103.3	90	110			
WG367124LFB2	LFB	07/08/14 2:51	WI140610-6	30		31.2	mg/L	104	90	110			

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.04858	mg/L	97.2	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0015	0.0015			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.04588	mg/L	91.7	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	.0008	.04591	mg/L	90.1	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	.0008	.04657	mg/L	91.4	70	130	1.43	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.0491	mg/L	98.2	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0015	0.0015			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.0011	0.0011			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.05005		.04931	mg/L	98.5	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.05005	U	.04864	mg/L	97.2	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.05005	U	.04657	mg/L	93	70	130	4.35	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.0494	mg/L	98.8	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.00015	0.00015			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.05022	mg/L	100.3	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	.0003	.04704	mg/L	93.4	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	.0003	.04731	mg/L	93.9	70	130	0.57	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.04907	mg/L	98.1	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.00015	0.00015			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00011	0.00011			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.05005		.05055	mg/L	101	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.05005	.00124	.05095	mg/L	99.3	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.05005	.00124	.05063	mg/L	98.7	70	130	0.63	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366884													
WG366884LCSW2	LCSW	07/01/14 19:09	PCN44568	1408.8		1433.3	umhos/cm	101.7	90	110			
WG366884LCSW5	LCSW	07/01/14 23:21	PCN44568	1408.8		1422.1	umhos/cm	100.9	90	110			
L19101-01DUP	DUP	07/02/14 1:50			1	1.1	umhos/cm				9.5	20	RA
WG366884LCSW8	LCSW	07/02/14 3:12	PCN44568	1408.8		1403.9	umhos/cm	99.7	90	110			
L19111-01DUP	DUP	07/02/14 5:18			2070	2080	umhos/cm				0.5	20	
WG366884LCSW11	LCSW	07/02/14 7:08	PCN44568	1408.8		1391.7	umhos/cm	98.8	90	110			
WG366884LCSW14	LCSW	07/02/14 10:46	PCN44568	1408.8		1372.4	umhos/cm	97.4	90	110			

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.04718	mg/L	94.4	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0015	0.0015			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05		.04354	mg/L	87.1	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05	U	.04296	mg/L	85.9	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05	U	.04345	mg/L	86.9	70	130	1.13	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.04782	mg/L	95.6	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0015	0.0015			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.0011	0.0011			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.05		.04749	mg/L	95	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.05	U	.04654	mg/L	93.1	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.05	U	.04401	mg/L	88	70	130	5.59	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366995													
WG366995ICV	ICV	07/02/14 22:20	WI140702-5	.3		.289	mg/L	96.3	90	110			
WG366995ICB	ICB	07/02/14 22:21				U	mg/L		-0.003	0.003			
WG366997													
WG366967LRB	LRB	07/02/14 22:57				U	mg/L		-0.003	0.003			
WG366967LFB	LFB	07/02/14 22:58	WI140702-2	.2		.2005	mg/L	100.3	90	110			
L19105-03DUP	DUP	07/02/14 23:12			U	U	mg/L				0	20	RA
L19105-04LFM	LFM	07/02/14 23:14	WI140702-2	.2	U	.2016	mg/L	100.8	90	110			
WG367056													
WG367056ICV	ICV	07/04/14 0:14	WI140702-5	.3		.2924	mg/L	97.5	90	110			
WG367056ICB	ICB	07/04/14 0:15				U	mg/L		-0.003	0.003			
WG367004LRB	LRB	07/04/14 0:16				U	mg/L		-0.003	0.003			
WG367004LFB	LFB	07/04/14 0:17	WI140702-2	.2		.1927	mg/L	96.4	90	110			
L19106-02LFM	LFM	07/04/14 0:19	WI140702-2	.2	U	.1934	mg/L	96.7	90	110			
L19106-03DUP	DUP	07/04/14 0:20			U	U	mg/L				0	20	RA

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367056													
WG367056ICV	ICV	07/04/14 0:14	WI140702-5	.3		.2924	mg/L	97.5	90	110			
WG367056ICB	ICB	07/04/14 0:15				U	mg/L		-0.003	0.003			
WG367057													
WG367029LRB	LRB	07/04/14 1:07				U	mg/L		-0.003	0.003			
WG367029LFB	LFB	07/04/14 1:08	WI140702-4	.2		.18	mg/L	90	90	110			
L19105-01LFM	LFM	07/04/14 1:10	WI140702-4	.2	U	.1625	mg/L	81.3	90	110			M2
L19105-02DUP	DUP	07/04/14 1:11			U	U	mg/L				0	20	RA

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	4.02		4.17	mg/L	103.7	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-0.3	0.3			
WG367124													
WG367124LFB1	LFB	07/07/14 18:11	WI140610-6	1.5		1.54	mg/L	102.7	90	110			
L19105-04DUP	DUP	07/07/14 22:58			U	U	mg/L				0	20	RA
L19106-01AS	AS	07/07/14 23:34	WI140610-6	1.5	.62	2.18	mg/L	104	90	110			
WG367124LFB2	LFB	07/08/14 2:51	WI140610-6	1.5		1.55	mg/L	103.3	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.06	mg/L	103	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.3	0.3			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.001		1.05	mg/L	104.9	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.001	U	1.05	mg/L	104.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.001	U	1.04	mg/L	103.9	85	115	0.96	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.03	mg/L	101.5	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.3	0.3			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.22	0.22			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.001		1.04	mg/L	103.9	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1.001	U	1.05	mg/L	104.9	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1.001	U	1.01	mg/L	100.9	70	130	3.88	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.966	mg/L	98.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.06	0.06			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.0014		1.029	mg/L	102.8	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.0014	U	1.021	mg/L	102	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.0014	U	1.024	mg/L	102.3	85	115	0.29	20	

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.965	mg/L	98.3	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.06	0.06			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.044	0.044			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.0014		1.046	mg/L	104.5	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1.0014	U	1.045	mg/L	104.4	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1.0014	U	1.036	mg/L	103.5	70	130	0.86	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.04985	mg/L	99.7	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.04765	mg/L	95.2	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	U	.04162	mg/L	83.2	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	U	.04194	mg/L	83.8	70	130	0.77	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.04999	mg/L	100	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0003	0.0003			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00022	0.00022			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.05005		.04879	mg/L	97.5	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.05005	.0002	.04911	mg/L	97.7	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.05005	.0002	.04915	mg/L	97.8	70	130	0.08	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.9912	mg/L	99.6	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.024	0.024			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.002		1.005	mg/L	100.3	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.002	.013	.999	mg/L	98.4	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.002	.013	1.009	mg/L	99.4	85	115	1	20	

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.9815	mg/L	99.1	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.024	0.024			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.0176	0.0176			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.002		1.01	mg/L	100.8	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1.002	U	1.016	mg/L	101.4	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1.002	U	1.013	mg/L	101.1	70	130	0.3	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	100		96.44	mg/L	96.4	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.6	0.6			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	50.00131		50.21	mg/L	100.4	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	50.00131	15	64.79	mg/L	99.6	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	50.00131	15	64.82	mg/L	99.6	85	115	0.05	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	100		96.61	mg/L	96.6	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.6	0.6			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.44	0.44			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	50.00131		51.21	mg/L	102.4	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	50.00131	.2	51.32	mg/L	102.2	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	50.00131	.2	50.69	mg/L	101	70	130	1.24	20	

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.05149	mg/L	103	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0015	0.0015			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.0501		.04955	mg/L	98.9	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.0501	.0018	.04832	mg/L	92.9	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.0501	.0018	.0488	mg/L	93.8	70	130	0.99	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.05148	mg/L	103	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0015	0.0015			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.0011	0.0011			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.0501		.04979	mg/L	99.4	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.0501	1.33	1.42	mg/L	179.6	70	130			M3
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.0501	1.33	1.415	mg/L	169.7	70	130	0.35	20	M3

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366407													
WG366407ICV	ICV	06/24/14 15:11	HG140624-4	10		10.2	ng/L	102	79	121			
WG366407ICB	ICB	06/24/14 15:16				U	ng/L		-0.5	0.5			
WG366851													
WG366851CCV1	CCV	07/01/14 13:19	HG140624-4	10		10.2	ng/L	102	76.5	123.4			
WG366851CCB1	CCB	07/01/14 13:24				U	ng/L		-0.5	0.5			
WG366851PQV	PQV	07/01/14 13:48	HG140624-6	.5		.65	ng/L	130	70	130			
WG366851LFB	LFB	07/01/14 13:53	HG140624-5	2		1.87	ng/L	93.5	71	125			
L19106-01MS	MS	07/01/14 14:23	HG140624-5	2	U	1.98	ng/L	99	71	125			
L19106-01MSD	MSD	07/01/14 14:28	HG140624-5	2	U	2	ng/L	100	71	125	1.01	24	
WG366851CCV2	CCV	07/01/14 14:43	HG140624-4	10		10.1	ng/L	101	76.5	123.4			
WG366851CCB2	CCB	07/01/14 14:48				U	ng/L		-0.5	0.5			
WG366851CCV3	CCV	07/01/14 16:35	HG140624-4	10		9.9	ng/L	99	76.5	123.4			
WG366851CCB3	CCB	07/01/14 16:40				U	ng/L		-0.5	0.5			
WG366851CCV4	CCV	07/01/14 17:36	HG140624-4	10		9.95	ng/L	99.5	76.5	123.4			
WG366851CCB4	CCB	07/01/14 17:41				U	ng/L		-0.5	0.5			
WG366851CCV5	CCV	07/01/14 18:11	HG140624-4	10		10.1	ng/L	101	76.5	123.4			
WG366851CCB5	CCB	07/01/14 18:16				U	ng/L		-0.5	0.5			

SPF Water Engineering

ACZ Project ID: ***L19106***

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366407													
WG366407ICV	ICV	06/24/14 15:11	HG140624-4	10		10.2	ng/L	102	79	121			
WG366407ICB	ICB	06/24/14 15:16				U	ng/L		-0.5	0.5			
WG366793													
WG366793CCV1	CCV	07/01/14 9:39	HG140624-4	10		9.66	ng/L	96.6	76.5	123.4			
WG366793CCB1	CCB	07/01/14 9:44				U	ng/L		-0.5	0.5			
WG366793PQV	PQV	07/01/14 9:49	HG140624-6	.5		.59	ng/L	118	70	130			
WG366793LFB	LFB	07/01/14 9:54	HG140624-5	2		1.83	ng/L	91.5	71	125			
L19086-01MS	MS	07/01/14 10:04	HG5XPREP	50	20	29.3	ng/L	93	71	125			
L19086-01MSD	MSD	07/01/14 10:09	HG5XPREP	50	20	29.1	ng/L	91	71	125	0.68	24	
WG366793CCV2	CCV	07/01/14 10:30	HG140624-4	10		9.99	ng/L	99.9	76.5	123.4			
WG366793CCB2	CCB	07/01/14 10:35				U	ng/L		-0.5	0.5			
WG366793CCV3	CCV	07/01/14 11:20	HG140624-4	10		10	ng/L	100	76.5	123.4			
WG366793CCB3	CCB	07/01/14 11:25				U	ng/L		-0.5	0.5			
L19107-01MS	MS	07/01/14 12:24	HG140624-5	2	U	2.08	ng/L	104	71	125			
L19107-01MSD	MSD	07/01/14 12:29	HG140624-5	2	U	2.06	ng/L	103	71	125	0.97	24	
WG366793CCV4	CCV	07/01/14 12:34	HG140624-4	10		10.2	ng/L	102	76.5	123.4			
WG366793CCB4	CCB	07/01/14 12:39				U	ng/L		-0.5	0.5			
WG366793CCV5	CCV	07/01/14 13:19	HG140624-4	10		10.2	ng/L	102	76.5	123.4			
WG366793CCB5	CCB	07/01/14 13:24				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367481													
WG367481ICV	ICV	07/15/14 0:16	MS140513-1	.01998		.01797	mg/L	89.9	90	110			
WG367481ICB	ICB	07/15/14 0:19				U	mg/L		-0.0015	0.0015			
WG367481LFB	LFB	07/15/14 0:23	MS140625-3	.0502		.04726	mg/L	94.1	85	115			
L19187-01AS	AS	07/15/14 0:50	MS140625-3	.0502	.0115	.05883	mg/L	94.3	70	130			
L19187-01ASD	ASD	07/15/14 1:00	MS140625-3	.0502	.0115	.06165	mg/L	99.9	70	130	4.68	20	

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.01998		.01798	mg/L	90	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0015	0.0015			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.0011	0.0011			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.0502		.04559	mg/L	90.8	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.0502	U	.04641	mg/L	92.5	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.0502	U	.04702	mg/L	93.7	70	130	1.31	20	

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.04748	mg/L	95	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0018	0.0018			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05		.04453	mg/L	89.1	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05	U	.04239	mg/L	84.8	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05	U	.04311	mg/L	86.2	70	130	1.68	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.04943	mg/L	98.9	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0018	0.0018			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00132	0.00132			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.05		.04846	mg/L	96.9	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.05	.0036	.05109	mg/L	95	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.05	.0036	.04914	mg/L	91.1	70	130	3.89	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367059													
WG367059ICV	ICV	07/05/14 14:41	WI140417-3	2.416		2.4	mg/L	99.3	90	110			
WG367059ICB	ICB	07/05/14 14:42				U	mg/L		-0.06	0.06			
WG367059LFB1	LFB	07/05/14 14:45	WI140215-3	2		1.985	mg/L	99.3	90	110			
L19051-01AS	AS	07/05/14 15:04	WI140215-3	2	.06	2.135	mg/L	103.8	90	110			
L19051-02DUP	DUP	07/05/14 15:06			.58	.593	mg/L				2.2	20	
WG367059LFB2	LFB	07/05/14 15:19	WI140215-3	2		2.059	mg/L	103	90	110			
L19106-02AS	AS	07/05/14 15:22	WI140215-3	2	1.13	3.019	mg/L	94.5	90	110			
L19106-03DUP	DUP	07/05/14 15:26			1.93	1.918	mg/L				0.6	20	

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366944													
WG366944ICV	ICV	07/02/14 12:03	WI131021-1	1.003		1.025	mg/L	102.2	90	110			
WG366944ICB	ICB	07/02/14 12:06				U	mg/L		-0.15	0.15			
WG366971													
WG366971LFB1	LFB	07/02/14 15:11	WI140113-8	1		1.016	mg/L	101.6	90	110			
WG366971LFB2	LFB	07/02/14 16:00	WI140113-8	1		.969	mg/L	96.9	90	110			
L19106-01AS	AS	07/02/14 16:03	WI140113-8	1	U	.985	mg/L	98.5	90	110			
L19106-02DUP	DUP	07/02/14 16:05			U	U	mg/L				0	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366884													
WG366884LCSW1	LCSW	07/01/14 19:07	PCN45265	5.99		6.04	units	100.8	5.89	6.09			
WG366884LCSW4	LCSW	07/01/14 23:19	PCN45265	5.99		6.06	units	101.2	5.89	6.09			
L19101-01DUP	DUP	07/02/14 1:50			6.3	6.12	units				2.9	20	
WG366884LCSW7	LCSW	07/02/14 3:10	PCN45265	5.99		6.06	units	101.2	5.89	6.09			
L19111-01DUP	DUP	07/02/14 5:18			8.2	8.24	units				0.5	20	
WG366884LCSW10	LCSW	07/02/14 7:06	PCN45265	5.99		6.07	units	101.3	5.89	6.09			
WG366884LCSW13	LCSW	07/02/14 10:44	PCN45265	5.99		6.07	units	101.3	5.89	6.09			

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ACZ Project ID: ***L19106***

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367218													
WG367218ICV	ICV	07/08/14 23:45	WI140620-3	.65228		.677	mg/L	103.8	90	110			
WG367218ICB	ICB	07/08/14 23:48				.013	mg/L		-0.03	0.03			
WG367043LRB	LRB	07/08/14 23:49				U	mg/L		-0.03	0.03			
WG367043LFB	LFB	07/08/14 23:50	WI140701-2	.5		.466	mg/L	93.2	90	110			
L19095-03LFM	LFM	07/09/14 0:08	WI140701-2	.5	.03	.502	mg/L	94.4	90	110			
L19095-04DUP	DUP	07/09/14 0:10			.06	.053	mg/L				12.4	20	RA
WG367220													
WG367044LRB	LRB	07/09/14 0:31				U	mg/L		-0.03	0.03			
WG367044LFB	LFB	07/09/14 0:33	WI140701-2	.5		.462	mg/L	92.4	90	110			
L19033-11LFM	LFM	07/09/14 0:51	WI140701-2	.5	.01	.491	mg/L	96.2	90	110			
L19033-13DUP	DUP	07/09/14 0:53			.1	.096	mg/L				4.1	20	

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	20		19.69	mg/L	98.5	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.6	0.6			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	99.99364		102	mg/L	102	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	99.99364	9	111.1	mg/L	102.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	99.99364	9	111.3	mg/L	102.3	85	115	0.18	20	

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	20		19.54	mg/L	97.7	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.6	0.6			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.44	0.44			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	99.99364		102.1	mg/L	102.1	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	99.99364	5.7	108.4	mg/L	102.7	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	99.99364	5.7	107.6	mg/L	101.9	70	130	0.74	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366743													
WG366743PBW	PBW	06/30/14 10:45				U	mg/L		-20	20			
WG366743LCSW	LCSW	06/30/14 10:47	PCN46084	260		254	mg/L	97.7	80	120			
L19136-04DUP	DUP	06/30/14 11:45			1190	1230	mg/L				3.3	10	

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366744													
WG366744PBW	PBW	06/30/14 14:55				U	mg/L		-15	15			
WG366744LCSW	LCSW	06/30/14 14:56	PCN46084	160		144	mg/L	90	80	120			
L19121-03DUP	DUP	06/30/14 15:34			U	U	mg/L				0	10	RA

SPF Water Engineering

ACZ Project ID: ***L19106***

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.02	mg/L	101	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.3	0.3			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.0009		1.05	mg/L	104.9	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.0009	U	1.05	mg/L	104.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.0009	U	1.06	mg/L	105.9	85	115	0.95	20	

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.01	mg/L	100.5	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.3	0.3			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.22	0.22			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.0009		1.06	mg/L	105.9	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1.0009	U	1.07	mg/L	106.9	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1.0009	U	1.06	mg/L	105.9	70	130	0.94	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.05185	mg/L	103.7	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.0493	mg/L	98.5	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	.0046	.0538	mg/L	98.3	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	.0046	.05636	mg/L	103.4	70	130	4.65	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.05135	mg/L	102.7	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0003	0.0003			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00022	0.00022			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.05005		.0489	mg/L	97.7	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.05005	U	.04751	mg/L	94.9	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.05005	U	.04894	mg/L	97.8	70	130	2.97	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367481													
WG367481ICV	ICV	07/15/14 0:16	MS140513-1	.02002		.01997	mg/L	99.8	90	110			
WG367481ICB	ICB	07/15/14 0:19				U	mg/L		-0.00015	0.00015			
WG367481LFB	LFB	07/15/14 0:23	MS140625-3	.01002		.009948	mg/L	99.3	85	115			
L19187-01AS	AS	07/15/14 0:50	MS140625-3	.01002	.00009	.00941	mg/L	93	70	130			
L19187-01ASD	ASD	07/15/14 1:00	MS140625-3	.01002	.00009	.01051	mg/L	104	70	130	11.04	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.02002		.01999	mg/L	99.9	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.00015	0.00015			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00011	0.00011			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.01002		.009565	mg/L	95.5	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.01002	U	.009543	mg/L	95.2	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.01002	U	.009678	mg/L	96.6	70	130	1.4	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	100		98.24	mg/L	98.2	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.6	0.6			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	100.0393		102.3	mg/L	102.3	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	100.0393	42.7	142.8	mg/L	100.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	100.0393	42.7	143.2	mg/L	100.5	85	115	0.28	20	

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	100		97.84	mg/L	97.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.6	0.6			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.44	0.44			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	100.0393		102.1	mg/L	102.1	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	100.0393	108	210.4	mg/L	102.4	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	100.0393	108	211.2	mg/L	103.2	70	130	0.38	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.9738	mg/L	98.7	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.015	0.015			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5005		.5175	mg/L	103.4	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5005	.15	.6609	mg/L	102.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5005	.15	.661	mg/L	102.1	85	115	0.02	20	

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.9695	mg/L	98.5	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.015	0.015			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.011	0.011			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5005		.514	mg/L	102.7	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	.5005	U	.5235	mg/L	104.6	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	.5005	U	.5187	mg/L	103.6	70	130	0.92	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	49.95		51.2	mg/L	102.5	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-1.5	1.5			
WG367124													
WG367124LFB1	LFB	07/07/14 18:11	WI140610-6	30		30.9	mg/L	103	90	110			
L19105-04DUP	DUP	07/07/14 22:58			U	U	mg/L				0	20	RA
L19106-01AS	AS	07/07/14 23:34	WI140610-6	30	44	73.8	mg/L	99.3	90	110			
WG367124LFB2	LFB	07/08/14 2:51	WI140610-6	30		30.8	mg/L	102.7	90	110			

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.05394	mg/L	107.9	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.0502		.05083	mg/L	101.3	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.0502	U	.04755	mg/L	94.7	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.0502	U	.04801	mg/L	95.6	70	130	0.96	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.05344	mg/L	106.9	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0003	0.0003			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00022	0.00022			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.0502		.0504	mg/L	100.4	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.0502	U	.05094	mg/L	101.5	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.0502	U	.0507	mg/L	101	70	130	0.47	20	

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.0501		.04624	mg/L	92.3	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.04558	mg/L	91.1	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	U	.04273	mg/L	85.4	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	U	.04222	mg/L	84.4	70	130	1.2	20	

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.0501		.04872	mg/L	97.2	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0003	0.0003			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00022	0.00022			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.05005		.04837	mg/L	96.6	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.05005	U	.04838	mg/L	96.7	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.05005	U	.04899	mg/L	97.9	70	130	1.25	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2	mg/L	100	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.015	0.015			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1		1.027	mg/L	102.7	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1	U	1.022	mg/L	102.2	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1	U	1.025	mg/L	102.5	85	115	0.29	20	

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.9955	mg/L	99.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.015	0.015			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.011	0.011			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1		1.035	mg/L	103.5	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1	U	1.041	mg/L	104.1	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1	U	1.032	mg/L	103.2	70	130	0.87	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.0521	mg/L	104.2	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.04943	mg/L	98.8	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	.0028	.0509	mg/L	96.1	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	.0028	.05116	mg/L	96.6	70	130	0.51	20	

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.05026	mg/L	100.5	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0003	0.0003			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00022	0.00022			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.05005		.04885	mg/L	97.6	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.05005	U	.04911	mg/L	98.1	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.05005	U	.04974	mg/L	99.4	70	130	1.27	20	

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.04879	mg/L	97.6	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0006	0.0006			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.04761	mg/L	95.1	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	.0416	.08924	mg/L	95.2	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	.0416	.08989	mg/L	96.5	70	130	0.73	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.04778	mg/L	95.6	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0006	0.0006			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00044	0.00044			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.05005		.05011	mg/L	100.1	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.05005	U	.05011	mg/L	100.1	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.05005	U	.04798	mg/L	95.9	70	130	4.34	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.985	mg/L	99.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.03	0.03			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5005		.534	mg/L	106.7	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5005	U	.535	mg/L	106.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5005	U	.536	mg/L	107.1	85	115	0.19	20	

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.944	mg/L	97.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.03	0.03			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.022	0.022			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5005		.532	mg/L	106.3	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	.5005	U	.534	mg/L	106.7	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	.5005	U	.528	mg/L	105.5	70	130	1.13	20	

SPF Water Engineering ACZ Project ID: ***L19106***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L19106-01	WG366984	Manganese, total	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG367124	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366884	Conductivity @25C	SM2510B	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366997	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367057	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366971	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367218	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366744	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Sulfate	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366884	Total Alkalinity	SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L19106-02	WG366984	Manganese, total	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG367124	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367056	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367057	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366971	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367218	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366744	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Sulfate	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L19106***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L19106-03	WG366984	Manganese, total	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG367124	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367056	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367057	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366971	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366744	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Sulfate	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Quarter 2014 Sampling

ACZ Project ID: L19106
Date Received: 06/26/2014 09:47
Received By: mtb
Date Printed: 6/26/2014

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?	X		

A change was made in the Date:Time Line 2 section prior to ACZ custody.

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?	X		
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
NA19901	4	14	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Quarter 2014 Sampling

ACZ Project ID:	L19106
Date Received:	06/26/2014 09:47
Received By:	mtb
Date Printed:	6/26/2014

L19106

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name:	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SPF-2014-GW

PO#: Calico 2nd Quarter 2014 Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	*SPF-2014-GW	per ACZ QA/QC						
Twin Springs South	6/23/14 12:15	GW	8	X							
Twin Spring North	6/23/14 11:25	GW	8	X							
TS South Duplicate	6/23/14 12:25	GW	8	X							
Mercury Trip Blank	6/23/14 12:50	-	1		X						

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	6/25/14 7:00	UPC	6/26/14 0940

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L19106 Chain of Custody

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Bottle Order Packing List

Account: SPFWATER/SPF Water Engineering
Bottle Order: BO31482

Bill to Account: Bill to ACZ
Ship Date Requested: 05/07/2014
Request Placed at: 05/05/2014 10:29
Service Requested: UPS SecondDay

Sampling supplies

PACK	Qty	ACZ ID	Type	Description
	4	COC	Chain of Custody	Chain of Custody, 1 for 10 samples.
	2	SEAL	Custody Seal	Custody seals for cooler, two for each cooler.
	1	RETURN	Return Address	Return Address label, one for each cooler.
	272	LABELS	Sample Labels	ACZ supplied labels for sample containers
	4	TRIP CN		
	4	TRIP HG		

ACZ Coolers

PACK	Qty	ACZ ID	Size	Weight	UPS Tracking Number
	1	box	Small	55	1Z8101300275007472

Quote number: SPF-2014-GW
Quarterly Analysis of Groundwater and Springs

Sample Quantity: 33
Client is responsible for necessary field filtering

PACK	Qty	Type	Size	Filter/Raw/Preserve	Instructions
	1	GREEN PC	250 ML	Green pre-cleaned Filtered/Nitiric	Metals (dissolved including ICPMS) - Filter sample with .45 micron filter. Do not overfill as there is Nitric Acid in the bottle.
	1	HG-1631	250 ML	Mercury 1631	Mercury by 1631 - See method specific sampling instructions.
	1	HG-1631 D	250 ML	Mercury 1631 Dissolved	Mercury (dissolved) by 1631 - See method specific sampling instructions.
	1	PURPLE	500 ML	Raw/NaOH	Cyanide - Do not overfill as there is Sodium Hydroxide in the bottle.
	1	RAW	500 ML	Raw	Wet Chemistry (analyses that do not require preservative or filtration) - Completely fill container.
	1	RED PC	250 ML	Red pre-cleaned Raw/Nitric	Metals (total including ICPMS) - Do not overfill as there is Nitric Acid in the bottle.
	1	WHITE	250 ML	Filtered	Wet chemistry (dissolved) - Filter sample with .45 micron filter. Completely fill container.
	1	YELLOW	250 ML	Raw/Sulfuric	For total wet chemistry analyses. Do not overfill as there is Sulfuric Acid in the bottle.

Prepared By/Date: _____

mjj

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 11, 2014

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 2nd Quarter 2
ACZ Project ID: L19108

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 26, 2014. This project has been assigned to ACZ's project number, L19108. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L19108. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 10, 2014. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Max Janicek has reviewed and approved this report.

SPF Water Engineering

July 11, 2014

Project ID: Calico 2nd Quarter 2
ACZ Project ID: L19108

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 5 ground water samples from SPF Water Engineering on June 26, 2014. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L19108. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

Any analyses not performed within EPA recommended holding times have been qualified with an "H" flag.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

Some of the dissolved Cobalt values exceed the corresponding total values for project L19108. In some cases, RPDs between dissolved and total values exceed the standard acceptance limit of 20%. Samples were re-analyzed for verification, and results for both parameters were confirmed. This is a consistent anomaly with these sample types, and discrepancies may be attributed to a matrix or field sampling issue.

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: NEGRO ROCK CREEK

ACZ Sample ID: ***L19108-03***
Date Sampled: *06/24/14 10:55*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/03/14 11:52	mss2
Cyanide, WAD	SM4500-CN I- distillation								07/03/14 13:24	mss2
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/07/14 10:04	tcd
Total Hot Plate Digestion	M200.2 ICP								07/02/14 13:01	jjc
Total Hot Plate Digestion	M200.2 ICP-MS								07/02/14 10:58	las

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: NEGRO ROCK CREEK

ACZ Sample ID: ***L19108-03***
Date Sampled: *06/24/14 10:55*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	06/30/14 23:00	jjc
Aluminum, total	M200.7 ICP	1		U		mg/L	0.03	0.2	07/03/14 15:05	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/07/14 19:33	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/09/14 18:34	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0258			mg/L	0.0002	0.001	07/07/14 19:33	msh
Arsenic, total	M200.8 ICP-MS	1	0.0268			mg/L	0.0002	0.001	07/09/14 18:34	pmc
Barium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.003	0.02	06/30/14 23:00	jjc
Barium, total	M200.7 ICP	1	0.010	B		mg/L	0.003	0.02	07/03/14 15:05	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/10/14 12:44	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/09/14 18:34	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/30/14 23:00	jjc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/03/14 15:05	jjc
Boron, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	06/30/14 23:00	jjc
Boron, total	M200.7 ICP	1	0.10			mg/L	0.01	0.05	07/03/14 15:05	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/07/14 19:33	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:34	pmc
Calcium, dissolved	M200.7 ICP	1	31.4			mg/L	0.1	0.5	06/30/14 23:00	jjc
Calcium, total	M200.7 ICP	1	31.5			mg/L	0.1	0.5	07/03/14 15:05	jjc
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/07/14 19:33	msh
Chromium, total	M200.8 ICP-MS	1	0.0005	B		mg/L	0.0005	0.002	07/09/14 18:34	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00034			mg/L	0.00005	0.0003	07/07/14 19:33	msh
Cobalt, total	M200.8 ICP-MS	1	0.00013	B		mg/L	0.00005	0.0003	07/09/14 18:34	pmc
Copper, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/07/14 19:33	msh
Copper, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/10/14 19:36	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/30/14 23:00	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/14 15:05	jjc
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	06/30/14 23:00	jjc
Iron, total	M200.7 ICP	1	0.06			mg/L	0.02	0.05	07/03/14 15:05	jjc
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/07/14 19:33	msh
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:34	pmc
Lithium, dissolved	M200.7 ICP	1	0.037	B		mg/L	0.008	0.04	06/30/14 23:00	jjc
Lithium, total	M200.7 ICP	1	0.038	B		mg/L	0.008	0.04	07/03/14 15:05	jjc
Magnesium, dissolved	M200.7 ICP	1	10.1			mg/L	0.2	1	06/30/14 23:00	jjc
Magnesium, total	M200.7 ICP	1	10.1			mg/L	0.2	1	07/03/14 15:05	jjc
Manganese, dissolved	M200.8 ICP-MS	1	0.0487			mg/L	0.0005	0.003	07/07/14 19:33	msh
Manganese, total	M200.8 ICP-MS	1	0.0546			mg/L	0.0005	0.003	07/09/14 18:34	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	5		U	*	ng/L	1	3	07/01/14 18:06	las
Mercury, total	M1631, Atomic Fluorescence	1	0.6			ng/L	0.2	0.5	07/01/14 13:04	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0092			mg/L	0.0005	0.003	07/10/14 12:44	msh
Molybdenum, total	M200.8 ICP-MS	1	0.0093			mg/L	0.0005	0.003	07/09/14 18:34	pmc
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/07/14 19:33	msh
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/09/14 18:34	pmc
Potassium, dissolved	M200.7 ICP	1	8			mg/L	0.2	1	06/30/14 23:00	jjc

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: NEGRO ROCK CREEK

ACZ Sample ID: ***L19108-03***
Date Sampled: *06/24/14 10:55*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	8			mg/L	0.2	1	07/03/14 15:05	jjc
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/30/14 23:00	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/14 15:05	jjc
Selenium, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0003	07/07/14 19:33	msh
Selenium, total	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0003	07/09/14 18:34	pmc
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/10/14 12:44	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/09/14 18:34	pmc
Sodium, dissolved	M200.7 ICP	1	61.6			mg/L	0.2	1	06/30/14 23:00	jjc
Sodium, total	M200.7 ICP	1	61.6			mg/L	0.2	1	07/03/14 15:05	jjc
Strontium, dissolved	M200.7 ICP	1	0.169			mg/L	0.005	0.03	06/30/14 23:00	jjc
Strontium, total	M200.7 ICP	1	0.167			mg/L	0.005	0.03	07/03/14 15:05	jjc
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/07/14 19:33	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:34	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/07/14 19:33	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/09/14 18:34	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/30/14 23:00	jjc
Titanium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	07/03/14 15:05	jjc
Uranium, dissolved	M200.8 ICP-MS	1	0.0021			mg/L	0.0001	0.0005	07/07/14 19:33	msh
Uranium, total	M200.8 ICP-MS	1	0.0024			mg/L	0.0001	0.0005	07/09/14 18:34	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0187			mg/L	0.0002	0.001	07/07/14 19:33	msh
Vanadium, total	M200.8 ICP-MS	1	0.0222			mg/L	0.0002	0.001	07/09/14 18:34	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/30/14 23:00	jjc
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/14 15:05	jjc

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: NEGRO ROCK CREEK

ACZ Sample ID: ***L19108-03***
Date Sampled: *06/24/14 10:55*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	135			mg/L	2	20	07/02/14 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	07/02/14 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	07/02/14 0:00	abd
Total Alkalinity		1	135			mg/L	2	20	07/02/14 0:00	abd
Chloride	M300.0 - Ion Chromatography	1	17.6		*	mg/L	0.5	2.5	07/08/14 2:33	jlf
Conductivity @25C	SM2510B	1	527			umhos/cm	1	10	07/02/14 4:49	abd
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/04/14 0:28	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/04/14 1:22	pjb
Fluoride	M300.0 - Ion Chromatography	1	0.66		*	mg/L	0.05	0.25	07/08/14 2:33	jlf
Hardness as CaCO3	SM2340B - Calculation		120			mg/L	0.8	4	07/11/14 11:59	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.24			mg/L	0.02	0.1	07/05/14 15:33	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.2	07/02/14 16:11	bsu
pH (lab)	SM4500H+ B									
pH		1	8.3	H		units	0.1	0.1	07/02/14 0:00	abd
pH measured at		1	22			C	0.1	0.1	07/02/14 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.07			mg/L	0.01	0.05	07/09/14 1:03	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	360	H	*	mg/L	10	20	07/02/14 10:52	nml
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	06/30/14 15:29	eaa
Sulfate	M300.0 - Ion Chromatography	1	72.1		*	mg/L	0.5	2.5	07/08/14 2:33	jlf

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: TRANSFER BLANK

ACZ Sample ID: ***L19108-04***
Date Sampled: *06/24/14 13:55*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/03/14 12:07	mss2
Cyanide, WAD	SM4500-CN I- distillation								07/03/14 13:33	mss2
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/07/14 10:05	tcd
Total Hot Plate Digestion	M200.2 ICP-MS								07/02/14 11:08	las
Total Hot Plate Digestion	M200.2 ICP								07/02/14 13:12	jjc

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, total	M200.7 ICP	1		U		mg/L	0.03	0.2	07/03/14 15:09	jjc
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/09/14 18:38	pmc
Arsenic, total	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	07/09/14 18:38	pmc
Barium, total	M200.7 ICP	1		U		mg/L	0.003	0.02	07/03/14 15:09	jjc
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/09/14 18:38	pmc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/03/14 15:09	jjc
Boron, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/14 15:09	jjc
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:38	pmc
Calcium, total	M200.7 ICP	1		U		mg/L	0.1	0.5	07/03/14 15:09	jjc
Chromium, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/09/14 18:38	pmc
Cobalt, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/09/14 18:38	pmc
Copper, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/10/14 19:39	pmc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/14 15:09	jjc
Iron, total	M200.7 ICP	1		U		mg/L	0.02	0.05	07/03/14 15:09	jjc
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:38	pmc
Lithium, total	M200.7 ICP	1		U		mg/L	0.008	0.04	07/03/14 15:09	jjc
Magnesium, total	M200.7 ICP	1		U		mg/L	0.2	1	07/03/14 15:09	jjc
Manganese, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/09/14 18:38	pmc
Mercury, total	M1631, Atomic Fluorescence	1	0.2	B		ng/L	0.2	0.5	07/01/14 13:09	las
Molybdenum, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/09/14 18:38	pmc
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/09/14 18:38	pmc
Potassium, total	M200.7 ICP	1		U		mg/L	0.2	1	07/03/14 15:09	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/14 15:09	jjc
Selenium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	07/09/14 18:38	pmc
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/09/14 18:38	pmc
Sodium, total	M200.7 ICP	1		U		mg/L	0.2	1	07/03/14 15:09	jjc
Strontium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	07/03/14 15:09	jjc
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:38	pmc
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/09/14 18:38	pmc
Titanium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	07/03/14 15:09	jjc
Uranium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:38	pmc
Vanadium, total	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0002	0.001	07/09/14 18:38	pmc
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/14 15:09	jjc

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: TRANSFER BLANK

ACZ Sample ID: ***L19108-04***
Date Sampled: *06/24/14 13:55*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	07/02/14 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	07/02/14 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	07/02/14 0:00	abd
Total Alkalinity		1		U		mg/L	2	20	07/02/14 0:00	abd
Chloride	M300.0 - Ion Chromatography	1		U	*	mg/L	0.5	2.5	07/08/14 3:09	jlf
Conductivity @25C	SM2510B	1	1	B		umhos/cm	1	10	07/02/14 4:56	abd
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/04/14 0:29	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/04/14 1:23	pjb
Fluoride	M300.0 - Ion Chromatography	1		U	*	mg/L	0.05	0.25	07/08/14 3:09	jlf
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U		mg/L	0.02	0.1	07/05/14 15:35	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.2	07/02/14 16:12	bsu
pH (lab)	SM4500H+ B									
pH		1	6.3	H		units	0.1	0.1	07/02/14 0:00	abd
pH measured at		1	22			C	0.1	0.1	07/02/14 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.01	0.05	07/09/14 1:04	pjb
Residue, Filterable (TDS) @180C	SM2540C	1		UH	*	mg/L	10	20	07/02/14 10:54	nml
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	06/30/14 15:31	eaa
Sulfate	M300.0 - Ion Chromatography	1		U		mg/L	0.5	2.5	07/08/14 3:09	jlf

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: CYANIDE TRIP BLANK

ACZ Sample ID: ***L19108-05***
Date Sampled: *06/24/14 00:00*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/03/14 12:21	mss2
Cyanide, WAD	SM4500-CN I- distillation								07/03/14 13:43	mss2

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/04/14 0:30	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/04/14 1:24	pjb

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L19108***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366884													
WG366884PBW1	PBW	07/01/14 19:03				U	mg/L		-20	20			
WG366884LCSW3	LCSW	07/01/14 19:22	WC140630-	820.0001		841.6	mg/L	102.6	90	110			
WG366884LCSW6	LCSW	07/01/14 23:36	WC140630-	820.0001		826.8	mg/L	100.8	90	110			
WG366884PBW2	PBW	07/01/14 23:44				U	mg/L		-20	20			
WG366884LCSW9	LCSW	07/02/14 3:26	WC140630-	820.0001		830.4	mg/L	101.3	90	110			
WG366884PBW3	PBW	07/02/14 3:35				U	mg/L		-20	20			
L19111-01DUP	DUP	07/02/14 5:18			432	446.4	mg/L				3.3	20	
WG366884LCSW12	LCSW	07/02/14 7:22	WC140630-	820.0001		830.4	mg/L	101.3	90	110			
WG366884PBW4	PBW	07/02/14 7:31				2.1	mg/L		-20	20			
WG366884LCSW15	LCSW	07/02/14 11:01	WC140630-	820.0001		831.9	mg/L	101.5	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.006	mg/L	100.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.09	0.09			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.0011		1.101	mg/L	110	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.0011	U	1.091	mg/L	109	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.0011	U	1.093	mg/L	109.2	85	115	0.18	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.995	mg/L	99.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.09	0.09			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.066	0.066			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.0011		1.09	mg/L	108.9	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	1.0011	U	1.105	mg/L	110.4	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	1.0011	U	1.112	mg/L	111.1	70	130	0.63	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.02002		.01968	mg/L	98.3	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0012	0.0012			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.01		.00986	mg/L	98.6	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.01	U	.00908	mg/L	90.8	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.01	U	.00891	mg/L	89.1	70	130	1.89	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.02002		.02018	mg/L	100.8	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0012	0.0012			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00088	0.00088			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.01		.01083	mg/L	108.3	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.01	.0004	.01131	mg/L	109.1	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.01	.0004	.01124	mg/L	108.4	70	130	0.62	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.05303	mg/L	106.1	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0006	0.0006			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.0501		.04817	mg/L	96.1	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.0501	.038	.08752	mg/L	98.8	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.0501	.038	.08786	mg/L	99.5	70	130	0.39	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05318	mg/L	106.4	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0006	0.0006			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00044	0.00044			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.0501		.05519	mg/L	110.2	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.0501	.0268	.07832	mg/L	102.8	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.0501	.0268	.07833	mg/L	102.9	70	130	0.01	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.9683	mg/L	98.4	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.009	0.009			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5		.5041	mg/L	100.8	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5	.005	.5081	mg/L	100.6	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5	.005	.5103	mg/L	101.1	85	115	0.43	20	

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.976	mg/L	98.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.009	0.009			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.0066	0.0066			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5		.5114	mg/L	102.3	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	.5	.023	.5301	mg/L	101.4	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	.5	.023	.5346	mg/L	102.3	70	130	0.85	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367303													
WG367303ICV	ICV	07/10/14 11:18	MS140513-1	.05		.04782	mg/L	95.6	90	110			
WG367303ICB	ICB	07/10/14 11:21				U	mg/L		-0.00015	0.00015			
WG367303LFB	LFB	07/10/14 11:24	MS140625-3	.05005		.04925	mg/L	98.4	85	115			
L19107-01AS	AS	07/10/14 12:25	MS140625-3	.05005	U	.04693	mg/L	93.8	70	130			
L19107-01ASD	ASD	07/10/14 12:28	MS140625-3	.05005	U	.04657	mg/L	93	70	130	0.77	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05115	mg/L	102.3	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.00015	0.00015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00011	0.00011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.05167	mg/L	103.2	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	U	.05111	mg/L	102.1	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	U	.05162	mg/L	103.1	70	130	0.99	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.007	mg/L	100.4	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.12	0.12			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.999		1.044	mg/L	104.5	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	.999	U	1.023	mg/L	102.4	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.999	U	1.019	mg/L	102	85	115	0.39	20	

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.003	mg/L	100.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.12	0.12			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.088	0.088			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.999		1.034	mg/L	103.5	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	.999	U	1.03	mg/L	103.1	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	.999	U	1.046	mg/L	104.7	70	130	1.54	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.015	mg/L	100.8	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.03	0.03			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5005		.525	mg/L	104.9	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5005	.11	.625	mg/L	102.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5005	.11	.625	mg/L	102.9	85	115	0	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.004	mg/L	100.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.03	0.03			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.022	0.022			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5005		.506	mg/L	101.1	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	.5005	.03	.549	mg/L	103.7	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	.5005	.03	.549	mg/L	103.7	70	130	0	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.05057	mg/L	101.1	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.0501		.0493	mg/L	98.4	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.0501	U	.0447	mg/L	89.2	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.0501	U	.04432	mg/L	88.5	70	130	0.85	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.04962	mg/L	99.2	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.0501		.04942	mg/L	98.6	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.0501	U	.04846	mg/L	96.7	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.0501	U	.04787	mg/L	95.5	70	130	1.22	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	100		99.28	mg/L	99.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.3	0.3			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	67.98099		73.58	mg/L	108.2	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	67.98099	26.8	99.64	mg/L	107.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	67.98099	26.8	99.62	mg/L	107.1	85	115	0.02	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	100		99.24	mg/L	99.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.3	0.3			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.22	0.22			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	67.98099		74.57	mg/L	109.7	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	67.98099	48.2	121.2	mg/L	107.4	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	67.98099	48.2	123.2	mg/L	110.3	70	130	1.64	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	19.98		20.3	mg/L	101.6	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-1.5	1.5			
WG367124													
WG367124LFB1	LFB	07/07/14 18:11	WI140610-6	30		31.1	mg/L	103.7	90	110			
L19105-04DUP	DUP	07/07/14 22:58			U	U	mg/L				0	20	RA
L19106-01AS	AS	07/07/14 23:34	WI140610-6	30	10.5	41.5	mg/L	103.3	90	110			
WG367124LFB2	LFB	07/08/14 2:51	WI140610-6	30		31.2	mg/L	104	90	110			
L19147-01DUP	DUP	07/08/14 18:31			2.23	2.22	mg/L				0.4	20	RA
L19147-02AS	AS	07/08/14 19:06	WI140610-6	30	2.15	33.1	mg/L	103.2	90	110			

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.04858	mg/L	97.2	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0015	0.0015			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.04588	mg/L	91.7	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	.0008	.04591	mg/L	90.1	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	.0008	.04657	mg/L	91.4	70	130	1.43	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05067	mg/L	101.3	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0015	0.0015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.0011	0.0011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.04994	mg/L	99.8	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	U	.04846	mg/L	96.8	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	U	.04908	mg/L	98.1	70	130	1.27	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.0494	mg/L	98.8	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.00015	0.00015			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.05022	mg/L	100.3	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	.0003	.04704	mg/L	93.4	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	.0003	.04731	mg/L	93.9	70	130	0.57	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.04989	mg/L	99.8	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.00015	0.00015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00011	0.00011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.05064	mg/L	101.2	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	.00008	.04872	mg/L	97.2	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	.00008	.04874	mg/L	97.2	70	130	0.04	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366884													
WG366884LCSW2	LCSW	07/01/14 19:09	PCN44568	1408.8		1433.3	µmhos/cm	101.7	90	110			
WG366884LCSW5	LCSW	07/01/14 23:21	PCN44568	1408.8		1422.1	µmhos/cm	100.9	90	110			
WG366884LCSW8	LCSW	07/02/14 3:12	PCN44568	1408.8		1403.9	µmhos/cm	99.7	90	110			
L19111-01DUP	DUP	07/02/14 5:18			2070	2080	µmhos/cm				0.5	20	
WG366884LCSW11	LCSW	07/02/14 7:08	PCN44568	1408.8		1391.7	µmhos/cm	98.8	90	110			
WG366884LCSW14	LCSW	07/02/14 10:46	PCN44568	1408.8		1372.4	µmhos/cm	97.4	90	110			

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.04718	mg/L	94.4	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0015	0.0015			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05		.04354	mg/L	87.1	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05	U	.04296	mg/L	85.9	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05	U	.04345	mg/L	86.9	70	130	1.13	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367311													
WG367311ICV	ICV	07/10/14 19:01	MS140513-1	.05		.04899	mg/L	98	90	110			
WG367311ICB	ICB	07/10/14 19:04				U	mg/L		-0.0015	0.0015			
WG366912LRB	LRB	07/10/14 19:06				U	mg/L		-0.0011	0.0011			
WG366912LFB	LFB	07/10/14 19:09	MS140625-3	.05		.04703	mg/L	94.1	85	115			
L19105-03LFM	LFM	07/10/14 19:19	MS140625-3	.05	U	.04547	mg/L	90.9	70	130			
L19105-03LFMD	LFMD	07/10/14 19:21	MS140625-3	.05	U	.045	mg/L	90	70	130	1.04	20	
WG367077LRB	LRB	07/10/14 19:46				.00068	mg/L		-0.0011	0.0011			
WG367077LFB	LFB	07/10/14 19:49	MS140625-3	.05		.04713	mg/L	94.3	85	115			

SPF Water Engineering

ACZ Project ID: ***L19108***

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367056													
WG367056ICV	ICV	07/04/14 0:14	WI140702-5	.3		.2924	mg/L	97.5	90	110			
WG367056ICB	ICB	07/04/14 0:15				U	mg/L		-0.003	0.003			
WG367004LRB	LRB	07/04/14 0:16				U	mg/L		-0.003	0.003			
WG367004LFB	LFB	07/04/14 0:17	WI140702-2	.2		.1927	mg/L	96.4	90	110			
L19106-02LFM	LFM	07/04/14 0:19	WI140702-2	.2	U	.1934	mg/L	96.7	90	110			
L19106-03DUP	DUP	07/04/14 0:20			U	U	mg/L				0	20	RA
L19108-05LFM	LFM	07/04/14 0:31	WI140702-2	.2	U	.1986	mg/L	99.3	90	110			
L19117-01DUP	DUP	07/04/14 0:32			U	U	mg/L				0	20	RA

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367056													
WG367056ICV	ICV	07/04/14 0:14	WI140702-5	.3		.2924	mg/L	97.5	90	110			
WG367056ICB	ICB	07/04/14 0:15				U	mg/L		-0.003	0.003			
WG367057													
WG367029LRB	LRB	07/04/14 1:07				U	mg/L		-0.003	0.003			
WG367029LFB	LFB	07/04/14 1:08	WI140702-4	.2		.18	mg/L	90	90	110			
L19105-01LFM	LFM	07/04/14 1:10	WI140702-4	.2	U	.1625	mg/L	81.3	90	110			M2
L19105-02DUP	DUP	07/04/14 1:11			U	U	mg/L				0	20	RA
L19176-06LFM	LFM	07/04/14 1:30	WI140702-4	.2	U	.1728	mg/L	86.4	90	110			M2
L19176-07DUP	DUP	07/04/14 1:32			U	U	mg/L				0	20	RA

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	4.02		4.17	mg/L	103.7	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-0.3	0.3			
WG367124													
WG367124LFB1	LFB	07/07/14 18:11	WI140610-6	1.5		1.54	mg/L	102.7	90	110			
L19105-04DUP	DUP	07/07/14 22:58			U	U	mg/L				0	20	RA
L19106-01AS	AS	07/07/14 23:34	WI140610-6	1.5	.62	2.18	mg/L	104	90	110			
WG367124LFB2	LFB	07/08/14 2:51	WI140610-6	1.5		1.55	mg/L	103.3	90	110			
L19147-01DUP	DUP	07/08/14 18:31			.37	.37	mg/L				0	20	RA
L19147-02AS	AS	07/08/14 19:06	WI140610-6	1.5	.31	1.84	mg/L	102	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.06	mg/L	103	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.3	0.3			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.001		1.05	mg/L	104.9	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.001	U	1.05	mg/L	104.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.001	U	1.04	mg/L	103.9	85	115	0.96	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.03	mg/L	101.5	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.3	0.3			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.22	0.22			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.001		1.04	mg/L	103.9	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	1.001	U	1.03	mg/L	102.9	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	1.001	U	1.03	mg/L	102.9	70	130	0	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.966	mg/L	98.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.06	0.06			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.0014		1.029	mg/L	102.8	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.0014	U	1.021	mg/L	102	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.0014	U	1.024	mg/L	102.3	85	115	0.29	20	

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.965	mg/L	98.3	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.06	0.06			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.044	0.044			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.0014		1.046	mg/L	104.5	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	1.0014	U	1.021	mg/L	102	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	1.0014	U	1.044	mg/L	104.3	70	130	2.23	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.04985	mg/L	99.7	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.04765	mg/L	95.2	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	U	.04162	mg/L	83.2	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	U	.04194	mg/L	83.8	70	130	0.77	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05152	mg/L	103	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.04887	mg/L	97.6	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	U	.04932	mg/L	98.5	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	U	.04962	mg/L	99.1	70	130	0.61	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.9912	mg/L	99.6	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.024	0.024			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.002		1.005	mg/L	100.3	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.002	.013	.999	mg/L	98.4	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.002	.013	1.009	mg/L	99.4	85	115	1	20	

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.9815	mg/L	99.1	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.024	0.024			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.0176	0.0176			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.002		1.01	mg/L	100.8	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	1.002	.018	1.023	mg/L	100.3	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	1.002	.018	1.037	mg/L	101.7	70	130	1.36	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	100		96.44	mg/L	96.4	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.6	0.6			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	50.00131		50.21	mg/L	100.4	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	50.00131	15	64.79	mg/L	99.6	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	50.00131	15	64.82	mg/L	99.6	85	115	0.05	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	100		96.61	mg/L	96.6	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.6	0.6			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.44	0.44			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	50.00131		51.21	mg/L	102.4	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	50.00131	14.5	65.07	mg/L	101.1	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	50.00131	14.5	65.85	mg/L	102.7	70	130	1.19	20	

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.05149	mg/L	103	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0015	0.0015			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.0501		.04955	mg/L	98.9	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.0501	.0018	.04832	mg/L	92.9	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.0501	.0018	.0488	mg/L	93.8	70	130	0.99	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05216	mg/L	104.3	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0015	0.0015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.0011	0.0011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.0501		.05004	mg/L	99.9	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.0501	U	.04919	mg/L	98.2	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.0501	U	.0497	mg/L	99.2	70	130	1.03	20	

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366407													
WG366407ICV	ICV	06/24/14 15:11	HG140624-4	10		10.2	ng/L	102	79	121			
WG366407ICB	ICB	06/24/14 15:16				U	ng/L		-0.5	0.5			
WG366851													
WG366851CCV1	CCV	07/01/14 13:19	HG140624-4	10		10.2	ng/L	102	76.5	123.4			
WG366851CCB1	CCB	07/01/14 13:24				U	ng/L		-0.5	0.5			
WG366851PQV	PQV	07/01/14 13:48	HG140624-6	.5		.65	ng/L	130	70	130			
WG366851LFB	LFB	07/01/14 13:53	HG140624-5	2		1.87	ng/L	93.5	71	125			
WG366851CCV2	CCV	07/01/14 14:43	HG140624-4	10		10.1	ng/L	101	76.5	123.4			
WG366851CCB2	CCB	07/01/14 14:48				U	ng/L		-0.5	0.5			
WG366851CCV3	CCV	07/01/14 16:35	HG140624-4	10		9.9	ng/L	99	76.5	123.4			
WG366851CCB3	CCB	07/01/14 16:40				U	ng/L		-0.5	0.5			
WG366851CCV4	CCV	07/01/14 17:36	HG140624-4	10		9.95	ng/L	99.5	76.5	123.4			
WG366851CCB4	CCB	07/01/14 17:41				U	ng/L		-0.5	0.5			
L19108-01MS	MS	07/01/14 17:51	HG5XPREP	50	U	9.4	ng/L	94	71	125			
L19108-01MSD	MSD	07/01/14 17:56	HG5XPREP	50	U	9.5	ng/L	95	71	125	1.06	24	
WG366851CCV5	CCV	07/01/14 18:11	HG140624-4	10		10.1	ng/L	101	76.5	123.4			
WG366851CCB5	CCB	07/01/14 18:16				U	ng/L		-0.5	0.5			

SPF Water Engineering

ACZ Project ID: ***L19108***

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366407													
WG366407ICV	ICV	06/24/14 15:11	HG140624-4	10		10.2	ng/L	102	79	121			
WG366407ICB	ICB	06/24/14 15:16				U	ng/L		-0.5	0.5			
WG366793													
WG366793CCV1	CCV	07/01/14 9:39	HG140624-4	10		9.66	ng/L	96.6	76.5	123.4			
WG366793CCB1	CCB	07/01/14 9:44				U	ng/L		-0.5	0.5			
WG366793PQV	PQV	07/01/14 9:49	HG140624-6	.5		.59	ng/L	118	70	130			
WG366793LFB	LFB	07/01/14 9:54	HG140624-5	2		1.83	ng/L	91.5	71	125			
WG366793CCV2	CCV	07/01/14 10:30	HG140624-4	10		9.99	ng/L	99.9	76.5	123.4			
WG366793CCB2	CCB	07/01/14 10:35				U	ng/L		-0.5	0.5			
WG366793CCV3	CCV	07/01/14 11:20	HG140624-4	10		10	ng/L	100	76.5	123.4			
WG366793CCB3	CCB	07/01/14 11:25				U	ng/L		-0.5	0.5			
L19107-01MS	MS	07/01/14 12:24	HG140624-5	2	U	2.08	ng/L	104	71	125			
L19107-01MSD	MSD	07/01/14 12:29	HG140624-5	2	U	2.06	ng/L	103	71	125	0.97	24	
WG366793CCV4	CCV	07/01/14 12:34	HG140624-4	10		10.2	ng/L	102	76.5	123.4			
WG366793CCB4	CCB	07/01/14 12:39				U	ng/L		-0.5	0.5			
WG366793CCV5	CCV	07/01/14 13:19	HG140624-4	10		10.2	ng/L	102	76.5	123.4			
WG366793CCB5	CCB	07/01/14 13:24				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367303													
WG367303ICV	ICV	07/10/14 11:18	MS140513-1	.01998		.01802	mg/L	90.2	90	110			
WG367303ICB	ICB	07/10/14 11:21				U	mg/L		-0.0015	0.0015			
WG367303LFB	LFB	07/10/14 11:24	MS140625-3	.0502		.04708	mg/L	93.8	85	115			
L19107-01AS	AS	07/10/14 12:25	MS140625-3	.0502	.0196	.07132	mg/L	103	70	130			
L19107-01ASD	ASD	07/10/14 12:28	MS140625-3	.0502	.0196	.07263	mg/L	105.6	70	130	1.82	20	

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.01998		.01835	mg/L	91.8	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0015	0.0015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.0011	0.0011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.0502		.04825	mg/L	96.1	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.0502	.0033	.05198	mg/L	97	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.0502	.0033	.05236	mg/L	97.7	70	130	0.73	20	

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.04748	mg/L	95	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0018	0.0018			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05		.04453	mg/L	89.1	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05	U	.04239	mg/L	84.8	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05	U	.04311	mg/L	86.2	70	130	1.68	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05168	mg/L	103.4	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0018	0.0018			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00132	0.00132			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05		.04999	mg/L	100	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05	U	.04781	mg/L	95.6	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05	U	.04731	mg/L	94.6	70	130	1.05	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367059													
WG367059ICV	ICV	07/05/14 14:41	WI140417-3	2.416		2.4	mg/L	99.3	90	110			
WG367059ICB	ICB	07/05/14 14:42				U	mg/L		-0.06	0.06			
WG367059LFB1	LFB	07/05/14 14:45	WI140215-3	2		1.985	mg/L	99.3	90	110			
WG367059LFB2	LFB	07/05/14 15:19	WI140215-3	2		2.059	mg/L	103	90	110			
L19106-02AS	AS	07/05/14 15:22	WI140215-3	2	1.13	3.019	mg/L	94.5	90	110			
L19106-03DUP	DUP	07/05/14 15:26			1.93	1.918	mg/L				0.6	20	

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366944													
WG366944ICV	ICV	07/02/14 12:03	WI131021-1	1.003		1.025	mg/L	102.2	90	110			
WG366944ICB	ICB	07/02/14 12:06				U	mg/L		-0.15	0.15			
WG366971													
WG366971LFB1	LFB	07/02/14 15:11	WI140113-8	1		1.016	mg/L	101.6	90	110			
WG366971LFB2	LFB	07/02/14 16:00	WI140113-8	1		.969	mg/L	96.9	90	110			
L19106-01AS	AS	07/02/14 16:03	WI140113-8	1	U	.985	mg/L	98.5	90	110			
L19106-02DUP	DUP	07/02/14 16:05			U	U	mg/L				0	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366884													
WG366884LCSW1	LCSW	07/01/14 19:07	PCN45265	5.99		6.04	units	100.8	5.89	6.09			
WG366884LCSW4	LCSW	07/01/14 23:19	PCN45265	5.99		6.06	units	101.2	5.89	6.09			
WG366884LCSW7	LCSW	07/02/14 3:10	PCN45265	5.99		6.06	units	101.2	5.89	6.09			
L19111-01DUP	DUP	07/02/14 5:18			8.2	8.24	units				0.5	20	
WG366884LCSW10	LCSW	07/02/14 7:06	PCN45265	5.99		6.07	units	101.3	5.89	6.09			
WG366884LCSW13	LCSW	07/02/14 10:44	PCN45265	5.99		6.07	units	101.3	5.89	6.09			

SPF Water Engineering

ACZ Project ID: ***L19108***

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367218													
WG367218ICV	ICV	07/08/14 23:45	WI140620-3	.65228		.677	mg/L	103.8	90	110			
WG367218ICB	ICB	07/08/14 23:48				.013	mg/L		-0.03	0.03			
WG367220													
WG367044LRB	LRB	07/09/14 0:31				U	mg/L		-0.03	0.03			
WG367044LFB	LFB	07/09/14 0:33	WI140701-2	.5		.462	mg/L	92.4	90	110			
L19033-11LFM	LFM	07/09/14 0:51	WI140701-2	.5	.01	.491	mg/L	96.2	90	110			
L19033-13DUP	DUP	07/09/14 0:53			.1	.096	mg/L				4.1	20	

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	20		19.69	mg/L	98.5	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.6	0.6			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	99.99364		102	mg/L	102	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	99.99364	9	111.1	mg/L	102.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	99.99364	9	111.3	mg/L	102.3	85	115	0.18	20	

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	20		19.54	mg/L	97.7	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.6	0.6			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.44	0.44			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	99.99364		102.1	mg/L	102.1	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	99.99364	4.1	106.4	mg/L	102.3	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	99.99364	4.1	107.7	mg/L	103.6	70	130	1.21	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366932													
WG366932PBW	PBW	07/02/14 10:25				U	mg/L		-20	20			
WG366932LCSW	LCSW	07/02/14 10:26	PCN46081	260		260	mg/L	100	80	120			
L19108-01DUP	DUP	07/02/14 10:48			370	372	mg/L				0.5	10	
L19122-02DUP	DUP	07/02/14 11:09			U	U	mg/L				0	10	RA

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366744													
WG366744PBW	PBW	06/30/14 14:55				U	mg/L		-15	15			
WG366744LCSW	LCSW	06/30/14 14:56	PCN46084	160		144	mg/L	90	80	120			
L19121-03DUP	DUP	06/30/14 15:34			U	U	mg/L				0	10	RA

SPF Water Engineering

ACZ Project ID: ***L19108***

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.02	mg/L	101	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.3	0.3			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.0009		1.05	mg/L	104.9	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.0009	U	1.05	mg/L	104.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.0009	U	1.06	mg/L	105.9	85	115	0.95	20	

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.01	mg/L	100.5	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.3	0.3			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.22	0.22			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.0009		1.06	mg/L	105.9	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	1.0009	U	1.05	mg/L	104.9	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	1.0009	U	1.06	mg/L	105.9	70	130	0.95	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.05185	mg/L	103.7	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.0493	mg/L	98.5	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	.0046	.0538	mg/L	98.3	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	.0046	.05636	mg/L	103.4	70	130	4.65	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05149	mg/L	103	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.05207	mg/L	104	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	.0011	.04974	mg/L	97.2	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	.0011	.04952	mg/L	96.7	70	130	0.44	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367303													
WG367303ICV	ICV	07/10/14 11:18	MS140513-1	.02002		.01964	mg/L	98.1	90	110			
WG367303ICB	ICB	07/10/14 11:21				U	mg/L		-0.00015	0.00015			
WG367303LFB	LFB	07/10/14 11:24	MS140625-3	.01002		.009691	mg/L	96.7	85	115			
L19107-01AS	AS	07/10/14 12:25	MS140625-3	.01002	U	.009192	mg/L	91.7	70	130			
L19107-01ASD	ASD	07/10/14 12:28	MS140625-3	.01002	U	.009334	mg/L	93.2	70	130	1.53	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.02002		.01977	mg/L	98.8	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.00015	0.00015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00011	0.00011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.01002		.009615	mg/L	96	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.01002	U	.009348	mg/L	93.3	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.01002	U	.009246	mg/L	92.3	70	130	1.1	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	100		98.24	mg/L	98.2	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.6	0.6			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	100.0393		102.3	mg/L	102.3	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	100.0393	42.7	142.8	mg/L	100.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	100.0393	42.7	143.2	mg/L	100.5	85	115	0.28	20	

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	100		97.84	mg/L	97.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.6	0.6			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.44	0.44			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	100.0393		102.1	mg/L	102.1	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	100.0393	18.1	120.7	mg/L	102.6	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	100.0393	18.1	122	mg/L	103.9	70	130	1.07	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.9738	mg/L	98.7	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.015	0.015			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5005		.5175	mg/L	103.4	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5005	.15	.6609	mg/L	102.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5005	.15	.661	mg/L	102.1	85	115	0.02	20	

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.9695	mg/L	98.5	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.015	0.015			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.011	0.011			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5005		.514	mg/L	102.7	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	.5005	.241	.753	mg/L	102.3	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	.5005	.241	.762	mg/L	104.1	70	130	1.19	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	49.95		51.2	mg/L	102.5	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-1.5	1.5			
WG367124													
WG367124LFB1	LFB	07/07/14 18:11	WI140610-6	30		30.9	mg/L	103	90	110			
L19105-04DUP	DUP	07/07/14 22:58			U	U	mg/L				0	20	RA
L19106-01AS	AS	07/07/14 23:34	WI140610-6	30	44	73.8	mg/L	99.3	90	110			
WG367124LFB2	LFB	07/08/14 2:51	WI140610-6	30		30.8	mg/L	102.7	90	110			
L19147-01DUP	DUP	07/08/14 18:31			23	22.9	mg/L				0.4	20	
L19147-02AS	AS	07/08/14 19:06	WI140610-6	30	14.9	45.8	mg/L	103	90	110			

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.05394	mg/L	107.9	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.0502		.05083	mg/L	101.3	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.0502	U	.04755	mg/L	94.7	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.0502	U	.04801	mg/L	95.6	70	130	0.96	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05459	mg/L	109.2	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.0502		.05019	mg/L	100	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.0502	U	.05127	mg/L	102.1	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.0502	U	.05136	mg/L	102.3	70	130	0.18	20	

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.0501		.04624	mg/L	92.3	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.04558	mg/L	91.1	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	U	.04273	mg/L	85.4	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	U	.04222	mg/L	84.4	70	130	1.2	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.0501		.04959	mg/L	99	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.05509	mg/L	110.1	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	U	.04974	mg/L	99.4	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	U	.05242	mg/L	104.7	70	130	5.25	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2	mg/L	100	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.015	0.015			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1		1.027	mg/L	102.7	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1	U	1.022	mg/L	102.2	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1	U	1.025	mg/L	102.5	85	115	0.29	20	

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.9955	mg/L	99.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.015	0.015			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.011	0.011			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1		1.035	mg/L	103.5	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	1	U	1.025	mg/L	102.5	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	1	U	1.037	mg/L	103.7	70	130	1.16	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.0521	mg/L	104.2	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.04943	mg/L	98.8	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	.0028	.0509	mg/L	96.1	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	.0028	.05116	mg/L	96.6	70	130	0.51	20	

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05136	mg/L	102.7	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.04828	mg/L	96.5	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	.0025	.05283	mg/L	100.6	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	.0025	.05285	mg/L	100.6	70	130	0.04	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.04879	mg/L	97.6	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0006	0.0006			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.04761	mg/L	95.1	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	.0416	.08924	mg/L	95.2	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	.0416	.08989	mg/L	96.5	70	130	0.73	20	

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05107	mg/L	102.1	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0006	0.0006			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00044	0.00044			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.05141	mg/L	102.7	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	.0308	.08198	mg/L	102.3	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	.0308	.08372	mg/L	105.7	70	130	2.1	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.985	mg/L	99.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.03	0.03			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5005		.534	mg/L	106.7	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5005	U	.535	mg/L	106.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5005	U	.536	mg/L	107.1	85	115	0.19	20	

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.944	mg/L	97.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.03	0.03			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.022	0.022			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5005		.532	mg/L	106.3	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	.5005	U	.521	mg/L	104.1	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	.5005	U	.529	mg/L	105.7	70	130	1.52	20	

SPF Water Engineering ACZ Project ID: ***L19108***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L19108-01	WG366851	Mercury, dissolved	M1631, Atomic Fluorescence	D1	Sample required dilution due to matrix.
	WG367124	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367056	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367057	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366971	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366932	Residue, Filterable (TDS) @180C	SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
	WG366744	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Sulfate	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L19108-02	WG366851	Mercury, dissolved	M1631, Atomic Fluorescence	D1	Sample required dilution due to matrix.
	WG367124	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367056	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367057	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366971	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366932	Residue, Filterable (TDS) @180C	SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366744	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Sulfate	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L19108***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L19108-03	WG366851	Mercury, dissolved	M1631, Atomic Fluorescence	D1	Sample required dilution due to matrix.
	WG367124	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367056	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367057	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366971	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366932	Residue, Filterable (TDS) @180C	SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366744	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Sulfate	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L19108-04	WG367124	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367056	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367057	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366971	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366932	Residue, Filterable (TDS) @180C	SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366744	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L19108-05	WG367056	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367057	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Quarter 2014 Sampling

ACZ Project ID: L19108
Date Received: 06/26/2014 09:50
Received By: mtb
Date Printed: 6/27/2014

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?	X		

A change was made in the # of Containers Line 4 section prior to ACZ custody.

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
NA19904	2.4	13	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Quarter 2014 Sampling

ACZ Project ID:	L19108
Date Received:	06/26/2014 09:50
Received By:	mtb
Date Printed:	6/27/2014

L19108

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name:	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SPF-2014-GW

PO#: Calico 2nd Quarter 2014 Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	*SPF-2014-GW	per ACZ QA QC						
Deposit Stock Tank	6/24/14 16:15	GW	8	X							
Sagebrush Spring	6/24/14 12:10	GW	8	X							
Negro Rock Creek	6/24/14 10:55	GW	8	X							
Transfer Blank	6/24/14 13:55		6	X**							
Cyanide Trip Blank	NA		1		X						

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed

** note that Transfer Blank excludes diss. metals and diss. Mercury bottles/sample.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe SPF	6/25/14 7:00	[illegible]	6.26.14 0950

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L19108 Chain of Custody

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Bottle Order Packing List

Account: SPFWATER/SPF Water Engineering
Bottle Order: BO31482

Bill to Account: Bill to ACZ
Ship Date Requested: 05/07/2014
Request Placed at: 05/05/2014 10:29
Service Requested: UPS SecondDay

Sampling supplies

PACK	Qty	ACZ ID	Type	Description
	4	COC	Chain of Custody	Chain of Custody, 1 for 10 samples.
	2	SEAL	Custody Seal	Custody seals for cooler, two for each cooler.
	1	RETURN	Return Address	Return Address label, one for each cooler.
	272	LABELS	Sample Labels	ACZ supplied labels for sample containers
	4	TRIP CN		
	4	TRIP HG		

ACZ Coolers

PACK	Qty	ACZ ID	Size	Weight	UPS Tracking Number
	1	box	Small	55	1Z8101300275007472

Quote number: SPF-2014-GW
Sample Quantity: 33

Quarterly Analysis of Groundwater and Springs

Client is responsible for necessary field filtering

PACK	Qty	Type	Size	Filter/Raw/Preserve	Instructions
	1	GREEN PC	250 ML	Green pre-cleaned Filtered/Nitiric	Metals (dissolved including ICPMS) - Filter sample with .45 micron filter. Do not overfill as there is Nitric Acid in the bottle.
	1	HG-1631	250 ML	Mercury 1631	Mercury by 1631 - See method specific sampling instructions.
	1	HG-1631 D	250 ML	Mercury 1631 Dissolved	Mercury (dissolved) by 1631 - See method specific sampling instructions.
	1	PURPLE	500 ML	Raw/NaOH	Cyanide - Do not overfill as there is Sodium Hydroxide in the bottle.
	1	RAW	500 ML	Raw	Wet Chemistry (analyses that do not require preservative or filtration) - Completely fill container.
	1	RED PC	250 ML	Red pre-cleaned Raw/Nitric	Metals (total including ICPMS) - Do not overfill as there is Nitric Acid in the bottle.
	1	WHITE	250 ML	Filtered	Wet chemistry (dissolved) - Filter sample with .45 micron filter. Completely fill container.
	1	YELLOW	250 ML	Raw/Sulfuric	For total wet chemistry analyses. Do not overfill as there is Sulfuric Acid in the bottle.

Prepared By/Date: _____

mjj

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

December 17, 2013

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 4th Quarter sampling
ACZ Project ID: L15734

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on November 25, 2013. This project has been assigned to ACZ's project number, L15734. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L15734. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after January 16, 2014. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Max Janicek has reviewed and approved this report.

SPF Water Engineering

December 17, 2013

Project ID: Calico 4th Quarter sampling
ACZ Project ID: L15734

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 2 ground water samples from SPF Water Engineering on November 25, 2013. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L15734. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

Any analyses not performed within EPA recommended holding times have been qualified with an "H" flag.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

The dissolved Cobalt values exceed the corresponding total values for project L15734. The samples were re-analyzed for verification, and results for both parameters were confirmed. This is a consistent anomaly with these sample types, and discrepancies may be attributed to a matrix or field sampling issue.

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L15734-01***
Date Sampled: *11/20/13 11:00*
Date Received: *11/25/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								12/03/13 18:21	mpb
Cyanide, WAD	SM4500-CN I- distillation								11/26/13 16:51	mpb
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/06/13 11:54	bsu
Total Hot Plate Digestion	M200.2 ICP-MS								12/16/13 9:28	scp
Total Hot Plate Digestion	M200.2 ICP								12/02/13 19:02	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L15734-01***
Date Sampled: *11/20/13 11:00*
Date Received: *11/25/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/03/13 1:00	aeb
Aluminum, total	M200.7 ICP	1	0.89			mg/L	0.03	0.2	12/03/13 16:50	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/05/13 2:21	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/06/13 20:45	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0100			mg/L	0.0002	0.001	12/05/13 2:21	msh
Arsenic, total	M200.8 ICP-MS	1	0.0102			mg/L	0.0002	0.001	12/06/13 20:45	pmc
Barium, dissolved	M200.7 ICP	1	0.019	B		mg/L	0.003	0.02	12/03/13 1:00	aeb
Barium, total	M200.7 ICP	1	0.030			mg/L	0.003	0.02	12/03/13 16:50	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/05/13 2:21	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/06/13 20:45	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/03/13 1:00	aeb
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/03/13 16:50	jjc
Boron, dissolved	M200.7 ICP	1	0.18			mg/L	0.01	0.05	12/03/13 1:00	aeb
Boron, total	M200.7 ICP	1	0.16			mg/L	0.01	0.05	12/03/13 16:50	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/13 2:21	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/06/13 20:45	pmc
Calcium, dissolved	M200.7 ICP	1	19.1			mg/L	0.2	1	12/03/13 1:00	aeb
Calcium, total	M200.7 ICP	1	19.6			mg/L	0.2	1	12/03/13 16:50	jjc
Chromium, dissolved	M200.8 ICP-MS	1	0.0009	B		mg/L	0.0005	0.002	12/05/13 2:21	msh
Chromium, total	M200.8 ICP-MS	1	0.0016	B		mg/L	0.0005	0.002	12/06/13 20:45	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00049			mg/L	0.00005	0.0003	12/11/13 5:16	pmc
Cobalt, total	M200.8 ICP-MS	1	0.00036			mg/L	0.00005	0.0003	12/13/13 21:44	pmc
Copper, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/05/13 2:21	msh
Copper, total	M200.8 ICP-MS	1	0.0009	B		mg/L	0.0005	0.003	12/06/13 20:45	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 1:00	aeb
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 16:50	jjc
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	12/03/13 1:00	aeb
Iron, total	M200.7 ICP	1	0.75			mg/L	0.02	0.05	12/03/13 16:50	jjc
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/13 2:21	msh
Lead, total	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	12/06/13 20:45	pmc
Lithium, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.02	0.1	12/03/13 1:00	aeb
Lithium, total	M200.7 ICP	1	0.03	B		mg/L	0.02	0.1	12/03/13 16:50	jjc
Magnesium, dissolved	M200.7 ICP	1	5.3			mg/L	0.2	1	12/03/13 1:00	aeb
Magnesium, total	M200.7 ICP	1	5.6			mg/L	0.2	1	12/03/13 16:50	jjc
Manganese, dissolved	M200.8 ICP-MS	1	0.0066			mg/L	0.0005	0.003	12/05/13 2:21	msh
Manganese, total	M200.8 ICP-MS	1	0.0242		*	mg/L	0.0005	0.003	12/06/13 20:45	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	1	0.6			ng/L	0.2	0.5	11/27/13 13:55	las
Mercury, total	M1631, Atomic Fluorescence	2	13.2			ng/L	0.4	1	12/03/13 13:52	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0065			mg/L	0.0005	0.003	12/05/13 2:21	msh
Molybdenum, total	M200.8 ICP-MS	1	0.0067			mg/L	0.0005	0.003	12/06/13 20:45	pmc
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	12/05/13 2:21	msh
Nickel, total	M200.8 ICP-MS	1	0.0008	B		mg/L	0.0006	0.003	12/06/13 20:45	pmc
Potassium, dissolved	M200.7 ICP	1	4.2			mg/L	0.3	2	12/03/13 1:00	aeb

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L15734-01***
Date Sampled: *11/20/13 11:00*
Date Received: *11/25/13*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	4.3			mg/L	0.3	2	12/03/13 16:50	jjc
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 1:00	aeb
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 16:50	jjc
Selenium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0003	12/05/13 2:21	msh
Selenium, total	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0003	12/06/13 20:45	pmc
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/10/13 17:22	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/06/13 20:45	pmc
Sodium, dissolved	M200.7 ICP	1	46.6			mg/L	0.3	2	12/03/13 1:00	aeb
Sodium, total	M200.7 ICP	1	45.7			mg/L	0.3	2	12/03/13 16:50	jjc
Strontium, dissolved	M200.7 ICP	1	0.09			mg/L	0.01	0.05	12/03/13 1:00	aeb
Strontium, total	M200.7 ICP	1	0.09			mg/L	0.01	0.05	12/03/13 16:50	jjc
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/13 2:21	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/06/13 20:45	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	12/05/13 2:21	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	12/06/13 20:45	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/03/13 1:00	aeb
Titanium, total	M200.7 ICP	1	0.037			mg/L	0.005	0.03	12/03/13 16:50	jjc
Uranium, dissolved	M200.8 ICP-MS	1	0.0026			mg/L	0.0001	0.0005	12/05/13 2:21	msh
Uranium, total	M200.8 ICP-MS	1	0.0025			mg/L	0.0001	0.0005	12/06/13 20:45	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0082			mg/L	0.0002	0.001	12/05/13 2:21	msh
Vanadium, total	M200.8 ICP-MS	1	0.0103			mg/L	0.0002	0.001	12/06/13 20:45	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/03/13 1:00	aeb
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	12/03/13 16:50	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L15734-01***
Date Sampled: *11/20/13 11:00*
Date Received: *11/25/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	105			mg/L	2	20	12/04/13 0:00	abm
Carbonate as CaCO3		1	9	B		mg/L	2	20	12/04/13 0:00	abm
Hydroxide as CaCO3		1		U		mg/L	2	20	12/04/13 0:00	abm
Total Alkalinity		1	114			mg/L	2	20	12/04/13 0:00	abm
Chloride	M300.0 - Ion Chromatography	1	13.8		*	mg/L	0.5	2.5	12/09/13 17:09	tcd
Conductivity @25C	SM2510B	1	349			umhos/cm	1	10	12/04/13 4:33	abm
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/04/13 18:18	bsu
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	11/26/13 17:42	mpb
Fluoride	M300.0 - Ion Chromatography	1	2.60		*	mg/L	0.1	0.5	12/09/13 17:09	tcd
Hardness as CaCO3	SM2340B - Calculation		70			mg/L	1	7	12/17/13 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.41			mg/L	0.02	0.1	12/06/13 0:38	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	12/06/13 15:26	bsu
pH (lab)	SM4500H+ B									
pH		1	8.6	H		units	0.1	0.1	12/04/13 0:00	abm
pH measured at		1	21			C	0.1	0.1	12/04/13 0:00	abm
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.03	B	*	mg/L	0.01	0.05	12/07/13 12:17	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	230			mg/L	10	20	11/26/13 15:28	khw
Residue, Non-Filterable (TSS) @105C	SM2540D	1	8	B	*	mg/L	5	20	11/26/13 14:22	id
Sulfate	M300.0 - Ion Chromatography	1	31.9			mg/L	0.5	2.5	12/09/13 17:09	tcd

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: OWYHEE DS

ACZ Sample ID: ***L15734-02***
Date Sampled: *11/20/13 15:10*
Date Received: *11/25/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								12/03/13 18:40	mpb
Cyanide, WAD	SM4500-CN I- distillation								11/26/13 17:00	mpb
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/06/13 12:15	bsu
Total Hot Plate Digestion	M200.2 ICP-MS								12/16/13 9:43	scp
Total Hot Plate Digestion	M200.2 ICP								12/02/13 19:14	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: OWYHEE DS

ACZ Sample ID: ***L15734-02***
Date Sampled: *11/20/13 15:10*
Date Received: *11/25/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/03/13 1:03	aeb
Aluminum, total	M200.7 ICP	1	0.37			mg/L	0.03	0.2	12/03/13 16:53	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/05/13 2:24	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/06/13 20:49	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0059			mg/L	0.0002	0.001	12/05/13 2:24	msh
Arsenic, total	M200.8 ICP-MS	1	0.0059			mg/L	0.0002	0.001	12/06/13 20:49	pmc
Barium, dissolved	M200.7 ICP	1	0.015	B		mg/L	0.003	0.02	12/03/13 1:03	aeb
Barium, total	M200.7 ICP	1	0.019	B		mg/L	0.003	0.02	12/03/13 16:53	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/05/13 2:24	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/06/13 20:49	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/03/13 1:03	aeb
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/03/13 16:53	jjc
Boron, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	12/03/13 1:03	aeb
Boron, total	M200.7 ICP	1	0.10			mg/L	0.01	0.05	12/03/13 16:53	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/13 2:24	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/06/13 20:49	pmc
Calcium, dissolved	M200.7 ICP	1	20.7			mg/L	0.2	1	12/03/13 1:03	aeb
Calcium, total	M200.7 ICP	1	21.2			mg/L	0.2	1	12/03/13 16:53	jjc
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	12/05/13 2:24	msh
Chromium, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	12/06/13 20:49	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00076			mg/L	0.00005	0.0003	12/11/13 5:25	pmc
Cobalt, total	M200.8 ICP-MS	1	0.00015	B		mg/L	0.00005	0.0003	12/13/13 21:46	pmc
Copper, dissolved	M200.8 ICP-MS	1	0.0005	B		mg/L	0.0005	0.003	12/05/13 2:24	msh
Copper, total	M200.8 ICP-MS	1	0.0016	B		mg/L	0.0005	0.003	12/06/13 20:49	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 1:03	aeb
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 16:53	jjc
Iron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.02	0.05	12/03/13 1:03	aeb
Iron, total	M200.7 ICP	1	0.30			mg/L	0.02	0.05	12/03/13 16:53	jjc
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/13 2:24	msh
Lead, total	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	12/06/13 20:49	pmc
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/03/13 1:03	aeb
Lithium, total	M200.7 ICP	1		U		mg/L	0.02	0.1	12/03/13 16:53	jjc
Magnesium, dissolved	M200.7 ICP	1	5.5			mg/L	0.2	1	12/03/13 1:03	aeb
Magnesium, total	M200.7 ICP	1	5.7			mg/L	0.2	1	12/03/13 16:53	jjc
Manganese, dissolved	M200.8 ICP-MS	1	0.0064			mg/L	0.0005	0.003	12/05/13 2:24	msh
Manganese, total	M200.8 ICP-MS	1	0.0100		*	mg/L	0.0005	0.003	12/09/13 19:58	pmc
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0036			mg/L	0.0005	0.003	12/05/13 2:24	msh
Molybdenum, total	M200.8 ICP-MS	1	0.0037			mg/L	0.0005	0.003	12/06/13 20:49	pmc
Nickel, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0006	0.003	12/05/13 2:24	msh
Nickel, total	M200.8 ICP-MS	1	0.0008	B		mg/L	0.0006	0.003	12/06/13 20:49	pmc
Potassium, dissolved	M200.7 ICP	1	3.5			mg/L	0.3	2	12/03/13 1:03	aeb
Potassium, total	M200.7 ICP	1	3.7			mg/L	0.3	2	12/03/13 16:53	jjc
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 1:03	aeb

** Please refer to Qualifier Reports for details.*

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: OWYHEE DS

ACZ Sample ID: ***L15734-02***
Date Sampled: *11/20/13 15:10*
Date Received: *11/25/13*
Sample Matrix: *Ground Water*

Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 16:53	jjc
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	12/05/13 2:24	msh
Selenium, total	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	12/06/13 20:49	pmc
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/10/13 17:25	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/06/13 20:49	pmc
Sodium, dissolved	M200.7 ICP	1	28.6			mg/L	0.3	2	12/03/13 1:03	aeb
Sodium, total	M200.7 ICP	1	28.6			mg/L	0.3	2	12/03/13 16:53	jjc
Strontium, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	12/03/13 1:03	aeb
Strontium, total	M200.7 ICP	1	0.10			mg/L	0.01	0.05	12/03/13 16:53	jjc
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/13 2:24	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/06/13 20:49	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	12/05/13 2:24	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	12/06/13 20:49	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/03/13 1:03	aeb
Titanium, total	M200.7 ICP	1	0.014	B		mg/L	0.005	0.03	12/03/13 16:53	jjc
Uranium, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0005	12/05/13 2:24	msh
Uranium, total	M200.8 ICP-MS	1	0.0015			mg/L	0.0001	0.0005	12/06/13 20:49	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0043			mg/L	0.0002	0.001	12/05/13 2:24	msh
Vanadium, total	M200.8 ICP-MS	1	0.0052			mg/L	0.0002	0.001	12/06/13 20:49	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/03/13 1:03	aeb
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	12/03/13 16:53	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: OWYHEE DS

ACZ Sample ID: ***L15734-02***
Date Sampled: *11/20/13 15:10*
Date Received: *11/25/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	90			mg/L	2	20	12/04/13 0:00	abm
Carbonate as CaCO3		1	9	B		mg/L	2	20	12/04/13 0:00	abm
Hydroxide as CaCO3		1		U		mg/L	2	20	12/04/13 0:00	abm
Total Alkalinity		1	100			mg/L	2	20	12/04/13 0:00	abm
Chloride	M300.0 - Ion Chromatography	1	8.56		*	mg/L	0.5	2.5	12/09/13 17:27	tcd
Conductivity @25C	SM2510B	1	277			umhos/cm	1	10	12/04/13 4:41	abm
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/04/13 18:19	bsu
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	11/26/13 17:43	mpb
Fluoride	M300.0 - Ion Chromatography	1	1.20		*	mg/L	0.1	0.5	12/09/13 17:27	tcd
Hardness as CaCO3	SM2340B - Calculation		74			mg/L	1	7	12/17/13 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.11			mg/L	0.02	0.1	12/06/13 0:39	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	12/06/13 15:27	bsu
pH (lab)	SM4500H+ B									
pH		1	8.6	H		units	0.1	0.1	12/04/13 0:00	abm
pH measured at		1	21			C	0.1	0.1	12/04/13 0:00	abm
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B	*	mg/L	0.01	0.05	12/07/13 12:19	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	180			mg/L	10	20	11/26/13 16:58	khw
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	11/26/13 14:25	id
Sulfate	M300.0 - Ion Chromatography	1	23.3			mg/L	0.5	2.5	12/09/13 17:27	tcd

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4)	EPA SW-846. Test Methods for Evaluating Solid Waste.
(5)	Standard Methods for the Examination of Water and Wastewater.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5)	If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L15734***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355781													
WG355781PBW1	PBW	12/03/13 15:00				6.8	mg/L		-20	20			
WG355781LCSW2	LCSW	12/03/13 15:13	WC131126-	820.0001		744	mg/L	90.7	90	110			
WG355781LCSW5	LCSW	12/03/13 19:53	WC131126-	820.0001		763.3	mg/L	93.1	90	110			
WG355781PBW2	PBW	12/03/13 20:02				2.6	mg/L		-20	20			
WG355781LCSW8	LCSW	12/03/13 22:55	WC131126-	820.0001		750.3	mg/L	91.5	90	110			
WG355781PBW3	PBW	12/03/13 23:05				2.7	mg/L		-20	20			
WG355781LCSW11	LCSW	12/04/13 2:21	WC131126-	820.0001		766.8	mg/L	93.5	90	110			
WG355781PBW4	PBW	12/04/13 2:29				2.5	mg/L		-20	20			
L15818-11DUP	DUP	12/04/13 6:07			856	869.1	mg/L				1.5	20	
WG355781LCSW14	LCSW	12/04/13 6:20	WC131126-	820.0001		783.5	mg/L	95.5	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	2		1.97	mg/L	98.5	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.09	0.09			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	1.0011		1.021	mg/L	102	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	1.0011	U	1.054	mg/L	105.3	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	1.0011	U	1.058	mg/L	105.7	85	115	0.38	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	1.0011	.05	1.107	mg/L	105.6	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	1.0011	.05	1.105	mg/L	105.4	85	115	0.18	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	2		2.002	mg/L	100.1	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.09	0.09			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.066	0.066			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	1.0011		1.028	mg/L	102.7	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	1.0011	.36	1.536	mg/L	117.5	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	1.0011	.36	1.536	mg/L	117.5	70	130	0	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.02		.02062	mg/L	103.1	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0012	0.0012			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.01		.01036	mg/L	103.6	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.01	U	.0105	mg/L	105	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.01	U	.01046	mg/L	104.6	70	130	0.38	20	

SPF Water Engineering

ACZ Project ID: ***L15734***

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.02		.02033	mg/L	101.7	90	110			
WG356064ICB	ICB	12/06/13 20:23				.00047	mg/L		-0.0012	0.0012			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00088	0.00088			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.01		.01124	mg/L	112.4	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.01	U	.01122	mg/L	112.2	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.01	U	.01115	mg/L	111.5	70	130	0.63	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.05449	mg/L	109	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0006	0.0006			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.05005		.05074	mg/L	101.4	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.05005	.0059	.06128	mg/L	110.6	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.05005	.0059	.0617	mg/L	111.5	70	130	0.68	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05226	mg/L	104.5	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0006	0.0006			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00044	0.00044			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.05181	mg/L	103.5	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	.0013	.05588	mg/L	109.1	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	.0013	.0551	mg/L	107.5	70	130	1.41	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	2		1.963	mg/L	98.2	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.009	0.009			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	.5		.4988	mg/L	99.8	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	.5	.036	.5317	mg/L	99.1	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	.5	.036	.5361	mg/L	100	85	115	0.82	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	.5	U	.5009	mg/L	100.2	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	.5	U	.4973	mg/L	99.5	85	115	0.72	20	

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	2		1.974	mg/L	98.7	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.009	0.009			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.0066	0.0066			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	.5		.4804	mg/L	96.1	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	.5	.078	.5722	mg/L	98.8	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	.5	.078	.571	mg/L	98.6	70	130	0.21	20	

SPF Water Engineering

ACZ Project ID: ***L15734***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.04924	mg/L	98.5	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.00015	0.00015			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.0501		.04447	mg/L	88.8	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.0501	U	.04952	mg/L	98.8	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.0501	U	.04943	mg/L	98.7	70	130	0.18	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.04662	mg/L	93.2	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.00015	0.00015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00011	0.00011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.0501		.04783	mg/L	95.5	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.0501	.00542	.05579	mg/L	100.5	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.0501	.00542	.05486	mg/L	98.7	70	130	1.68	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	2		2.008	mg/L	100.4	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.12	0.12			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	1		1.048	mg/L	104.8	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	1	U	1.035	mg/L	103.5	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	1	U	1.035	mg/L	103.5	85	115	0	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	1	U	1.026	mg/L	102.6	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	1	U	1.035	mg/L	103.5	85	115	0.87	20	

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	2		1.997	mg/L	99.9	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.12	0.12			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.088	0.088			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	1		1.045	mg/L	104.5	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	1	U	1.075	mg/L	107.5	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	1	U	1.034	mg/L	103.4	70	130	3.89	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	2		1.994	mg/L	99.7	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.03	0.03			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	.5005		.504	mg/L	100.7	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	.5005	.24	.737	mg/L	99.3	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	.5005	.24	.74	mg/L	99.9	85	115	0.41	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	.5005	.02	.529	mg/L	101.7	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	.5005	.02	.525	mg/L	100.9	85	115	0.76	20	

SPF Water Engineering

ACZ Project ID: ***L15734***

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	2		2.004	mg/L	100.2	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.03	0.03			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.022	0.022			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	.5005		.49	mg/L	97.9	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	.5005	.03	.526	mg/L	99.1	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	.5005	.03	.521	mg/L	98.1	70	130	0.96	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.04868	mg/L	97.4	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0003	0.0003			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.0501		.04856	mg/L	96.9	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.0501	U	.0498	mg/L	99.4	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.0501	U	.05016	mg/L	100.1	70	130	0.72	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.04953	mg/L	99.1	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.0501		.05045	mg/L	100.7	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.0501	.0038	.05205	mg/L	96.3	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.0501	.0038	.05128	mg/L	94.8	70	130	1.49	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	100		98.86	mg/L	98.9	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.6	0.6			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	68.00225		69.57	mg/L	102.3	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	68.00225	91.8	158.9	mg/L	98.7	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	68.00225	91.8	158.9	mg/L	98.7	85	115	0	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	68.00225	6.4	76.6	mg/L	103.2	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	68.00225	6.4	76.75	mg/L	103.5	85	115	0.2	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	100		99.4	mg/L	99.4	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.6	0.6			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.44	0.44			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	68.00225		68.71	mg/L	101	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	68.00225	62.6	132.9	mg/L	103.4	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	68.00225	62.6	131.6	mg/L	101.5	70	130	0.98	20	

SPF Water Engineering

ACZ Project ID: ***L15734***

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	19.98		19.7	mg/L	98.6	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-1.5	1.5			
WG356091													
L15749-01DUP	DUP	12/09/13 18:57			67.5	69.1	mg/L				2.3	20	RA
L15749-02AS	AS	12/09/13 19:32	WI131011-1	600	107	721	mg/L	102.3	90	110			
WG356091LFB2	LFB	12/09/13 20:26	WI131011-1	30		30.3	mg/L	101	90	110			
WG356091LFB1	LFB	12/10/13 16:26	WI131011-1	30		30.2	mg/L	100.7	90	110			

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.04972	mg/L	99.4	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0015	0.0015			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.05005		.04851	mg/L	96.9	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.05005	U	.04809	mg/L	96.1	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.05005	U	.04834	mg/L	96.6	70	130	0.52	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.0494	mg/L	98.8	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0015	0.0015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.0011	0.0011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.04947	mg/L	98.8	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	U	.04824	mg/L	96.4	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	U	.04753	mg/L	95	70	130	1.48	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356226													
WG356226ICV	ICV	12/11/13 4:53	MS131202-2	.05		.04963	mg/L	99.3	90	110			
WG356226ICB	ICB	12/11/13 4:56				U	mg/L		-0.00015	0.00015			
WG356226LFB	LFB	12/11/13 5:00	MS131118-2	.05005		.05167	mg/L	103.2	85	115			
L15734-01AS	AS	12/11/13 5:19	MS131118-2	.05005	.00049	.05178	mg/L	102.5	70	130			
L15734-01ASD	ASD	12/11/13 5:22	MS131118-2	.05005	.00049	.0523	mg/L	103.5	70	130	1	20	

SPF Water Engineering

ACZ Project ID: ***L15734***

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356436													
WG356436ICV	ICV	12/13/13 21:19	MS131202-2	.05		.04942	mg/L	98.8	90	110			
WG356436ICB	ICB	12/13/13 21:21				U	mg/L		-0.00015	0.00015			
WG355846LRB	LRB	12/13/13 21:23				U	mg/L		-0.00011	0.00011			
WG355846LFB	LFB	12/13/13 21:24	MS131118-2	.05005		.05085	mg/L	101.6	85	115			
WG355922LRB	LRB	12/13/13 21:37				U	mg/L		-0.00011	0.00011			
WG355922LFB	LFB	12/13/13 21:43	MS131118-2	.05005		.05096	mg/L	101.8	85	115			
L15749-02LFM	LFM	12/13/13 21:50	MS131118-2	.05005	.2452	.2826	mg/L	74.7	70	130			
L15749-02LFMD	LFMD	12/13/13 21:52	MS131118-2	.05005	.2452	.2986	mg/L	106.7	70	130	5.51	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355781													
WG355781LCSW1	LCSW	12/03/13 15:02	PCN42442	1408.8		1438.6	umhos/cm	102.1	90	110			
WG355781LCSW4	LCSW	12/03/13 19:42	PCN42442	1408.8		1415	umhos/cm	100.4	90	110			
WG355781LCSW7	LCSW	12/03/13 22:44	PCN42442	1408.8		1411	umhos/cm	100.2	90	110			
WG355781LCSW10	LCSW	12/04/13 2:09	PCN42442	1408.8		1394.6	umhos/cm	99	90	110			
L15818-11DUP	DUP	12/04/13 6:07			3720	3710	umhos/cm				0.3	20	
WG355781LCSW13	LCSW	12/04/13 6:08	PCN42442	1408.8		1381.2	umhos/cm	98	90	110			

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.05045	mg/L	100.9	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0015	0.0015			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.05005		.04821	mg/L	96.3	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.05005	.0005	.04818	mg/L	95.3	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.05005	.0005	.04851	mg/L	95.9	70	130	0.68	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.04944	mg/L	98.9	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0015	0.0015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.0011	0.0011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.04906	mg/L	98	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	.0035	.04902	mg/L	90.9	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	.0035	.04835	mg/L	89.6	70	130	1.38	20	

SPF Water Engineering

ACZ Project ID: ***L15734***

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355888													
WG355888ICV	ICV	12/04/13 17:12	WI131202-6	.3		.2922	mg/L	97.4	90	110			
WG355888ICB	ICB	12/04/13 17:13				U	mg/L		-0.003	0.003			
WG355891													
WG355802LRB	LRB	12/04/13 17:57				U	mg/L		-0.003	0.003			
WG355802LFB	LFB	12/04/13 17:58	WI131202-2	.2		.187	mg/L	93.5	90	110			
L15734-01DUP	DUP	12/04/13 18:19			U	U	mg/L				0	20	RA
L15734-02LFM	LFM	12/04/13 18:20	WI131202-2	.2	U	.1859	mg/L	93	90	110			

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355532													
WG355532ICV	ICV	11/26/13 13:36	WI131115-6	.3		.2952	mg/L	98.4	90	110			
WG355532ICB	ICB	11/26/13 13:37				U	mg/L		-0.003	0.003			
WG355556													
WG355526LRB	LRB	11/26/13 17:18				U	mg/L		-0.003	0.003			
WG355526LFB	LFB	11/26/13 17:19	WI131115-4	.2		.2005	mg/L	100.3	90	110			
L15700-01DUP	DUP	11/26/13 17:33			U	U	mg/L				0	20	RA
L15700-02LFM	LFM	11/26/13 17:34	WI131115-4	.2	U	.1794	mg/L	89.7	90	110			

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	4.004		4.21	mg/L	105.1	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-0.3	0.3			
WG356091													
L15749-01DUP	DUP	12/09/13 18:57			U	U	mg/L				0	20	RA
L15749-02AS	AS	12/09/13 19:32	WI131011-1	30	U	34.5	mg/L	115	90	110			M1
WG356091LFB2	LFB	12/09/13 20:26	WI131011-1	1.5		1.52	mg/L	101.3	90	110			
WG356091LFB1	LFB	12/10/13 16:26	WI131011-1	1.5		1.53	mg/L	102	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	2		2.01	mg/L	100.5	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.3	0.3			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	1.001		1.05	mg/L	104.9	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	1.001	U	1.07	mg/L	106.9	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	1.001	U	1.05	mg/L	104.9	85	115	1.89	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	1.001	U	1.02	mg/L	101.9	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	1.001	U	1.03	mg/L	102.9	85	115	0.98	20	

SPF Water Engineering

ACZ Project ID: ***L15734***

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	2		1.98	mg/L	99	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.3	0.3			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.22	0.22			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	1.001		.98	mg/L	97.9	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	1.001	U	.99	mg/L	98.9	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	1.001	U	.99	mg/L	98.9	70	130	0	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	2		1.986	mg/L	99.3	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.06	0.06			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	1.0014		1.018	mg/L	101.7	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	1.0014	U	1.065	mg/L	104.4	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	1.0014	U	1.044	mg/L	102.3	85	115	1.99	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	1.0014	.06	1.07	mg/L	100.9	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	1.0014	.06	1.072	mg/L	101.1	85	115	0.19	20	

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	2		1.994	mg/L	99.7	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.06	0.06			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.044	0.044			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	1.0014		.989	mg/L	98.8	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	1.0014	.38	1.395	mg/L	101.4	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	1.0014	.38	1.391	mg/L	101	70	130	0.29	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.0532	mg/L	106.4	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0003	0.0003			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.05005		.05061	mg/L	101.1	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.05005	U	.05147	mg/L	102.8	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.05005	U	.05186	mg/L	103.6	70	130	0.75	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05096	mg/L	101.9	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.04945	mg/L	98.8	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	U	.04973	mg/L	99.4	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	U	.0501	mg/L	100.1	70	130	0.74	20	

SPF Water Engineering

ACZ Project ID: ***L15734***

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	2		1.936	mg/L	96.8	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.06	0.06			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	1		.96	mg/L	96	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	1	.08	1.047	mg/L	96.7	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	1	.08	1.047	mg/L	96.7	85	115	0	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	1	U	.961	mg/L	96.1	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	1	U	.959	mg/L	95.9	85	115	0.21	20	

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	2		1.942	mg/L	97.1	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.06	0.06			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.044	0.044			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	1		.935	mg/L	93.5	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	1	U	.979	mg/L	97.9	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	1	U	.974	mg/L	97.4	70	130	0.51	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	100		97.49	mg/L	97.5	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.6	0.6			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	49.99695		48.93	mg/L	97.9	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	49.99695	48.4	96.95	mg/L	97.1	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	49.99695	48.4	96.82	mg/L	96.8	85	115	0.13	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	49.99695	.4	49.74	mg/L	98.7	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	49.99695	.4	49.86	mg/L	98.9	85	115	0.24	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	100		97.46	mg/L	97.5	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.6	0.6			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.44	0.44			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	49.99695		48.47	mg/L	96.9	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	49.99695	24.7	74.54	mg/L	99.7	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	49.99695	24.7	74.21	mg/L	99	70	130	0.44	20	

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.05285	mg/L	105.7	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0015	0.0015			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.05005		.05233	mg/L	104.6	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.05005	.0064	.05808	mg/L	103.3	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.05005	.0064	.05759	mg/L	102.3	70	130	0.85	20	

SPF Water Engineering

ACZ Project ID: ***L15734***

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05061	mg/L	101.2	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0015	0.0015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.0011	0.0011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.05054	mg/L	101	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	1000	1000	mg/L	0	70	130			M3
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	1000	1000	mg/L	0	70	130	0	20	M3
WG356143													
WG356143ICV	ICV	12/09/13 19:51	MS131202-2	.05		.0509	mg/L	101.8	90	110			
WG356143ICB	ICB	12/09/13 19:53				U	mg/L		-0.0015	0.0015			
WG355922LRB	LRB	12/09/13 19:55				U	mg/L		-0.0011	0.0011			
WG355922LFB	LFB	12/09/13 19:56	MS131118-2	.05005		.05029	mg/L	100.5	85	115			
L15749-02LFM	LFM	12/09/13 20:02	MS131118-2	.05005	90	91.5	mg/L	2997	70	130			M3
L15749-02LFMD	LFMD	12/09/13 20:04	MS131118-2	.05005	90	92.5	mg/L	4995	70	130	1.09	20	M3

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355492													
WG355492ICV	ICV	11/26/13 13:42	HG131010-4	10		10.5	ng/L	105	79	121			
WG355492ICB	ICB	11/26/13 13:47				U	ng/L		-0.5	0.5			
WG355569													
WG355569CCV1	CCV	11/27/13 12:03	HG131010-4	10		9.47	ng/L	94.7	76.5	123.4			
WG355569CCB1	CCB	11/27/13 12:08				U	ng/L		-0.5	0.5			
WG355569PQV	PQV	11/27/13 12:14	HG131010-6	.5		.36	ng/L	72	70	130			
WG355569LFB	LFB	11/27/13 12:19	HG131010-5	2		1.68	ng/L	84	71	125			
WG355569CCV2	CCV	11/27/13 13:14	HG131010-4	10		9.49	ng/L	94.9	76.5	123.4			
WG355569CCB2	CCB	11/27/13 13:19				U	ng/L		-0.5	0.5			
L15734-01MS	MS	11/27/13 14:00	HG131010-5	2	.6	2.5	ng/L	95	71	125			
L15734-01MSD	MSD	11/27/13 14:05	HG131010-5	2	.6	2.62	ng/L	101	71	125	4.69	24	
WG355569CCV3	CCV	11/27/13 14:10	HG131010-4	10		9.56	ng/L	95.6	76.5	123.4			
WG355569CCB3	CCB	11/27/13 14:15				U	ng/L		-0.5	0.5			

SPF Water Engineering

ACZ Project ID: ***L15734***

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355492													
WG355492ICV	ICV	11/26/13 13:42	HG131010-4	10		10.5	ng/L	105	79	121			
WG355492ICB	ICB	11/26/13 13:47				U	ng/L		-0.5	0.5			
WG355755													
WG355755CCV1	CCV	12/03/13 13:06	HG131010-4	10		8.79	ng/L	87.9	76.5	123.4			
WG355755CCB1	CCB	12/03/13 13:11				U	ng/L		-0.5	0.5			
WG355755PQV	PQV	12/03/13 13:16	HG131010-6	.5		.36	ng/L	72	70	130			
WG355755LFB	LFB	12/03/13 13:21	HG131010-5	2		1.58	ng/L	79	71	125			
L15721-01MS	MS	12/03/13 13:36	HG131010-5	2	1.9	3.57	ng/L	83.5	71	125			
L15721-01MSD	MSD	12/03/13 13:42	HG131010-5	2	1.9	3.73	ng/L	91.5	71	125	4.38	24	
WG355755CCV2	CCV	12/03/13 14:12	HG131010-4	10		9.16	ng/L	91.6	76.5	123.4			
WG355755CCB2	CCB	12/03/13 14:17				U	ng/L		-0.5	0.5			
WG355755CCV3	CCV	12/03/13 15:02	HG131010-4	10		8.9	ng/L	89	76.5	123.4			
WG355755CCB3	CCB	12/03/13 15:08				U	ng/L		-0.5	0.5			
WG355755CCV4	CCV	12/03/13 15:48	HG131010-4	10		9.39	ng/L	93.9	76.5	123.4			
WG355755CCB4	CCB	12/03/13 15:53				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.02006		.01913	mg/L	95.4	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0015	0.0015			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.05		.04807	mg/L	96.1	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.05	.0036	.05226	mg/L	97.3	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.05	.0036	.0519	mg/L	96.6	70	130	0.69	20	

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.02006		.01948	mg/L	97.1	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0015	0.0015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.0011	0.0011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05		.05096	mg/L	101.9	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05	U	.05019	mg/L	100.4	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05	U	.05014	mg/L	100.3	70	130	0.1	20	

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.05087	mg/L	101.7	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0018	0.0018			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.05005		.04895	mg/L	97.8	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.05005	.0006	.04832	mg/L	95.3	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.05005	.0006	.04847	mg/L	95.6	70	130	0.31	20	

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ACZ Project ID: ***L15734***

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.04906	mg/L	98.1	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0018	0.0018			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00132	0.00132			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.04882	mg/L	97.5	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	.2792	.3295	mg/L	100.5	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	.2792	.3256	mg/L	92.7	70	130	1.19	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355989													
WG355989ICV	ICV	12/05/13 18:42	WI131015-1	2.416		2.425	mg/L	100.4	90	110			
WG355989ICB	ICB	12/05/13 18:43				U	mg/L		-0.06	0.06			
WG356002													
WG356002LFB1	LFB	12/06/13 0:32	WI130816-3	2		2.042	mg/L	102.1	90	110			
L15644-02DUP	DUP	12/06/13 0:37			.32	.313	mg/L				2.2	20	
WG356002LFB2	LFB	12/06/13 1:06	WI130816-3	2		2.008	mg/L	100.4	90	110			
L15639-01AS	AS	12/06/13 1:19	WI130816-3	10	7	16.89	mg/L	98.9	90	110			

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356035													
WG356035ICV	ICV	12/06/13 13:45	WI131021-1	1.003		1.021	mg/L	101.8	90	110			
WG356035ICB	ICB	12/06/13 13:48				U	mg/L		-0.15	0.15			
WG356046													
WG356046LFB	LFB	12/06/13 15:17	WI121218-3	1		1.016	mg/L	101.6	90	110			
L15630-01AS	AS	12/06/13 15:20	WI121218-3	1	U	1.011	mg/L	101.1	90	110			
L15631-01DUP	DUP	12/06/13 15:22			U	U	mg/L				0	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355781													
WG355781LCSW3	LCSW	12/03/13 15:17	PCN41777	6		6.03	units	100.5	5.9	6.1			
WG355781LCSW6	LCSW	12/03/13 19:57	PCN41777	6		6.05	units	100.8	5.9	6.1			
WG355781LCSW9	LCSW	12/03/13 22:59	PCN41777	6		6.05	units	100.8	5.9	6.1			
WG355781LCSW12	LCSW	12/04/13 2:24	PCN41777	6		6.06	units	101	5.9	6.1			
L15818-11DUP	DUP	12/04/13 6:07			8.2	8.19	units				0.1	20	
WG355781LCSW15	LCSW	12/04/13 6:24	PCN41777	6		6.06	units	101	5.9	6.1			

SPF Water Engineering

ACZ Project ID: ***L15734***

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356080													
WG356080ICV	ICV	12/07/13 12:07	WI131104-3	.65228		.692	mg/L	106.1	90	110			
WG356080ICB	ICB	12/07/13 12:10				U	mg/L		-0.03	0.03			
WG356022LRB	LRB	12/07/13 12:11				U	mg/L		-0.03	0.03			
WG356022LFB	LFB	12/07/13 12:12	WI131206-2	.5		.488	mg/L	97.6	90	110			
L15734-01LFM	LFM	12/07/13 12:18	WI131206-2	.5	.03	.516	mg/L	97.2	90	110			
L15734-02DUP	DUP	12/07/13 12:20			.02	.02	mg/L				0	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	20		19.64	mg/L	98.2	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.9	0.9			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	99.94539		99.5	mg/L	99.6	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	99.94539	8	109.8	mg/L	101.9	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	99.94539	8	109.7	mg/L	101.8	85	115	0.09	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	99.94539	.6	101.8	mg/L	101.3	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	99.94539	.6	101.7	mg/L	101.2	85	115	0.1	20	

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	20		19.86	mg/L	99.3	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.9	0.9			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.66	0.66			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	99.94539		97.72	mg/L	97.8	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	99.94539	1.8	102.5	mg/L	100.8	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	99.94539	1.8	101.7	mg/L	100	70	130	0.78	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355538													
WG355538PBW	PBW	11/26/13 15:00				U	mg/L		-20	20			
WG355538LCSW	LCSW	11/26/13 15:01	PCN44256	260		252	mg/L	96.9	80	120			
L15734-01DUP	DUP	11/26/13 15:29			230	232	mg/L				0.9	10	
WG355550													
WG355550PBW	PBW	11/26/13 16:30				U	mg/L		-20	20			
WG355550LCSW	LCSW	11/26/13 16:31	PCN44256	260		254	mg/L	97.7	80	120			
L15734-02DUP	DUP	11/26/13 16:59			180	180	mg/L				0	10	

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355534													
WG355534PBW	PBW	11/26/13 13:28				U	mg/L		-15	15			
WG355534LCSW	LCSW	11/26/13 13:30	PCN44254	160		150	mg/L	93.8	80	120			
L15734-02DUP	DUP	11/26/13 14:28			U	5	mg/L				200	10	RA

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ACZ Project ID: ***L15734***

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	2		2	mg/L	100	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.3	0.3			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	1.0009		1.04	mg/L	103.9	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	1.0009	U	1.05	mg/L	104.9	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	1.0009	U	1.05	mg/L	104.9	85	115	0	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	1.0009	U	1.05	mg/L	104.9	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	1.0009	U	1.05	mg/L	104.9	85	115	0	20	

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	2		2	mg/L	100	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.3	0.3			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.22	0.22			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	1.0009		1.03	mg/L	102.9	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	1.0009	U	1.05	mg/L	104.9	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	1.0009	U	1.06	mg/L	105.9	70	130	0.95	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.0524	mg/L	104.8	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0003	0.0003			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.05005		.04974	mg/L	99.4	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.05005	.0003	.05673	mg/L	112.7	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.05005	.0003	.05632	mg/L	111.9	70	130	0.73	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05126	mg/L	102.5	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.04983	mg/L	99.6	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	.0001	.05583	mg/L	111.3	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	.0001	.05564	mg/L	111	70	130	0.34	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355931													
WG355931ICV	ICV	12/10/13 16:52	MS131202-2	.02002		.01849	mg/L	92.4	90	110			
WG355931ICB	ICB	12/10/13 16:55				U	mg/L		-0.00015	0.00015			
WG355931LFB	LFB	12/10/13 16:58	MS131118-2	.01001		.008911	mg/L	89	85	115			
L15643-02AS	AS	12/10/13 17:09	MS131118-2	.5005	U	.4279	mg/L	85.5	70	130			
L15643-02ASD	ASD	12/10/13 17:12	MS131118-2	.5005	U	.3681	mg/L	73.5	70	130	15.03	20	

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ACZ Project ID: ***L15734***

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.02002		.01945	mg/L	97.2	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.00015	0.00015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00011	0.00011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.01001		.009143	mg/L	91.3	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.01001	U	.008134	mg/L	81.3	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.01001	U	.008324	mg/L	83.2	70	130	2.31	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	100		99.07	mg/L	99.1	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.9	0.9			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	100.0204		99.28	mg/L	99.3	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	100.0204	86.1	183.3	mg/L	97.2	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	100.0204	86.1	184.1	mg/L	98	85	115	0.44	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	100.0204	23.4	123.4	mg/L	100	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	100.0204	23.4	123.4	mg/L	100	85	115	0	20	

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	100		99.81	mg/L	99.8	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.9	0.9			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.66	0.66			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	100.0204		97.36	mg/L	97.3	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	100.0204	15.8	116.1	mg/L	100.3	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	100.0204	15.8	114.7	mg/L	98.9	70	130	1.21	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	2		1.995	mg/L	99.8	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.03	0.03			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	.5		.492	mg/L	98.4	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	.5	.73	1.203	mg/L	94.6	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	.5	.73	1.202	mg/L	94.4	85	115	0.08	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	.5	.05	.546	mg/L	99.2	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	.5	.05	.545	mg/L	99	85	115	0.18	20	

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ACZ Project ID: ***L15734***

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	2		2.011	mg/L	100.6	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.03	0.03			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.022	0.022			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	.5		.479	mg/L	95.8	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	.5	.23	.723	mg/L	98.6	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	.5	.23	.716	mg/L	97.2	70	130	0.97	20	

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	49.95		49.8	mg/L	99.7	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-1.5	1.5			
WG356091													
L15749-01DUP	DUP	12/09/13 18:57			911	938	mg/L				2.9	20	
L15749-02AS	AS	12/09/13 19:32	WI131011-1	600	1200	1810	mg/L	101.7	90	110			
WG356091LFB2	LFB	12/09/13 20:26	WI131011-1	30		30	mg/L	100	90	110			
WG356091LFB1	LFB	12/10/13 16:26	WI131011-1	30		30.2	mg/L	100.7	90	110			

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.05267	mg/L	105.3	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0003	0.0003			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.05005		.05045	mg/L	100.8	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.05005	U	.05174	mg/L	103.4	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.05005	U	.05208	mg/L	104.1	70	130	0.65	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05245	mg/L	104.9	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.05074	mg/L	101.4	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	.0003	.05192	mg/L	103.1	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	.0003	.05308	mg/L	105.5	70	130	2.21	20	

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05015		.05039	mg/L	100.5	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0003	0.0003			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.05005		.0466	mg/L	93.1	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.05005	U	.04749	mg/L	94.9	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.05005	U	.04689	mg/L	93.7	70	130	1.27	20	

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ACZ Project ID: ***L15734***

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05015		.05255	mg/L	104.8	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.05081	mg/L	101.5	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	U	.05013	mg/L	100.2	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	U	.05059	mg/L	101.1	70	130	0.91	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	2		1.9328	mg/L	96.6	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.015	0.015			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	.999		.9937	mg/L	99.5	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	.999	.006	.9997	mg/L	99.5	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	.999	.006	.9965	mg/L	99.1	85	115	0.32	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	.999	U	.9951	mg/L	99.6	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	.999	U	.9967	mg/L	99.8	85	115	0.16	20	

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	2		1.95	mg/L	97.5	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.015	0.015			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.011	0.011			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	.999		.9749	mg/L	97.6	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	.999	.017	1.014	mg/L	99.8	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	.999	.017	1.006	mg/L	99	70	130	0.79	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.05118	mg/L	102.4	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0003	0.0003			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.05		.04986	mg/L	99.7	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.05	.0016	.05308	mg/L	103	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.05	.0016	.05335	mg/L	103.5	70	130	0.51	20	

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05195	mg/L	103.9	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05		.05115	mg/L	102.3	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05	.004	.05634	mg/L	104.7	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05	.004	.05799	mg/L	108	70	130	2.89	20	

SPF Water Engineering

ACZ Project ID: ***L15734***

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.04858	mg/L	97.2	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0006	0.0006			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.0501		.04919	mg/L	98.2	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.0501	.0043	.05433	mg/L	99.9	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.0501	.0043	.05441	mg/L	100	70	130	0.15	20	

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.0489	mg/L	97.8	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0006	0.0006			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00044	0.00044			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.0501		.05061	mg/L	101	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.0501	.0017	.05334	mg/L	103.1	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.0501	.0017	.05217	mg/L	100.7	70	130	2.22	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	2		1.957	mg/L	97.9	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.03	0.03			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	.5		.499	mg/L	99.8	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	.5	U	.508	mg/L	101.6	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	.5	U	.509	mg/L	101.8	85	115	0.2	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	.5	U	.511	mg/L	102.2	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	.5	U	.514	mg/L	102.8	85	115	0.59	20	

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	2		1.98	mg/L	99	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.03	0.03			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.022	0.022			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	.5		.507	mg/L	101.4	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	.5	U	.512	mg/L	102.4	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	.5	U	.507	mg/L	101.4	70	130	0.98	20	

SPF Water Engineering ACZ Project ID: ***L15734***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L15734-01	WG356064	Manganese, total	M200.8 ICP-MS	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
			M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG356091	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355891	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355556	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356091	Fluoride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356046	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356080	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355534	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L15734-02	WG356143	Manganese, total	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG356091	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355891	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355556	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356091	Fluoride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356046	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356080	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355534	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

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2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 4th Quarter sampling

ACZ Project ID: L15734
Date Received: 11/25/2013 09:58
Received By: mtb
Date Printed: 11/25/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?		X	

```
L15734-02 : A mercury 1631 total and dissolved container not
received and the associated analysis could not be run.
```

16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
3897	5.2	13	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc. L15734

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name:	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SPF-2014-GW

PO#: Calico 4th Quarter Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	SPF-2014-GW
Leslie Gulch	11/20/13 11:00		8	X
Owyhee DS	11/20/13 15:10		8	X

No. HG-11631 containers LEO 11.25.13

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	11/20/13 6:00	LEO	11.25.13 9:08

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L15734 Chain of Custody

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Bottle Order Packing List

Account: SPFWATER/SPF Water Engineering
Bottle Order: BO30665
Internal Note: Pre-paid return shipping
Pre-paid return shipping
Preserved - Please ensure the Clean Room gets a copy of BO - Include UPS 3 Day Return

Bill to Account: Bill to Client
Ship Date Requested: 11/13/2013
Request Placed at: 11/11/2013 10:43

Sampling supplies

PACK	Qty	ACZ ID	Type	Description
	4	COC	Chain of Custody	Chain of Custody, 1 for 10 samples.
	2	SEAL	Custody Seal	Custody seals for cooler, two for each cooler.
	1	RETURN	Return Address	Return Address label, one for each cooler.
	250	LABELS	Sample Labels	ACZ supplied labels for sample containers
	1	TRIP CN		
	1	TRIP HG		

Quote number: SPF-2014-GW
Quarterly Analysis of Groundwater and Springs

Sample Quantity: 31
Client is responsible for necessary field filtering

PACK	Qty	Type	Size	Filter/Raw/Preserve	Instructions
	1	GREEN PC	250 ML	Green pre-cleaned Filtered/Nitiric	Metals (dissolved including ICPMS) - Filter sample with .45 micron filter. Do not overfill as there is Nitric Acid in the bottle.
	1	HG-1631	250 ML	Mercury 1631	Mercury by 1631 - See method specific sampling instructions.
	1	HG-1631 D	250 ML	Mercury 1631 Dissolved	Mercury (dissolved) by 1631 - See method specific sampling instructions.
	1	PURPLE	500 ML	Raw/NaOH	Cyanide - Do not overfill as there is Sodium Hydroxide in the bottle.
	1	RAW	500 ML	Raw	Wet Chemistry (analyses that do not require preservative or filtration) - Completely fill container.
	1	RED PC	250 ML	Red pre-cleaned Raw/Nitric	Metals (total including ICPMS) - Do not overfill as there is Nitric Acid in the bottle.
	1	WHITE	250 ML	Filtered	Wet chemistry (dissolved) - Filter sample with .45 micron filter. Completely fill container.
	1	YELLOW	250 ML	Raw/Sulfuric	For total wet chemistry analyses. Do not overfill as there is Sulfuric Acid in the bottle.

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Analytical Quote

Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

11/11/2013

Quote Number: SPF-2014-GW

Matrix: Ground Water Quarterly Analysis of Groundwater and Springs

Parameter	Method	Detection Limit	Cost/Sample
Inorganic Prep			
Cyanide, total	M335.4 - Manual Distillation		$0.00
Cyanide, WAD	SM4500-CN I- distillation		$0.00
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digesti		$0.00
Total Hot Plate Digestion	M200.2 ICP-MS		$9.60
Total Hot Plate Digestion	M200.2 ICP		$9.60
Metals Analysis			
Aluminum, dissolved	M200.7 ICP	0.03 mg/L	$0.00
Aluminum, total	M200.7 ICP	0.03 mg/L	$0.00
Antimony, dissolved	M200.8 ICP-MS	0.0004 mg/L	$0.00
Antimony, total	M200.8 ICP-MS	0.0004 mg/L	$0.00
Arsenic, dissolved	M200.8 ICP-MS	0.0002 mg/L	$0.00
Arsenic, total	M200.8 ICP-MS	0.0002 mg/L	$0.00
Barium, dissolved	M200.7 ICP	0.003 mg/L	$0.00
Barium, total	M200.7 ICP	0.003 mg/L	$0.00
Beryllium, dissolved	M200.8 ICP-MS	0.00005 mg/L	$0.00
Beryllium, total	M200.8 ICP-MS	0.00005 mg/L	$0.00
Bismuth, dissolved	M200.7 ICP	0.04 mg/L	$0.00
Bismuth, total	M200.7 ICP	0.04 mg/L	$0.00
Boron, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Boron, total	M200.7 ICP	0.01 mg/L	$0.00
Cadmium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Cadmium, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Calcium, dissolved	M200.7 ICP	0.2 mg/L	$0.00
Calcium, total	M200.7 ICP	0.2 mg/L	$0.00
Chromium, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Chromium, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Cobalt, dissolved	M200.8 ICP-MS	0.00005 mg/L	$0.00
Cobalt, total	M200.8 ICP-MS	0.00005 mg/L	$0.00
Copper, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Copper, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Gallium, dissolved	M200.7 ICP	0.1 mg/L	$0.00
Gallium, total	M200.7 ICP	0.1 mg/L	$0.00
Iron, dissolved	M200.7 ICP	0.02 mg/L	$0.00
Iron, total	M200.7 ICP	0.02 mg/L	$0.00

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300 E. Mallard Drive, Suite 350
Boise, ID 83706

Lead, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Lead, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Lithium, dissolved	M200.7 ICP	0.02 mg/L	$0.00
Lithium, total	M200.7 ICP	0.02 mg/L	$0.00
Magnesium, dissolved	M200.7 ICP	0.2 mg/L	$0.00
Magnesium, total	M200.7 ICP	0.2 mg/L	$0.00
Manganese, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Manganese, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Mercury, dissolved	M1631, Atomic Fluorescence	0.2 ng/L	$40.00
Mercury, total	M1631, Atomic Fluorescence	0.2 ng/L	$40.00
Molybdenum, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Molybdenum, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Nickel, dissolved	M200.8 ICP-MS	0.0006 mg/L	$0.00
Nickel, total	M200.8 ICP-MS	0.0006 mg/L	$0.00
Potassium, dissolved	M200.7 ICP	0.3 mg/L	$0.00
Potassium, total	M200.7 ICP	0.3 mg/L	$0.00
Scandium, dissolved	M200.7 ICP	0.1 mg/L	$0.00
Scandium, total	M200.7 ICP	0.1 mg/L	$0.00
Selenium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Selenium, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Silver, dissolved	M200.8 ICP-MS	0.00005 mg/L	$0.00
Silver, total	M200.8 ICP-MS	0.00005 mg/L	$0.00
Sodium, dissolved	M200.7 ICP	0.3 mg/L	$0.00
Sodium, total	M200.7 ICP	0.3 mg/L	$0.00
Strontium, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Strontium, total	M200.7 ICP	0.01 mg/L	$0.00
Thallium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Thallium, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Tin, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Tin, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Titanium, dissolved	M200.7 ICP	0.005 mg/L	$0.00
Titanium, total	M200.7 ICP	0.005 mg/L	$0.00
Uranium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$13.60
Uranium, total	M200.8 ICP-MS	0.0001 mg/L	$13.60
Vanadium, dissolved	M200.8 ICP-MS	0.0002 mg/L	$0.00
Vanadium, total	M200.8 ICP-MS	0.0002 mg/L	$0.00
Zinc, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Zinc, total	M200.7 ICP	0.01 mg/L	$0.00
Misc.			
Electronic Data Deliverable			$0.00
Quality Control Summary			$0.00
Setup charge for ICP, dissolved			$95.00

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300 E. Mallard Drive, Suite 350
Boise, ID 83706

Setup charge for ICP, total			$95.00
Setup Charge for ICPMS - dissolved			$95.00
Setup for ICPMS Totals Analysis			$95.00
Wet Chemistry			
Alkalinity as CaCO3	SM2320B - Titration	2 mg/L	$8.80
Chloride	M300.0 - Ion Chromatography	0.5 mg/L	$10.40
Conductivity @25C	SM2510B	1 umhos/cm	$6.40
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.003 mg/L	$28.80
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillat	0.003 mg/L	$28.80
Fluoride	M300.0 - Ion Chromatography	0.1 mg/L	$10.40
Hardness as CaCO3	SM2340B - Calculation	Calculation	$0.00
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.02 mg/L	$8.80
Nitrogen, ammonia	M350.1 - Automated Phenate	0.05 mg/L	$8.80
pH (lab)	SM4500H+ B	0.1 C	$6.40
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	0.01 mg/L	$17.60
Residue, Filterable (TDS) @180C	SM2540C	10 mg/L	$8.84
Residue, Non-Filterable (TSS) @105C	SM2540D	5 mg/L	$8.80
Sulfate	M300.0 - Ion Chromatography	0.5 mg/L	$10.40
		Cost/Sample:	**$669.64**

Cient is field filtering. This quote is based on a Standard Turnaround Time (TAT) of approximately 14 days for water matrices (10 working days). TAT may vary with seasonal heavy workload. Please contact your PM if rush TAT is required. Rush TAT needs to be pre-approved prior to sample shipment to assure that due dates can be met. Pricing includes standard reporting formats and standard ACZ EDDs. All projects received are subject to a $125.00 Minimum Charge. Please note that method detection limits are estimates and may be elevated depending on sample matrix that require dilution. Pricing includes coolers, bottles pre-preserved as needed, labels, COCs and ice-packs shipped to your site or office via UPS ground. Return shipping is the responsibility of the client. Please allow ample time for your bottles to arrive.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

December 12, 2013

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 4th Quarter sampling
ACZ Project ID: L15772

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on November 27, 2013. This project has been assigned to ACZ's project number, L15772. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L15772. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after January 11, 2014. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Max Janicek has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: NEGRO ROCK CREEK

ACZ Sample ID: ***L15772-02***
Date Sampled: *11/21/13 14:55*
Date Received: *11/27/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								12/04/13 11:55	mla
Cyanide, WAD	SM4500-CN I- distillation								12/03/13 15:07	mpb
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/06/13 15:19	bsu
Total Hot Plate Digestion	M200.2 ICP-MS								12/05/13 15:40	las
Total Hot Plate Digestion	M200.2 ICP								12/03/13 12:48	aeb

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: NEGRO ROCK CREEK

ACZ Sample ID: ***L15772-02***
Date Sampled: *11/21/13 14:55*
Date Received: *11/27/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/03/13 14:26	aeb
Aluminum, total	M200.7 ICP	1	0.04	B		mg/L	0.03	0.2	12/03/13 21:08	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/05/13 5:07	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/06/13 21:14	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0231			mg/L	0.0002	0.001	12/05/13 5:07	msh
Arsenic, total	M200.8 ICP-MS	1	0.0237			mg/L	0.0002	0.001	12/06/13 21:14	pmc
Barium, dissolved	M200.7 ICP	1	0.020			mg/L	0.003	0.02	12/03/13 14:26	aeb
Barium, total	M200.7 ICP	1	0.022			mg/L	0.003	0.02	12/03/13 21:08	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/05/13 5:07	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/06/13 21:14	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/03/13 14:26	aeb
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/03/13 21:08	aeb
Boron, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	12/03/13 14:26	aeb
Boron, total	M200.7 ICP	1	0.12			mg/L	0.01	0.05	12/03/13 21:08	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/13 5:07	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/06/13 21:14	pmc
Calcium, dissolved	M200.7 ICP	1	36.7			mg/L	0.2	1	12/03/13 14:26	aeb
Calcium, total	M200.7 ICP	1	36.9			mg/L	0.2	1	12/03/13 21:08	aeb
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	12/05/13 5:07	msh
Chromium, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	12/06/13 21:14	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00011	B		mg/L	0.00005	0.0003	12/05/13 5:07	msh
Cobalt, total	M200.8 ICP-MS	1	0.00012	B		mg/L	0.00005	0.0003	12/06/13 21:14	pmc
Copper, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/05/13 5:07	msh
Copper, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/06/13 21:14	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 14:26	aeb
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 21:08	aeb
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	12/03/13 14:26	aeb
Iron, total	M200.7 ICP	1	0.04	B		mg/L	0.02	0.05	12/03/13 21:08	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/13 5:07	msh
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/06/13 21:14	pmc
Lithium, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.02	0.1	12/03/13 14:26	aeb
Lithium, total	M200.7 ICP	1	0.04	B		mg/L	0.02	0.1	12/03/13 21:08	aeb
Magnesium, dissolved	M200.7 ICP	1	12			mg/L	0.2	1	12/03/13 14:26	aeb
Magnesium, total	M200.7 ICP	1	12.1			mg/L	0.2	1	12/03/13 21:08	aeb
Manganese, dissolved	M200.8 ICP-MS	1	0.0241			mg/L	0.0005	0.003	12/05/13 5:07	msh
Manganese, total	M200.8 ICP-MS	1	0.0322		*	mg/L	0.0005	0.003	12/06/13 21:14	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	1	0.2	B		ng/L	0.2	0.5	12/06/13 11:28	las
Mercury, total	M1631, Atomic Fluorescence	1	0.3	B		ng/L	0.2	0.5	12/03/13 14:42	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0072			mg/L	0.0005	0.003	12/05/13 5:07	msh
Molybdenum, total	M200.8 ICP-MS	1	0.0077			mg/L	0.0005	0.003	12/06/13 21:14	pmc
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	12/05/13 5:07	msh
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	12/06/13 21:14	pmc
Potassium, dissolved	M200.7 ICP	1	8.2			mg/L	0.3	2	12/03/13 14:26	aeb

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: NEGRO ROCK CREEK

ACZ Sample ID: ***L15772-02***
Date Sampled: *11/21/13 14:55*
Date Received: *11/27/13*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	8.1			mg/L	0.3	2	12/03/13 21:08	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 14:26	aeb
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 21:08	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0003	12/05/13 5:07	msh
Selenium, total	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0003	12/06/13 21:14	pmc
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/10/13 18:26	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/06/13 21:14	pmc
Sodium, dissolved	M200.7 ICP	1	65.3			mg/L	0.3	2	12/03/13 14:26	aeb
Sodium, total	M200.7 ICP	1	65.6			mg/L	0.3	2	12/03/13 21:08	aeb
Strontium, dissolved	M200.7 ICP	1	0.20		*	mg/L	0.01	0.05	12/03/13 14:26	aeb
Strontium, total	M200.7 ICP	1	0.20			mg/L	0.01	0.05	12/03/13 21:08	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/13 5:07	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/06/13 21:14	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	12/05/13 5:07	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	12/06/13 21:14	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/03/13 14:26	aeb
Titanium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	12/03/13 21:08	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0031			mg/L	0.0001	0.0005	12/05/13 5:07	msh
Uranium, total	M200.8 ICP-MS	1	0.0032			mg/L	0.0001	0.0005	12/06/13 21:14	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0178			mg/L	0.0002	0.001	12/05/13 5:07	msh
Vanadium, total	M200.8 ICP-MS	1	0.0193			mg/L	0.0002	0.001	12/06/13 21:14	pmc
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	12/03/13 14:26	aeb
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	12/03/13 21:08	aeb

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: NEGRO ROCK CREEK

ACZ Sample ID: ***L15772-02***
Date Sampled: *11/21/13 14:55*
Date Received: *11/27/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	165			mg/L	2	20	12/04/13 0:00	khw
Carbonate as CaCO3		1		U		mg/L	2	20	12/04/13 0:00	khw
Hydroxide as CaCO3		1		U		mg/L	2	20	12/04/13 0:00	khw
Total Alkalinity		1	165			mg/L	2	20	12/04/13 0:00	khw
Chloride	M300.0 - Ion Chromatography	1	20.6		*	mg/L	0.5	2.5	12/10/13 0:37	tcd
Conductivity @25C	SM2510B	1	575			umhos/cm	1	10	12/04/13 22:37	khw
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/04/13 19:09	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/04/13 17:27	bsu
Fluoride	M300.0 - Ion Chromatography	1	0.57		*	mg/L	0.1	0.5	12/10/13 0:37	tcd
Hardness as CaCO3	SM2340B - Calculation		141			mg/L	1	7	12/12/13 9:02	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.39		*	mg/L	0.02	0.1	12/06/13 23:44	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	12/06/13 15:48	bsu
pH (lab)	SM4500H+ B									
pH		1	8.2	H		units	0.1	0.1	12/04/13 0:00	khw
pH measured at		1	21			C	0.1	0.1	12/04/13 0:00	khw
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.06			mg/L	0.01	0.05	12/07/13 12:42	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	400			mg/L	10	20	11/27/13 12:38	mss3
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	11/27/13 14:33	mss3
Sulfate	M300.0 - Ion Chromatography	1	89.1			mg/L	0.5	2.5	12/10/13 0:37	tcd

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4)	EPA SW-846. Test Methods for Evaluating Solid Waste.
(5)	Standard Methods for the Examination of Water and Wastewater.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5)	If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L15772***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355870													
WG355870PBW1	PBW	12/04/13 15:50				U	mg/L		-20	20			
WG355870LCSW2	LCSW	12/04/13 16:04	WC131126-	820.0001		743	mg/L	90.6	90	110			
WG355870LCSW5	LCSW	12/04/13 21:04	WC131126-	820.0001		772.2	mg/L	94.2	90	110			
WG355870PBW2	PBW	12/04/13 21:12				U	mg/L		-20	20			
L15772-02DUP	DUP	12/04/13 22:46			165	165.1	mg/L				0.1	20	
WG355870LCSW8	LCSW	12/05/13 0:26	WC131126-	820.0001		764.8	mg/L	93.3	90	110			
WG355870PBW3	PBW	12/05/13 0:35				2.1	mg/L		-20	20			
WG355870LCSW11	LCSW	12/05/13 3:32	WC131126-	820.0001		773.9	mg/L	94.4	90	110			
WG355870PBW4	PBW	12/05/13 3:40				2.2	mg/L		-20	20			
WG355870LCSW14	LCSW	12/05/13 6:40	WC131126-	820.0001		777.4	mg/L	94.8	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	2		2.01	mg/L	100.5	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.09	0.09			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	1.0011		1.073	mg/L	107.2	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	1.0011	.04	1.107	mg/L	106.6	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	1.0011	.04	1.104	mg/L	106.3	85	115	0.27	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	2		1.98	mg/L	99	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.09	0.09			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.066	0.066			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	1.0011		1.018	mg/L	101.7	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	1.0011	U	1.038	mg/L	103.7	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	1.0011	U	1.035	mg/L	103.4	70	130	0.29	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.02		.02091	mg/L	104.6	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0012	0.0012			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.01		.01038	mg/L	103.8	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.01	U	.01063	mg/L	106.3	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.01	U	.01078	mg/L	107.8	70	130	1.4	20	

SPF Water Engineering

ACZ Project ID: ***L15772***

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.02		.02033	mg/L	101.7	90	110			
WG356064ICB	ICB	12/06/13 20:23				.00047	mg/L		-0.0012	0.0012			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00088	0.00088			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.01		.01124	mg/L	112.4	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.01	U	.01122	mg/L	112.2	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.01	U	.01115	mg/L	111.5	70	130	0.63	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.05239	mg/L	104.8	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0006	0.0006			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05005		.04954	mg/L	99	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05005	.0315	.08596	mg/L	108.8	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05005	.0315	.08691	mg/L	110.7	70	130	1.1	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05226	mg/L	104.5	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0006	0.0006			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00044	0.00044			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.05181	mg/L	103.5	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	.0013	.05588	mg/L	109.1	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	.0013	.0551	mg/L	107.5	70	130	1.41	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	2		1.96	mg/L	98	95	105			
WG355744ICB	ICB	12/03/13 13:07				.0032	mg/L		-0.009	0.009			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	.5		.4986	mg/L	99.7	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	.5	.066	.5643	mg/L	99.7	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	.5	.066	.565	mg/L	99.8	85	115	0.12	20	

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	2		1.9805	mg/L	99	95	105			
WG355798ICB	ICB	12/03/13 19:39				.0041	mg/L		-0.009	0.009			
WG355724LRB	LRB	12/03/13 19:52				.0032	mg/L		-0.0066	0.0066			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	.5		.4768	mg/L	95.4	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	.5	.047	.527	mg/L	96	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	.5	.047	.528	mg/L	96.2	70	130	0.19	20	

SPF Water Engineering

ACZ Project ID: ***L15772***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.04872	mg/L	97.4	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.00015	0.00015			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.0501		.04558	mg/L	91	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.0501	U	.05035	mg/L	100.5	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.0501	U	.05038	mg/L	100.6	70	130	0.06	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.04662	mg/L	93.2	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.00015	0.00015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00011	0.00011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.0501		.04783	mg/L	95.5	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.0501	.00542	.05579	mg/L	100.5	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.0501	.00542	.05486	mg/L	98.7	70	130	1.68	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	2		2.018	mg/L	100.9	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.12	0.12			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	1		1.042	mg/L	104.2	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	1	U	1.059	mg/L	105.9	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	1	U	1.093	mg/L	109.3	85	115	3.16	20	

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	2		2.009	mg/L	100.5	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.12	0.12			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.088	0.088			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	1		1.056	mg/L	105.6	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	1	U	1.049	mg/L	104.9	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	1	U	1.025	mg/L	102.5	70	130	2.31	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	2		2.024	mg/L	101.2	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.03	0.03			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	.5005		.523	mg/L	104.5	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	.5005	.02	.546	mg/L	105.1	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	.5005	.02	.553	mg/L	106.5	85	115	1.27	20	

SPF Water Engineering

ACZ Project ID: ***L15772***

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	2		2.012	mg/L	100.6	95	105			
WG355798ICB	ICB	12/03/13 19:39				.013	mg/L		-0.03	0.03			
WG355724LRB	LRB	12/03/13 19:52				.011	mg/L		-0.022	0.022			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	.5005		.486	mg/L	97.1	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	.5005	.08	.547	mg/L	93.3	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	.5005	.08	.557	mg/L	95.3	70	130	1.81	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.04989	mg/L	99.8	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0003	0.0003			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.0501		.04941	mg/L	98.6	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.0501	U	.0488	mg/L	97.4	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.0501	U	.04951	mg/L	98.8	70	130	1.44	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.04953	mg/L	99.1	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.0501		.05045	mg/L	100.7	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.0501	.0038	.05205	mg/L	96.3	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.0501	.0038	.05128	mg/L	94.8	70	130	1.49	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	100		98.46	mg/L	98.5	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.6	0.6			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	68.00225		70.49	mg/L	103.7	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	68.00225	213	274.5	mg/L	90.4	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	68.00225	213	273.9	mg/L	89.6	85	115	0.22	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	100		99.33	mg/L	99.3	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.6	0.6			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.44	0.44			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	68.00225		67.6	mg/L	99.4	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	68.00225	42.6	111.1	mg/L	100.7	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	68.00225	42.6	111.9	mg/L	101.9	70	130	0.72	20	

SPF Water Engineering

ACZ Project ID: ***L15772***

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	19.98		19.7	mg/L	98.6	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-1.5	1.5			
WG356091													
WG356091LFB2	LFB	12/09/13 20:26	WI131011-1	30		30.3	mg/L	101	90	110			
L15750-03DUP	DUP	12/09/13 21:02			U	U	mg/L				0	20	RA
L15763-03AS	AS	12/09/13 22:14	WI131011-1	60	39	99.7	mg/L	101.2	90	110			
WG356091LFB1	LFB	12/10/13 16:26	WI131011-1	30		30.2	mg/L	100.7	90	110			

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.04867	mg/L	97.3	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0015	0.0015			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05005		.04784	mg/L	95.6	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05005	.0007	.04774	mg/L	94	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05005	.0007	.04897	mg/L	96.4	70	130	2.54	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.0494	mg/L	98.8	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0015	0.0015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.0011	0.0011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.04947	mg/L	98.8	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	U	.04824	mg/L	96.4	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	U	.04753	mg/L	95	70	130	1.48	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.05129	mg/L	102.6	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.00015	0.00015			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05005		.05321	mg/L	106.3	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05005	.00013	.04865	mg/L	96.9	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05005	.00013	.04893	mg/L	97.5	70	130	0.57	20	

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.04925	mg/L	98.5	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.00015	0.00015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00011	0.00011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.05074	mg/L	101.4	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	.2394	.2817	mg/L	84.5	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	.2394	.2783	mg/L	77.7	70	130	1.21	20	

SPF Water Engineering

ACZ Project ID: ***L15772***

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355870													
WG355870LCSW1	LCSW	12/04/13 15:52	PCN42442	1408.8		1421.2	umhos/cm	100.9	90	110			
WG355870LCSW4	LCSW	12/04/13 20:52	PCN42442	1408.8		1404.8	umhos/cm	99.7	90	110			
L15772-02DUP	DUP	12/04/13 22:46			575	578	umhos/cm				0.5	20	
WG355870LCSW7	LCSW	12/05/13 0:12	PCN42442	1408.8		1392.6	umhos/cm	98.9	90	110			
WG355870LCSW10	LCSW	12/05/13 3:20	PCN42442	1408.8		1382.3	umhos/cm	98.1	90	110			
WG355870LCSW13	LCSW	12/05/13 6:28	PCN42442	1408.8		1375.2	umhos/cm	97.6	90	110			

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.04935	mg/L	98.7	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0015	0.0015			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05005		.04762	mg/L	95.1	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05005	U	.04785	mg/L	95.6	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05005	U	.0488	mg/L	97.5	70	130	1.97	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.04944	mg/L	98.9	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0015	0.0015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.0011	0.0011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.04906	mg/L	98	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	.0035	.04902	mg/L	90.9	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	.0035	.04835	mg/L	89.6	70	130	1.38	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355888													
WG355888ICV	ICV	12/04/13 17:12	WI131202-6	.3		.2922	mg/L	97.4	90	110			
WG355888ICB	ICB	12/04/13 17:13				U	mg/L		-0.003	0.003			
WG355900													
WG355836LRB	LRB	12/04/13 18:57				U	mg/L		-0.003	0.003			
WG355836LFB	LFB	12/04/13 18:58	WI131202-2	.2		.1849	mg/L	92.5	90	110			
L15768-01DUP	DUP	12/04/13 19:00			U	U	mg/L				0	20	RA
L15770-01LFM	LFM	12/04/13 19:01	WI131202-2	.2	U	.1813	mg/L	90.7	90	110			

SPF Water Engineering

ACZ Project ID: ***L15772***

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355888													
WG355888ICV	ICV	12/04/13 17:12	WI131202-6	.3		.2922	mg/L	97.4	90	110			
WG355888ICB	ICB	12/04/13 17:13				U	mg/L		-0.003	0.003			
WG355780LRB	LRB	12/04/13 17:14				U	mg/L		-0.003	0.003			
WG355780LFB	LFB	12/04/13 17:15	WI131202-4	.2		.1964	mg/L	98.2	90	110			
L15728-01DUP	DUP	12/04/13 17:16			U	U	mg/L				0	20	RA
L15728-02LFM	LFM	12/04/13 17:18	WI131202-4	.2	U	.1877	mg/L	93.9	90	110			
L15772-02DUP	DUP	12/04/13 17:28			U	U	mg/L				0	20	RA
L15799-01LFM	LFM	12/04/13 17:30	WI131202-4	.2	U	.1888	mg/L	94.4	90	110			

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	4.004		4.21	mg/L	105.1	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-0.3	0.3			
WG356091													
WG356091LFB2	LFB	12/09/13 20:26	WI131011-1	1.5		1.52	mg/L	101.3	90	110			
L15750-03DUP	DUP	12/09/13 21:02			13.5	13.6	mg/L				0.7	20	RA
L15763-03AS	AS	12/09/13 22:14	WI131011-1	3	.54	3.74	mg/L	106.7	90	110			
WG356091LFB1	LFB	12/10/13 16:26	WI131011-1	1.5		1.53	mg/L	102	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	2		1.98	mg/L	99	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.3	0.3			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	1.001		1.07	mg/L	106.9	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	1.001	U	1.07	mg/L	106.9	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	1.001	U	1.06	mg/L	105.9	85	115	0.94	20	

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	2		2.01	mg/L	100.5	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.3	0.3			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.22	0.22			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	1.001		1.01	mg/L	100.9	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	1.001	U	1.02	mg/L	101.9	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	1.001	U	1.01	mg/L	100.9	70	130	0.99	20	

SPF Water Engineering

ACZ Project ID: ***L15772***

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	2		2.022	mg/L	101.1	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.06	0.06			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	1.0014		1.035	mg/L	103.4	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	1.0014	2.03	2.971	mg/L	94	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	1.0014	2.03	2.974	mg/L	94.3	85	115	0.1	20	

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	2		1.995	mg/L	99.8	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.06	0.06			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.044	0.044			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	1.0014		.975	mg/L	97.4	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	1.0014	U	.982	mg/L	98.1	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	1.0014	U	.988	mg/L	98.7	70	130	0.61	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.05332	mg/L	106.6	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0003	0.0003			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05005		.05157	mg/L	103	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05005	U	.05053	mg/L	101	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05005	U	.05177	mg/L	103.4	70	130	2.42	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05096	mg/L	101.9	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.04945	mg/L	98.8	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	U	.04973	mg/L	99.4	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	U	.0501	mg/L	100.1	70	130	0.74	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	2		1.955	mg/L	97.8	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.06	0.06			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	1		.984	mg/L	98.4	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	1	.09	1.073	mg/L	98.3	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	1	.09	1.071	mg/L	98.1	85	115	0.19	20	

SPF Water Engineering

ACZ Project ID: ***L15772***

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	2		1.94	mg/L	97	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.06	0.06			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.044	0.044			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	1		.953	mg/L	95.3	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	1	.04	.998	mg/L	95.8	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	1	.04	.993	mg/L	95.3	70	130	0.5	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	100		97.01	mg/L	97	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.6	0.6			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	49.99695		49.71	mg/L	99.4	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	49.99695	15.6	64.49	mg/L	97.8	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	49.99695	15.6	64.7	mg/L	98.2	85	115	0.33	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	100		97.65	mg/L	97.7	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.6	0.6			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.44	0.44			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	49.99695		47.45	mg/L	94.9	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	49.99695	10.3	58.11	mg/L	95.6	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	49.99695	10.3	58.29	mg/L	96	70	130	0.31	20	

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.05309	mg/L	106.2	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0015	0.0015			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05005		.05325	mg/L	106.4	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05005	.0059	.05596	mg/L	100	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05005	.0059	.05251	mg/L	93.1	70	130	6.36	20	

SPF Water Engineering

ACZ Project ID: ***L15772***

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05061	mg/L	101.2	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0015	0.0015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.0011	0.0011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.05054	mg/L	101	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	1000	1000	mg/L	0	70	130			M3
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	1000	1000	mg/L	0	70	130	0	20	M3
WG356143													
WG356143ICV	ICV	12/09/13 19:51	MS131202-2	.05		.0509	mg/L	101.8	90	110			
WG356143ICB	ICB	12/09/13 19:53				U	mg/L		-0.0015	0.0015			
WG355922LRB	LRB	12/09/13 19:55				U	mg/L		-0.0011	0.0011			
WG355922LFB	LFB	12/09/13 19:56	MS131118-2	.05005		.05029	mg/L	100.5	85	115			
L15749-02LFM	LFM	12/09/13 20:02	MS131118-2	.05005	90	91.5	mg/L	2997	70	130			M3
L15749-02LFMD	LFMD	12/09/13 20:04	MS131118-2	.05005	90	92.5	mg/L	4995	70	130	1.09	20	M3

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356009													
WG356009ICV	ICV	12/06/13 10:12	HG131206-4	10		10.3	ng/L	103	79	121			
WG356009ICB	ICB	12/06/13 10:17				U	ng/L		-0.5	0.5			
WG356009PQV	PQV	12/06/13 10:22	HG131206-5	.5		.58	ng/L	116	70	130			
WG356009LFB	LFB	12/06/13 10:28	HG131206-6	2		1.95	ng/L	97.5	71	125			
L15770-03MS	MS	12/06/13 10:48	HG131206-6	2	U	2.02	ng/L	101	71	125			
L15770-03MSD	MSD	12/06/13 10:53	HG131206-6	2	U	2.06	ng/L	103	71	125	1.96	24	
WG356009CCV1	CCV	12/06/13 11:13	HG131206-4	10		11.4	ng/L	114	76.5	123.4			
WG356009CCB1	CCB	12/06/13 11:18				U	ng/L		-0.5	0.5			
WG356009CCV2	CCV	12/06/13 12:04	HG131206-4	10		10.1	ng/L	101	76.5	123.4			
WG356009CCB2	CCB	12/06/13 12:09				U	ng/L		-0.5	0.5			
WG356009CCV3	CCV	12/06/13 12:54	HG131206-4	10		10.3	ng/L	103	76.5	123.4			
WG356009CCB3	CCB	12/06/13 12:59				U	ng/L		-0.5	0.5			

SPF Water Engineering

ACZ Project ID: ***L15772***

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355492													
WG355492ICV	ICV	11/26/13 13:42	HG131010-4	10		10.5	ng/L	105	79	121			
WG355492ICB	ICB	11/26/13 13:47				U	ng/L		-0.5	0.5			
WG355755													
WG355755CCV1	CCV	12/03/13 13:06	HG131010-4	10		8.79	ng/L	87.9	76.5	123.4			
WG355755CCB1	CCB	12/03/13 13:11				U	ng/L		-0.5	0.5			
WG355755PQV	PQV	12/03/13 13:16	HG131010-6	.5		.36	ng/L	72	70	130			
WG355755LFB	LFB	12/03/13 13:21	HG131010-5	2		1.58	ng/L	79	71	125			
WG355755CCV2	CCV	12/03/13 14:12	HG131010-4	10		9.16	ng/L	91.6	76.5	123.4			
WG355755CCB2	CCB	12/03/13 14:17				U	ng/L		-0.5	0.5			
WG355755CCV3	CCV	12/03/13 15:02	HG131010-4	10		8.9	ng/L	89	76.5	123.4			
WG355755CCB3	CCB	12/03/13 15:08				U	ng/L		-0.5	0.5			
L15826-02MS	MS	12/03/13 15:38	HG131010-5	2	U	2.05	ng/L	102.5	71	125			
L15826-02MSD	MSD	12/03/13 15:43	HG131010-5	2	U	1.92	ng/L	96	71	125	6.55	24	
WG355755CCV4	CCV	12/03/13 15:48	HG131010-4	10		9.39	ng/L	93.9	76.5	123.4			
WG355755CCB4	CCB	12/03/13 15:53				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.02006		.0193	mg/L	96.2	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0015	0.0015			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05		.04778	mg/L	95.6	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05	.0044	.05164	mg/L	94.5	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05	.0044	.05232	mg/L	95.8	70	130	1.31	20	

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.02006		.01948	mg/L	97.1	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0015	0.0015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.0011	0.0011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05		.05096	mg/L	101.9	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05	U	.05019	mg/L	100.4	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05	U	.05014	mg/L	100.3	70	130	0.1	20	

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.04956	mg/L	99.1	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0018	0.0018			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05005		.04775	mg/L	95.4	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05005	U	.0471	mg/L	94.1	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05005	U	.04826	mg/L	96.4	70	130	2.43	20	

SPF Water Engineering

ACZ Project ID: ***L15772***

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.04906	mg/L	98.1	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0018	0.0018			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00132	0.00132			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.04882	mg/L	97.5	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	.2792	.3295	mg/L	100.5	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	.2792	.3256	mg/L	92.7	70	130	1.19	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356065													
WG356065ICV	ICV	12/06/13 19:12	WI131015-1	2.416		2.407	mg/L	99.6	90	110			
WG356065ICB	ICB	12/06/13 19:14				U	mg/L		-0.06	0.06			
WG356069													
WG356069LFB1	LFB	12/06/13 23:01	WI130816-3	2		2.057	mg/L	102.9	90	110			
WG356069LFB2	LFB	12/06/13 23:36	WI130816-3	2		2.06	mg/L	103	90	110			
L15771-03AS	AS	12/06/13 23:38	WI130816-3	2	1.79	3.76	mg/L	98.5	90	110			
L15772-01DUP	DUP	12/06/13 23:41			U	U	mg/L				0	20	RA

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356035													
WG356035ICV	ICV	12/06/13 13:45	WI131021-1	1.003		1.021	mg/L	101.8	90	110			
WG356035ICB	ICB	12/06/13 13:48				U	mg/L		-0.15	0.15			
WG356046													
WG356046LFB	LFB	12/06/13 15:17	WI121218-3	1		1.016	mg/L	101.6	90	110			
L15745-07AS	AS	12/06/13 15:35	WI121218-3	1	U	1.011	mg/L	101.1	90	110			
L15760-01DUP	DUP	12/06/13 15:37			.16	.147	mg/L				8.5	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355870													
WG355870LCSW3	LCSW	12/04/13 16:07	PCN41777	6		6.03	units	100.5	5.9	6.1			
WG355870LCSW6	LCSW	12/04/13 21:07	PCN41777	6		6.05	units	100.8	5.9	6.1			
L15772-02DUP	DUP	12/04/13 22:46			8.2	8.23	units				0.4	20	
WG355870LCSW9	LCSW	12/05/13 0:30	PCN41777	6		6.05	units	100.8	5.9	6.1			
WG355870LCSW12	LCSW	12/05/13 3:35	PCN41777	6		6.05	units	100.8	5.9	6.1			
WG355870LCSW15	LCSW	12/05/13 6:43	PCN41777	6		6.05	units	100.8	5.9	6.1			

SPF Water Engineering

ACZ Project ID: ***L15772***

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356080													
WG356080ICV	ICV	12/07/13 12:07	WI131104-3	.65228		.692	mg/L	106.1	90	110			
WG356080ICB	ICB	12/07/13 12:10				U	mg/L		-0.03	0.03			
WG356022LRB	LRB	12/07/13 12:11				U	mg/L		-0.03	0.03			
WG356022LFB	LFB	12/07/13 12:12	WI131206-2	.5		.488	mg/L	97.6	90	110			
L15760-01LFM	LFM	12/07/13 12:55	WI131206-2	.5	1.03	1.54	mg/L	102	90	110			
L15761-01DUP	DUP	12/07/13 12:57			4.7	4.66	mg/L				0.9	20	

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	20		19.67	mg/L	98.4	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.9	0.9			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	99.94539		100.6	mg/L	100.7	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	99.94539	3.4	105.2	mg/L	101.9	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	99.94539	3.4	104.8	mg/L	101.5	85	115	0.38	20	

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	20		19.79	mg/L	99	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.9	0.9			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.66	0.66			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	99.94539		96.67	mg/L	96.7	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	99.94539	6	104.2	mg/L	98.3	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	99.94539	6	104.7	mg/L	98.8	70	130	0.48	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355603													
WG355603PBW	PBW	11/27/13 12:10				U	mg/L		-20	20			
WG355603LCSW	LCSW	11/27/13 12:11	PCN44256	260		250	mg/L	96.2	80	120			
L15772-02DUP	DUP	11/27/13 12:39			400	410	mg/L				2.5	10	

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355609													
WG355609PBW	PBW	11/27/13 14:10				U	mg/L		-15	15			
WG355609LCSW	LCSW	11/27/13 14:11	PCN44256	160		147	mg/L	91.9	80	120			
L15772-02DUP	DUP	11/27/13 14:34			U	U	mg/L				0	10	RA

SPF Water Engineering

ACZ Project ID: ***L15772***

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	2		2	mg/L	100	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.3	0.3			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	1.0009		1.07	mg/L	106.9	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	1.0009	U	1.07	mg/L	106.9	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	1.0009	U	1.07	mg/L	106.9	85	115	0	20	

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	2		2.02	mg/L	101	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.3	0.3			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.22	0.22			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	1.0009		1.04	mg/L	103.9	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	1.0009	U	1.04	mg/L	103.9	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	1.0009	U	1.04	mg/L	103.9	70	130	0	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.05234	mg/L	104.7	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0003	0.0003			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05005		.04977	mg/L	99.4	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05005	.0046	.05946	mg/L	109.6	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05005	.0046	.06057	mg/L	111.8	70	130	1.85	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05126	mg/L	102.5	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.04983	mg/L	99.6	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	.0001	.05583	mg/L	111.3	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	.0001	.05564	mg/L	111	70	130	0.34	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355931													
WG355931ICV	ICV	12/10/13 16:52	MS131202-2	.02002		.01849	mg/L	92.4	90	110			
WG355931ICB	ICB	12/10/13 16:55				U	mg/L		-0.00015	0.00015			
WG355931LFB	LFB	12/10/13 16:58	MS131118-2	.01001		.008911	mg/L	89	85	115			
L15772-02AS	AS	12/10/13 18:30	MS131118-2	.01001	U	.008195	mg/L	81.9	70	130			
L15772-02ASD	ASD	12/10/13 18:33	MS131118-2	.01001	U	.008368	mg/L	83.6	70	130	2.09	20	

SPF Water Engineering

ACZ Project ID: ***L15772***

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.02002		.01945	mg/L	97.2	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.00015	0.00015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00011	0.00011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.01001		.009143	mg/L	91.3	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.01001	U	.008134	mg/L	81.3	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.01001	U	.008324	mg/L	83.2	70	130	2.31	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	100		98.47	mg/L	98.5	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.9	0.9			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	100.0204		100.9	mg/L	100.9	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	100.0204	38.3	138.4	mg/L	100.1	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	100.0204	38.3	137.5	mg/L	99.2	85	115	0.65	20	

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	100		99.74	mg/L	99.7	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.9	0.9			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.66	0.66			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	100.0204		97.03	mg/L	97	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	100.0204	24.1	123.4	mg/L	99.3	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	100.0204	24.1	124.2	mg/L	100.1	70	130	0.65	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	2		2.017	mg/L	100.9	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.03	0.03			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	.5		.508	mg/L	101.6	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	.5	2.84	3.229	mg/L	77.8	85	115			M3
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	.5	2.84	3.216	mg/L	75.2	85	115	0.4	20	M3

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	2		1.999	mg/L	100	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.03	0.03			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.022	0.022			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	.5		.476	mg/L	95.2	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	.5	.23	.707	mg/L	95.4	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	.5	.23	.711	mg/L	96.2	70	130	0.56	20	

SPF Water Engineering

ACZ Project ID: ***L15772***

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	49.95		49.8	mg/L	99.7	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-1.5	1.5			
WG356091													
WG356091LFB2	LFB	12/09/13 20:26	WI131011-1	30		30	mg/L	100	90	110			
L15750-03DUP	DUP	12/09/13 21:02			1300	1300	mg/L				0	20	
L15763-03AS	AS	12/09/13 22:14	WI131011-1	60	81.4	142	mg/L	101	90	110			
WG356091LFB1	LFB	12/10/13 16:26	WI131011-1	30		30.2	mg/L	100.7	90	110			

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.05259	mg/L	105.2	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0003	0.0003			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05005		.05166	mg/L	103.2	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05005	U	.05129	mg/L	102.5	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05005	U	.0522	mg/L	104.3	70	130	1.76	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05245	mg/L	104.9	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.05074	mg/L	101.4	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	.0003	.05192	mg/L	103.1	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	.0003	.05308	mg/L	105.5	70	130	2.21	20	

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05015		.05079	mg/L	101.3	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0003	0.0003			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05005		.04656	mg/L	93	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05005	U	.04602	mg/L	91.9	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05005	U	.04671	mg/L	93.3	70	130	1.49	20	

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05015		.05255	mg/L	104.8	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.05081	mg/L	101.5	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	U	.05013	mg/L	100.2	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	U	.05059	mg/L	101.1	70	130	0.91	20	

SPF Water Engineering

ACZ Project ID: ***L15772***

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	2		1.9772	mg/L	98.9	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.015	0.015			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	.999		1.031	mg/L	103.2	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	.999	.008	1.025	mg/L	101.8	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	.999	.008	1.027	mg/L	102	85	115	0.19	20	

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	2		1.9452	mg/L	97.3	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.015	0.015			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.011	0.011			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	.999		.9884	mg/L	98.9	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	.999	U	.9995	mg/L	100.1	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	.999	U	.9921	mg/L	99.3	70	130	0.74	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.05199	mg/L	104	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0003	0.0003			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05		.05044	mg/L	100.9	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05	.0024	.05356	mg/L	102.3	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05	.0024	.05462	mg/L	104.4	70	130	1.96	20	

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05195	mg/L	103.9	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05		.05115	mg/L	102.3	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05	.004	.05634	mg/L	104.7	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05	.004	.05799	mg/L	108	70	130	2.89	20	

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.04767	mg/L	95.3	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0006	0.0006			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.0501		.0486	mg/L	97	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.0501	.0102	.05896	mg/L	97.3	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.0501	.0102	.06024	mg/L	99.9	70	130	2.15	20	

SPF Water Engineering

ACZ Project ID: ***L15772***

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.0489	mg/L	97.8	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0006	0.0006			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00044	0.00044			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.0501		.05061	mg/L	101	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.0501	.0017	.05334	mg/L	103.1	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.0501	.0017	.05217	mg/L	100.7	70	130	2.22	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	2		1.978	mg/L	98.9	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.03	0.03			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	.5		.515	mg/L	103	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	.5	2.28	2.692	mg/L	82.4	85	115			M3
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	.5	2.28	2.693	mg/L	82.6	85	115	0.04	20	M3

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	2		1.929	mg/L	96.5	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.03	0.03			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.022	0.022			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	.5		.487	mg/L	97.4	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	.5	U	.487	mg/L	97.4	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	.5	U	.491	mg/L	98.2	70	130	0.82	20	

SPF Water Engineering ACZ Project ID: ***L15772***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L15772-01	WG356143	Manganese, total	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG355755	Mercury, total	M1631, Atomic Fluorescence	DF	Sample required dilution due to high sediment.
	WG355744	Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Zinc, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG356091	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355900	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355888	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356091	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356069	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356046	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355609	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L15772***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L15772-02	WG356064	Manganese, total	M200.8 ICP-MS	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
			M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG355744	Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Zinc, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG356091	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355900	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355888	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356091	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356069	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356046	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355609	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 4th Quarter sampling

ACZ Project ID: L15772
Date Received: 11/27/2013 10:23
Received By: mtb
Date Printed: 11/27/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
4096	5.6	13	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc. L15772

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name:	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SPF-2014-GW

PO#: Calico 4th Quarter Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	*SPF-2014-GW							
Poison Spring	11/21/13 13:40		8	X							
Negro Rock Creek	11/21/13 14:55		8	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	11/22/13 6:00		11.27.13 10:28

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L15772 Chain of Custody

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Quote

Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

11/11/2013

Quote Number: SPF-2014-GW

Matrix: Ground Water Quarterly Analysis of Groundwater and Springs

Parameter	Method	Detection Limit	Cost/Sample
Inorganic Prep			
Cyanide, total	M335.4 - Manual Distillation		$0.00
Cyanide, WAD	SM4500-CN I- distillation		$0.00
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digesti		$0.00
Total Hot Plate Digestion	M200.2 ICP-MS		$9.60
Total Hot Plate Digestion	M200.2 ICP		$9.60
Metals Analysis			
Aluminum, dissolved	M200.7 ICP	0.03 mg/L	$0.00
Aluminum, total	M200.7 ICP	0.03 mg/L	$0.00
Antimony, dissolved	M200.8 ICP-MS	0.0004 mg/L	$0.00
Antimony, total	M200.8 ICP-MS	0.0004 mg/L	$0.00
Arsenic, dissolved	M200.8 ICP-MS	0.0002 mg/L	$0.00
Arsenic, total	M200.8 ICP-MS	0.0002 mg/L	$0.00
Barium, dissolved	M200.7 ICP	0.003 mg/L	$0.00
Barium, total	M200.7 ICP	0.003 mg/L	$0.00
Beryllium, dissolved	M200.8 ICP-MS	0.00005 mg/L	$0.00
Beryllium, total	M200.8 ICP-MS	0.00005 mg/L	$0.00
Bismuth, dissolved	M200.7 ICP	0.04 mg/L	$0.00
Bismuth, total	M200.7 ICP	0.04 mg/L	$0.00
Boron, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Boron, total	M200.7 ICP	0.01 mg/L	$0.00
Cadmium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Cadmium, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Calcium, dissolved	M200.7 ICP	0.2 mg/L	$0.00
Calcium, total	M200.7 ICP	0.2 mg/L	$0.00
Chromium, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Chromium, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Cobalt, dissolved	M200.8 ICP-MS	0.00005 mg/L	$0.00
Cobalt, total	M200.8 ICP-MS	0.00005 mg/L	$0.00
Copper, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Copper, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Gallium, dissolved	M200.7 ICP	0.1 mg/L	$0.00
Gallium, total	M200.7 ICP	0.1 mg/L	$0.00
Iron, dissolved	M200.7 ICP	0.02 mg/L	$0.00
Iron, total	M200.7 ICP	0.02 mg/L	$0.00

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Lead, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Lead, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Lithium, dissolved	M200.7 ICP	0.02 mg/L	$0.00
Lithium, total	M200.7 ICP	0.02 mg/L	$0.00
Magnesium, dissolved	M200.7 ICP	0.2 mg/L	$0.00
Magnesium, total	M200.7 ICP	0.2 mg/L	$0.00
Manganese, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Manganese, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Mercury, dissolved	M1631, Atomic Fluorescence	0.2 ng/L	$40.00
Mercury, total	M1631, Atomic Fluorescence	0.2 ng/L	$40.00
Molybdenum, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Molybdenum, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Nickel, dissolved	M200.8 ICP-MS	0.0006 mg/L	$0.00
Nickel, total	M200.8 ICP-MS	0.0006 mg/L	$0.00
Potassium, dissolved	M200.7 ICP	0.3 mg/L	$0.00
Potassium, total	M200.7 ICP	0.3 mg/L	$0.00
Scandium, dissolved	M200.7 ICP	0.1 mg/L	$0.00
Scandium, total	M200.7 ICP	0.1 mg/L	$0.00
Selenium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Selenium, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Silver, dissolved	M200.8 ICP-MS	0.00005 mg/L	$0.00
Silver, total	M200.8 ICP-MS	0.00005 mg/L	$0.00
Sodium, dissolved	M200.7 ICP	0.3 mg/L	$0.00
Sodium, total	M200.7 ICP	0.3 mg/L	$0.00
Strontium, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Strontium, total	M200.7 ICP	0.01 mg/L	$0.00
Thallium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Thallium, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Tin, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Tin, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Titanium, dissolved	M200.7 ICP	0.005 mg/L	$0.00
Titanium, total	M200.7 ICP	0.005 mg/L	$0.00
Uranium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$13.60
Uranium, total	M200.8 ICP-MS	0.0001 mg/L	$13.60
Vanadium, dissolved	M200.8 ICP-MS	0.0002 mg/L	$0.00
Vanadium, total	M200.8 ICP-MS	0.0002 mg/L	$0.00
Zinc, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Zinc, total	M200.7 ICP	0.01 mg/L	$0.00
Misc.			
Electronic Data Deliverable			$0.00
Quality Control Summary			$0.00
Setup charge for ICP, dissolved			$95.00

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ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Quote

Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

11/11/2013

Setup charge for ICP, total			$95.00
Setup Charge for ICPMS - dissolved			$95.00
Setup for ICPMS Totals Analysis			$95.00
Wet Chemistry			
Alkalinity as CaCO3	SM2320B - Titration	2 mg/L	$8.80
Chloride	M300.0 - Ion Chromatography	0.5 mg/L	$10.40
Conductivity @25C	SM2510B	1 umhos/cm	$6.40
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.003 mg/L	$28.80
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillat	0.003 mg/L	$28.80
Fluoride	M300.0 - Ion Chromatography	0.1 mg/L	$10.40
Hardness as CaCO3	SM2340B - Calculation	Calculation	$0.00
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.02 mg/L	$8.80
Nitrogen, ammonia	M350.1 - Automated Phenate	0.05 mg/L	$8.80
pH (lab)	SM4500H+ B	0.1 C	$6.40
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	0.01 mg/L	$17.60
Residue, Filterable (TDS) @180C	SM2540C	10 mg/L	$8.84
Residue, Non-Filterable (TSS) @105C	SM2540D	5 mg/L	$8.80
Sulfate	M300.0 - Ion Chromatography	0.5 mg/L	$10.40
		Cost/Sample:	**$669.64**

Cient is field filtering. This quote is based on a Standard Turnaround Time (TAT) of approximately 14 days for water matrices (10 working days). TAT may vary with seasonal heavy workload. Please contact your PM if rush TAT is required. Rush TAT needs to be pre-approved prior to sample shipment to assure that due dates can be met. Pricing includes standard reporting formats and standard ACZ EDDs. All projects received are subject to a $125.00 Minimum Charge. Please note that method detection limits are estimates and may be elevated depending on sample matrix that require dilution. Pricing includes coolers, bottles pre-preserved as needed, labels, COCs and ice-packs shipped to your site or office via UPS ground. Return shipping is the responsibility of the client. Please allow ample time for your bottles to arrive.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

December 18, 2013

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 4th Quarter sampling
ACZ Project ID: L15821

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 02, 2013. This project has been assigned to ACZ's project number, L15821. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L15821. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after January 17, 2014. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Max Janicek has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Case Narrative

SPF Water Engineering

December 18, 2013

Project ID: Calico 4th Quarter sampling
ACZ Project ID: L15821

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 5 ground water samples from SPF Water Engineering on December 2, 2013. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L15821. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

Any analyses not performed within EPA recommended holding times have been qualified with an "H" flag.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

Some of the dissolved metals values exceed the corresponding total values for project L15821. This is a consistent anomaly with these sample types, and discrepancies may be attributed to a matrix or field sampling issue. In some cases, for RPDs that exceed the standard acceptance limit of 20%, analytes are measured at a value below the PQL or MDL; quantities with this qualifier (B) are considered estimated.

Additionally, the Alkalinity results for L15821 have been qualified with the H1 flag on the extended qualifier report. The chemist noted that these samples were analyzed as quickly as possible after the Thanksgiving holiday, but the EPA recommended hold time was still not met.

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: SAGEBRUSH DUPLICATE

ACZ Sample ID: ***L15821-02***
Date Sampled: *11/22/13 09:55*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								12/04/13 13:31	mla
Cyanide, WAD	SM4500-CN I- distillation								12/05/13 15:12	tcd
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/12/13 14:43	bsu
Total Hot Plate Digestion	M200.2 ICP								12/11/13 11:32	jjc
Total Hot Plate Digestion	M200.2 ICP-MS								12/12/13 10:10	pmc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: SAGEBRUSH DUPLICATE

ACZ Sample ID: ***L15821-02***
Date Sampled: *11/22/13 09:55*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/04/13 23:04	jjc
Aluminum, total	M200.7 ICP	1		U		mg/L	0.03	0.2	12/11/13 21:05	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/12/13 5:40	pmc
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/14/13 0:53	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0072			mg/L	0.0002	0.001	12/12/13 5:40	pmc
Arsenic, total	M200.8 ICP-MS	1	0.0077			mg/L	0.0002	0.001	12/14/13 0:53	pmc
Barium, dissolved	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	12/04/13 23:04	jjc
Barium, total	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	12/11/13 21:05	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/12/13 5:40	pmc
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/14/13 0:53	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/04/13 23:04	jjc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/12/13 16:51	jjc
Boron, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	12/04/13 23:04	jjc
Boron, total	M200.7 ICP	1	0.06			mg/L	0.01	0.05	12/11/13 21:05	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/12/13 5:40	pmc
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/14/13 0:53	pmc
Calcium, dissolved	M200.7 ICP	1	46.6			mg/L	0.2	1	12/04/13 23:04	jjc
Calcium, total	M200.7 ICP	1	45.9			mg/L	0.2	1	12/11/13 21:05	jjc
Chromium, dissolved	M200.8 ICP-MS	1	0.0011	B		mg/L	0.0005	0.002	12/12/13 5:40	pmc
Chromium, total	M200.8 ICP-MS	1	0.0011	B		mg/L	0.0005	0.002	12/14/13 0:53	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00015	B		mg/L	0.00005	0.0003	12/12/13 5:40	pmc
Cobalt, total	M200.8 ICP-MS	1	0.00009	B		mg/L	0.00005	0.0003	12/14/13 0:53	pmc
Copper, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/12/13 5:40	pmc
Copper, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/14/13 0:53	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/04/13 23:04	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/11/13 21:05	jjc
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	12/04/13 23:04	jjc
Iron, total	M200.7 ICP	1		U		mg/L	0.02	0.05	12/11/13 21:05	jjc
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/12/13 5:40	pmc
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/14/13 0:53	pmc
Lithium, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.02	0.1	12/04/13 23:04	jjc
Lithium, total	M200.7 ICP	1		U		mg/L	0.02	0.1	12/11/13 21:05	jjc
Magnesium, dissolved	M200.7 ICP	1	10.1			mg/L	0.2	1	12/04/13 23:04	jjc
Magnesium, total	M200.7 ICP	1	9.9			mg/L	0.2	1	12/11/13 21:05	jjc
Manganese, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/12/13 5:40	pmc
Manganese, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/14/13 0:53	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	12/06/13 11:54	las
Mercury, total	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	12/10/13 13:15	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0018	B		mg/L	0.0005	0.003	12/12/13 5:40	pmc
Molybdenum, total	M200.8 ICP-MS	1	0.0019	B		mg/L	0.0005	0.003	12/14/13 0:53	pmc
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	12/12/13 5:40	pmc
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	12/14/13 0:53	pmc
Potassium, dissolved	M200.7 ICP	1	5			mg/L	0.3	2	12/04/13 23:04	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: SAGEBRUSH DUPLICATE

ACZ Sample ID: ***L15821-02***
Date Sampled: *11/22/13 09:55*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	5			mg/L	0.3	2	12/11/13 21:05	jjc
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/04/13 23:04	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/11/13 21:05	jjc
Selenium, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0003	12/12/13 5:40	pmc
Selenium, total	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0003	12/14/13 0:53	pmc
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/12/13 5:40	pmc
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/14/13 0:53	pmc
Sodium, dissolved	M200.7 ICP	1	20.4			mg/L	0.3	2	12/04/13 23:04	jjc
Sodium, total	M200.7 ICP	1	20			mg/L	0.3	2	12/11/13 21:05	jjc
Strontium, dissolved	M200.7 ICP	1	0.21		*	mg/L	0.01	0.05	12/04/13 23:04	jjc
Strontium, total	M200.7 ICP	1	0.20			mg/L	0.01	0.05	12/11/13 21:05	jjc
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/12/13 5:40	pmc
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/14/13 0:53	pmc
Tin, dissolved	M200.8 ICP-MS	1	0.0001	B	*	mg/L	0.0001	0.0005	12/12/13 5:40	pmc
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	12/14/13 0:53	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/04/13 23:04	jjc
Titanium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	12/11/13 21:05	jjc
Uranium, dissolved	M200.8 ICP-MS	1	0.0038			mg/L	0.0001	0.0005	12/12/13 5:40	pmc
Uranium, total	M200.8 ICP-MS	1	0.0039			mg/L	0.0001	0.0005	12/14/13 0:53	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0202			mg/L	0.0002	0.001	12/12/13 5:40	pmc
Vanadium, total	M200.8 ICP-MS	1	0.0209			mg/L	0.0002	0.001	12/14/13 0:53	pmc
Zinc, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	12/04/13 23:04	jjc
Zinc, total	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	12/11/13 21:05	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: SAGEBRUSH DUPLICATE

ACZ Sample ID: ***L15821-02***
Date Sampled: *11/22/13 09:55*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	158	H	*	mg/L	2	20	12/07/13 0:00	khw
Carbonate as CaCO3		1		UH	*	mg/L	2	20	12/07/13 0:00	khw
Hydroxide as CaCO3		1		UH	*	mg/L	2	20	12/07/13 0:00	khw
Total Alkalinity		1	158	H	*	mg/L	2	20	12/07/13 0:00	khw
Chloride	M300.0 - Ion Chromatography	1	10.6		*	mg/L	0.5	2.5	12/13/13 15:25	tcd
Conductivity @25C	SM2510B	1	385		*	umhos/cm	1	10	12/07/13 22:40	khw
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/04/13 19:19	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/06/13 23:38	pjb
Fluoride	M300.0 - Ion Chromatography	1	0.36	B	*	mg/L	0.1	0.5	12/13/13 15:25	tcd
Hardness as CaCO3	SM2340B - Calculation		158			mg/L	1	7	12/18/13 14:39	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	3.08		*	mg/L	0.02	0.1	12/12/13 23:14	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	12/12/13 14:38	tcd
pH (lab)	SM4500H+ B									
pH		1	8.2	H	*	units	0.1	0.1	12/07/13 0:00	khw
pH measured at		1	21		*	C	0.1	0.1	12/07/13 0:00	khw
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.01	B	*	mg/L	0.01	0.05	12/12/13 23:47	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	270	H	*	mg/L	10	20	12/10/13 12:43	dcw
Residue, Non-Filterable (TSS) @105C	SM2540D	1		UH	*	mg/L	5	20	12/09/13 15:40	id
Sulfate	M300.0 - Ion Chromatography	1	18.0		*	mg/L	0.5	2.5	12/13/13 15:25	tcd

Arizona license number: AZ0102

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: EQUIPMENT BLANK

ACZ Sample ID: ***L15821-03***
Date Sampled: *11/22/13 09:35*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								12/04/13 13:40	mla
Cyanide, WAD	SM4500-CN I- distillation								12/05/13 15:12	tcd
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/12/13 15:00	bsu
Total Hot Plate Digestion	M200.2 ICP-MS								12/12/13 10:20	pmc
Total Hot Plate Digestion	M200.2 ICP								12/11/13 11:44	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: EQUIPMENT BLANK

ACZ Sample ID: ***L15821-03***
Date Sampled: *11/22/13 09:35*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/04/13 23:07	jjc
Aluminum, total	M200.7 ICP	1		U		mg/L	0.03	0.2	12/11/13 21:08	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/12/13 5:49	pmc
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/14/13 0:56	pmc
Arsenic, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	12/12/13 5:49	pmc
Arsenic, total	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0002	0.001	12/14/13 0:56	pmc
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	12/04/13 23:07	jjc
Barium, total	M200.7 ICP	1		U		mg/L	0.003	0.02	12/11/13 21:08	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/12/13 5:49	pmc
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/14/13 0:56	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/04/13 23:07	jjc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/12/13 16:54	jjc
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/04/13 23:07	jjc
Boron, total	M200.7 ICP	1		U		mg/L	0.01	0.05	12/11/13 21:08	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/12/13 5:49	pmc
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/14/13 0:56	pmc
Calcium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	12/04/13 23:07	jjc
Calcium, total	M200.7 ICP	1		U		mg/L	0.2	1	12/11/13 21:08	jjc
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	12/12/13 5:49	pmc
Chromium, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	12/14/13 0:56	pmc
Cobalt, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/12/13 5:49	pmc
Cobalt, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/14/13 0:56	pmc
Copper, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/12/13 5:49	pmc
Copper, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/14/13 0:56	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/04/13 23:07	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/11/13 21:08	jjc
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	12/04/13 23:07	jjc
Iron, total	M200.7 ICP	1		U		mg/L	0.02	0.05	12/11/13 21:08	jjc
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/12/13 5:49	pmc
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/14/13 0:56	pmc
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/04/13 23:07	jjc
Lithium, total	M200.7 ICP	1		U		mg/L	0.02	0.1	12/11/13 21:08	jjc
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	12/04/13 23:07	jjc
Magnesium, total	M200.7 ICP	1		U		mg/L	0.2	1	12/11/13 21:08	jjc
Manganese, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/12/13 5:49	pmc
Manganese, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/14/13 0:56	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	12/06/13 11:59	las
Mercury, total	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	12/10/13 13:20	las
Molybdenum, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/12/13 5:49	pmc
Molybdenum, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/14/13 0:56	pmc
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	12/12/13 5:49	pmc
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	12/14/13 0:56	pmc
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.3	2	12/04/13 23:07	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: EQUIPMENT BLANK

ACZ Sample ID: ***L15821-03***
Date Sampled: *11/22/13 09:35*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	U		mg/L	0.3	2	12/11/13 21:08	jjc
Scandium, dissolved	M200.7 ICP	1	U	*	mg/L	0.1	0.5	12/04/13 23:07	jjc
Scandium, total	M200.7 ICP	1	U	*	mg/L	0.1	0.5	12/11/13 21:08	jjc
Selenium, dissolved	M200.8 ICP-MS	1	U		mg/L	0.0001	0.0003	12/12/13 5:49	pmc
Selenium, total	M200.8 ICP-MS	1	U		mg/L	0.0001	0.0003	12/14/13 0:56	pmc
Silver, dissolved	M200.8 ICP-MS	1	U		mg/L	0.00005	0.0003	12/12/13 5:49	pmc
Silver, total	M200.8 ICP-MS	1	U		mg/L	0.00005	0.0003	12/14/13 0:56	pmc
Sodium, dissolved	M200.7 ICP	1	U		mg/L	0.3	2	12/04/13 23:07	jjc
Sodium, total	M200.7 ICP	1	U		mg/L	0.3	2	12/11/13 21:08	jjc
Strontium, dissolved	M200.7 ICP	1	U	*	mg/L	0.01	0.05	12/04/13 23:07	jjc
Strontium, total	M200.7 ICP	1	U		mg/L	0.01	0.05	12/11/13 21:08	jjc
Thallium, dissolved	M200.8 ICP-MS	1	U		mg/L	0.0001	0.0005	12/12/13 5:49	pmc
Thallium, total	M200.8 ICP-MS	1	U		mg/L	0.0001	0.0005	12/14/13 0:56	pmc
Tin, dissolved	M200.8 ICP-MS	1	U	*	mg/L	0.0001	0.0005	12/12/13 5:49	pmc
Tin, total	M200.8 ICP-MS	1	U	*	mg/L	0.0001	0.0005	12/14/13 0:56	pmc
Titanium, dissolved	M200.7 ICP	1	U		mg/L	0.005	0.03	12/04/13 23:07	jjc
Titanium, total	M200.7 ICP	1	U		mg/L	0.005	0.03	12/11/13 21:08	jjc
Uranium, dissolved	M200.8 ICP-MS	1	U		mg/L	0.0001	0.0005	12/12/13 5:49	pmc
Uranium, total	M200.8 ICP-MS	1	U		mg/L	0.0001	0.0005	12/14/13 0:56	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	U		mg/L	0.0002	0.001	12/12/13 5:49	pmc
Vanadium, total	M200.8 ICP-MS	1	U		mg/L	0.0002	0.001	12/14/13 0:56	pmc
Zinc, dissolved	M200.7 ICP	1	U		mg/L	0.01	0.05	12/04/13 23:07	jjc
Zinc, total	M200.7 ICP	1	U		mg/L	0.01	0.05	12/11/13 21:08	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: EQUIPMENT BLANK

ACZ Sample ID: ***L15821-03***
Date Sampled: *11/22/13 09:35*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		UH	*	mg/L	2	20	12/07/13 0:00	khw
Carbonate as CaCO3		1		UH	*	mg/L	2	20	12/07/13 0:00	khw
Hydroxide as CaCO3		1		UH	*	mg/L	2	20	12/07/13 0:00	khw
Total Alkalinity		1		UH	*	mg/L	2	20	12/07/13 0:00	khw
Chloride	M300.0 - Ion Chromatography	1		U	*	mg/L	0.5	2.5	12/13/13 15:43	tcd
Conductivity @25C	SM2510B	1	1	B	*	umhos/cm	1	10	12/07/13 22:45	khw
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/04/13 19:20	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/06/13 23:39	pjb
Fluoride	M300.0 - Ion Chromatography	1		U	*	mg/L	0.1	0.5	12/13/13 15:43	tcd
Hardness as CaCO3	SM2340B - Calculation			U		mg/L	1	7	12/18/13 14:39	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	12/12/13 23:17	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	12/12/13 14:39	tcd
pH (lab)	SM4500H+ B									
pH		1	6.2	H	*	units	0.1	0.1	12/07/13 0:00	khw
pH measured at		1	21		*	C	0.1	0.1	12/07/13 0:00	khw
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.01	0.05	12/12/13 23:48	pjb
Residue, Filterable (TDS) @180C	SM2540C	1		UH	*	mg/L	10	20	12/10/13 12:47	dcw
Residue, Non-Filterable (TSS) @105C	SM2540D	1		UH	*	mg/L	5	20	12/09/13 15:43	id
Sulfate	M300.0 - Ion Chromatography	1		U	*	mg/L	0.5	2.5	12/13/13 15:43	tcd

Arizona license number: AZ0102

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: TRANSFER BLANK

ACZ Sample ID: ***L15821-04***
Date Sampled: *11/22/13 09:45*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								12/04/13 13:50	mla
Cyanide, WAD	SM4500-CN I- distillation								12/05/13 15:12	tcd
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/12/13 15:18	bsu
Total Hot Plate Digestion	M200.2 ICP-MS								12/12/13 10:29	pmc
Total Hot Plate Digestion	M200.2 ICP								12/11/13 11:56	jjc

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, total	M200.7 ICP	1		U		mg/L	0.03	0.2	12/11/13 21:17	jjc
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/14/13 0:59	pmc
Arsenic, total	M200.8 ICP-MS	1	0.0007	B		mg/L	0.0002	0.001	12/14/13 0:59	pmc
Barium, total	M200.7 ICP	1		U		mg/L	0.003	0.02	12/11/13 21:17	jjc
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/14/13 0:59	pmc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/12/13 17:03	jjc
Boron, total	M200.7 ICP	1		U		mg/L	0.01	0.05	12/11/13 21:17	jjc
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/14/13 0:59	pmc
Calcium, total	M200.7 ICP	1		U		mg/L	0.2	1	12/11/13 21:17	jjc
Chromium, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	12/14/13 0:59	pmc
Cobalt, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/14/13 0:59	pmc
Copper, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/14/13 0:59	pmc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/11/13 21:17	jjc
Iron, total	M200.7 ICP	1		U		mg/L	0.02	0.05	12/11/13 21:17	jjc
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/14/13 0:59	pmc
Lithium, total	M200.7 ICP	1		U		mg/L	0.02	0.1	12/11/13 21:17	jjc
Magnesium, total	M200.7 ICP	1		U		mg/L	0.2	1	12/11/13 21:17	jjc
Manganese, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/14/13 0:59	pmc
Mercury, total	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	12/10/13 13:25	las
Molybdenum, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/14/13 0:59	pmc
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	12/14/13 0:59	pmc
Potassium, total	M200.7 ICP	1		U		mg/L	0.3	2	12/11/13 21:17	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/11/13 21:17	jjc
Selenium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	12/14/13 0:59	pmc
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/14/13 0:59	pmc
Sodium, total	M200.7 ICP	1		U		mg/L	0.3	2	12/11/13 21:17	jjc
Strontium, total	M200.7 ICP	1		U		mg/L	0.01	0.05	12/11/13 21:17	jjc
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/14/13 0:59	pmc
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	12/14/13 0:59	pmc
Titanium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	12/11/13 21:17	jjc
Uranium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/14/13 0:59	pmc
Vanadium, total	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	12/14/13 0:59	pmc
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	12/11/13 21:17	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: TRANSFER BLANK

ACZ Sample ID: ***L15821-04***
Date Sampled: *11/22/13 09:45*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		UH	*	mg/L	2	20	12/07/13 0:00	khw
Carbonate as CaCO3		1		UH	*	mg/L	2	20	12/07/13 0:00	khw
Hydroxide as CaCO3		1		UH	*	mg/L	2	20	12/07/13 0:00	khw
Total Alkalinity		1		UH	*	mg/L	2	20	12/07/13 0:00	khw
Chloride	M300.0 - Ion Chromatography	1		U	*	mg/L	0.5	2.5	12/13/13 16:19	tcd
Conductivity @25C	SM2510B	1		U	*	umhos/cm	1	10	12/07/13 22:51	khw
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/04/13 19:21	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/06/13 23:40	pjb
Fluoride	M300.0 - Ion Chromatography	1		U	*	mg/L	0.1	0.5	12/13/13 16:19	tcd
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	12/12/13 23:18	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	12/12/13 14:40	tcd
pH (lab)	SM4500H+ B									
pH		1	6	H	*	units	0.1	0.1	12/07/13 0:00	khw
pH measured at		1	21		*	C	0.1	0.1	12/07/13 0:00	khw
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.01	0.05	12/12/13 23:51	pjb
Residue, Filterable (TDS) @180C	SM2540C	1		UH	*	mg/L	10	20	12/07/13 13:50	id
Residue, Non-Filterable (TSS) @105C	SM2540D	1		UH	*	mg/L	5	20	12/09/13 15:46	id
Sulfate	M300.0 - Ion Chromatography	1		U	*	mg/L	0.5	2.5	12/13/13 16:19	tcd

Arizona license number: AZ0102

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: TB111313-1

ACZ Sample ID: ***L15821-05***
Date Sampled: *11/22/13 00:00*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								12/04/13 14:00	mla
Cyanide, WAD	SM4500-CN I- distillation								12/05/13 15:13	tcd

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/04/13 19:22	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/06/13 23:42	pjb

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4)	EPA SW-846. Test Methods for Evaluating Solid Waste.
(5)	Standard Methods for the Examination of Water and Wastewater.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5)	If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L15821***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356078													
WG356078PBW1	PBW	12/07/13 15:04				6.9	mg/L		-20	20			
WG356078LCSW2	LCSW	12/07/13 15:17	WC131126-	820.0001		777.5	mg/L	94.8	90	110			
WG356078LCSW5	LCSW	12/07/13 18:20	WC131126-	820.0001		797.9	mg/L	97.3	90	110			
WG356078PBW2	PBW	12/07/13 18:28				3.1	mg/L		-20	20			
WG356078LCSW8	LCSW	12/07/13 21:31	WC131126-	820.0001		787.5	mg/L	96	90	110			
WG356078PBW3	PBW	12/07/13 21:39				2.3	mg/L		-20	20			
L15822-01DUP	DUP	12/07/13 23:08			47	47	mg/L				0	20	
WG356078LCSW11	LCSW	12/08/13 1:00	WC131126-	820.0001		794.3	mg/L	96.9	90	110			
WG356078PBW4	PBW	12/08/13 1:09				2.5	mg/L		-20	20			
WG356078LCSW14	LCSW	12/08/13 4:26	WC131126-	820.0001		813.1	mg/L	99.2	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	2		1.977	mg/L	98.9	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.09	0.09			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	1.0011		1.075	mg/L	107.4	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	1.0011	.05	1.114	mg/L	106.3	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	1.0011	.05	1.111	mg/L	106	85	115	0.27	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.983	mg/L	99.2	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.09	0.09			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.066	0.066			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	1.0011		1.045	mg/L	104.4	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	1.0011	U	1.06	mg/L	105.9	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	1.0011	U	1.039	mg/L	103.8	70	130	2	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.02		.02066	mg/L	103.3	90	110			
WG356310ICB	ICB	12/12/13 5:11				.00053	mg/L		-0.0012	0.0012			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.01		.01061	mg/L	106.1	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.01	.0007	.01083	mg/L	101.3	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.01	.0007	.011	mg/L	103	70	130	1.56	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.02		.02048	mg/L	102.4	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0012	0.0012			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00088	0.00088			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.01		.01138	mg/L	113.8	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.01	.0006	.01174	mg/L	111.4	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.01	.0006	.01175	mg/L	111.5	70	130	0.09	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.0535	mg/L	107	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0006	0.0006			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05005		.05022	mg/L	100.3	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05005	.0394	.09256	mg/L	106.2	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05005	.0394	.09388	mg/L	108.9	70	130	1.42	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.05173	mg/L	103.5	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0006	0.0006			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00044	0.00044			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05005		.05208	mg/L	104.1	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05005	.0275	.07907	mg/L	103	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05005	.0275	.07949	mg/L	103.9	70	130	0.53	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	2		1.957	mg/L	97.9	95	105			
WG355874ICB	ICB	12/04/13 21:25				.0039	mg/L		-0.009	0.009			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	.5		.5	mg/L	100	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	.5	.022	.5341	mg/L	102.4	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	.5	.022	.532	mg/L	102	85	115	0.39	20	

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.9665	mg/L	98.3	95	105			
WG356298ICB	ICB	12/11/13 20:28				.003	mg/L		-0.009	0.009			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.0066	0.0066			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	.5		.5008	mg/L	100.2	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	.5	.03	.5282	mg/L	99.6	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	.5	.03	.5232	mg/L	98.6	70	130	0.95	20	

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ACZ Project ID: ***L15821***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.0499	mg/L	99.8	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.00015	0.00015			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.0501		.05305	mg/L	105.9	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.0501	U	.05156	mg/L	102.9	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.0501	U	.0506	mg/L	101	70	130	1.88	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.04627	mg/L	92.5	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.00015	0.00015			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00011	0.00011			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.0501		.04822	mg/L	96.2	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.0501	U	.04577	mg/L	91.4	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.0501	U	.04679	mg/L	93.4	70	130	2.2	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	2		2.008	mg/L	100.4	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.12	0.12			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	1		1.075	mg/L	107.5	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	1	U	1.111	mg/L	111.1	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	1	U	1.099	mg/L	109.9	85	115	1.09	20	

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356349													
WG356349ICV	ICV	12/12/13 16:08	II131111-1	2		2	mg/L	100	95	105			
WG356349ICB	ICB	12/12/13 16:14				U	mg/L		-0.12	0.12			
WG356232LRB	LRB	12/12/13 16:26				U	mg/L		-0.088	0.088			
WG356232LFB	LFB	12/12/13 16:30	II131209-3	1		1.07	mg/L	107	85	115			
L15820-02LFM	LFM	12/12/13 16:39	II131209-3	1	U	1.109	mg/L	110.9	70	130			
L15820-02LFMD	LFMD	12/12/13 16:42	II131209-3	1	U	1.077	mg/L	107.7	70	130	2.93	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	2		2.019	mg/L	101	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.03	0.03			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	.5005		.526	mg/L	105.1	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	.5005	.37	.899	mg/L	105.7	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	.5005	.37	.887	mg/L	103.3	85	115	1.34	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.997	mg/L	99.9	95	105			
WG356298ICB	ICB	12/11/13 20:28				.011	mg/L		-0.03	0.03			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.022	0.022			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	.5005		.509	mg/L	101.7	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	.5005	.08	.586	mg/L	101.1	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	.5005	.08	.582	mg/L	100.3	70	130	0.68	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.05087	mg/L	101.7	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0003	0.0003			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.0501		.05237	mg/L	104.5	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.0501	U	.05303	mg/L	105.8	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.0501	U	.05348	mg/L	106.7	70	130	0.84	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.04928	mg/L	98.6	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0003	0.0003			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00022	0.00022			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.0501		.05085	mg/L	101.5	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.0501	U	.05074	mg/L	101.3	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.0501	U	.0508	mg/L	101.4	70	130	0.12	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	100		98.42	mg/L	98.4	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.6	0.6			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	68.00225		71.15	mg/L	104.6	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	68.00225	51.7	121.4	mg/L	102.5	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	68.00225	51.7	121.9	mg/L	103.2	85	115	0.41	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	100		98.37	mg/L	98.4	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.6	0.6			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.44	0.44			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	68.00225		69.75	mg/L	102.6	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	68.00225	39	110.8	mg/L	105.6	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	68.00225	39	108.1	mg/L	101.6	70	130	2.47	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	19.98		19.7	mg/L	98.6	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-1.5	1.5			
WG356398													
WG356398LFB1	LFB	12/13/13 11:15	WI131011-1	30		32.1	mg/L	107	90	110			
L15737-01DUP	DUP	12/13/13 11:50			38.4	38.3	mg/L				0.3	20	
L15737-02AS	AS	12/13/13 12:26	WI131011-1	30	14.6	46.5	mg/L	106.3	90	110			
L15821-03DUP	DUP	12/13/13 16:01			U	U	mg/L				0	20	RA
L15821-04AS	AS	12/13/13 16:37	WI131011-1	30	U	32.8	mg/L	109.3	90	110			
WG356398LFB2	LFB	12/13/13 19:54	WI131011-1	30		32.1	mg/L	107	90	110			

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.05002	mg/L	100	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0015	0.0015			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05005		.05131	mg/L	102.5	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05005	.0008	.04931	mg/L	96.9	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05005	.0008	.05001	mg/L	98.3	70	130	1.41	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.0489	mg/L	97.8	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0015	0.0015			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.0011	0.0011			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05005		.05037	mg/L	100.6	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05005	.001	.05044	mg/L	98.8	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05005	.001	.05001	mg/L	97.9	70	130	0.86	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.0503	mg/L	100.6	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.00015	0.00015			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05005		.05251	mg/L	104.9	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05005	.00012	.05116	mg/L	102	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05005	.00012	.05138	mg/L	102.4	70	130	0.43	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.04892	mg/L	97.8	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.00015	0.00015			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00011	0.00011			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05005		.05114	mg/L	102.2	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05005	.00031	.05044	mg/L	100.2	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05005	.00031	.04966	mg/L	98.6	70	130	1.56	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356078													
WG356078LCSW1	LCSW	12/07/13 15:05	PCN42442	1408.8		1436.6	µmhos/cm	102	90	110			
WG356078LCSW4	LCSW	12/07/13 18:08	PCN42442	1408.8		1412	µmhos/cm	100.2	90	110			
WG356078LCSW7	LCSW	12/07/13 21:19	PCN42442	1408.8		1398.6	µmhos/cm	99.3	90	110			
L15822-01DUP	DUP	12/07/13 23:08			1970	1959	µmhos/cm				0.6	20	
WG356078LCSW10	LCSW	12/08/13 0:48	PCN42442	1408.8		1384.2	µmhos/cm	98.3	90	110			
WG356078LCSW13	LCSW	12/08/13 4:13	PCN42442	1408.8		1377.1	µmhos/cm	97.7	90	110			

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.04971	mg/L	99.4	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0015	0.0015			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05005		.05085	mg/L	101.6	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05005	U	.04783	mg/L	95.6	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05005	U	.04807	mg/L	96	70	130	0.5	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.04892	mg/L	97.8	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0015	0.0015			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.0011	0.0011			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05005		.05122	mg/L	102.3	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05005	.005	.05465	mg/L	99.2	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05005	.005	.05389	mg/L	97.7	70	130	1.4	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355888													
WG355888ICV	ICV	12/04/13 17:12	WI131202-6	.3		.2922	mg/L	97.4	90	110			
WG355888ICB	ICB	12/04/13 17:13				U	mg/L		-0.003	0.003			
WG355900													
WG355836LRB	LRB	12/04/13 18:57				U	mg/L		-0.003	0.003			
WG355836LFB	LFB	12/04/13 18:58	WI131202-2	.2		.1849	mg/L	92.5	90	110			
L15818-01DUP	DUP	12/04/13 19:12			U	U	mg/L				0	20	RA
L15818-03LFM	LFM	12/04/13 19:14	WI131202-2	.2	U	.1801	mg/L	90.1	90	110			

SPF Water Engineering

ACZ Project ID: ***L15821***

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356068													
WG356068ICV	ICV	12/06/13 22:49	WI131202-6	.3		.2925	mg/L	97.5	90	110			
WG356068ICB	ICB	12/06/13 22:50				U	mg/L		-0.003	0.003			
WG356070													
WG355973LRB	LRB	12/06/13 23:26				U	mg/L		-0.003	0.003			
WG355973LFB	LFB	12/06/13 23:26	WI131202-4	.2		.1879	mg/L	94	90	110			
L15731-01DUP	DUP	12/06/13 23:28			U	U	mg/L				0	20	RA
L15731-02LFM	LFM	12/06/13 23:30	WI131202-4	.2	U	.1711	mg/L	85.6	90	110			M2
L15821-04DUP	DUP	12/06/13 23:41			U	U	mg/L				0	20	RA
L15821-05LFM	LFM	12/06/13 23:42	WI131202-4	.2	U	.1881	mg/L	94.1	90	110			

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	4.004		4.21	mg/L	105.1	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-0.3	0.3			
WG356398													
WG356398LFB1	LFB	12/13/13 11:15	WI131011-1	1.5		1.62	mg/L	108	90	110			
L15737-01DUP	DUP	12/13/13 11:50			1.43	1.41	mg/L				1.4	20	
L15737-02AS	AS	12/13/13 12:26	WI131011-1	1.5	2.65	4.18	mg/L	102	90	110			
L15821-03DUP	DUP	12/13/13 16:01			U	U	mg/L				0	20	RA
L15821-04AS	AS	12/13/13 16:37	WI131011-1	1.5	U	1.66	mg/L	110.7	90	110			M1
WG356398LFB2	LFB	12/13/13 19:54	WI131011-1	1.5		1.61	mg/L	107.3	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	2		2.01	mg/L	100.5	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.3	0.3			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	1.001		1.05	mg/L	104.9	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	1.001	U	1.08	mg/L	107.9	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	1.001	U	1.11	mg/L	110.9	85	115	2.74	20	

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.97	mg/L	98.5	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.3	0.3			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.22	0.22			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	1.001		1.04	mg/L	103.9	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	1.001	U	1.04	mg/L	103.9	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	1.001	U	1.01	mg/L	100.9	70	130	2.93	20	

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ACZ Project ID: ***L15821***

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	2		2.012	mg/L	100.6	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.06	0.06			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	1.0014		1.039	mg/L	103.8	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	1.0014	.06	1.085	mg/L	102.4	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	1.0014	.06	1.073	mg/L	101.2	85	115	1.11	20	

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.987	mg/L	99.4	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.06	0.06			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.044	0.044			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	1.0014		1.055	mg/L	105.4	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	1.0014	.07	1.041	mg/L	97	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	1.0014	.07	1.019	mg/L	94.8	70	130	2.14	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.0512	mg/L	102.4	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0003	0.0003			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05005		.05199	mg/L	103.9	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05005	U	.05156	mg/L	103	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05005	U	.05206	mg/L	104	70	130	0.97	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.05071	mg/L	101.4	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0003	0.0003			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00022	0.00022			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05005		.05092	mg/L	101.7	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05005	.0004	.05135	mg/L	101.8	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05005	.0004	.05094	mg/L	101	70	130	0.8	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	2		1.943	mg/L	97.2	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.06	0.06			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	1		.98	mg/L	98	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	1	.07	1.078	mg/L	100.8	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	1	.07	1.073	mg/L	100.3	85	115	0.46	20	

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ACZ Project ID: ***L15821***

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.933	mg/L	96.7	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.06	0.06			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.044	0.044			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	1		.97	mg/L	97	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	1	.04	1.017	mg/L	97.7	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	1	.04	1.009	mg/L	96.9	70	130	0.79	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	100		96.99	mg/L	97	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.6	0.6			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	49.99695		50.11	mg/L	100.2	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	49.99695	50.9	100.2	mg/L	98.6	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	49.99695	50.9	100.2	mg/L	98.6	85	115	0	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	100		96.73	mg/L	96.7	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.6	0.6			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.44	0.44			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	49.99695		49.28	mg/L	98.6	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	49.99695	7.1	56.76	mg/L	99.3	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	49.99695	7.1	55.64	mg/L	97.1	70	130	1.99	20	

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.0518	mg/L	103.6	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0015	0.0015			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05005		.05248	mg/L	104.9	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05005	U	.05127	mg/L	102.4	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05005	U	.05152	mg/L	102.9	70	130	0.49	20	

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.05007	mg/L	100.1	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0015	0.0015			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.0011	0.0011			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05005		.05081	mg/L	101.5	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05005	.0114	.06173	mg/L	100.6	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05005	.0114	.06117	mg/L	99.4	70	130	0.91	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356009													
WG356009ICV	ICV	12/06/13 10:12	HG131206-4	10		10.3	ng/L	103	79	121			
WG356009ICB	ICB	12/06/13 10:17				U	ng/L		-0.5	0.5			
WG356009PQV	PQV	12/06/13 10:22	HG131206-5	.5		.58	ng/L	116	70	130			
WG356009LFB	LFB	12/06/13 10:28	HG131206-6	2		1.95	ng/L	97.5	71	125			
WG356009CCV1	CCV	12/06/13 11:13	HG131206-4	10		11.4	ng/L	114	76.5	123.4			
WG356009CCB1	CCB	12/06/13 11:18				U	ng/L		-0.5	0.5			
WG356009CCV2	CCV	12/06/13 12:04	HG131206-4	10		10.1	ng/L	101	76.5	123.4			
WG356009CCB2	CCB	12/06/13 12:09				U	ng/L		-0.5	0.5			
L15823-02MS	MS	12/06/13 12:34	HG131206-6	2	U	2.1	ng/L	105	71	125			
L15823-02MSD	MSD	12/06/13 12:39	HG131206-6	2	U	2.18	ng/L	109	71	125	3.74	24	
WG356009CCV3	CCV	12/06/13 12:54	HG131206-4	10		10.3	ng/L	103	76.5	123.4			
WG356009CCB3	CCB	12/06/13 12:59				U	ng/L		-0.5	0.5			

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356009													
WG356009ICV	ICV	12/06/13 10:12	HG131206-4	10		10.3	ng/L	103	79	121			
WG356009ICB	ICB	12/06/13 10:17				U	ng/L		-0.5	0.5			
WG356150													
WG356150CCV1	CCV	12/10/13 11:39	HG131206-4	10		11.2	ng/L	112	76.5	123.4			
WG356150CCB1	CCB	12/10/13 11:45				U	ng/L		-0.5	0.5			
WG356150PQV	PQV	12/10/13 11:50	HG131206-5	.5		.51	ng/L	102	70	130			
WG356150LFB	LFB	12/10/13 11:55	HG131206-6	2		1.95	ng/L	97.5	71	125			
L15822-01MS	MS	12/10/13 13:35	HG5XPREP	50	4	14.5	ng/L	105	71	125			
L15822-01MSD	MSD	12/10/13 13:40	HG5XPREP	50	4	14.6	ng/L	106	71	125	0.69	24	
WG356150CCV2	CCV	12/10/13 13:45	HG131206-4	10		11.5	ng/L	115	76.5	123.4			
WG356150CCB2	CCB	12/10/13 13:51				U	ng/L		-0.5	0.5			
WG356150CCV3	CCV	12/10/13 14:36	HG131206-4	10		11	ng/L	110	76.5	123.4			
WG356150CCB3	CCB	12/10/13 14:41				U	ng/L		-0.5	0.5			
WG356150CCV4	CCV	12/10/13 15:17	HG131206-4	10		11	ng/L	110	76.5	123.4			
WG356150CCB4	CCB	12/10/13 15:22				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.02006		.01948	mg/L	97.1	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0015	0.0015			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05		.05026	mg/L	100.5	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05	.0039	.05475	mg/L	101.7	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05	.0039	.05507	mg/L	102.3	70	130	0.58	20	

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ACZ Project ID: ***L15821***

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.02006		.01886	mg/L	94	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0015	0.0015			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.0011	0.0011			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05		.05088	mg/L	101.8	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05	.003	.05479	mg/L	103.6	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05	.003	.05403	mg/L	102.1	70	130	1.4	20	

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.05014	mg/L	100.3	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0018	0.0018			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05005		.05069	mg/L	101.3	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05005	U	.04728	mg/L	94.5	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05005	U	.04743	mg/L	94.8	70	130	0.32	20	

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.04891	mg/L	97.8	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0018	0.0018			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00132	0.00132			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05005		.04961	mg/L	99.1	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05005	U	.04859	mg/L	97.1	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05005	U	.04813	mg/L	96.2	70	130	0.95	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356380													
WG356380ICV	ICV	12/12/13 18:32	WI131015-1	2.416		2.422	mg/L	100.2	90	110			
WG356380ICB	ICB	12/12/13 18:33				U	mg/L		-0.06	0.06			
WG356389													
WG356389LFB1	LFB	12/12/13 23:03	WI130816-3	2		2.046	mg/L	102.3	90	110			
L15778-01AS	AS	12/12/13 23:05	WI130816-3	2	.81	2.834	mg/L	101.2	90	110			
L15778-02DUP	DUP	12/12/13 23:08			.83	.809	mg/L				2.6	20	
WG356389LFB2	LFB	12/12/13 23:37	WI130816-3	2		1.982	mg/L	99.1	90	110			

SPF Water Engineering

ACZ Project ID: ***L15821***

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356333													
WG356333ICV	ICV	12/12/13 12:20	WI131021-1	1.003		.974	mg/L	97.1	90	110			
WG356333ICB	ICB	12/12/13 12:23				U	mg/L		-0.15	0.15			
WG356350													
WG356350LFB1	LFB	12/12/13 13:58	WI121218-3	1		.982	mg/L	98.2	90	110			
WG356350LFB2	LFB	12/12/13 14:29	WI121218-3	1		1.008	mg/L	100.8	90	110			
L15820-02AS	AS	12/12/13 14:31	WI121218-3	1	U	1.003	mg/L	100.3	90	110			
L15820-03DUP	DUP	12/12/13 14:34			U	U	mg/L				0	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356078													
WG356078LCSW3	LCSW	12/07/13 15:20	PCN41777	6		6.03	units	100.5	5.9	6.1			
WG356078LCSW6	LCSW	12/07/13 18:23	PCN41777	6		6.05	units	100.8	5.9	6.1			
WG356078LCSW9	LCSW	12/07/13 21:34	PCN41777	6		6.05	units	100.8	5.9	6.1			
L15822-01DUP	DUP	12/07/13 23:08			6.7	6.77	units				1	20	
WG356078LCSW12	LCSW	12/08/13 1:04	PCN41777	6		6.05	units	100.8	5.9	6.1			
WG356078LCSW15	LCSW	12/08/13 4:29	PCN41777	6		6.06	units	101	5.9	6.1			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356387													
WG356387ICV	ICV	12/12/13 22:33	WI131104-3	.65228		.671	mg/L	102.9	90	110			
WG356387ICB	ICB	12/12/13 22:36				U	mg/L		-0.03	0.03			
WG356390													
WG356321LRB	LRB	12/12/13 23:24				U	mg/L		-0.03	0.03			
WG356321LFB	LFB	12/12/13 23:25	WI131206-2	.5		.491	mg/L	98.2	90	110			
L15820-03LFM	LFM	12/12/13 23:43	WI131206-2	.5	.02	.524	mg/L	100.8	90	110			
L15821-01DUP	DUP	12/12/13 23:46			.02	.015	mg/L				28.6	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	20		19.64	mg/L	98.2	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.9	0.9			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	99.94539		102.7	mg/L	102.8	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	99.94539	16.3	120	mg/L	103.8	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	99.94539	16.3	120.3	mg/L	104.1	85	115	0.25	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	20		19.75	mg/L	98.8	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.9	0.9			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.66	0.66			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	99.94539		98.98	mg/L	99	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	99.94539	6	106.3	mg/L	100.4	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	99.94539	6	105	mg/L	99.1	70	130	1.23	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356084													
WG356084PBW	PBW	12/07/13 13:13				U	mg/L		-20	20			
WG356084LCSW	LCSW	12/07/13 13:15	PCN44260	260		248	mg/L	95.4	80	120			
L15847-06DUP	DUP	12/07/13 14:13			150	152	mg/L				1.3	10	
WG356178													
WG356178PBW	PBW	12/10/13 12:00				U	mg/L		-20	20			
WG356178LCSW	LCSW	12/10/13 12:03	PCN44259	260		260	mg/L	100	80	120			
L15669-05DUP	DUP	12/10/13 12:11			29200	29000	mg/L				0.7	10	

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356134													
WG356134PBW	PBW	12/09/13 15:33				U	mg/L		-15	15			
WG356134LCSW	LCSW	12/09/13 15:35	PCN44259	160		156	mg/L	97.5	80	120			
L15826-01DUP	DUP	12/09/13 16:04			U	U	mg/L				0	10	RA

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	2		2.01	mg/L	100.5	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.3	0.3			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	1.0009		1.07	mg/L	106.9	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	1.0009	U	1.07	mg/L	106.9	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	1.0009	U	1.11	mg/L	110.9	85	115	3.67	20	

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		2	mg/L	100	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.3	0.3			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.22	0.22			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	1.0009		1.06	mg/L	105.9	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	1.0009	U	1.06	mg/L	105.9	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	1.0009	U	1.05	mg/L	104.9	70	130	0.95	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.0514	mg/L	102.8	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0003	0.0003			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05005		.05282	mg/L	105.5	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05005	.0028	.05978	mg/L	113.8	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05005	.0028	.06016	mg/L	114.6	70	130	0.63	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.05106	mg/L	102.1	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0003	0.0003			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00022	0.00022			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05005		.0523	mg/L	104.5	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05005	.0019	.05296	mg/L	102	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05005	.0019	.05271	mg/L	101.5	70	130	0.47	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.02002		.01987	mg/L	99.3	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.00015	0.00015			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.01001		.009618	mg/L	96.1	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.01001	U	.009139	mg/L	91.3	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.01001	U	.009245	mg/L	92.4	70	130	1.15	20	

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.02002		.01936	mg/L	96.7	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.00015	0.00015			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00011	0.00011			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.01001		.009648	mg/L	96.4	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.01001	U	.009378	mg/L	93.7	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.01001	U	.009334	mg/L	93.2	70	130	0.47	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	100		98.9	mg/L	98.9	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.9	0.9			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	100.0204		102.4	mg/L	102.4	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	100.0204	83.2	183	mg/L	99.8	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	100.0204	83.2	183.1	mg/L	99.9	85	115	0.05	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	100		98.59	mg/L	98.6	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.9	0.9			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.66	0.66			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	100.0204		98.68	mg/L	98.7	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	100.0204	25.7	126.1	mg/L	100.4	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	100.0204	25.7	124.4	mg/L	98.7	70	130	1.36	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	2		2.003	mg/L	100.2	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.03	0.03			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	.5		.511	mg/L	102.2	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	.5	2.03	2.44	mg/L	82	85	115			M3
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	.5	2.03	2.439	mg/L	81.8	85	115	0.04	20	M3

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.989	mg/L	99.5	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.03	0.03			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.022	0.022			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	.5		.489	mg/L	97.8	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	.5	.2	.696	mg/L	99.2	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	.5	.2	.685	mg/L	97	70	130	1.59	20	

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	49.95		49.8	mg/L	99.7	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-1.5	1.5			
WG356398													
WG356398LFB1	LFB	12/13/13 11:15	WI131011-1	30		31.9	mg/L	106.3	90	110			
L15737-01DUP	DUP	12/13/13 11:50			10.2	10.2	mg/L				0	20	
L15821-03DUP	DUP	12/13/13 16:01			U	U	mg/L				0	20	RA
L15821-04AS	AS	12/13/13 16:37	WI131011-1	30	U	32.7	mg/L	109	90	110			
WG356398LFB2	LFB	12/13/13 19:54	WI131011-1	30		31.8	mg/L	106	90	110			
L15737-02AS	AS	12/16/13 18:32	WI131011-1	60	84.6	145	mg/L	100.7	90	110			

SPF Water Engineering

ACZ Project ID: ***L15821***

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.05247	mg/L	104.9	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0003	0.0003			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05005		.05422	mg/L	108.3	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05005	U	.05404	mg/L	108	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05005	U	.05399	mg/L	107.9	70	130	0.09	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.05207	mg/L	104.1	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0003	0.0003			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00022	0.00022			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05005		.05049	mg/L	100.9	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05005	U	.05155	mg/L	103	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05005	U	.05101	mg/L	101.9	70	130	1.05	20	

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05015		.05309	mg/L	105.9	90	110			
WG356310ICB	ICB	12/12/13 5:11				.0002	mg/L		-0.0003	0.0003			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05005		.04925	mg/L	98.4	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05005	U	.04992	mg/L	99.7	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05005	U	.04897	mg/L	97.8	70	130	1.92	20	

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05015		.0508	mg/L	101.3	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0003	0.0003			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00022	0.00022			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05005		.04893	mg/L	97.8	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05005	U	.04815	mg/L	96.2	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05005	U	.04875	mg/L	97.4	70	130	1.24	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	2		1.9692	mg/L	98.5	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.015	0.015			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	.999		1.026	mg/L	102.7	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	.999	U	1.06	mg/L	106.1	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	.999	U	1.056	mg/L	105.7	85	115	0.38	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.9315	mg/L	96.6	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.015	0.015			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.011	0.011			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	.999		1.004	mg/L	100.5	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	.999	U	1.011	mg/L	101.2	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	.999	U	.996	mg/L	99.7	70	130	1.49	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.0521	mg/L	104.2	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0003	0.0003			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05		.05371	mg/L	107.4	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05	.0018	.05542	mg/L	107.2	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05	.0018	.05547	mg/L	107.3	70	130	0.09	20	

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.0509	mg/L	101.8	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0003	0.0003			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00022	0.00022			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05		.05228	mg/L	104.6	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05	.0031	.05723	mg/L	108.3	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05	.0031	.05692	mg/L	107.6	70	130	0.54	20	

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.04956	mg/L	99.1	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0006	0.0006			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.0501		.05273	mg/L	105.2	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.0501	.0182	.06954	mg/L	102.5	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.0501	.0182	.07041	mg/L	104.2	70	130	1.24	20	

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.04892	mg/L	97.8	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0006	0.0006			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00044	0.00044			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.0501		.05254	mg/L	104.9	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.0501	.0166	.06929	mg/L	105.2	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.0501	.0166	.0684	mg/L	103.4	70	130	1.29	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	2		1.917	mg/L	95.9	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.03	0.03			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	.5		.509	mg/L	101.8	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	.5	.07	.533	mg/L	94.6	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	.5	.07	.531	mg/L	94.2	85	115	0.38	20	

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.934	mg/L	96.7	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.03	0.03			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.022	0.022			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	.5		.506	mg/L	101.2	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	.5	U	.502	mg/L	100.4	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	.5	U	.494	mg/L	98.8	70	130	1.61	20	

SPF Water Engineering ACZ Project ID: ***L15821***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L15821-01	WG355874	Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG356078	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG356398	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
	WG356078	Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG355900	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356070	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356398	Fluoride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
	WG356078	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG356389	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	Q6	Sample was received above recommended temperature.
	WG356350	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG356390	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356178	Residue, Filterable (TDS) @180C	SM2540C	H3	Sample was received and analyzed past holding time.
			SM2540C	Q6	Sample was received above recommended temperature.
	WG356134	Residue, Non-Filterable (TSS) @105C	SM2540D	H3	Sample was received and analyzed past holding time.
			SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356398	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
	WG356078	Total Alkalinity	SM2320B - Titration	H1	Sample prep or analysis performed past holding time. See case narrative.
			SM2320B - Titration	Q6	Sample was received above recommended temperature.

SPF Water Engineering ACZ Project ID: ***L15821***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L15821-02	WG355874	Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG356078	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG356398	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
	WG356078	Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG355900	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356070	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356398	Fluoride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
	WG356078	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG356389	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	Q6	Sample was received above recommended temperature.
	WG356350	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG356390	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356178	Residue, Filterable (TDS) @180C	SM2540C	H3	Sample was received and analyzed past holding time.
			SM2540C	Q6	Sample was received above recommended temperature.
	WG356134	Residue, Non-Filterable (TSS) @105C	SM2540D	H3	Sample was received and analyzed past holding time.
			SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356398	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
	WG356078	Total Alkalinity	SM2320B - Titration	H1	Sample prep or analysis performed past holding time. See case narrative.
			SM2320B - Titration	Q6	Sample was received above recommended temperature.

SPF Water Engineering ACZ Project ID: ***L15821***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L15821-03	WG355874	Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG356078	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG356398	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG355900	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356070	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356398	Fluoride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG356389	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	Q6	Sample was received above recommended temperature.
	WG356350	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG356390	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356178	Residue, Filterable (TDS) @180C	SM2540C	H3	Sample was received and analyzed past holding time.
			SM2540C	Q6	Sample was received above recommended temperature.
	WG356134	Residue, Non-Filterable (TSS) @105C	SM2540D	H3	Sample was received and analyzed past holding time.
			SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356398	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	Total Alkalinity	SM2320B - Titration	H1	Sample prep or analysis performed past holding time. See case narrative.
			SM2320B - Titration	Q6	Sample was received above recommended temperature.

SPF Water Engineering ACZ Project ID: ***L15821***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L15821-04	WG356078	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG356398	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG355900	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356070	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356398	Fluoride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG356389	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	Q6	Sample was received above recommended temperature.
	WG356350	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG356390	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356084	Residue, Filterable (TDS) @180C	SM2540C	H3	Sample was received and analyzed past holding time.
			SM2540C	Q6	Sample was received above recommended temperature.
	WG356134	Residue, Non-Filterable (TSS) @105C	SM2540D	H3	Sample was received and analyzed past holding time.
			SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356398	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	Total Alkalinity	SM2320B - Titration	H1	Sample prep or analysis performed past holding time. See case narrative.
			SM2320B - Titration	Q6	Sample was received above recommended temperature.
L15821-05	WG355900	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356070	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 4th Quarter sampling

ACZ Project ID: L15821
Date Received: 12/02/2013 10:09
Received By: mtb
Date Printed: 12/2/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?		X	

The sample matrix was entered per the requested quotation.

7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?		X	

L15821-01 : Mercury containers were single bagged.

L15821-02 : Mercury containers were single bagged.

L15821-03 : Mercury containers were single bagged.

L15821-04 : Mercury container was single bagged.

16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?		X	

Some parameters were received past hold time.

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
2732	7.9	14	Yes

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 4th Quarter sampling

ACZ Project ID:	L15821
Date Received:	12/02/2013 10:09
Received By:	mtb
Date Printed:	12/2/2013

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s) but was thawed by receipt at ACZ.

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc. C15821

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name:	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SPF-2014-GW

PO#: Calico 4th Quarter Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	*SPF-2014-GW	**SPF-2014-GW
Sagebrush Spring	11/22/13 9:25		8	X	
Sagebrush Duplicate	11/22/13 9:55		8	X	
Equipment Blank	11/22/13 9:35		8	X	
Transfer Blank	11/22/13 9:45		6		X

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed

**Process as detailed in SPF-2014-GW except no Green dot bottles (i.e.: no dissolved metals and no dissolved low level mercury)

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	11/23/13		
		12/2-2/13 10:09	

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L15821 Chain of Custody

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Bottle Order Packing List

Account: SPFWATER/SPF Water Engineering
Bottle Order: BO30665
Internal Note: Pre-paid return shipping
Pre-paid return shipping
Preserved - Please ensure the Clean Room gets a copy of BO - Include UPS 3 Day Return

Bill to Account: Bill to Client
Ship Date Requested: 11/13/2013
Request Placed at: 11/11/2013 10:43

Sampling supplies

PACK	Qty	ACZ ID	Type	Description
	4	COC	Chain of Custody	Chain of Custody, 1 for 10 samples.
	2	SEAL	Custody Seal	Custody seals for cooler, two for each cooler.
	1	RETURN	Return Address	Return Address label, one for each cooler.
	250	LABELS	Sample Labels	ACZ supplied labels for sample containers
	1	TRIP CN		
	1	TRIP HG		

Quote number: SPF-2014-GW
Sample Quantity: 31

Quarterly Analysis of Groundwater and Springs

Client is responsible for necessary field filtering

PACK	Qty	Type	Size	Filter/Raw/Preserve	Instructions
	1	GREEN PC	250 ML	Green pre-cleaned Filtered/Nitiric	Metals (dissolved including ICPMS) - Filter sample with .45 micron filter. Do not overfill as there is Nitric Acid in the bottle.
	1	HG-1631	250 ML	Mercury 1631	Mercury by 1631 - See method specific sampling instructions.
	1	HG-1631 D	250 ML	Mercury 1631 Dissolved	Mercury (dissolved) by 1631 - See method specific sampling instructions.
	1	PURPLE	500 ML	Raw/NaOH	Cyanide - Do not overfill as there is Sodium Hydroxide in the bottle.
	1	RAW	500 ML	Raw	Wet Chemistry (analyses that do not require preservative or filtration) - Completely fill container.
	1	RED PC	250 ML	Red pre-cleaned Raw/Nitric	Metals (total including ICPMS) - Do not overfill as there is Nitric Acid in the bottle.
	1	WHITE	250 ML	Filtered	Wet chemistry (dissolved) - Filter sample with .45 micron filter. Completely fill container.
	1	YELLOW	250 ML	Raw/Sulfuric	For total wet chemistry analyses. Do not overfill as there is Sulfuric Acid in the bottle.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Quote

Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

11/11/2013

Quote Number: SPF-2014-GW

Matrix: Ground Water Quarterly Analysis of Groundwater and Springs

Parameter	Method	Detection Limit	Cost/Sample
Inorganic Prep			
Cyanide, total	M335.4 - Manual Distillation		$0.00
Cyanide, WAD	SM4500-CN I- distillation		$0.00
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digesti		$0.00
Total Hot Plate Digestion	M200.2 ICP-MS		$9.60
Total Hot Plate Digestion	M200.2 ICP		$9.60
Metals Analysis			
Aluminum, dissolved	M200.7 ICP	0.03 mg/L	$0.00
Aluminum, total	M200.7 ICP	0.03 mg/L	$0.00
Antimony, dissolved	M200.8 ICP-MS	0.0004 mg/L	$0.00
Antimony, total	M200.8 ICP-MS	0.0004 mg/L	$0.00
Arsenic, dissolved	M200.8 ICP-MS	0.0002 mg/L	$0.00
Arsenic, total	M200.8 ICP-MS	0.0002 mg/L	$0.00
Barium, dissolved	M200.7 ICP	0.003 mg/L	$0.00
Barium, total	M200.7 ICP	0.003 mg/L	$0.00
Beryllium, dissolved	M200.8 ICP-MS	0.00005 mg/L	$0.00
Beryllium, total	M200.8 ICP-MS	0.00005 mg/L	$0.00
Bismuth, dissolved	M200.7 ICP	0.04 mg/L	$0.00
Bismuth, total	M200.7 ICP	0.04 mg/L	$0.00
Boron, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Boron, total	M200.7 ICP	0.01 mg/L	$0.00
Cadmium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Cadmium, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Calcium, dissolved	M200.7 ICP	0.2 mg/L	$0.00
Calcium, total	M200.7 ICP	0.2 mg/L	$0.00
Chromium, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Chromium, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Cobalt, dissolved	M200.8 ICP-MS	0.00005 mg/L	$0.00
Cobalt, total	M200.8 ICP-MS	0.00005 mg/L	$0.00
Copper, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Copper, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Gallium, dissolved	M200.7 ICP	0.1 mg/L	$0.00
Gallium, total	M200.7 ICP	0.1 mg/L	$0.00
Iron, dissolved	M200.7 ICP	0.02 mg/L	$0.00
Iron, total	M200.7 ICP	0.02 mg/L	$0.00

Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Lead, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Lead, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Lithium, dissolved	M200.7 ICP	0.02 mg/L	$0.00
Lithium, total	M200.7 ICP	0.02 mg/L	$0.00
Magnesium, dissolved	M200.7 ICP	0.2 mg/L	$0.00
Magnesium, total	M200.7 ICP	0.2 mg/L	$0.00
Manganese, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Manganese, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Mercury, dissolved	M1631, Atomic Fluorescence	0.2 ng/L	$40.00
Mercury, total	M1631, Atomic Fluorescence	0.2 ng/L	$40.00
Molybdenum, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Molybdenum, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Nickel, dissolved	M200.8 ICP-MS	0.0006 mg/L	$0.00
Nickel, total	M200.8 ICP-MS	0.0006 mg/L	$0.00
Potassium, dissolved	M200.7 ICP	0.3 mg/L	$0.00
Potassium, total	M200.7 ICP	0.3 mg/L	$0.00
Scandium, dissolved	M200.7 ICP	0.1 mg/L	$0.00
Scandium, total	M200.7 ICP	0.1 mg/L	$0.00
Selenium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Selenium, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Silver, dissolved	M200.8 ICP-MS	0.00005 mg/L	$0.00
Silver, total	M200.8 ICP-MS	0.00005 mg/L	$0.00
Sodium, dissolved	M200.7 ICP	0.3 mg/L	$0.00
Sodium, total	M200.7 ICP	0.3 mg/L	$0.00
Strontium, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Strontium, total	M200.7 ICP	0.01 mg/L	$0.00
Thallium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Thallium, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Tin, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Tin, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Titanium, dissolved	M200.7 ICP	0.005 mg/L	$0.00
Titanium, total	M200.7 ICP	0.005 mg/L	$0.00
Uranium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$13.60
Uranium, total	M200.8 ICP-MS	0.0001 mg/L	$13.60
Vanadium, dissolved	M200.8 ICP-MS	0.0002 mg/L	$0.00
Vanadium, total	M200.8 ICP-MS	0.0002 mg/L	$0.00
Zinc, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Zinc, total	M200.7 ICP	0.01 mg/L	$0.00
Misc.			
Electronic Data Deliverable			$0.00
Quality Control Summary			$0.00
Setup charge for ICP, dissolved			$95.00

REPAD.09.06.05.01 S/ m D/ ## P/

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Quote

Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

11/11/2013

Setup charge for ICP, total			$95.00
Setup Charge for ICPMS - dissolved			$95.00
Setup for ICPMS Totals Analysis			$95.00
Wet Chemistry			
Alkalinity as CaCO3	SM2320B - Titration	2 mg/L	$8.80
Chloride	M300.0 - Ion Chromatography	0.5 mg/L	$10.40
Conductivity @25C	SM2510B	1 umhos/cm	$6.40
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.003 mg/L	$28.80
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillat	0.003 mg/L	$28.80
Fluoride	M300.0 - Ion Chromatography	0.1 mg/L	$10.40
Hardness as CaCO3	SM2340B - Calculation	Calculation	$0.00
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.02 mg/L	$8.80
Nitrogen, ammonia	M350.1 - Automated Phenate	0.05 mg/L	$8.80
pH (lab)	SM4500H+ B	0.1 C	$6.40
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	0.01 mg/L	$17.60
Residue, Filterable (TDS) @180C	SM2540C	10 mg/L	$8.84
Residue, Non-Filterable (TSS) @105C	SM2540D	5 mg/L	$8.80
Sulfate	M300.0 - Ion Chromatography	0.5 mg/L	$10.40
		Cost/Sample:	**$669.64**

Cient is field filtering. This quote is based on a Standard Turnaround Time (TAT) of approximately 14 days for water matrices (10 working days). TAT may vary with seasonal heavy workload. Please contact your PM if rush TAT is required. Rush TAT needs to be pre-approved prior to sample shipment to assure that due dates can be met. Pricing includes standard reporting formats and standard ACZ EDDs. All projects received are subject to a $125.00 Minimum Charge. Please note that method detection limits are estimates and may be elevated depending on sample matrix that require dilution. Pricing includes coolers, bottles pre-preserved as needed, labels, COCs and ice-packs shipped to your site or office via UPS ground. Return shipping is the responsibility of the client. Please allow ample time for your bottles to arrive.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

December 19, 2013

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 4th Quarter sampling
ACZ Project ID: L15825

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 02, 2013. This project has been assigned to ACZ's project number, L15825. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L15825. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after January 18, 2014. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Max Janicek has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Case Narrative

SPF Water Engineering

December 19, 2013

Project ID: Calico 4th Quarter sampling
ACZ Project ID: L15825

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 3 ground water samples from SPF Water Engineering on December 2, 2013. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L15825. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

Any analyses not performed within EPA recommended holding times have been qualified with an "H" flag.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

Some of the dissolved metals values exceed the corresponding total values for project L15825. This is a consistent anomaly with these sample types, and discrepancies may be attributed to a matrix or field sampling issue. In some cases, for RPDs that exceed the standard acceptance limit of 20%, analytes are measured at a value below the PQL or MDL; quantities with this qualifier (B) are considered estimated.

Additionally, the Alkalinity results for L15825 have been qualified with the H1 flag on the extended qualifier report. The chemist noted that these samples were analyzed as quickly as possible after the Thanksgiving holiday, but the EPA recommended hold time was still not met.

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L15825-03***
Date Sampled: *11/23/13 15:50*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								12/05/13 13:34	tcd
Cyanide, WAD	SM4500-CN I- distillation								12/06/13 11:54	jlf
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/12/13 15:52	mpb
Total Hot Plate Digestion	M200.2 ICP-MS								12/16/13 9:57	scp
Total Hot Plate Digestion	M200.2 ICP								12/11/13 13:28	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L15825-03***
Date Sampled: *11/23/13 15:50*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.05	B		mg/L	0.03	0.2	12/05/13 0:30	jjc
Aluminum, total	M200.7 ICP	1	1.24			mg/L	0.03	0.2	12/11/13 21:42	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/12/13 21:44	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/17/13 0:07	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0072			mg/L	0.0002	0.001	12/12/13 21:44	msh
Arsenic, total	M200.8 ICP-MS	1	0.0076			mg/L	0.0002	0.001	12/17/13 0:07	pmc
Barium, dissolved	M200.7 ICP	1	0.020			mg/L	0.003	0.02	12/05/13 0:30	jjc
Barium, total	M200.7 ICP	1	0.028			mg/L	0.003	0.02	12/11/13 21:42	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/16/13 23:56	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/17/13 0:07	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/05/13 10:34	aeb
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/12/13 17:28	jjc
Boron, dissolved	M200.7 ICP	1	0.13			mg/L	0.01	0.05	12/05/13 0:30	jjc
Boron, total	M200.7 ICP	1	0.12			mg/L	0.01	0.05	12/11/13 21:42	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/12/13 21:44	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/17/13 0:07	pmc
Calcium, dissolved	M200.7 ICP	1	23.4			mg/L	0.2	1	12/05/13 0:30	jjc
Calcium, total	M200.7 ICP	1	23.7			mg/L	0.2	1	12/11/13 21:42	jjc
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	12/16/13 23:56	msh
Chromium, total	M200.8 ICP-MS	1	0.0009	B		mg/L	0.0005	0.002	12/17/13 0:07	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00026	B		mg/L	0.00005	0.0003	12/16/13 23:56	msh
Cobalt, total	M200.8 ICP-MS	1	0.00057			mg/L	0.00005	0.0003	12/17/13 0:07	pmc
Copper, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0005	0.003	12/12/13 21:44	msh
Copper, total	M200.8 ICP-MS	1	0.0017	B		mg/L	0.0005	0.003	12/17/13 0:07	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/05/13 0:30	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/11/13 21:42	jjc
Iron, dissolved	M200.7 ICP	1	0.04	B	*	mg/L	0.02	0.05	12/05/13 0:30	jjc
Iron, total	M200.7 ICP	1	1.16			mg/L	0.02	0.05	12/11/13 21:42	jjc
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/12/13 21:44	msh
Lead, total	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	12/17/13 0:07	pmc
Lithium, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.02	0.1	12/05/13 0:30	jjc
Lithium, total	M200.7 ICP	1		U		mg/L	0.02	0.1	12/11/13 21:42	jjc
Magnesium, dissolved	M200.7 ICP	1	6.4			mg/L	0.2	1	12/05/13 0:30	jjc
Magnesium, total	M200.7 ICP	1	6.8			mg/L	0.2	1	12/11/13 21:42	jjc
Manganese, dissolved	M200.8 ICP-MS	1	0.0081			mg/L	0.0005	0.003	12/16/13 23:56	msh
Manganese, total	M200.8 ICP-MS	1	0.0334			mg/L	0.0005	0.003	12/17/13 0:07	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	1	1.3			ng/L	0.2	0.5	12/11/13 12:21	las
Mercury, total	M1631, Atomic Fluorescence	2	4.6			ng/L	0.4	1	12/03/13 15:23	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0045			mg/L	0.0005	0.003	12/12/13 21:44	msh
Molybdenum, total	M200.8 ICP-MS	1	0.0049			mg/L	0.0005	0.003	12/17/13 0:07	pmc
Nickel, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0006	0.003	12/12/13 21:44	msh
Nickel, total	M200.8 ICP-MS	1	0.0016	B		mg/L	0.0006	0.003	12/17/13 0:07	pmc
Potassium, dissolved	M200.7 ICP	1	3.9			mg/L	0.3	2	12/05/13 0:30	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L15825-03***
Date Sampled: *11/23/13 15:50*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	4.1			mg/L	0.3	2	12/11/13 21:42	jjc
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/05/13 0:30	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/11/13 21:42	jjc
Selenium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0003	12/12/13 21:44	msh
Selenium, total	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0003	12/17/13 0:07	pmc
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/12/13 21:44	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/17/13 0:07	pmc
Sodium, dissolved	M200.7 ICP	1	37.5			mg/L	0.3	2	12/05/13 0:30	jjc
Sodium, total	M200.7 ICP	1	37.2			mg/L	0.3	2	12/11/13 21:42	jjc
Strontium, dissolved	M200.7 ICP	1	0.12		*	mg/L	0.01	0.05	12/05/13 0:30	jjc
Strontium, total	M200.7 ICP	1	0.12			mg/L	0.01	0.05	12/11/13 21:42	jjc
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/12/13 21:44	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/17/13 0:07	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	12/12/13 21:44	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	12/17/13 0:07	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/05/13 0:30	jjc
Titanium, total	M200.7 ICP	1	0.078			mg/L	0.005	0.03	12/11/13 21:42	jjc
Uranium, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0005	12/12/13 21:44	msh
Uranium, total	M200.8 ICP-MS	1	0.0020			mg/L	0.0001	0.0005	12/17/13 0:07	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0051			mg/L	0.0002	0.001	12/16/13 23:56	msh
Vanadium, total	M200.8 ICP-MS	1	0.0076			mg/L	0.0002	0.001	12/17/13 0:07	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/05/13 0:30	jjc
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	12/11/13 21:42	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L15825-03***
Date Sampled: *11/23/13 15:50*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	110	H		mg/L	2	20	12/08/13 0:00	khw
Carbonate as CaCO3		1		UH		mg/L	2	20	12/08/13 0:00	khw
Hydroxide as CaCO3		1		UH		mg/L	2	20	12/08/13 0:00	khw
Total Alkalinity		1	110	H	*	mg/L	2	20	12/08/13 0:00	khw
Chloride	M300.0 - Ion Chromatography	1	10.3			mg/L	0.5	2.5	12/13/13 20:12	tcd
Conductivity @25C	SM2510B	1	326			umhos/cm	1	10	12/08/13 0:19	khw
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/06/13 23:12	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/07/13 1:39	pjb
Fluoride	M300.0 - Ion Chromatography	1	1.44			mg/L	0.1	0.5	12/13/13 20:12	tcd
Hardness as CaCO3	SM2340B - Calculation		85			mg/L	1	7	12/19/13 11:12	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.13		*	mg/L	0.02	0.1	12/12/13 23:34	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	12/12/13 15:28	tcd
pH (lab)	SM4500H+ B									
pH		1	8.3	H		units	0.1	0.1	12/08/13 0:00	khw
pH measured at		1	21			C	0.1	0.1	12/08/13 0:00	khw
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.10		*	mg/L	0.01	0.05	12/13/13 0:17	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	190	H	*	mg/L	10	20	12/03/13 16:48	dcw
Residue, Non-Filterable (TSS) @105C	SM2540D	1	17	BH	*	mg/L	5	20	12/09/13 15:59	id
Sulfate	M300.0 - Ion Chromatography	1	39.8			mg/L	0.5	2.5	12/13/13 20:12	tcd

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L15825***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356078													
WG356078PBW1	PBW	12/07/13 15:04				6.9	mg/L		-20	20			
WG356078LCSW2	LCSW	12/07/13 15:17	WC131126-	820.0001		777.5	mg/L	94.8	90	110			
WG356078LCSW5	LCSW	12/07/13 18:20	WC131126-	820.0001		797.9	mg/L	97.3	90	110			
WG356078PBW2	PBW	12/07/13 18:28				3.1	mg/L		-20	20			
WG356078LCSW8	LCSW	12/07/13 21:31	WC131126-	820.0001		787.5	mg/L	96	90	110			
WG356078PBW3	PBW	12/07/13 21:39				2.3	mg/L		-20	20			
L15826-02DUP	DUP	12/08/13 0:47			164	165.6	mg/L				1	20	
WG356078LCSW11	LCSW	12/08/13 1:00	WC131126-	820.0001		794.3	mg/L	96.9	90	110			
WG356078PBW4	PBW	12/08/13 1:09				2.5	mg/L		-20	20			
WG356078LCSW14	LCSW	12/08/13 4:26	WC131126-	820.0001		813.1	mg/L	99.2	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	2		1.976	mg/L	98.8	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.09	0.09			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	1.0011		1.081	mg/L	108	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	1.0011	U	1.102	mg/L	110.1	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	1.0011	U	1.1	mg/L	109.9	85	115	0.18	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.983	mg/L	99.2	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.09	0.09			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.066	0.066			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	1.0011		1.045	mg/L	104.4	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	1.0011	U	1.055	mg/L	105.4	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	1.0011	U	1.063	mg/L	106.2	70	130	0.76	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.02		.0212	mg/L	106	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.0012	0.0012			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.01		.01024	mg/L	102.4	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.01	U	.00932	mg/L	93.2	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.01	U	.00957	mg/L	95.7	70	130	2.65	20	

SPF Water Engineering

ACZ Project ID: ***L15825***

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.02		.02061	mg/L	103.1	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0012	0.0012			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00088	0.00088			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.01		.01099	mg/L	109.9	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.01	U	.01138	mg/L	113.8	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.01	U	.01114	mg/L	111.4	70	130	2.13	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.05		.05235	mg/L	104.7	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.0006	0.0006			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.05005		.04873	mg/L	97.4	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.05005	.0072	.06216	mg/L	109.8	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.05005	.0072	.06087	mg/L	107.2	70	130	2.1	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.0538	mg/L	107.6	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0006	0.0006			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00044	0.00044			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05005		.05072	mg/L	101.3	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05005	.0006	.05178	mg/L	102.3	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05005	.0006	.05189	mg/L	102.5	70	130	0.21	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	2		1.946	mg/L	97.3	95	105			
WG355879ICB	ICB	12/04/13 23:36				.0054	mg/L		-0.009	0.009			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	.5		.5042	mg/L	100.8	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	.5	.073	.564	mg/L	98.2	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	.5	.073	.5693	mg/L	99.3	85	115	0.94	20	

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.9665	mg/L	98.3	95	105			
WG356298ICB	ICB	12/11/13 20:28				.003	mg/L		-0.009	0.009			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.0066	0.0066			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	.5		.5008	mg/L	100.2	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	.5	.067	.5702	mg/L	100.6	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	.5	.067	.5698	mg/L	100.6	70	130	0.07	20	

SPF Water Engineering

ACZ Project ID: ***L15825***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356429													
WG356429ICV	ICV	12/16/13 23:32	MS131202-2	.05		.04846	mg/L	96.9	90	110			
WG356429ICB	ICB	12/16/13 23:35				U	mg/L		-0.00015	0.00015			
WG356429LFB	LFB	12/16/13 23:39	MS131216-2	.05005		.04896	mg/L	97.8	85	115			
L15825-03AS	AS	12/16/13 23:59	MS131216-2	.05005	U	.04892	mg/L	97.7	70	130			
L15825-03ASD	ASD	12/17/13 0:03	MS131216-2	.05005	U	.04974	mg/L	99.4	70	130	1.66	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.04704	mg/L	94.1	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.00015	0.00015			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00011	0.00011			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.0501		.04662	mg/L	93.1	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.0501	U	.04772	mg/L	95.2	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.0501	U	.0468	mg/L	93.4	70	130	1.95	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355919													
WG355919ICV	ICV	12/05/13 9:28	II131113-1	2		1.983	mg/L	99.2	95	105			
WG355919ICB	ICB	12/05/13 9:34				U	mg/L		-0.12	0.12			
WG355919LFB	LFB	12/05/13 9:47	II131119-3	1		1.014	mg/L	101.4	85	115			
L15822-01AS	AS	12/05/13 9:59	II131119-3	1	U	1.078	mg/L	107.8	85	115			
L15822-01ASD	ASD	12/05/13 10:03	II131119-3	1	U	1.047	mg/L	104.7	85	115	2.92	20	
L15825-03AS	AS	12/05/13 10:38	II131119-3	1	U	.98	mg/L	98	85	115			
L15825-03ASD	ASD	12/05/13 10:41	II131119-3	1	U	1.044	mg/L	104.4	85	115	6.32	20	

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356349													
WG356349ICV	ICV	12/12/13 16:08	II131111-1	2		2	mg/L	100	95	105			
WG356349ICB	ICB	12/12/13 16:14				U	mg/L		-0.12	0.12			
WG356232LRB	LRB	12/12/13 16:26				U	mg/L		-0.088	0.088			
WG356232LFB	LFB	12/12/13 16:30	II131209-3	1		1.07	mg/L	107	85	115			
L15825-01LFM	LFM	12/12/13 17:19	II131209-3	1	U	1.124	mg/L	112.4	70	130			
L15825-01LFMD	LFMD	12/12/13 17:22	II131209-3	1	U	1.111	mg/L	111.1	70	130	1.16	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	2		2.013	mg/L	100.7	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.03	0.03			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	.5005		.522	mg/L	104.3	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	.5005	.64	1.146	mg/L	101.1	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	.5005	.64	1.142	mg/L	100.3	85	115	0.35	20	

SPF Water Engineering

ACZ Project ID: ***L15825***

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.997	mg/L	99.9	95	105			
WG356298ICB	ICB	12/11/13 20:28				.011	mg/L		-0.03	0.03			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.022	0.022			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	.5005		.509	mg/L	101.7	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	.5005	.12	.629	mg/L	101.7	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	.5005	.12	.63	mg/L	101.9	70	130	0.16	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.05		.04943	mg/L	98.9	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.0003	0.0003			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.0501		.04751	mg/L	94.8	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.0501	U	.05079	mg/L	101.4	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.0501	U	.05082	mg/L	101.4	70	130	0.06	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.05145	mg/L	102.9	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0003	0.0003			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00022	0.00022			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.0501		.0516	mg/L	103	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.0501	U	.05133	mg/L	102.5	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.0501	U	.05037	mg/L	100.5	70	130	1.89	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	100		97.86	mg/L	97.9	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.6	0.6			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	68.00225		71.01	mg/L	104.4	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	68.00225	152	216.6	mg/L	95	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	68.00225	152	216.9	mg/L	95.4	85	115	0.14	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	100		98.37	mg/L	98.4	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.6	0.6			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.44	0.44			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	68.00225		69.75	mg/L	102.6	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	68.00225	32	103.2	mg/L	104.7	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	68.00225	32	103.8	mg/L	105.6	70	130	0.58	20	

SPF Water Engineering

ACZ Project ID: ***L15825***

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	19.98		19.7	mg/L	98.6	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-1.5	1.5			
WG356398													
WG356398LFB1	LFB	12/13/13 11:15	WI131011-1	30		32.1	mg/L	107	90	110			
L15821-03DUP	DUP	12/13/13 16:01			U	U	mg/L				0	20	RA
L15821-04AS	AS	12/13/13 16:37	WI131011-1	30	U	32.8	mg/L	109.3	90	110			
WG356398LFB2	LFB	12/13/13 19:54	WI131011-1	30		32.1	mg/L	107	90	110			
L15825-03DUP	DUP	12/13/13 20:30			10.3	10.3	mg/L				0	20	
L15826-01AS	AS	12/13/13 21:42	WI131011-1	30	8.72	41.1	mg/L	107.9	90	110			

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356429													
WG356429ICV	ICV	12/16/13 23:32	MS131202-2	.05		.04768	mg/L	95.4	90	110			
WG356429ICB	ICB	12/16/13 23:35				U	mg/L		-0.0015	0.0015			
WG356429LFB	LFB	12/16/13 23:39	MS131216-2	.05005		.04929	mg/L	98.5	85	115			
L15825-03AS	AS	12/16/13 23:59	MS131216-2	.05005	U	.04731	mg/L	94.5	70	130			
L15825-03ASD	ASD	12/17/13 0:03	MS131216-2	.05005	U	.04844	mg/L	96.8	70	130	2.36	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.05034	mg/L	100.7	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0015	0.0015			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.0011	0.0011			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05005		.05045	mg/L	100.8	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05005	U	.04896	mg/L	97.8	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05005	U	.04865	mg/L	97.2	70	130	0.64	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356429													
WG356429ICV	ICV	12/16/13 23:32	MS131202-2	.05		.04938	mg/L	98.8	90	110			
WG356429ICB	ICB	12/16/13 23:35				U	mg/L		-0.00015	0.00015			
WG356429LFB	LFB	12/16/13 23:39	MS131216-2	.05005		.05123	mg/L	102.4	85	115			
L15825-03AS	AS	12/16/13 23:59	MS131216-2	.05005	.00026	.04999	mg/L	99.4	70	130			
L15825-03ASD	ASD	12/17/13 0:03	MS131216-2	.05005	.00026	.05044	mg/L	100.3	70	130	0.9	20	

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ACZ Project ID: ***L15825***

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.04871	mg/L	97.4	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.00015	0.00015			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00011	0.00011			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05005		.05064	mg/L	101.2	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05005	.00019	.05036	mg/L	100.2	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05005	.00019	.04972	mg/L	99	70	130	1.28	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356078													
WG356078LCSW1	LCSW	12/07/13 15:05	PCN42442	1408.8		1436.6	µmhos/cm	102	90	110			
WG356078LCSW4	LCSW	12/07/13 18:08	PCN42442	1408.8		1412	µmhos/cm	100.2	90	110			
WG356078LCSW7	LCSW	12/07/13 21:19	PCN42442	1408.8		1398.6	µmhos/cm	99.3	90	110			
L15826-02DUP	DUP	12/08/13 0:47			445	443	µmhos/cm				0.5	20	
WG356078LCSW10	LCSW	12/08/13 0:48	PCN42442	1408.8		1384.2	µmhos/cm	98.3	90	110			
WG356078LCSW13	LCSW	12/08/13 4:13	PCN42442	1408.8		1377.1	µmhos/cm	97.7	90	110			

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.05		.04987	mg/L	99.7	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.0015	0.0015			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.05005		.04815	mg/L	96.2	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.05005	.0006	.04858	mg/L	95.9	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.05005	.0006	.04809	mg/L	94.9	70	130	1.01	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.05115	mg/L	102.3	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0015	0.0015			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.0011	0.0011			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05005		.05128	mg/L	102.5	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05005	.0085	.05604	mg/L	95	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05005	.0085	.0557	mg/L	94.3	70	130	0.61	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356068													
WG356068ICV	ICV	12/06/13 22:49	WI131202-6	.3		.2925	mg/L	97.5	90	110			
WG356068ICB	ICB	12/06/13 22:50				U	mg/L		-0.003	0.003			
WG355962LRB	LRB	12/06/13 22:50				U	mg/L		-0.003	0.003			
WG355962LFB	LFB	12/06/13 22:51	WI131202-2	.2		.1817	mg/L	90.9	90	110			
L15823-03DUP	DUP	12/06/13 23:05			U	U	mg/L				0	20	RA
L15824-01LFM	LFM	12/06/13 23:07	WI131202-2	.2	U	.1825	mg/L	91.3	90	110			

SPF Water Engineering

ACZ Project ID: ***L15825***

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356072													
WG356072ICV	ICV	12/07/13 1:13	WI131202-6	.3		.2972	mg/L	99.1	90	110			
WG356072ICB	ICB	12/07/13 1:14				U	mg/L		-0.003	0.003			
WG356008LRB	LRB	12/07/13 1:15				U	mg/L		-0.003	0.003			
WG356008LFB	LFB	12/07/13 1:16	WI131202-4	.2		.2011	mg/L	100.6	90	110			
L15820-01DUP	DUP	12/07/13 1:30			U	U	mg/L				0	20	RA
L15820-02LFM	LFM	12/07/13 1:31	WI131202-4	.2	U	.1912	mg/L	95.6	90	110			

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	4.004		4.21	mg/L	105.1	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-0.3	0.3			
WG356398													
WG356398LFB1	LFB	12/13/13 11:15	WI131011-1	1.5		1.62	mg/L	108	90	110			
L15821-03DUP	DUP	12/13/13 16:01			U	U	mg/L				0	20	RA
L15821-04AS	AS	12/13/13 16:37	WI131011-1	1.5	U	1.66	mg/L	110.7	90	110			M1
WG356398LFB2	LFB	12/13/13 19:54	WI131011-1	1.5		1.61	mg/L	107.3	90	110			
L15825-03DUP	DUP	12/13/13 20:30			1.44	1.45	mg/L				0.7	20	
L15826-01AS	AS	12/13/13 21:42	WI131011-1	1.5	.6	2.25	mg/L	110	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	2		1.94	mg/L	97	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.3	0.3			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	1.001		1.03	mg/L	102.9	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	1.001	U	1.08	mg/L	107.9	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	1.001	U	1.08	mg/L	107.9	85	115	0	20	

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.97	mg/L	98.5	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.3	0.3			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.22	0.22			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	1.001		1.04	mg/L	103.9	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	1.001	U	1.03	mg/L	102.9	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	1.001	U	1.05	mg/L	104.9	70	130	1.92	20	

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ACZ Project ID: ***L15825***

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	2		1.998	mg/L	99.9	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.06	0.06			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	1.0014		1.055	mg/L	105.4	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	1.0014	146	140.2	mg/L	-579.2	85	115			M3
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	1.0014	146	140.8	mg/L	-519.3	85	115	0.43	20	M3

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.987	mg/L	99.4	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.06	0.06			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.044	0.044			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	1.0014		1.055	mg/L	105.4	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	1.0014	U	1.041	mg/L	104	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	1.0014	U	1.032	mg/L	103.1	70	130	0.87	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.05		.05223	mg/L	104.5	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.0003	0.0003			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.05005		.04812	mg/L	96.1	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.05005	U	.0507	mg/L	101.3	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.05005	U	.0515	mg/L	102.9	70	130	1.57	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.05165	mg/L	103.3	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0003	0.0003			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00022	0.00022			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05005		.05032	mg/L	100.5	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05005	.0002	.05077	mg/L	101	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05005	.0002	.05029	mg/L	100.1	70	130	0.95	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	2		1.934	mg/L	96.7	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.06	0.06			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	1		.989	mg/L	98.9	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	1	.69	1.649	mg/L	95.9	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	1	.69	1.66	mg/L	97	85	115	0.66	20	

SPF Water Engineering

ACZ Project ID: ***L15825***

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.933	mg/L	96.7	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.06	0.06			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.044	0.044			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	1		.97	mg/L	97	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	1	U	1	mg/L	100	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	1	U	1	mg/L	100	70	130	0	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	100		96.56	mg/L	96.6	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.6	0.6			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	49.99695		50.04	mg/L	100.1	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	49.99695	7.7	57.48	mg/L	99.6	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	49.99695	7.7	57.39	mg/L	99.4	85	115	0.16	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	100		96.73	mg/L	96.7	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.6	0.6			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.44	0.44			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	49.99695		49.28	mg/L	98.6	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	49.99695	8.4	58.18	mg/L	99.6	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	49.99695	8.4	58.08	mg/L	99.4	70	130	0.17	20	

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356429													
WG356429ICV	ICV	12/16/13 23:32	MS131202-2	.05		.05194	mg/L	103.9	90	110			
WG356429ICB	ICB	12/16/13 23:35				.00065	mg/L		-0.0015	0.0015			
WG356429LFB	LFB	12/16/13 23:39	MS131216-2	.1002		.09952	mg/L	99.3	85	115			
L15825-03AS	AS	12/16/13 23:59	MS131216-2	.1002	.0081	.103	mg/L	94.7	70	130			
L15825-03ASD	ASD	12/17/13 0:03	MS131216-2	.1002	.0081	.105	mg/L	96.7	70	130	1.92	20	

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.05168	mg/L	103.4	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0015	0.0015			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.0011	0.0011			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05005		.05133	mg/L	102.6	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05005	.0125	.06306	mg/L	101	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05005	.0125	.06218	mg/L	99.3	70	130	1.41	20	

SPF Water Engineering

ACZ Project ID: ***L15825***

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356009													
WG356009ICV	ICV	12/06/13 10:12	HG131206-4	10		10.3	ng/L	103	79	121			
WG356009ICB	ICB	12/06/13 10:17				U	ng/L		-0.5	0.5			
WG356245													
WG356245CCV1	CCV	12/11/13 11:36	HG131206-4	10		8.95	ng/L	89.5	76.5	123.4			
WG356245CCB1	CCB	12/11/13 11:41				U	ng/L		-0.5	0.5			
WG356245PQV	PQV	12/11/13 11:46	HG131206-5	.5		.48	ng/L	96	70	130			
WG356245LFB	LFB	12/11/13 11:51	HG131206-6	2		1.96	ng/L	98	71	125			
L15825-01MS	MS	12/11/13 12:06	HG131206-6	2	U	2.23	ng/L	111.5	71	125			
L15825-01MSD	MSD	12/11/13 12:11	HG131206-6	2	U	2.12	ng/L	106	71	125	5.06	24	
WG356245CCV2	CCV	12/11/13 12:42	HG131206-4	10		9.41	ng/L	94.1	76.5	123.4			
WG356245CCB2	CCB	12/11/13 12:47				U	ng/L		-0.5	0.5			

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355492													
WG355492ICV	ICV	11/26/13 13:42	HG131010-4	10		10.5	ng/L	105	79	121			
WG355492ICB	ICB	11/26/13 13:47				U	ng/L		-0.5	0.5			
WG355755													
WG355755CCV1	CCV	12/03/13 13:06	HG131010-4	10		8.79	ng/L	87.9	76.5	123.4			
WG355755CCB1	CCB	12/03/13 13:11				U	ng/L		-0.5	0.5			
WG355755PQV	PQV	12/03/13 13:16	HG131010-6	.5		.36	ng/L	72	70	130			
WG355755LFB	LFB	12/03/13 13:21	HG131010-5	2		1.58	ng/L	79	71	125			
WG355755CCV2	CCV	12/03/13 14:12	HG131010-4	10		9.16	ng/L	91.6	76.5	123.4			
WG355755CCB2	CCB	12/03/13 14:17				U	ng/L		-0.5	0.5			
WG355755CCV3	CCV	12/03/13 15:02	HG131010-4	10		8.9	ng/L	89	76.5	123.4			
WG355755CCB3	CCB	12/03/13 15:08				U	ng/L		-0.5	0.5			
L15826-02MS	MS	12/03/13 15:38	HG131010-5	2	U	2.05	ng/L	102.5	71	125			
L15826-02MSD	MSD	12/03/13 15:43	HG131010-5	2	U	1.92	ng/L	96	71	125	6.55	24	
WG355755CCV4	CCV	12/03/13 15:48	HG131010-4	10		9.39	ng/L	93.9	76.5	123.4			
WG355755CCB4	CCB	12/03/13 15:53				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.02006		.01913	mg/L	95.4	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.0015	0.0015			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.05		.04681	mg/L	93.6	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.05	.0045	.05663	mg/L	104.3	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.05	.0045	.05606	mg/L	103.1	70	130	1.01	20	

SPF Water Engineering

ACZ Project ID: ***L15825***

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.02006		.01932	mg/L	96.3	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0015	0.0015			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.0011	0.0011			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05		.05032	mg/L	100.6	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05	.0013	.05307	mg/L	103.5	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05	.0013	.05298	mg/L	103.4	70	130	0.17	20	

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.05		.04982	mg/L	99.6	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.0018	0.0018			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.05005		.04853	mg/L	97	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.05005	.0006	.04777	mg/L	94.2	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.05005	.0006	.04709	mg/L	92.9	70	130	1.43	20	

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.0505	mg/L	101	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0018	0.0018			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00132	0.00132			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05005		.04981	mg/L	99.5	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05005	.0021	.04865	mg/L	93	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05005	.0021	.04816	mg/L	92	70	130	1.01	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356380													
WG356380ICV	ICV	12/12/13 18:32	WI131015-1	2.416		2.422	mg/L	100.2	90	110			
WG356380ICB	ICB	12/12/13 18:33				U	mg/L		-0.06	0.06			
WG356389													
WG356389LFB1	LFB	12/12/13 23:03	WI130816-3	2		2.046	mg/L	102.3	90	110			
L15822-02AS	AS	12/12/13 23:22	WI130816-3	2	U	1.922	mg/L	96.1	90	110			
L15823-01DUP	DUP	12/12/13 23:24			U	U	mg/L				0	20	RA
WG356389LFB2	LFB	12/12/13 23:37	WI130816-3	2		1.982	mg/L	99.1	90	110			

SPF Water Engineering

ACZ Project ID: ***L15825***

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356333													
WG356333ICV	ICV	12/12/13 12:20	WI131021-1	1.003		.974	mg/L	97.1	90	110			
WG356333ICB	ICB	12/12/13 12:23				U	mg/L		-0.15	0.15			
WG356360													
WG356360LFB1	LFB	12/12/13 15:15	WI121218-3	1		1.006	mg/L	100.6	90	110			
L15822-01AS	AS	12/12/13 15:17	WI121218-3	1	.71	1.65	mg/L	94	90	110			
L15822-02DUP	DUP	12/12/13 15:19			U	U	mg/L				0	20	RA
WG356360LFB2	LFB	12/12/13 15:46	WI121218-3	1		1.017	mg/L	101.7	90	110			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356078													
WG356078LCSW3	LCSW	12/07/13 15:20	PCN41777	6		6.03	units	100.5	5.9	6.1			
WG356078LCSW6	LCSW	12/07/13 18:23	PCN41777	6		6.05	units	100.8	5.9	6.1			
WG356078LCSW9	LCSW	12/07/13 21:34	PCN41777	6		6.05	units	100.8	5.9	6.1			
L15826-02DUP	DUP	12/08/13 0:47			8.2	8.23	units				0.4	20	
WG356078LCSW12	LCSW	12/08/13 1:04	PCN41777	6		6.05	units	100.8	5.9	6.1			
WG356078LCSW15	LCSW	12/08/13 4:29	PCN41777	6		6.06	units	101	5.9	6.1			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356387													
WG356387ICV	ICV	12/12/13 22:33	WI131104-3	.65228		.671	mg/L	102.9	90	110			
WG356387ICB	ICB	12/12/13 22:36				U	mg/L		-0.03	0.03			
WG356391													
WG356364LRB	LRB	12/13/13 0:09				U	mg/L		-0.03	0.03			
WG356364LFB	LFB	12/13/13 0:10	WI131206-2	.5		.508	mg/L	101.6	90	110			
L15824-01LFM	LFM	12/13/13 0:12	WI131206-2	.5	.03	.538	mg/L	101.6	90	110			
L15825-01DUP	DUP	12/13/13 0:14			.03	.026	mg/L				14.3	20	RA
WG356391ICV	ICV	12/14/13 13:07	WI131104-3	.65228		.669	mg/L	102.6	90	110			
WG356391ICB	ICB	12/14/13 13:09				U	mg/L		-0.03	0.03			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	20		19.57	mg/L	97.9	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.9	0.9			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	99.94539		101.4	mg/L	101.5	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	99.94539	5.7	108	mg/L	102.4	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	99.94539	5.7	108.4	mg/L	102.8	85	115	0.37	20	

SPF Water Engineering

ACZ Project ID: ***L15825***

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	20		19.75	mg/L	98.8	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.9	0.9			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.66	0.66			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	99.94539		98.98	mg/L	99	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	99.94539	4.2	104.7	mg/L	100.6	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	99.94539	4.2	104.5	mg/L	100.4	70	130	0.19	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355807													
WG355807PBW	PBW	12/03/13 16:30				U	mg/L		-20	20			
WG355807LCSW	LCSW	12/03/13 16:31	PCN44257	260		232	mg/L	89.2	80	120			
L15825-03DUP	DUP	12/03/13 16:49			190	188	mg/L				1.1	10	

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356049													
WG356049PBW	PBW	12/06/13 15:07				U	mg/L		-15	15			
WG356049LCSW	LCSW	12/06/13 15:09	PCN44260	160		149	mg/L	93.1	80	120			
L15845-03DUP	DUP	12/06/13 15:38			309	319	mg/L				3.2	10	
WG356134													
WG356134PBW	PBW	12/09/13 15:33				U	mg/L		-15	15			
WG356134LCSW	LCSW	12/09/13 15:35	PCN44259	160		156	mg/L	97.5	80	120			
L15826-01DUP	DUP	12/09/13 16:04			U	U	mg/L				0	10	RA

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	2		1.99	mg/L	99.5	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.3	0.3			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	1.0009		1.08	mg/L	107.9	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	1.0009	U	1.06	mg/L	105.9	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	1.0009	U	1.07	mg/L	106.9	85	115	0.94	20	

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		2	mg/L	100	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.3	0.3			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.22	0.22			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	1.0009		1.06	mg/L	105.9	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	1.0009	U	1.07	mg/L	106.9	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	1.0009	U	1.06	mg/L	105.9	70	130	0.94	20	

SPF Water Engineering

ACZ Project ID: ***L15825***

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.05		.05222	mg/L	104.4	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.0003	0.0003			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.05005		.05033	mg/L	100.6	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.05005	.0008	.05773	mg/L	113.7	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.05005	.0008	.05694	mg/L	112.2	70	130	1.38	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.05208	mg/L	104.2	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0003	0.0003			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00022	0.00022			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05005		.05159	mg/L	103.1	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05005	.0004	.05103	mg/L	101.2	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05005	.0004	.05062	mg/L	100.3	70	130	0.81	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.02002		.02056	mg/L	102.7	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.00015	0.00015			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.01001		.009074	mg/L	90.6	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.01001	U	.007763	mg/L	77.6	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.01001	U	.007239	mg/L	72.3	70	130	6.99	20	

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.02002		.02056	mg/L	102.7	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.00015	0.00015			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00011	0.00011			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.01001		.009932	mg/L	99.2	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.01001	U	.009523	mg/L	95.1	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.01001	U	.009342	mg/L	93.3	70	130	1.92	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	100		98.33	mg/L	98.3	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.9	0.9			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	100.0204		101.8	mg/L	101.8	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	100.0204	283	374.4	mg/L	91.4	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	100.0204	283	375.5	mg/L	92.5	85	115	0.29	20	

SPF Water Engineering

ACZ Project ID: ***L15825***

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	100		98.59	mg/L	98.6	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.9	0.9			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.66	0.66			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	100.0204		98.68	mg/L	98.7	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	100.0204	38	138.4	mg/L	100.4	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	100.0204	38	138.9	mg/L	100.9	70	130	0.36	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	2		1.996	mg/L	99.8	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.03	0.03			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	.5		.507	mg/L	101.4	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	.5	3.47	3.827	mg/L	71.4	85	115			M3
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	.5	3.47	3.844	mg/L	74.8	85	115	0.44	20	M3

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.989	mg/L	99.5	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.03	0.03			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.022	0.022			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	.5		.489	mg/L	97.8	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	.5	.23	.722	mg/L	98.4	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	.5	.23	.726	mg/L	99.2	70	130	0.55	20	

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	49.95		49.8	mg/L	99.7	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-1.5	1.5			
WG356398													
WG356398LFB1	LFB	12/13/13 11:15	WI131011-1	30		31.9	mg/L	106.3	90	110			
L15821-03DUP	DUP	12/13/13 16:01			U	U	mg/L				0	20	RA
L15821-04AS	AS	12/13/13 16:37	WI131011-1	30	U	32.7	mg/L	109	90	110			
WG356398LFB2	LFB	12/13/13 19:54	WI131011-1	30		31.8	mg/L	106	90	110			
L15825-03DUP	DUP	12/13/13 20:30			39.8	39.9	mg/L				0.3	20	
L15826-01AS	AS	12/13/13 21:42	WI131011-1	30	43.7	75.2	mg/L	105	90	110			

SPF Water Engineering

ACZ Project ID: ***L15825***

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.05		.05257	mg/L	105.1	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.0003	0.0003			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.05005		.04963	mg/L	99.2	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.05005	U	.05338	mg/L	106.7	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.05005	U	.05376	mg/L	107.4	70	130	0.71	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.05395	mg/L	107.9	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0003	0.0003			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00022	0.00022			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05005		.05158	mg/L	103.1	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05005	U	.05214	mg/L	104.2	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05005	U	.05141	mg/L	102.7	70	130	1.41	20	

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.05015		.05337	mg/L	106.4	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.0003	0.0003			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.05005		.04553	mg/L	91	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.05005	U	.05284	mg/L	105.6	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.05005	U	.04659	mg/L	93.1	70	130	12.57	20	

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05015		.05263	mg/L	104.9	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0003	0.0003			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00022	0.00022			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05005		.05269	mg/L	105.3	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05005	.0002	.04817	mg/L	95.8	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05005	.0002	.04872	mg/L	96.9	70	130	1.14	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	2		1.9572	mg/L	97.9	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.015	0.015			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	.999		1.037	mg/L	103.8	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	.999	.01	1.028	mg/L	101.9	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	.999	.01	1.035	mg/L	102.6	85	115	0.68	20	

SPF Water Engineering

ACZ Project ID: ***L15825***

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.9315	mg/L	96.6	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.015	0.015			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.011	0.011			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	.999		1.004	mg/L	100.5	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	.999	U	1.015	mg/L	101.6	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	.999	U	1.019	mg/L	102	70	130	0.39	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.05		.05122	mg/L	102.4	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.0003	0.0003			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.05		.04838	mg/L	96.8	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.05	.0018	.05441	mg/L	105.2	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.05	.0018	.05513	mg/L	106.7	70	130	1.31	20	

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.05275	mg/L	105.5	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0003	0.0003			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00022	0.00022			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05		.05172	mg/L	103.4	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05	.0005	.0542	mg/L	107.4	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05	.0005	.05391	mg/L	106.8	70	130	0.54	20	

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356429													
WG356429ICV	ICV	12/16/13 23:32	MS131202-2	.05		.04839	mg/L	96.8	90	110			
WG356429ICB	ICB	12/16/13 23:35				U	mg/L		-0.0006	0.0006			
WG356429LFB	LFB	12/16/13 23:39	MS131216-2	.05005		.05178	mg/L	103.5	85	115			
L15825-03AS	AS	12/16/13 23:59	MS131216-2	.05005	.0051	.05652	mg/L	102.7	70	130			
L15825-03ASD	ASD	12/17/13 0:03	MS131216-2	.05005	.0051	.05781	mg/L	105.3	70	130	2.26	20	

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.05009	mg/L	100.2	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0006	0.0006			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00044	0.00044			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.0501		.05237	mg/L	104.5	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.0501	.0002	.05227	mg/L	103.9	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.0501	.0002	.05216	mg/L	103.7	70	130	0.21	20	

SPF Water Engineering

ACZ Project ID: ***L15825***

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	2		1.912	mg/L	95.6	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.03	0.03			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	.5		.506	mg/L	101.2	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	.5	.48	.949	mg/L	95.8	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	.5	.48	.95	mg/L	96	85	115	0.11	20	

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.934	mg/L	96.7	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.03	0.03			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.022	0.022			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	.5		.506	mg/L	101.2	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	.5	.13	.627	mg/L	101.4	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	.5	.13	.635	mg/L	103	70	130	1.27	20	

SPF Water Engineering ACZ Project ID: ***L15825***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L15825-01	WG355879	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG356398	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356068	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356072	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356398	Fluoride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356389	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356360	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356391	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355807	Residue, Filterable (TDS) @180C	SM2540C	H3	Sample was received and analyzed past holding time.
	WG356049	Residue, Non-Filterable (TSS) @105C	SM2540D	H3	Sample was received and analyzed past holding time.
	WG356398	Sulfate	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	Total Alkalinity	SM2320B - Titration	H1	Sample prep or analysis performed past holding time. See case narrative.

SPF Water Engineering ACZ Project ID: ***L15825***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L15825-02	WG355879	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG356398	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356068	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356072	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356398	Fluoride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356389	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356360	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356391	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355807	Residue, Filterable (TDS) @180C	SM2540C	H3	Sample was received and analyzed past holding time.
	WG356134	Residue, Non-Filterable (TSS) @105C	SM2540D	H3	Sample was received and analyzed past holding time.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356398	Sulfate	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	Total Alkalinity	SM2320B - Titration	H1	Sample prep or analysis performed past holding time. See case narrative.

Inorganic Extended Qualifier Report

SPF Water Engineering ACZ Project ID: ***L15825***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L15825-03	WG355879	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG356068	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356072	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356389	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356360	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356391	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355807	Residue, Filterable (TDS) @180C	SM2540C	H3	Sample was received and analyzed past holding time.
	WG356134	Residue, Non-Filterable (TSS) @105C	SM2540D	H3	Sample was received and analyzed past holding time.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	Total Alkalinity	SM2320B - Titration	H1	Sample prep or analysis performed past holding time. See case narrative.

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 4th Quarter sampling

ACZ Project ID: L15825
Date Received: 12/02/2013 10:05
Received By: mtb
Date Printed: 12/2/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?		X	

The sample matrix was entered per the requested quotation.

7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?		X	

L15825-01 : Mercury containers were single bagged.

L15825-02 : Mercury containers were single bagged.

L15825-03 : Mercury containers were single bagged.

16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?		X	

Some parameters were received past hold time.

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
2292	5.1	13	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s) but was thawed by receipt at ACZ.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 4th Quarter sampling

ACZ Project ID:	L15825
Date Received:	12/02/2013 10:05
Received By:	mtb
Date Printed:	12/2/2013

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

C15825

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name:	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SPF-2014-GW

PO#: Calico 4th Quarter Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	*SPF-2014-GW							
Upper Sourdough Spring	11/23/13 10:25		8	X							
Lower Sourdough Spring	11/23/13 11:35		8	X							
Dry Creek Arm	11/23/13 15:50		8	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed

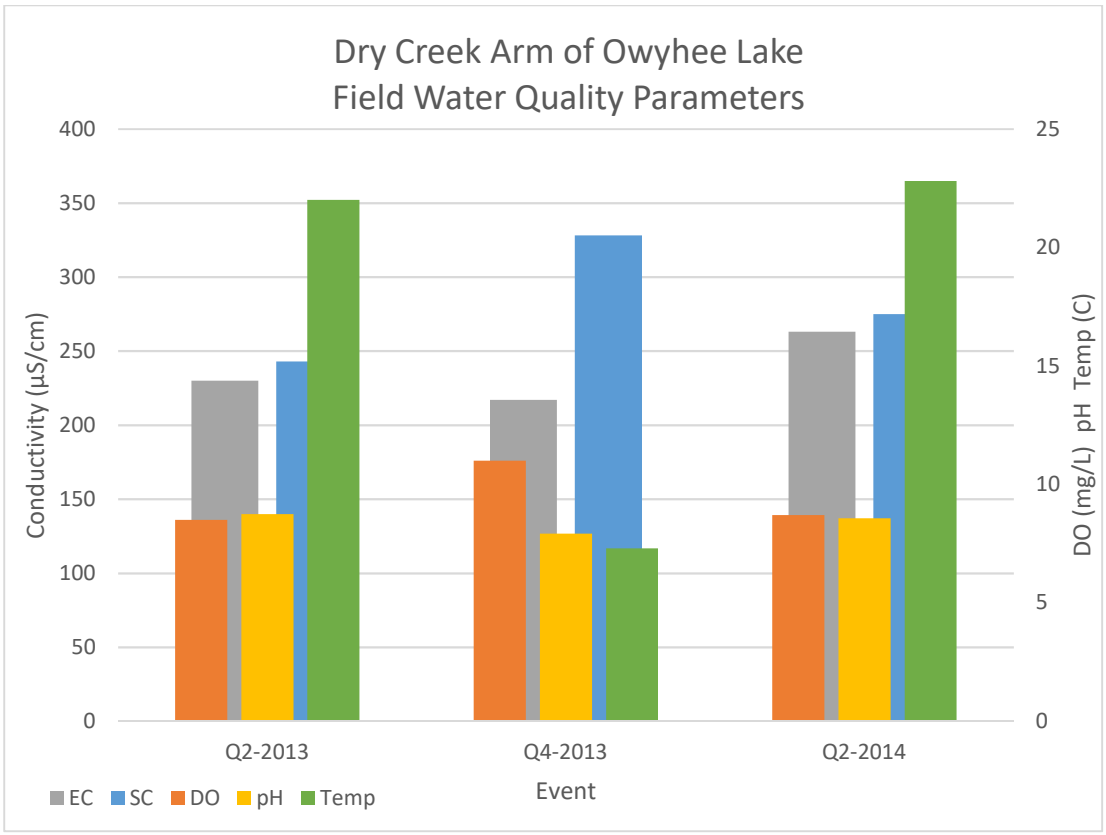
Please refer to ACZ's terms & conditions located on the reverse side of this COC.

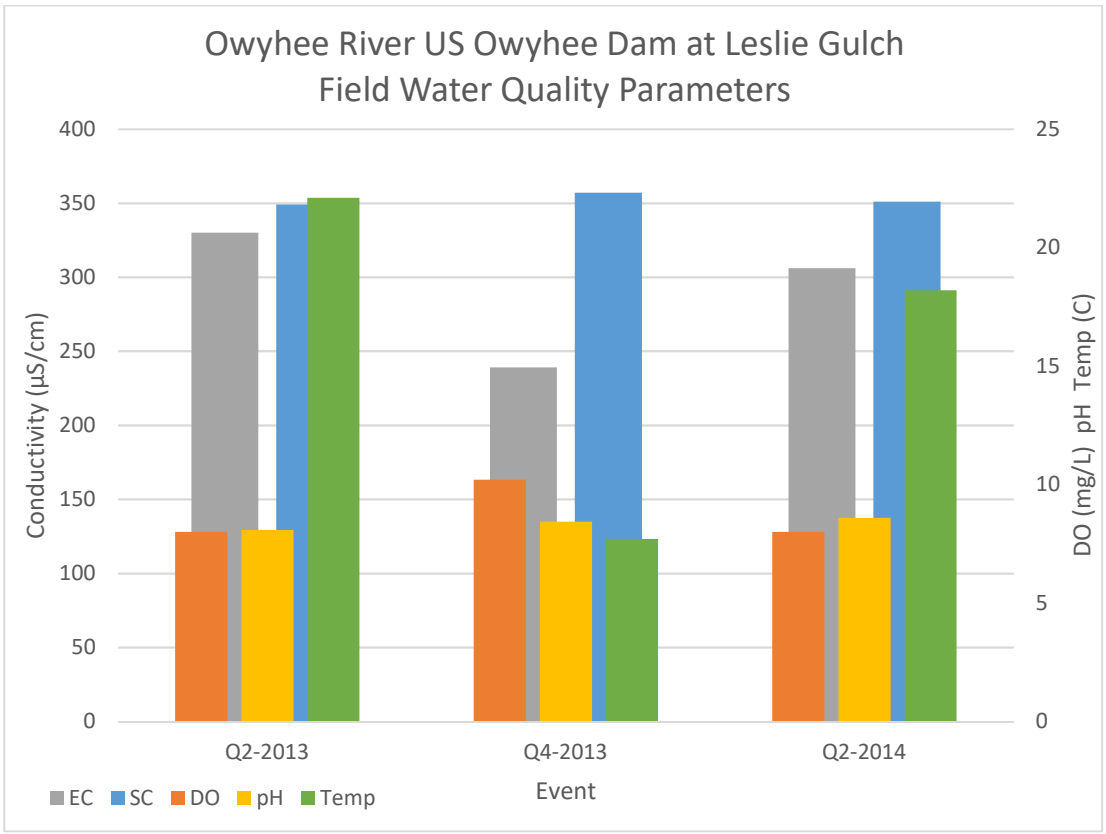
RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	11/25/13 8:00		
		12-2-13 10:05	

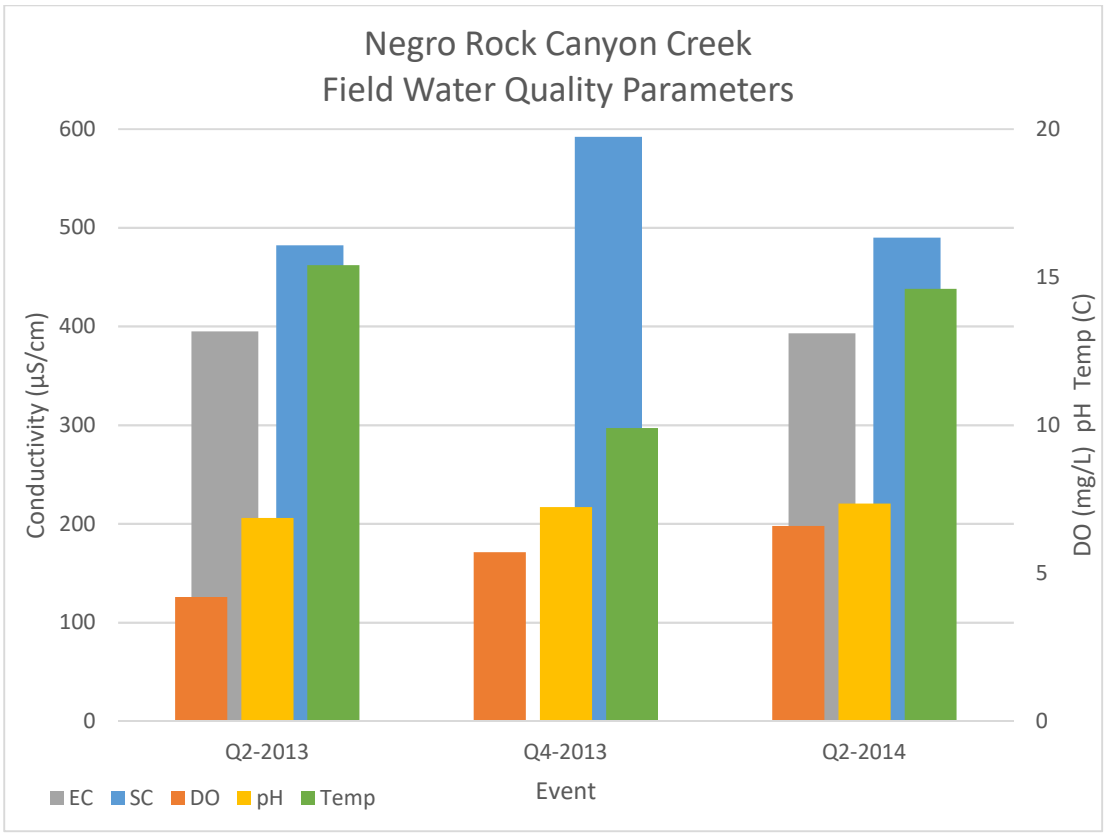
FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

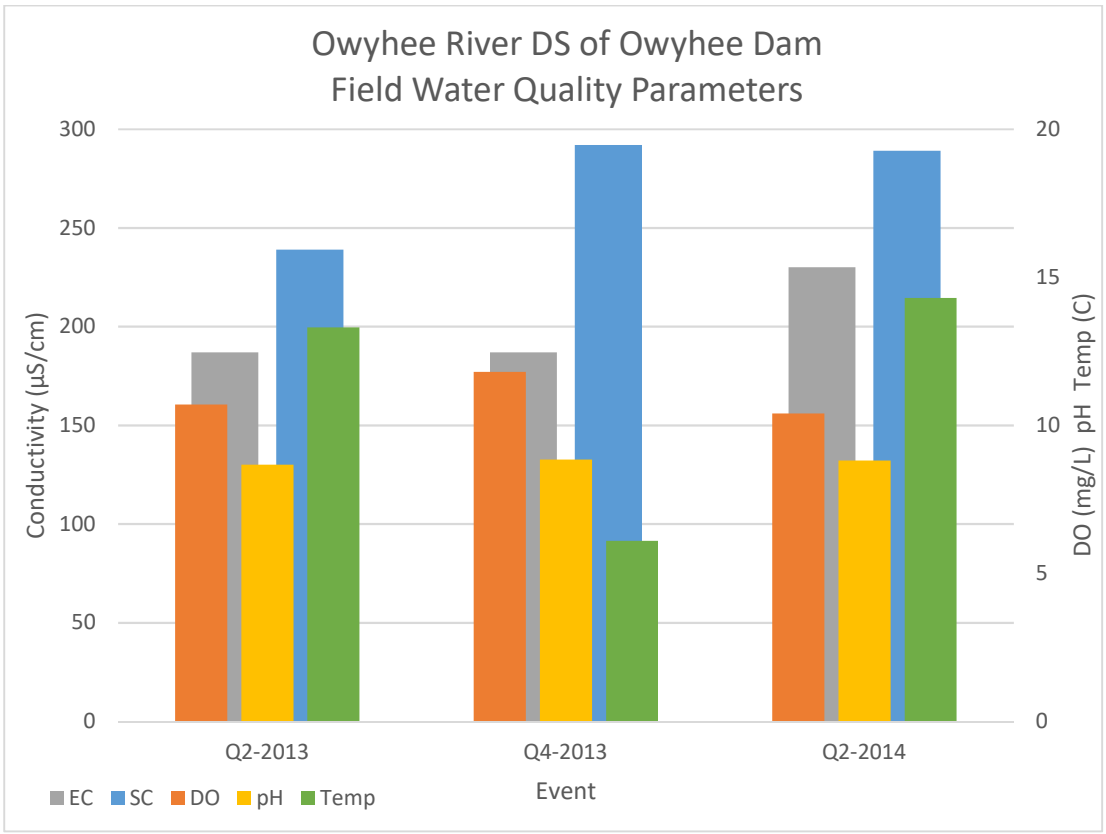
C15825 Chain of Custody

Appendix D: Field Water Quality Data Charts


Dry Creek Arm of Owyhee Lake
Field Water Quality Parameters
Conductivity (µS/cm)
DO (mg/L) pH Temp (C)
400
350
300
250
200
150
100
50
0
25
20
15
10
5
0
Q2-2013
Q4-2013
Q2-2014
Event
EC
SC
DO
pH
Temp


Owyhee River US Owyhee Dam at Leslie Gulch
Field Water Quality Parameters
Conductivity (µS/cm)
DO (mg/L) pH Temp (C)
400
350
300
250
200
150
100
50
0
25
20
15
10
5
0
Q2-2013
Q4-2013
Q2-2014
Event
EC
SC
DO
pH
Temp


Negro Rock Canyon Creek
Field Water Quality Parameters
Conductivity (µS/cm)
DO (mg/L) pH Temp (C)
600
500
400
300
200
100
0
20
15
10
5
0
Q2-2013
Q4-2013
Q2-2014
Event
EC
SC
DO
pH
Temp


Owyhee River DS of Owyhee Dam
Field Water Quality Parameters
Conductivity (µS/cm)
DO (mg/L) pH Temp (C)
300
250
200
150
100
50
0
20
15
10
5
0
Q2-2013
Q4-2013
Q2-2014
Event
EC
SC
DO
pH
Temp

Appendix E: Laboratory Water Quality Results

		DRY CREEK ARM																		
PARAMETER	UNITS	Q2-2013 Result	Q4-2013 Result	Q2-2014 Result	MDL[1]	RL	Q2-13[2]	Q4-13[2]	Q2-14[2]	n	Min	Max	Range	Mean	Median	St. Dev.	Q2-13 RPD[3]	Q4-13 RPD[3]	Q2-14 RPD[3]
Aluminum, dissolved	mg/L	0.0800	0.0500	0.1700	0.03000	0.15	0.0800	0.0500	0.1700	3	0.0500	0.1700	0.1200	0.1000	0.0800	0.0624	0%	46%	72%
Aluminum, total	mg/L	0.6400	1.2400	1.7300	0.03000	0.15	0.6400	1.2400	1.7300	3	0.6400	1.7300	1.0900	1.2033	1.2400	0.5459	64%	0%	33%
Antimony, dissolved	mg/L	<0.0004	<0.0004	0.0004	0.00040	0.0020	0.0003	0.0003	0.0004	3	0.0003	0.0004	0.0001	0.0003	0.0003	0.0001	0%	0%	34%
Antimony, total	mg/L	<0.0004	<0.0004	<0.0004	0.00040	0.0020	0.0003	0.0003	0.0003	3	0.0003	0.0003	0.0000	0.0003	0.0003	0.0000	0%	0%	0%
Arsenic, dissolved	mg/L	0.0057	0.0072	0.0063	0.00020	0.0010	0.0057	0.0072	0.0063	3	0.0057	0.0072	0.0015	0.0064	0.0063	0.0008	10%	13%	0%
Arsenic, total	mg/L	0.0057	0.0076	0.0064	0.00020	0.0010	0.0057	0.0076	0.0064	3	0.0057	0.0076	0.0019	0.0066	0.0064	0.0010	12%	17%	0%
Barium, dissolved	mg/L	0.0110	0.0200	0.0140	0.00300	0.015	0.0110	0.0200	0.0140	3	0.0110	0.0200	0.0090	0.0150	0.0140	0.0046	24%	35%	0%
Barium, total	mg/L	0.0190	0.0280	0.0210	0.00300	0.015	0.0190	0.0280	0.0210	3	0.0190	0.0280	0.0090	0.0227	0.0210	0.0047	10%	29%	0%
Beryllium, dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Beryllium, total	mg/L	<0.00005	<0.00005	0.0001	0.00005	0.00025	0.0000	0.0000	0.0001	3	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0%	0%	66%
Bismuth, dissolved	mg/L	<0.04	<0.04	<0.04	0.04000	0.20	0.0283	0.0283	0.0283	3	0.0283	0.0283	0.0000	0.0283	0.0283	0.0000	0%	0%	0%
Bismuth, total	mg/L	<0.04	<0.04	<0.04	0.04000	0.20	0.0283	0.0283	0.0283	3	0.0283	0.0283	0.0000	0.0283	0.0283	0.0000	0%	0%	0%
Boron, dissolved	mg/L	0.0800	0.1300	0.1100	0.01000	0.05	0.0800	0.1300	0.1100	3	0.0800	0.1300	0.0500	0.1067	0.1100	0.0252	32%	17%	0%
Boron, total	mg/L	0.0900	0.1200	0.0900	0.01000	0.05	0.0900	0.1200	0.0900	3	0.0900	0.1200	0.0300	0.1000	0.0900	0.0173	0%	29%	0%
Cadmium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Cadmium, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Calcium, dissolved	mg/L	20.0000	23.4000	20.1000	0.10000	0.5	20.0000	23.4000	20.1000	3	20.0000	23.4000	3.4000	21.1667	20.1000	1.9348	0%	15%	0%
Calcium, total	mg/L	19.8000	23.7000	20.7000	0.10000	0.5	19.8000	23.7000	20.7000	3	19.8000	23.7000	3.9000	21.4000	20.7000	2.0421	4%	14%	0%
Chromium, dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.00050	0.0025	0.0004	0.0004	0.0004	3	0.0004	0.0004	0.0000	0.0004	0.0004	0.0000	0%	0%	0%
Chromium, total	mg/L	0.0006	0.0009	0.0014	0.00050	0.0025	0.0006	0.0009	0.0014	3	0.0006	0.0014	0.0008	0.0010	0.0009	0.0004	40%	0%	43%
Cobalt, dissolved	mg/L	0.0004	0.0003	0.0011	0.00005	0.00025	0.0004	0.0003	0.0011	3	0.0003	0.0011	0.0009	0.0006	0.0004	0.0005	0%	40%	97%
Cobalt, total	mg/L	0.0003	0.0006	0.0005	0.00005	0.00025	0.0003	0.0006	0.0005	3	0.0003	0.0006	0.0003	0.0005	0.0005	0.0001	46%	17%	0%
Copper, dissolved	mg/L	0.0128	0.0006	0.0008	0.00050	0.0025	0.0128	0.0006	0.0008	3	0.0006	0.0128	0.0122	0.0047	0.0008	0.0070	176%	29%	0%
Copper, total	mg/L	0.0021	0.0017	0.0020	0.00050	0.0025	0.0021	0.0017	0.0020	3	0.0017	0.0021	0.0004	0.0019	0.0020	0.0002	5%	16%	0%
Gallium, dissolved	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Gallium, total	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Iron, dissolved	mg/L	0.0700	0.0400	0.1700	0.02000	0.10	0.0700	0.0400	0.1700	3	0.0400	0.1700	0.1300	0.0933	0.0700	0.0681	0%	55%	83%
Iron, total	mg/L	0.5900	1.1600	1.4500	0.02000	0.10	0.5900	1.1600	1.4500	3	0.5900	1.4500	0.8600	1.0667	1.1600	0.4375	65%	0%	22%
Lead, dissolved	mg/L	0.0006	<0.0001	0.0002	0.00010	0.0005	0.0006	0.0001	0.0002	3	0.0001	0.0006	0.0005	0.0003	0.0002	0.0003	100%	96%	0%
Lead, total	mg/L	0.0002	0.0003	0.0004	0.00010	0.0005	0.0002	0.0003	0.0004	3	0.0002	0.0004	0.0002	0.0003	0.0003	0.0001	40%	0%	29%
Lithium, dissolved	mg/L	<0.02	0.0200	0.0160	0.00800	0.04	0.0141	0.0200	0.0160	3	0.0141	0.0200	0.0059	0.0167	0.0160	0.0030	12%	22%	0%
Lithium, total	mg/L	<0.02	<0.02	0.0180	0.00800	0.04	0.0141	0.0141	0.0180	3	0.0141	0.0180	0.0039	0.0154	0.0141	0.0022	0%	0%	24%
Magnesium, dissolved	mg/L	5.3000	6.4000	5.3000	0.20000	1.0	5.3000	6.4000	5.3000	3	5.3000	6.4000	1.1000	5.6667	5.3000	0.6351	0%	19%	0%
Magnesium, total	mg/L	5.3000	6.8000	5.8000	0.20000	1.0	5.3000	6.8000	5.8000	3	5.3000	6.8000	1.5000	5.9667	5.8000	0.7638	9%	16%	0%
Manganese, dissolved	mg/L	0.0031	0.0081	0.0093	0.00050	0.0025	0.0031	0.0081	0.0093	3	0.0031	0.0093	0.0062	0.0068	0.0081	0.0033	89%	0%	14%
Manganese, total	mg/L	0.0163	0.0334	0.0308	0.00050	0.0025	0.0163	0.0334	0.0308	3	0.0163	0.0334	0.0171	0.0268	0.0308	0.0092	62%	8%	0%
Mercury, dissolved	ng/L	0.7000	1.3000	2.4000	0.20000	1.0	0.7000	1.3000	2.4000	3	0.7000	2.4000	1.7000	1.4667	1.3000	0.8622	60%	0%	59%
Mercury, total	ng/L	4.0000	4.6000	5.1000	0.40000	2.0	4.0000	4.6000	5.1000	3	4.0000	5.1000	1.1000	4.5667	4.6000	0.5508	14%	0%	10%
Molybdenum, dissolved	mg/L	0.0035	0.0045	0.0045	0.00050	0.0025	0.0035	0.0045	0.0045	3	0.0035	0.0045	0.0010	0.0042	0.0045	0.0006	25%	0%	0%
Molybdenum, total	mg/L	0.0036	0.0049	0.0043	0.00050	0.0025	0.0036	0.0049	0.0043	3	0.0036	0.0049	0.0013	0.0043	0.0043	0.0007	18%	13%	0%
Nickel, dissolved	mg/L	0.0007	0.0006	0.0009	0.00060	0.0030	0.0007	0.0006	0.0009	3	0.0006	0.0009	0.0003	0.0007	0.0007	0.0002	0%	15%	25%
Nickel, total	mg/L	0.0011	0.0016	0.0016	0.00060	0.0030	0.0011	0.0016	0.0016	3	0.0011	0.0016	0.0005	0.0014	0.0016	0.0003	37%	0%	0%
Potassium, dissolved	mg/L	3.5000	3.9000	3.7000	0.20000	1.0	3.5000	3.9000	3.7000	3	3.5000	3.9000	0.4000	3.7000	3.7000	0.2000	6%	5%	0%
Potassium, total	mg/L	3.5000	4.1000	3.8000	0.20000	1.0	3.5000	4.1000	3.8000	3	3.5000	4.1000	0.6000	3.8000	3.8000	0.3000	8%	8%	0%
Scandium, dissolved	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Scandium, total	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Selenium, dissolved	mg/L	0.0003	0.0008	0.0004	0.00010	0.0005	0.0003	0.0008	0.0004	3	0.0003	0.0008	0.0005	0.0005	0.0004	0.0003	29%	67%	0%
Selenium, total	mg/L	0.0003	0.0007	0.0004	0.00010	0.0005	0.0003	0.0007	0.0004	3	0.0003	0.0007	0.0004	0.0005	0.0004	0.0002	29%	55%	0%
Silver, dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Silver, total	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Sodium, dissolved	mg/L	26.9000	37.5000	31.4000	0.20000	1	26.9000	37.5000	31.4000	3	26.9000	37.5000	10.6000	31.9333	31.4000	5.3201	15%	18%	0%
Sodium, total	mg/L	26.3000	37.2000	31.8000	0.20000	1	26.3000	37.2000	31.8000	3	26.3000	37.2000	10.9000	31.7667	31.8000	5.4501	19%	16%	0%
Strontium, dissolved	mg/L	0.1000	0.1200	0.0930	0.00500	0.03	0.1000	0.1200	0.0930	3	0.0930	0.1200	0.0270	0.1043	0.1000	0.0140	0%	18%	7%
Strontium, total	mg/L	0.1000	0.1200	0.0950	0.00500	0.03	0.1000	0.1200	0.0950	3	0.0950	0.1200	0.0250	0.1050	0.1000	0.0132	0%	18%	5%
Thallium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Thallium, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Tin, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Tin, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Titanium, dissolved	mg/L	<0.005	<0.005	0.0070	0.00500	0.025	0.0035	0.0035	0.0070	3	0.0035	0.0070	0.0035	0.0047	0.0035	0.0020	0%	0%	66%
Titanium, total	mg/L	0.0330	0.0780	0.0840	0.00500	0.025	0.0330	0.0780	0.0840	3	0.0330	0.0840	0.0510	0.0650	0.0780	0.0279	81%	0%	7%
Uranium, dissolved	mg/L	0.0014	0.0018	0.0016	0.00010	0.0005	0.0014	0.0018	0.0016	3	0.0014	0.0018	0.0004	0.0016	0.0016	0.0002	13%	12%	0%
Uranium, total	mg/L	0.0014	0.0020	0.0015	0.00010	0.0005	0.0014	0.0020	0.0015	3	0.0014	0.0020	0.0006	0.0016	0.0015	0.0003	7%	29%	0%
Vanadium, dissolved	mg/L	0.0051	0.0051	0.0067	0.00020	0.0010	0.0051	0.0051	0.0067	3	0.0051	0.0067	0.0016	0.0056	0.0051	0.0009	0%	0%	27%
Vanadium, total	mg/L	0.0069	0.0076	0.0087	0.00020	0.0010	0.0069	0.0076	0.0087	3	0.0069	0.0087	0.0018	0.0077	0.0076	0.0009	10%	0%	13%
Zinc, dissolved	mg/L	<0.01	<0.01	<0.01	0.01000	0.05	0.0071	0.0071	0.0071	3	0.0071	0.0071	0.0000	0.0071	0.0071	0.0000	0%	0%	0%
Zinc, total	mg/L	<0.01	<0.01	<0.01	0.01000	0.05	0.0071	0.0071	0.0071	3	0.0071	0.0071	0.0000	0.0071	0.0071	0.0000	0%	0%	0%
Hardness as CaCO3	mg/L	72.0000	85.0000	72.0000	0.80000	4	72.0000	85.0000	72.0000	3	72.0000	85.0000	13.0000	76.3333	72.0000	7.5056	0%	17%	0%
Nitrogen, ammonia	mg/L	<0.05	<0.05	<0.05	0.05000	0.25	0.0354	0.0354	0.0354	3	0.0354	0.0354	0.0000	0.0354	0.0354	0.0000	0%	0%	0%
Phosphorus, total	mg/L	0.0400	0.1000	0.0300	0.01000	0.05	0.0400	0.1000	0.0300	3	0.0300	0.1000	0.0700	0.0567	0.0400	0.0379	0%	86%	29%
Bicarbonate as CaCO3	mg/L	86.0000	110.0000	89.0000	2.00000	10	86.0000	110.0000	89.0000	3	86.0000	110.0000	24.0000	95.0000	89.0000	13.0767	3%	21%	0%
Carbonate as CaCO3	mg/L	5.0000	<2	4.0000	2.00000	10	5.0000	1.4142	4.0000	3	1.4142	5.0000	3.5858	3.4714	4.0000	1.8504	22%	96%	0%
Chloride	mg/L	8.6600	10.3000	9.4000	0.50000	2.5	8.6600	10.3000	9.4000	3	8.6600	10.3000	1.6400	9.4533	9.4000	0.8213	8%	9%	0%
Conductivity @25C	umhos/cm	261.0000	326.0000	287.0000	1.00000	5	261.0000	326.0000	287.0000	3	261.0000	326.0000	65.0000	291.3333	287.0000	32.7159	9%	13%	0%
Cyanide, total	mg/L	<0.003	<0.003	<0.003	0.00300	0.015	0.0021	0.0021	0.0021	3	0.0021	0.0021	0.0000	0.0021	0.0021	0.0000	0%	0%	0%
Cyanide, WAD	mg/L	<0.003	<0.003	<0.003	0.00300	0.015	0.0021	0.0021	0.0021	3	0.0021	0.0021	0.0000	0.0021	0.0021	0.0000	0%	0%	0%
Fluoride	mg/L	1.2100	1.4400	1.4200	0.05000	0.25	1.2100	1.4400	1.4200	3	1.2100	1.4400	0.2300	1.3567	1.4200	0.1274	16%	1%	0%
Hydroxide as CaCO3	mg/L	<2	<2	<2	2.00000	10	1.4142	1.4142	1.4142	3	1.4142	1.4142	0.0000	1.4142	1.4142	0.0000	0%	0%	0%
Nitrate as N, dissolved	mg/L	<0.02	<ND>	<ND>	0.02000	0.10	0.0141	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrate/Nitrite as N, dissolved	mg/L	<0.02	<ND>	<ND>	0.02000	0.10	0.0141	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrate/Nitrite as N	<ND>	<ND>	0.1300	<0.02	0.02000	0.10	<ND>	0.1300	0.0141	2	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrite as N, dissolved	mg/L	<0.01	<ND>	<ND>	0.01000	0.05	0.0071	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
pH	units	8.4000	8.3000	8.5000	0.10000	0.5	8.4000	8.3000	8.5000	3	8.3000	8.5000	0.2000	8.4000	8.4000	0.1000	0%	1%	1%
pH measured at	C	22.0000	21.0000	22.0000	0.10000	0.5	22.0000	21.0000	22.0000	3	21.0000	22.0000	1.0000	21.6667	22.0000	0.5774	0%	5%	0%
Residue, Filterable (TDS) @180C	mg/L	160.0000	190.0000	180.0000	10.00000	50	160.0000	190.0000	180.0000	3	160.0000	190.0000	30.0000	176.6667	180.0000	15.2753	12%	5%	0%
Residue, Non-Filterable (TSS) @105C	mg/L	5.0000	17.0000	9.0000	5.00000	25	5.0000	17.0000	9.0000	3	5.0000	17.0000	12.0000	10.3333	9.0000	6.1101	57%	62%	0%
Sulfate	mg/L	24.2000	39.8000	29.4000	0.50000	2.5	24.2000	39.8000	29.4000	3	24.2000	39.8000	15.6000	31.1333	29.4000	7.9431	19%	30%	0%
Total Alkalinity	mg/L	91.0000	110.0000	92.0000	2.00000	10	91.0000	110.0000	92.0000	3	91.0000	110.0000	19.0000	97.6667	92.0000	10.6927	1%	18%	0%

[1] If the MDL varies by sampling event, then the minimum value is reported here

[2] Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[3] Quarterly RPD compares quarterly results with the annual median value, red values are greater than or equal to 20% and the corresponding quarterly value is greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
LD = Limited Data (n < 3, i.e. two or more results are below MDL; or missing data)
RPD = Relative Percent Difference
n = number of samples

		LESLIE GULCH																	
PARAMETER	UNITS	Q2-2013 Result	Q4-2013 Result	Q2-2014 Result	MDL[1]	RL	Q2-13[2]	Q4-13[2]	Q2-14[2]	n	Min	Max	Range	Mean	Median	St. Dev.	Q2-13 RPD[3]	Q4-13 RPD[3]	Q2-14 RPD[3]
Aluminum, dissolved	mg/L	<0.03	<0.03	<0.03	0.03000	0.15	0.0212	0.0212	0.0212	3	0.0212	0.0212	0.0000	0.0212	0.0212	0.0000	0%	0%	0%
Aluminum, total	mg/L	1.3400	0.8900	1.4200	0.03000	0.15	1.3400	0.8900	1.4200	3	0.8900	1.4200	0.5300	1.2167	1.3400	0.2857	0%	40%	6%
Antimony, dissolved	mg/L	<0.0004	<0.0004	<0.0004	0.00040	0.0020	0.0003	0.0003	0.0003	3	0.0003	0.0003	0.0000	0.0003	0.0003	0.0000	0%	0%	0%
Antimony, total	mg/L	<0.0004	<0.0004	<0.0004	0.00040	0.0020	0.0003	0.0003	0.0003	3	0.0003	0.0003	0.0000	0.0003	0.0003	0.0000	0%	0%	0%
Arsenic, dissolved	mg/L	0.0111	0.0100	0.0110	0.00020	0.0010	0.0111	0.0100	0.0110	3	0.0100	0.0111	0.0011	0.0107	0.0110	0.0006	1%	10%	0%
Arsenic, total	mg/L	0.0114	0.0102	0.0108	0.00020	0.0010	0.0114	0.0102	0.0108	3	0.0102	0.0114	0.0012	0.0108	0.0108	0.0006	5%	6%	0%
Barium, dissolved	mg/L	0.0280	0.0190	0.0240	0.00300	0.015	0.0280	0.0190	0.0240	3	0.0190	0.0280	0.0090	0.0237	0.0240	0.0045	15%	23%	0%
Barium, total	mg/L	0.0420	0.0300	0.0400	0.00300	0.015	0.0420	0.0300	0.0400	3	0.0300	0.0420	0.0120	0.0373	0.0400	0.0064	5%	29%	0%
Beryllium, dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Beryllium, total	mg/L	0.0001	<0.00005	0.0001	0.00005	0.00025	0.0001	0.0000	0.0001	3	0.0000	0.0001	0.0001	0.0001	0.0001	0.0000	40%	52%	0%
Bismuth, dissolved	mg/L	<0.04	<0.04	<0.04	0.04000	0.20	0.0283	0.0283	0.0283	3	0.0283	0.0283	0.0000	0.0283	0.0283	0.0000	0%	0%	0%
Bismuth, total	mg/L	<0.04	<0.04	<0.04	0.04000	0.20	0.0283	0.0283	0.0283	3	0.0283	0.0283	0.0000	0.0283	0.0283	0.0000	0%	0%	0%
Boron, dissolved	mg/L	0.1700	0.1800	0.1700	0.01000	0.05	0.1700	0.1800	0.1700	3	0.1700	0.1800	0.0100	0.1733	0.1700	0.0058	0%	6%	0%
Boron, total	mg/L	0.1700	0.1600	0.1700	0.01000	0.05	0.1700	0.1600	0.1700	3	0.1600	0.1700	0.0100	0.1667	0.1700	0.0058	0%	6%	0%
Cadmium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Cadmium, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Calcium, dissolved	mg/L	21.5000	19.1000	22.4000	0.10000	0.5	21.5000	19.1000	22.4000	3	19.1000	22.4000	3.3000	21.0000	21.5000	1.7059	0%	12%	4%
Calcium, total	mg/L	21.4000	19.6000	22.0000	0.10000	0.5	21.4000	19.6000	22.0000	3	19.6000	22.0000	2.4000	21.0000	21.4000	1.2490	0%	9%	3%
Chromium, dissolved	mg/L	<0.0005	0.0009	0.0008	0.00050	0.0025	0.0004	0.0009	0.0008	3	0.0004	0.0009	0.0005	0.0007	0.0008	0.0003	77%	12%	0%
Chromium, total	mg/L	0.0013	0.0016	0.0017	0.00050	0.0025	0.0013	0.0016	0.0017	3	0.0013	0.0017	0.0004	0.0015	0.0016	0.0002	21%	0%	6%
Cobalt, dissolved	mg/L	0.0022	0.0005	0.0006	0.00005	0.00025	0.0022	0.0005	0.0006	3	0.0005	0.0022	0.0017	0.0011	0.0006	0.0009	119%	12%	0%
Cobalt, total	mg/L	0.0005	0.0004	0.0006	0.00005	0.00025	0.0005	0.0004	0.0006	3	0.0004	0.0006	0.0002	0.0005	0.0005	0.0001	0%	40%	4%
Copper, dissolved	mg/L	0.0006	<0.0005	0.0006	0.00050	0.0025	0.0006	0.0004	0.0006	3	0.0004	0.0006	0.0002	0.0005	0.0006	0.0001	0%	52%	0%
Copper, total	mg/L	0.0021	0.0009	0.0021	0.00050	0.0025	0.0021	0.0009	0.0021	3	0.0009	0.0021	0.0012	0.0017	0.0021	0.0007	0%	80%	0%
Gallium, dissolved	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Gallium, total	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Iron, dissolved	mg/L	<0.02	<0.02	0.0200	0.02000	0.10	0.0141	0.0141	0.0200	3	0.0141	0.0200	0.0059	0.0161	0.0141	0.0034	0%	0%	34%
Iron, total	mg/L	1.1500	0.7500	1.2200	0.02000	0.10	1.1500	0.7500	1.2200	3	0.7500	1.2200	0.4700	1.0400	1.1500	0.2536	0%	42%	6%
Lead, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Lead, total	mg/L	0.0006	0.0003	0.0005	0.00010	0.0005	0.0006	0.0003	0.0005	3	0.0003	0.0006	0.0003	0.0005	0.0005	0.0002	18%	50%	0%
Lithium, dissolved	mg/L	0.0200	0.0200	0.0230	0.00800	0.04	0.0200	0.0200	0.0230	3	0.0200	0.0230	0.0030	0.0210	0.0200	0.0017	0%	0%	14%
Lithium, total	mg/L	0.0300	0.0300	0.0270	0.00800	0.04	0.0300	0.0300	0.0270	3	0.0270	0.0300	0.0030	0.0290	0.0300	0.0017	0%	0%	11%
Magnesium, dissolved	mg/L	6.2000	5.3000	6.5000	0.20000	1.0	6.2000	5.3000	6.5000	3	5.3000	6.5000	1.2000	6.0000	6.2000	0.6245	0%	16%	5%
Magnesium, total	mg/L	6.3000	5.6000	6.8000	0.20000	1.0	6.3000	5.6000	6.8000	3	5.6000	6.8000	1.2000	6.2333	6.3000	0.6028	0%	12%	8%
Manganese, dissolved	mg/L	0.0184	0.0066	0.0068	0.00050	0.0025	0.0184	0.0066	0.0068	3	0.0066	0.0184	0.0118	0.0106	0.0068	0.0068	92%	3%	0%
Manganese, total	mg/L	0.0662	0.0242	0.0357	0.00050	0.0025	0.0662	0.0242	0.0357	3	0.0242	0.0662	0.0420	0.0420	0.0357	0.0217	60%	38%	0%
Mercury, dissolved	ng/L	1.4000	0.6000	1.2000	0.20000	1.0	1.4000	0.6000	1.2000	3	0.6000	1.4000	0.8000	1.0667	1.2000	0.4163	15%	67%	0%
Mercury, total	ng/L	23.0000	13.2000	19.9000	0.40000	2.0	23.0000	13.2000	19.9000	3	13.2000	23.0000	9.8000	18.7000	19.9000	5.0090	14%	40%	0%
Molybdenum, dissolved	mg/L	0.0066	0.0065	0.0067	0.00050	0.0025	0.0066	0.0065	0.0067	3	0.0065	0.0067	0.0002	0.0066	0.0066	0.0001	0%	2%	2%
Molybdenum, total	mg/L	0.0066	0.0067	0.0064	0.00050	0.0025	0.0066	0.0067	0.0064	3	0.0064	0.0067	0.0003	0.0066	0.0066	0.0002	0%	2%	3%
Nickel, dissolved	mg/L	0.0007	<0.0006	<0.0006	0.00060	0.0030	0.0007	0.0004	0.0004	3	0.0004	0.0007	0.0003	0.0005	0.0004	0.0002	49%	0%	0%
Nickel, total	mg/L	0.0014	0.0008	0.0014	0.00060	0.0030	0.0014	0.0008	0.0014	3	0.0008	0.0014	0.0006	0.0012	0.0014	0.0003	0%	55%	0%
Potassium, dissolved	mg/L	4.9000	4.2000	4.6000	0.20000	1.0	4.9000	4.2000	4.6000	3	4.2000	4.9000	0.7000	4.5667	4.6000	0.3512	6%	9%	0%
Potassium, total	mg/L	5.0000	4.3000	4.9000	0.20000	1.0	5.0000	4.3000	4.9000	3	4.3000	5.0000	0.7000	4.7333	4.9000	0.3786	2%	13%	0%
Scandium, dissolved	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Scandium, total	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Selenium, dissolved	mg/L	0.0005	0.0005	0.0005	0.00010	0.0005	0.0005	0.0005	0.0005	3	0.0005	0.0005	0.0000	0.0005	0.0005	0.0000	0%	0%	0%
Selenium, total	mg/L	0.0006	0.0005	0.0005	0.00010	0.0005	0.0006	0.0005	0.0005	3	0.0005	0.0006	0.0001	0.0005	0.0005	0.0001	18%	0%	0%
Silver, dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Silver, total	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Sodium, dissolved	mg/L	49.0000	46.6000	47.5000	0.20000	1	49.0000	46.6000	47.5000	3	46.6000	49.0000	2.4000	47.7000	47.5000	1.2124	3%	2%	0%
Sodium, total	mg/L	47.8000	45.7000	47.3000	0.20000	1	47.8000	45.7000	47.3000	3	45.7000	47.8000	2.1000	46.9333	47.3000	1.0970	1%	3%	0%
Strontium, dissolved	mg/L	0.1100	0.0900	0.1130	0.00500	0.03	0.1100	0.0900	0.1130	3	0.0900	0.1130	0.0230	0.1043	0.1100	0.0125	0%	20%	3%
Strontium, total	mg/L	0.1100	0.0900	0.1130	0.00500	0.03	0.1100	0.0900	0.1130	3	0.0900	0.1130	0.0230	0.1043	0.1100	0.0125	0%	20%	3%
Thallium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Thallium, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Tin, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Tin, total	mg/L	0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	34%	0%	0%
Titanium, dissolved	mg/L	<0.005	<0.005	<0.005	0.00500	0.025	0.0035	0.0035	0.0035	3	0.0035	0.0035	0.0000	0.0035	0.0035	0.0000	0%	0%	0%
Titanium, total	mg/L	0.0470	0.0370	0.0610	0.00500	0.025	0.0470	0.0370	0.0610	3	0.0370	0.0610	0.0240	0.0483	0.0470	0.0121	0%	24%	26%
Uranium, dissolved	mg/L	0.0027	0.0026	0.0026	0.00010	0.0005	0.0027	0.0026	0.0026	3	0.0026	0.0027	0.0001	0.0026	0.0026	0.0001	4%	0%	0%
Uranium, total	mg/L	0.0028	0.0025	0.0027	0.00010	0.0005	0.0028	0.0025	0.0027	3	0.0025	0.0028	0.0003	0.0027	0.0027	0.0002	4%	8%	0%
Vanadium, dissolved	mg/L	0.0100	0.0082	0.0103	0.00020	0.0010	0.0100	0.0082	0.0103	3	0.0082	0.0103	0.0021	0.0095	0.0100	0.0011	0%	20%	3%
Vanadium, total	mg/L	0.0129	0.0103	0.0121	0.00020	0.0010	0.0129	0.0103	0.0121	3	0.0103	0.0129	0.0026	0.0118	0.0121	0.0013	6%	16%	0%
Zinc, dissolved	mg/L	<0.01	<0.01	<0.01	0.01000	0.05	0.0071	0.0071	0.0071	3	0.0071	0.0071	0.0000	0.0071	0.0071	0.0000	0%	0%	0%
Zinc, total	mg/L	0.0100	<0.01	<0.01	0.01000	0.05	0.0100	0.0071	0.0071	3	0.0071	0.0100	0.0029	0.0080	0.0071	0.0017	34%	0%	0%
Hardness as CaCO3	mg/L	79.0000	70.0000	83.0000	0.80000	4	79.0000	70.0000	83.0000	3	70.0000	83.0000	13.0000	77.3333	79.0000	6.6583	0%	12%	5%
Nitrogen, ammonia	mg/L	0.1200	<0.05	<0.05	0.05000	0.25	0.1200	0.0354	0.0354	3	0.0354	0.1200	0.0846	0.0636	0.0354	0.0489	109%	0%	0%
Phosphorus, total	mg/L	0.0800	0.0300	0.0500	0.01000	0.05	0.0800	0.0300	0.0500	3	0.0300	0.0800	0.0500	0.0533	0.0500	0.0252	46%	50%	0%
Bicarbonate as CaCO3	mg/L	139.0000	105.0000	98.0000	2.00000	10	139.0000	105.0000	98.0000	3	98.0000	139.0000	41.0000	114.0000	105.0000	21.9317	28%	0%	7%
Carbonate as CaCO3	mg/L	4.0000	9.0000	8.0000	2.00000	10	4.0000	9.0000	8.0000	3	4.0000	9.0000	5.0000	7.0000	8.0000	2.6458	67%	12%	0%
Chloride	mg/L	14.4000	13.8000	13.7000	0.50000	2.5	14.4000	13.8000	13.7000	3	13.7000	14.4000	0.7000	13.9667	13.8000	0.3786	4%	0%	1%
Conductivity @25C	umhos/cm	373.0000	349.0000	365.0000	1.00000	5	373.0000	349.0000	365.0000	3	349.0000	373.0000	24.0000	362.3333	365.0000	12.2202	2%	4%	0%
Cyanide, total	mg/L	<0.003	<0.003	<0.003	0.00300	0.015	0.0021	0.0021	0.0021	3	0.0021	0.0021	0.0000	0.0021	0.0021	0.0000	0%	0%	0%
Cyanide, WAD	mg/L	<0.003	<0.003	<0.003	0.00300	0.015	0.0021	0.0021	0.0021	3	0.0021	0.0021	0.0000	0.0021	0.0021	0.0000	0%	0%	0%
Fluoride	mg/L	2.3000	2.6000	2.2100	0.05000	0.25	2.3000	2.6000	2.2100	3	2.2100	2.6000	0.3900	2.3700	2.3000	0.2042	0%	12%	4%
Hydroxide as CaCO3	mg/L	<2	<2	<2	2.00000	10	1.4142	1.4142	1.4142	3	1.4142	1.4142	0.0000	1.4142	1.4142	0.0000	0%	0%	0%
Nitrate as N, dissolved	mg/L	0.1700	<ND>	<ND>	0.02000	0.10	0.1700	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrate/Nitrite as N, dissolved	mg/L	0.1700	<ND>	<ND>	0.02000	0.10	0.1700	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrate/Nitrite as N	<ND>	<ND>	0.4100	0.2000	0.02000	0.10	<ND>	0.4100	0.2000	2	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrite as N, dissolved	mg/L	<0.01	<ND>	<ND>	0.01000	0.05	0.0071	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
pH	units	8.3000	8.6000	8.6000	0.10000	0.5	8.3000	8.6000	8.6000	3	8.3000	8.6000	0.3000	8.5000	8.6000	0.1732	4%	0%	0%
pH measured at	C	22.0000	21.0000	21.0000	0.10000	0.5	22.0000	21.0000	21.0000	3	21.0000	22.0000	1.0000	21.3333	21.0000	0.5774	5%	0%	0%
Residue, Filterable (TDS) @180C	mg/L	230.0000	230.0000	200.0000	10.00000	50	230.0000	230.0000	200.0000	3	200.0000	230.0000	30.0000	220.0000	230.0000	17.3205	0%	0%	14%
Residue, Non-Filterable (TSS) @105C	mg/L	26.0000	8.0000	34.0000	5.00000	25	26.0000	8.0000	34.0000	3	8.0000	34.0000	26.0000	22.6667	26.0000	13.3167	0%	106%	27%
Sulfate	mg/L	38.3000	31.9000	33.1000	0.50000	2.5	38.3000	31.9000	33.1000	3	31.9000	38.3000	6.4000	34.4333	33.1000	3.4020	15%	4%	0%
Total Alkalinity	mg/L	143.0000	114.0000	106.0000	2.00000	10	143.0000	114.0000	106.0000	3	106.0000	143.0000	37.0000	121.0000	114.0000	19.4679	23%	0%	7%

[1] If the MDL varies by sampling event, then the minimum value is reported here

[2] Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[3] Quarterly RPD compares quarterly results with the annual median value, red values are greater than or equal to 20% and the corresponding quarterly value is greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
LD = Limited Data (n < 3, i.e. two or more results are below MDL; or missing data)
RPD = Relative Percent Difference
n = number of samples

		NEGRO ROCK CREEK																	
PARAMETER	UNITS	Q2-2013 Result	Q4-2013 Result	Q2-2014 Result	MDL[1]	RL	Q2-13[2]	Q4-13[2]	Q2-14[2]	n	Min	Max	Range	Mean	Median	St. Dev.	Q2-13 RPD[3]	Q4-13 RPD[3]	Q2-14 RPD[3]
Aluminum, dissolved	mg/L	<0.03	<0.03	<0.03	0.03000	0.15	0.0212	0.0212	0.0212	3	0.0212	0.0212	0.0000	0.0212	0.0212	0.0000	0%	0%	0%
Aluminum, total	mg/L	<0.03	0.0400	<0.03	0.03000	0.15	0.0212	0.0400	0.0212	3	0.0212	0.0400	0.0188	0.0275	0.0212	0.0108	0%	61%	0%
Antimony, dissolved	mg/L	<0.0004	<0.0004	<0.0004	0.00040	0.0020	0.0003	0.0003	0.0003	3	0.0003	0.0003	0.0000	0.0003	0.0003	0.0000	0%	0%	0%
Antimony, total	mg/L	<0.0004	<0.0004	<0.0004	0.00040	0.0020	0.0003	0.0003	0.0003	3	0.0003	0.0003	0.0000	0.0003	0.0003	0.0000	0%	0%	0%
Arsenic, dissolved	mg/L	0.0246	0.0231	0.0258	0.00020	0.0010	0.0246	0.0231	0.0258	3	0.0231	0.0258	0.0027	0.0245	0.0246	0.0014	0%	6%	5%
Arsenic, total	mg/L	0.0243	0.0237	0.0268	0.00020	0.0010	0.0243	0.0237	0.0268	3	0.0237	0.0268	0.0031	0.0249	0.0243	0.0016	0%	3%	10%
Barium, dissolved	mg/L	0.0110	0.0200	0.0090	0.00300	0.015	0.0110	0.0200	0.0090	3	0.0090	0.0200	0.0110	0.0133	0.0110	0.0059	0%	58%	20%
Barium, total	mg/L	0.0160	0.0220	0.0100	0.00300	0.015	0.0160	0.0220	0.0100	3	0.0100	0.0220	0.0120	0.0160	0.0160	0.0060	0%	32%	46%
Beryllium, dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Beryllium, total	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Bismuth, dissolved	mg/L	<0.04	<0.04	<0.04	0.04000	0.20	0.0283	0.0283	0.0283	3	0.0283	0.0283	0.0000	0.0283	0.0283	0.0000	0%	0%	0%
Bismuth, total	mg/L	<0.04	<0.04	<0.04	0.04000	0.20	0.0283	0.0283	0.0283	3	0.0283	0.0283	0.0000	0.0283	0.0283	0.0000	0%	0%	0%
Boron, dissolved	mg/L	0.1100	0.1200	0.1200	0.01000	0.05	0.1100	0.1200	0.1200	3	0.1100	0.1200	0.0100	0.1167	0.1200	0.0058	9%	0%	0%
Boron, total	mg/L	0.1200	0.1200	0.1000	0.01000	0.05	0.1200	0.1200	0.1000	3	0.1000	0.1200	0.0200	0.1133	0.1200	0.0115	0%	0%	18%
Cadmium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Cadmium, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Calcium, dissolved	mg/L	31.2000	36.7000	31.4000	0.10000	0.5	31.2000	36.7000	31.4000	3	31.2000	36.7000	5.5000	33.1000	31.4000	3.1193	1%	16%	0%
Calcium, total	mg/L	30.9000	36.9000	31.5000	0.10000	0.5	30.9000	36.9000	31.5000	3	30.9000	36.9000	6.0000	33.1000	31.5000	3.3045	2%	16%	0%
Chromium, dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.00050	0.0025	0.0004	0.0004	0.0004	3	0.0004	0.0004	0.0000	0.0004	0.0004	0.0000	0%	0%	0%
Chromium, total	mg/L	<0.0005	<0.0005	0.0005	0.00050	0.0025	0.0004	0.0004	0.0005	3	0.0004	0.0005	0.0001	0.0004	0.0004	0.0001	0%	0%	34%
Cobalt, dissolved	mg/L	0.0003	0.0001	0.0003	0.00005	0.00025	0.0003	0.0001	0.0003	3	0.0001	0.0003	0.0002	0.0002	0.0003	0.0001	0%	87%	19%
Cobalt, total	mg/L	0.0001	0.0001	0.0001	0.00005	0.00025	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	53%	0%	8%
Copper, dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.00050	0.0025	0.0004	0.0004	0.0004	3	0.0004	0.0004	0.0000	0.0004	0.0004	0.0000	0%	0%	0%
Copper, total	mg/L	<0.0005	<0.0005	<0.0005	0.00050	0.0025	0.0004	0.0004	0.0004	3	0.0004	0.0004	0.0000	0.0004	0.0004	0.0000	0%	0%	0%
Gallium, dissolved	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Gallium, total	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Iron, dissolved	mg/L	<0.02	<0.02	<0.02	0.02000	0.10	0.0141	0.0141	0.0141	3	0.0141	0.0141	0.0000	0.0141	0.0141	0.0000	0%	0%	0%
Iron, total	mg/L	0.0300	0.0400	0.0600	0.02000	0.10	0.0300	0.0400	0.0600	3	0.0300	0.0600	0.0300	0.0433	0.0400	0.0153	29%	0%	40%
Lead, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Lead, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Lithium, dissolved	mg/L	0.0400	0.0400	0.0370	0.00800	0.04	0.0400	0.0400	0.0370	3	0.0370	0.0400	0.0030	0.0390	0.0400	0.0017	0%	0%	8%
Lithium, total	mg/L	0.0400	0.0400	0.0380	0.00800	0.04	0.0400	0.0400	0.0380	3	0.0380	0.0400	0.0020	0.0393	0.0400	0.0012	0%	0%	5%
Magnesium, dissolved	mg/L	10.1000	12.0000	10.1000	0.20000	1.0	10.1000	12.0000	10.1000	3	10.1000	12.0000	1.9000	10.7333	10.1000	1.0970	0%	17%	0%
Magnesium, total	mg/L	10.0000	12.1000	10.1000	0.20000	1.0	10.0000	12.1000	10.1000	3	10.0000	12.1000	2.1000	10.7333	10.1000	1.1846	1%	18%	0%
Manganese, dissolved	mg/L	0.0109	0.0241	0.0487	0.00050	0.0025	0.0109	0.0241	0.0487	3	0.0109	0.0487	0.0378	0.0279	0.0241	0.0192	75%	0%	68%
Manganese, total	mg/L	0.0125	0.0322	0.0546	0.00050	0.0025	0.0125	0.0322	0.0546	3	0.0125	0.0546	0.0421	0.0331	0.0322	0.0211	88%	0%	52%
Mercury, dissolved	ng/L	0.6000	0.2000	<1	0.20000	1.0	0.6000	0.2000	0.7071	3	0.2000	0.7071	0.5071	0.5024	0.6000	0.2673	0%	100%	16%
Mercury, total	ng/L	0.7000	0.3000	0.6000	0.20000	1.0	0.7000	0.3000	0.6000	3	0.3000	0.7000	0.4000	0.5333	0.6000	0.2082	15%	67%	0%
Molybdenum, dissolved	mg/L	0.0094	0.0072	0.0092	0.00050	0.0025	0.0094	0.0072	0.0092	3	0.0072	0.0094	0.0022	0.0086	0.0092	0.0012	2%	24%	0%
Molybdenum, total	mg/L	0.0095	0.0077	0.0093	0.00050	0.0025	0.0095	0.0077	0.0093	3	0.0077	0.0095	0.0018	0.0088	0.0093	0.0010	2%	19%	0%
Nickel, dissolved	mg/L	<0.0006	<0.0006	<0.0006	0.00060	0.0030	0.0004	0.0004	0.0004	3	0.0004	0.0004	0.0000	0.0004	0.0004	0.0000	0%	0%	0%
Nickel, total	mg/L	<0.0006	<0.0006	<0.0006	0.00060	0.0030	0.0004	0.0004	0.0004	3	0.0004	0.0004	0.0000	0.0004	0.0004	0.0000	0%	0%	0%
Potassium, dissolved	mg/L	8.0000	8.2000	8.0000	0.20000	1.0	8.0000	8.2000	8.0000	3	8.0000	8.2000	0.2000	8.0667	8.0000	0.1155	0%	2%	0%
Potassium, total	mg/L	7.8000	8.1000	8.0000	0.20000	1.0	7.8000	8.1000	8.0000	3	7.8000	8.1000	0.3000	7.9667	8.0000	0.1528	3%	1%	0%
Scandium, dissolved	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Scandium, total	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Selenium, dissolved	mg/L	0.0007	0.0009	0.0009	0.00010	0.0005	0.0007	0.0009	0.0009	3	0.0007	0.0009	0.0002	0.0008	0.0009	0.0001	25%	0%	0%
Selenium, total	mg/L	0.0008	0.0009	0.0009	0.00010	0.0005	0.0008	0.0009	0.0009	3	0.0008	0.0009	0.0001	0.0009	0.0009	0.0001	12%	0%	0%
Silver, dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Silver, total	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Sodium, dissolved	mg/L	62.8000	65.3000	61.6000	0.20000	1	62.8000	65.3000	61.6000	3	61.6000	65.3000	3.7000	63.2333	62.8000	1.8877	0%	4%	2%
Sodium, total	mg/L	61.5000	65.6000	61.6000	0.20000	1	61.5000	65.6000	61.6000	3	61.5000	65.6000	4.1000	62.9000	61.6000	2.3388	0%	6%	0%
Strontium, dissolved	mg/L	0.1700	0.2000	0.1690	0.00500	0.03	0.1700	0.2000	0.1690	3	0.1690	0.2000	0.0310	0.1797	0.1700	0.0176	0%	16%	1%
Strontium, total	mg/L	0.1700	0.2000	0.1670	0.00500	0.03	0.1700	0.2000	0.1670	3	0.1670	0.2000	0.0330	0.1790	0.1700	0.0182	0%	16%	2%
Thallium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Thallium, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Tin, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Tin, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Titanium, dissolved	mg/L	<0.005	<0.005	<0.005	0.00500	0.025	0.0035	0.0035	0.0035	3	0.0035	0.0035	0.0000	0.0035	0.0035	0.0000	0%	0%	0%
Titanium, total	mg/L	<0.005	<0.005	<0.005	0.00500	0.025	0.0035	0.0035	0.0035	3	0.0035	0.0035	0.0000	0.0035	0.0035	0.0000	0%	0%	0%
Uranium, dissolved	mg/L	0.0022	0.0031	0.0021	0.00010	0.0005	0.0022	0.0031	0.0021	3	0.0021	0.0031	0.0010	0.0025	0.0022	0.0006	0%	34%	5%
Uranium, total	mg/L	0.0023	0.0032	0.0024	0.00010	0.0005	0.0023	0.0032	0.0024	3	0.0023	0.0032	0.0009	0.0026	0.0024	0.0005	4%	29%	0%
Vanadium, dissolved	mg/L	0.0198	0.0178	0.0187	0.00020	0.0010	0.0198	0.0178	0.0187	3	0.0178	0.0198	0.0020	0.0188	0.0187	0.0010	6%	5%	0%
Vanadium, total	mg/L	0.0205	0.0193	0.0222	0.00020	0.0010	0.0205	0.0193	0.0222	3	0.0193	0.0222	0.0029	0.0207	0.0205	0.0015	0%	6%	8%
Zinc, dissolved	mg/L	<0.01	<0.01	<0.01	0.01000	0.05	0.0071	0.0071	0.0071	3	0.0071	0.0071	0.0000	0.0071	0.0071	0.0000	0%	0%	0%
Zinc, total	mg/L	<0.01	<0.01	<0.01	0.01000	0.05	0.0071	0.0071	0.0071	3	0.0071	0.0071	0.0000	0.0071	0.0071	0.0000	0%	0%	0%
Hardness as CaCO3	mg/L	120.0000	141.0000	120.0000	0.80000	4	120.0000	141.0000	120.0000	3	120.0000	141.0000	21.0000	127.0000	120.0000	12.1244	0%	16%	0%
Nitrogen, ammonia	mg/L	<0.05	<0.05	<0.05	0.05000	0.25	0.0354	0.0354	0.0354	3	0.0354	0.0354	0.0000	0.0354	0.0354	0.0000	0%	0%	0%
Phosphorus, total	mg/L	0.0600	0.0600	0.0700	0.01000	0.05	0.0600	0.0600	0.0700	3	0.0600	0.0700	0.0100	0.0633	0.0600	0.0058	0%	0%	15%
Bicarbonate as CaCO3	mg/L	156.0000	165.0000	135.0000	2.00000	10	156.0000	165.0000	135.0000	3	135.0000	165.0000	30.0000	152.0000	156.0000	15.3948	0%	6%	14%
Carbonate as CaCO3	mg/L	<2	<2	<2	2.00000	10	1.4142	1.4142	1.4142	3	1.4142	1.4142	0.0000	1.4142	1.4142	0.0000	0%	0%	0%
Chloride	mg/L	18.6000	20.6000	17.6000	0.50000	2.5	18.6000	20.6000	17.6000	3	17.6000	20.6000	3.0000	18.9333	18.6000	1.5275	0%	10%	6%
Conductivity @25C	umhos/cm	515.0000	575.0000	527.0000	1.00000	5	515.0000	575.0000	527.0000	3	515.0000	575.0000	60.0000	539.0000	527.0000	31.7490	2%	9%	0%
Cyanide, total	mg/L	<0.003	<0.003	<0.003	0.00300	0.015	0.0021	0.0021	0.0021	3	0.0021	0.0021	0.0000	0.0021	0.0021	0.0000	0%	0%	0%
Cyanide, WAD	mg/L	<0.003	<0.003	<0.003	0.00300	0.015	0.0021	0.0021	0.0021	3	0.0021	0.0021	0.0000	0.0021	0.0021	0.0000	0%	0%	0%
Fluoride	mg/L	0.6900	0.5700	0.6600	0.05000	0.25	0.6900	0.5700	0.6600	3	0.5700	0.6900	0.1200	0.6400	0.6600	0.0624	4%	15%	0%
Hydroxide as CaCO3	mg/L	<2	<2	<2	2.00000	10	1.4142	1.4142	1.4142	3	1.4142	1.4142	0.0000	1.4142	1.4142	0.0000	0%	0%	0%
Nitrate as N, dissolved	mg/L	0.1600	<ND>	<ND>	0.02000	0.10	0.1600	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrate/Nitrite as N, dissolved	mg/L	0.1600	<ND>	<ND>	0.02000	0.10	0.1600	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrate/Nitrite as N	<ND>	<ND>	0.3900	0.2400	0.02000	0.10	<ND>	0.3900	0.2400	2	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrite as N, dissolved	mg/L	<0.01	<ND>	<ND>	0.01000	0.05	0.0071	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
pH	units	8.1000	8.2000	8.3000	0.10000	0.5	8.1000	8.2000	8.3000	3	8.1000	8.3000	0.2000	8.2000	8.2000	0.1000	1%	0%	1%
pH measured at	C	23.0000	21.0000	22.0000	0.10000	0.5	23.0000	21.0000	22.0000	3	21.0000	23.0000	2.0000	22.0000	22.0000	1.0000	4%	5%	0%
Residue, Filterable (TDS) @180C	mg/L	370.0000	400.0000	360.0000	10.00000	50	370.0000	400.0000	360.0000	3	360.0000	400.0000	40.0000	376.6667	370.0000	20.8167	0%	8%	3%
Residue, Non-Filterable (TSS) @105C	mg/L	<5	<5	<5	5.00000	25	3.5355	3.5355	3.5355	3	3.5355	3.5355	0.0000	3.5355	3.5355	0.0000	0%	0%	0%
Sulfate	mg/L	77.8000	89.1000	72.1000	0.50000	2.5	77.8000	89.1000	72.1000	3	72.1000	89.1000	17.0000	79.6667	77.8000	8.6524	0%	14%	8%
Total Alkalinity	mg/L	156.0000	165.0000	135.0000	2.00000	10	156.0000	165.0000	135.0000	3	135.0000	165.0000	30.0000	152.0000	156.0000	15.3948	0%	6%	14%

[1] If the MDL varies by sampling event, then the minimum value is reported here

[2] Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[3] Quarterly RPD compares quarterly results with the annual median value, red values are greater than or equal to 20% and the corresponding quarterly value is greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
LD = Limited Data (n < 3, i.e. two or more results are below MDL; or missing data)
RPD = Relative Percent Difference
n = number of samples

OWYHEE RIVER DS

PARAMETER	UNITS	Q2-2013 Result	Q4-2013 Result	Q2-2014 Result	MDL[1]	RL	Q2-13[2]	Q4-13[2]	Q2-14[2]	n	Min	Max	Range	Mean	Median	St. Dev.	Q2-13 RPD[3]	Q4-13 RPD[3]	Q2-14 RPD[3]
Aluminum, dissolved	mg/L	<0.03	<0.03	0.0900	0.03000	0.15	0.0212	0.0212	0.0900	3	0.0212	0.0900	0.0688	0.0441	0.0212	0.0397	0%	0%	124%
Aluminum, total	mg/L	0.2200	0.3700	0.5400	0.03000	0.15	0.2200	0.3700	0.5400	3	0.2200	0.5400	0.3200	0.3767	0.3700	0.1601	51%	0%	37%
Antimony, dissolved	mg/L	<0.0004	<0.0004	<0.0004	0.00040	0.0020	0.0003	0.0003	0.0003	3	0.0003	0.0003	0.0000	0.0003	0.0003	0.0000	0%	0%	0%
Antimony, total	mg/L	<0.0004	<0.0004	<0.0004	0.00040	0.0020	0.0003	0.0003	0.0003	3	0.0003	0.0003	0.0000	0.0003	0.0003	0.0000	0%	0%	0%
Arsenic, dissolved	mg/L	0.0059	0.0059	0.0063	0.00020	0.0010	0.0059	0.0059	0.0063	3	0.0059	0.0063	0.0004	0.0060	0.0059	0.0002	0%	0%	7%
Arsenic, total	mg/L	0.0054	0.0059	0.0061	0.00020	0.0010	0.0054	0.0059	0.0061	3	0.0054	0.0061	0.0007	0.0058	0.0059	0.0004	9%	0%	3%
Barium, dissolved	mg/L	0.0150	0.0150	0.0160	0.00300	0.015	0.0150	0.0150	0.0160	3	0.0150	0.0160	0.0010	0.0153	0.0150	0.0006	0%	0%	6%
Barium, total	mg/L	0.0200	0.0190	0.0210	0.00300	0.015	0.0200	0.0190	0.0210	3	0.0190	0.0210	0.0020	0.0200	0.0200	0.0010	0%	5%	5%
Beryllium, dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Beryllium, total	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Bismuth, dissolved	mg/L	<0.04	<0.04	<0.04	0.04000	0.20	0.0283	0.0283	0.0283	3	0.0283	0.0283	0.0000	0.0283	0.0283	0.0000	0%	0%	0%
Bismuth, total	mg/L	<0.04	<0.04	<0.04	0.04000	0.20	0.0283	0.0283	0.0283	3	0.0283	0.0283	0.0000	0.0283	0.0283	0.0000	0%	0%	0%
Boron, dissolved	mg/L	0.0800	0.1000	0.1100	0.01000	0.05	0.0800	0.1000	0.1100	3	0.0800	0.1100	0.0300	0.0967	0.1000	0.0153	22%	0%	10%
Boron, total	mg/L	0.0900	0.1000	0.1100	0.01000	0.05	0.0900	0.1000	0.1100	3	0.0900	0.1100	0.0200	0.1000	0.1000	0.0100	11%	0%	10%
Cadmium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Cadmium, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Calcium, dissolved	mg/L	20.6000	20.7000	21.7000	0.10000	0.5	20.6000	20.7000	21.7000	3	20.6000	21.7000	1.1000	21.0000	20.7000	0.6083	0%	0%	5%
Calcium, total	mg/L	20.4000	21.2000	21.6000	0.10000	0.5	20.4000	21.2000	21.6000	3	20.4000	21.6000	1.2000	21.0667	21.2000	0.6110	4%	0%	2%
Chromium, dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.00050	0.0025	0.0004	0.0004	0.0004	3	0.0004	0.0004	0.0000	0.0004	0.0004	0.0000	0%	0%	0%
Chromium, total	mg/L	<0.0005	<0.0005	0.0006	0.00050	0.0025	0.0004	0.0004	0.0006	3	0.0004	0.0006	0.0002	0.0004	0.0004	0.0001	0%	0%	52%
Cobalt, dissolved	mg/L	0.0005	0.0008	0.0007	0.00005	0.00025	0.0005	0.0008	0.0007	3	0.0005	0.0008	0.0003	0.0006	0.0007	0.0001	30%	14%	0%
Cobalt, total	mg/L	<0.0001	0.0002	0.0002	0.00005	0.00025	0.0001	0.0002	0.0002	3	0.0001	0.0002	0.0001	0.0001	0.0002	0.0001	72%	0%	24%
Copper, dissolved	mg/L	0.0007	0.0005	0.0007	0.00050	0.0025	0.0007	0.0005	0.0007	3	0.0005	0.0007	0.0002	0.0006	0.0007	0.0001	0%	33%	0%
Copper, total	mg/L	0.0011	0.0016	0.0010	0.00050	0.0025	0.0011	0.0016	0.0010	3	0.0010	0.0016	0.0006	0.0012	0.0011	0.0003	0%	37%	10%
Gallium, dissolved	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Gallium, total	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Iron, dissolved	mg/L	<0.02	0.0200	0.0600	0.02000	0.10	0.0141	0.0200	0.0600	3	0.0141	0.0600	0.0459	0.0314	0.0200	0.0250	34%	0%	100%
Iron, total	mg/L	0.1600	0.3000	0.4200	0.02000	0.10	0.1600	0.3000	0.4200	3	0.1600	0.4200	0.2600	0.2933	0.3000	0.1301	61%	0%	33%
Lead, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Lead, total	mg/L	<0.0001	0.0001	0.0002	0.00010	0.0005	0.0001	0.0001	0.0002	3	0.0001	0.0002	0.0001	0.0001	0.0001	0.0001	34%	0%	67%
Lithium, dissolved	mg/L	<0.02	<0.02	0.0140	0.00800	0.04	0.0141	0.0141	0.0140	3	0.0140	0.0141	0.0001	0.0141	0.0141	0.0001	0%	0%	1%
Lithium, total	mg/L	<0.02	<0.02	0.0180	0.00800	0.04	0.0141	0.0141	0.0180	3	0.0141	0.0180	0.0039	0.0154	0.0141	0.0022	0%	0%	24%
Magnesium, dissolved	mg/L	5.5000	5.5000	5.8000	0.20000	1.0	5.5000	5.5000	5.8000	3	5.5000	5.8000	0.3000	5.6000	5.5000	0.1732	0%	0%	5%
Magnesium, total	mg/L	5.4000	5.7000	5.9000	0.20000	1.0	5.4000	5.7000	5.9000	3	5.4000	5.9000	0.5000	5.6667	5.7000	0.2517	5%	0%	3%
Manganese, dissolved	mg/L	0.0010	0.0064	0.0032	0.00050	0.0025	0.0010	0.0064	0.0032	3	0.0010	0.0064	0.0054	0.0035	0.0032	0.0027	105%	67%	0%
Manganese, total	mg/L	0.0029	0.0100	0.0070	0.00050	0.0025	0.0029	0.0100	0.0070	3	0.0029	0.0100	0.0071	0.0066	0.0070	0.0036	83%	35%	0%
Mercury, dissolved	ng/L	1.3000	1.1000	1.2000	0.20000	1.0	1.3000	1.1000	1.2000	3	1.1000	1.3000	0.2000	1.2000	1.2000	0.1000	8%	9%	0%
Mercury, total	ng/L	1.6000	2.4000	2.7000	0.40000	2.0	1.6000	2.4000	2.7000	3	1.6000	2.7000	1.1000	2.2333	2.4000	0.5686	40%	0%	12%
Molybdenum, dissolved	mg/L	0.0035	0.0036	0.0045	0.00050	0.0025	0.0035	0.0036	0.0045	3	0.0035	0.0045	0.0010	0.0039	0.0036	0.0006	3%	0%	22%
Molybdenum, total	mg/L	0.0035	0.0037	0.0042	0.00050	0.0025	0.0035	0.0037	0.0042	3	0.0035	0.0042	0.0007	0.0038	0.0037	0.0004	6%	0%	13%
Nickel, dissolved	mg/L	0.0006	0.0006	0.0006	0.00060	0.0030	0.0006	0.0006	0.0006	3	0.0006	0.0006	0.0000	0.0006	0.0006	0.0000	0%	0%	0%
Nickel, total	mg/L	0.0008	0.0008	0.0008	0.00060	0.0030	0.0008	0.0008	0.0008	3	0.0008	0.0008	0.0000	0.0008	0.0008	0.0000	0%	0%	0%
Potassium, dissolved	mg/L	3.4000	3.5000	3.8000	0.20000	1.0	3.4000	3.5000	3.8000	3	3.4000	3.8000	0.4000	3.5667	3.5000	0.2082	3%	0%	8%
Potassium, total	mg/L	3.3000	3.7000	3.8000	0.20000	1.0	3.3000	3.7000	3.8000	3	3.3000	3.8000	0.5000	3.6000	3.7000	0.2646	11%	0%	3%
Scandium, dissolved	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Scandium, total	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Selenium, dissolved	mg/L	0.0002	0.0003	0.0003	0.00010	0.0005	0.0002	0.0003	0.0003	3	0.0002	0.0003	0.0001	0.0003	0.0003	0.0001	40%	0%	0%
Selenium, total	mg/L	0.0003	0.0003	0.0003	0.00010	0.0005	0.0003	0.0003	0.0003	3	0.0003	0.0003	0.0000	0.0003	0.0003	0.0000	0%	0%	0%
Silver, dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Silver, total	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Sodium, dissolved	mg/L	27.0000	28.6000	34.5000	0.20000	1	27.0000	28.6000	34.5000	3	27.0000	34.5000	7.5000	30.0333	28.6000	3.9501	6%	0%	19%
Sodium, total	mg/L	26.3000	28.6000	34.1000	0.20000	1	26.3000	28.6000	34.1000	3	26.3000	34.1000	7.8000	29.6667	28.6000	4.0079	8%	0%	18%
Strontium, dissolved	mg/L	0.1000	0.1000	0.1010	0.00500	0.03	0.1000	0.1000	0.1010	3	0.1000	0.1010	0.0010	0.1003	0.1000	0.0006	0%	0%	1%
Strontium, total	mg/L	0.1000	0.1000	0.1030	0.00500	0.03	0.1000	0.1000	0.1030	3	0.1000	0.1030	0.0030	0.1010	0.1000	0.0017	0%	0%	3%
Thallium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Thallium, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Tin, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Tin, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Titanium, dissolved	mg/L	<0.005	<0.005	<0.005	0.00500	0.025	0.0035	0.0035	0.0035	3	0.0035	0.0035	0.0000	0.0035	0.0035	0.0000	0%	0%	0%
Titanium, total	mg/L	0.0070	0.0140	0.0230	0.00500	0.025	0.0070	0.0140	0.0230	3	0.0070	0.0230	0.0160	0.0147	0.0140	0.0080	67%	0%	49%
Uranium, dissolved	mg/L	0.0014	0.0016	0.0017	0.00010	0.0005	0.0014	0.0016	0.0017	3	0.0014	0.0017	0.0003	0.0016	0.0016	0.0002	13%	0%	6%
Uranium, total	mg/L	0.0015	0.0015	0.0017	0.00010	0.0005	0.0015	0.0015	0.0017	3	0.0015	0.0017	0.0002	0.0016	0.0015	0.0001	0%	0%	13%
Vanadium, dissolved	mg/L	0.0037	0.0043	0.0048	0.00020	0.0010	0.0037	0.0043	0.0048	3	0.0037	0.0048	0.0011	0.0043	0.0043	0.0006	15%	0%	11%
Vanadium, total	mg/L	0.0050	0.0052	0.0055	0.00020	0.0010	0.0050	0.0052	0.0055	3	0.0050	0.0055	0.0005	0.0052	0.0052	0.0003	4%	0%	6%
Zinc, dissolved	mg/L	<0.01	<0.01	<0.01	0.01000	0.05	0.0071	0.0071	0.0071	3	0.0071	0.0071	0.0000	0.0071	0.0071	0.0000	0%	0%	0%
Zinc, total	mg/L	<0.01	<0.01	<0.01	0.01000	0.05	0.0071	0.0071	0.0071	3	0.0071	0.0071	0.0000	0.0071	0.0071	0.0000	0%	0%	0%
Hardness as CaCO3	mg/L	74.0000	74.0000	78.0000	0.80000	4	74.0000	74.0000	78.0000	3	74.0000	78.0000	4.0000	75.3333	74.0000	2.3094	0%	0%	5%
Nitrogen, ammonia	mg/L	<0.05	<0.05	<0.05	0.05000	0.25	0.0354	0.0354	0.0354	3	0.0354	0.0354	0.0000	0.0354	0.0354	0.0000	0%	0%	0%
Phosphorus, total	mg/L	0.0200	0.0200	0.0200	0.01000	0.05	0.0200	0.0200	0.0200	3	0.0200	0.0200	0.0000	0.0200	0.0200	0.0000	0%	0%	0%
Bicarbonate as CaCO3	mg/L	90.0000	90.0000	81.0000	2.00000	10	90.0000	90.0000	81.0000	3	81.0000	90.0000	9.0000	87.0000	90.0000	5.1962	0%	0%	11%
Carbonate as CaCO3	mg/L	5.0000	9.0000	6.0000	2.00000	10	5.0000	9.0000	6.0000	3	5.0000	9.0000	4.0000	6.6667	6.0000	2.0817	18%	40%	0%
Chloride	mg/L	8.6000	8.5600	10.0000	0.50000	2.5	8.6000	8.5600	10.0000	3	8.5600	10.0000	1.4400	9.0533	8.6000	0.8201	0%	0%	15%
Conductivity @25C	umhos/cm	264.0000	277.0000	304.0000	1.00000	5	264.0000	277.0000	304.0000	3	264.0000	304.0000	40.0000	281.6667	277.0000	20.4042	5%	0%	9%
Cyanide, total	mg/L	<0.003	<0.003	<0.003	0.00300	0.015	0.0021	0.0021	0.0021	3	0.0021	0.0021	0.0000	0.0021	0.0021	0.0000	0%	0%	0%
Cyanide, WAD	mg/L	<0.003	<0.003	<0.003	0.00300	0.015	0.0021	0.0021	0.0021	3	0.0021	0.0021	0.0000	0.0021	0.0021	0.0000	0%	0%	0%
Fluoride	mg/L	1.1800	1.2000	1.4900	0.05000	0.25	1.1800	1.2000	1.4900	3	1.1800	1.4900	0.3100	1.2900	1.2000	0.1735	2%	0%	22%
Hydroxide as CaCO3	mg/L	<2	<2	<2	2.00000	10	1.4142	1.4142	1.4142	3	1.4142	1.4142	0.0000	1.4142	1.4142	0.0000	0%	0%	0%
Nitrate as N, dissolved	mg/L	<0.02	<ND>	<ND>	0.02000	0.10	0.0141	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrate/Nitrite as N, dissolved	mg/L	<0.02	<ND>	<ND>	0.02000	0.10	0.0141	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrate/Nitrite as N	<ND>	<ND>	0.1100	0.0600	0.02000	0.10	<ND>	0.1100	0.0600	2	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrite as N, dissolved	mg/L	<0.01	<ND>	<ND>	0.01000	0.05	0.0071	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
pH	units	8.4000	8.6000	8.6000	0.10000	0.5	8.4000	8.6000	8.6000	3	8.4000	8.6000	0.2000	8.5333	8.6000	0.1155	2%	0%	0%
pH measured at	C	23.0000	21.0000	21.0000	0.10000	0.5	23.0000	21.0000	21.0000	3	21.0000	23.0000	2.0000	21.6667	21.0000	1.1547	9%	0%	0%
Residue, Filterable (TDS) @180C	mg/L	150.0000	180.0000	180.0000	10.00000	50	150.0000	180.0000	180.0000	3	150.0000	180.0000	30.0000	170.0000	180.0000	17.3205	18%	0%	0%
Residue, Non-Filterable (TSS) @105C	mg/L	<5	<5	<5	5.00000	25	3.5355	3.5355	3.5355	3	3.5355	3.5355	0.0000	3.5355	3.5355	0.0000	0%	0%	0%
Sulfate	mg/L	22.7000	23.3000	30.5000	0.50000	2.5	22.7000	23.3000	30.5000	3	22.7000	30.5000	7.8000	25.5000	23.3000	4.3405	3%	0%	27%
Total Alkalinity	mg/L	95.0000	100.0000	87.0000	2.00000	10	95.0000	100.0000	87.0000	3	87.0000	100.0000	13.0000	94.0000	95.0000	6.5574	0%	5%	9%

[1] If the MDL varies by sampling event, then the minimum value is reported here

[2] Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[3] Quarterly RPD compares quarterly results with the annual median value, red values are greater than or equal to 20% and the corresponding quarterly value is greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
LD = Limited Data (n < 3, i.e. two or more results are below MDL; or missing data)
RPD = Relative Percent Difference
n = number of samples

Appendix F: Quality Assurance / Quality Control Results

Q2-2013			WHISKEY SPRING				Difference[2]	RPD[3] (%)
PARAMETER	UNITS	MDL	SAMPLE	DUPLICATE	SAMPLE[1]	DUPLICATE[1]		
Aluminum, dissolved	mg/L	0.0300	<0.03	<0.03	0.0212	0.0212	0.0000	0%
Aluminum, total	mg/L	0.0300	<0.03	<0.03	0.0212	0.0212	0.0000	0%
Antimony, dissolved	mg/L	0.0004	0.0009	0.0008	0.0009	0.0008	0.0001	12%
Antimony, total	mg/L	0.0004	0.0008	0.0007	0.0008	0.0007	0.0001	13%
Arsenic, dissolved	mg/L	0.0002	0.0898	0.0889	0.0898	0.0889	0.0009	1%
Arsenic, total	mg/L	0.0002	0.0846	0.0821	0.0846	0.0821	0.0025	3%
Barium, dissolved	mg/L	0.0030	0.0450	0.0460	0.0450	0.0460	0.0010	2%
Barium, total	mg/L	0.0030	0.0460	0.0470	0.0460	0.0470	0.0010	2%
Beryllium, dissolved	mg/L	0.0001	<0.00005	<0.00005	0.0000	0.0000	0.0000	0%
Beryllium, total	mg/L	0.0001	<0.00005	<0.00005	0.0000	0.0000	0.0000	0%
Bicarbonate as CaCO3	mg/L	2.0000	137.0000	136.0000	137.0000	136.0000	1.0000	1%
Bismuth, dissolved	mg/L	0.0400	<0.04	<0.04	0.0283	0.0283	0.0000	0%
Bismuth, total	mg/L	0.0400	<0.04	<0.04	0.0283	0.0283	0.0000	0%
Boron, dissolved	mg/L	0.0100	0.1700	0.1800	0.1700	0.1800	0.0100	6%
Boron, total	mg/L	0.0100	0.1800	0.1800	0.1800	0.1800	0.0000	0%
Cadmium, dissolved	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Cadmium, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Calcium, dissolved	mg/L	0.2000	37.2000	37.2000	37.2000	37.2000	0.0000	0%
Calcium, total	mg/L	0.2000	37.2000	36.8000	37.2000	36.8000	0.4000	1%
Carbonate as CaCO3	mg/L	2.0000	<2	<2	1.4142	1.4142	0.0000	0%
Chloride	mg/L	1.0000	7.4600	7.2300	7.4600	7.2300	0.2300	3%
Chromium, dissolved	mg/L	0.0005	<0.0005	<0.0005	0.0004	0.0004	0.0000	0%
Chromium, total	mg/L	0.0005	<0.0005	<0.0005	0.0004	0.0004	0.0000	0%
Cobalt, dissolved	mg/L	0.0001	0.0005	0.0002	0.0005	0.0002	0.0003	79%
Cobalt, total	mg/L	0.0001	<0.00005	<0.00005	0.0000	0.0000	0.0000	0%
Conductivity @25C	umhos/cm	1.0000	546.0000	542.0000	546.0000	542.0000	4.0000	1%
Copper, dissolved	mg/L	0.0005	0.0017	0.0017	0.0017	0.0017	0.0000	0%
Copper, total	mg/L	0.0005	<0.0005	<0.0005	0.0004	0.0004	0.0000	0%
Cyanide, total	mg/L	0.0030	<0.003	<0.003	0.0021	0.0021	0.0000	0%
Cyanide, WAD	mg/L	0.0030	<0.003	<0.003	0.0021	0.0021	0.0000	0%
Fluoride	mg/L	0.2000	0.7300	0.7100	0.7300	0.7100	0.0200	3%
Gallium, dissolved	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Gallium, total	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Hardness as CaCO3	mg/L	1.0000	118.0000	118.0000	118.0000	118.0000	0.0000	0%
Hydroxide as CaCO3	mg/L	2.0000	<2	<2	1.4142	1.4142	0.0000	0%
Iron, dissolved	mg/L	0.0200	0.0200	<0.02	0.0200	0.0141	0.0059	34%
Iron, total	mg/L	0.0200	<0.02	<0.02	0.0141	0.0141	0.0000	0%
Lead, dissolved	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Lead, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Lithium, dissolved	mg/L	0.0200	0.1100	0.1100	0.1100	0.1100	0.0000	0%
Lithium, total	mg/L	0.0200	0.1100	0.1000	0.1100	0.1000	0.0100	10%
Magnesium, dissolved	mg/L	0.2000	6.2000	6.2000	6.2000	6.2000	0.0000	0%
Magnesium, total	mg/L	0.2000	6.1000	6.1000	6.1000	6.1000	0.0000	0%
Manganese, dissolved	mg/L	0.0005	<0.0005	<0.0005	0.0004	0.0004	0.0000	0%
Manganese, total	mg/L	0.0005	<0.0005	<0.0005	0.0004	0.0004	0.0000	0%
Mercury, dissolved	ng/L	0.2000	0.4000	0.4000	0.4000	0.4000	0.0000	0%
Mercury, total	ng/L	0.2000	0.4000	0.3000	0.4000	0.3000	0.1000	29%
Molybdenum, dissolved	mg/L	0.0005	0.0210	0.0214	0.0210	0.0214	0.0004	2%
Molybdenum, total	mg/L	0.0005	0.0212	0.0210	0.0212	0.0210	0.0002	1%
Nickel, dissolved	mg/L	0.0006	<0.0006	<0.0006	0.0004	0.0004	0.0000	0%
Nickel, total	mg/L	0.0006	<0.0006	<0.0006	0.0004	0.0004	0.0000	0%
Nitrate as N, dissolved	mg/L	0.0200	0.0500	0.0600	0.0500	0.0600	0.0100	18%
Nitrate/Nitrite as N	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrate/Nitrite as N, dissolved	mg/L	0.0200	0.0500	0.0600	0.0500	0.0600	0.0100	18%

Q2-2013			WHISKEY SPRING				Difference[2]	RPD[3] (%)
PARAMETER	UNITS	MDL	SAMPLE	DUPLICATE	SAMPLE[1]	DUPLICATE[1]		
Nitrite as N, dissolved	mg/L	0.0100	<0.01	<0.01	0.0071	0.0071	0.0000	0%
Nitrogen, ammonia	mg/L	0.0500	<0.05	<0.05	0.0354	0.0354	0.0000	0%
pH	units	0.1000	8.2000	8.2000	8.2000	8.2000	0.0000	0%
pH measured at	C	0.1000	23.0000	22.0000	23.0000	22.0000	1.0000	4%
Phosphorus, total	mg/L	0.0100	0.0400	0.0500	0.0400	0.0500	0.0100	22%
Potassium, dissolved	mg/L	0.3000	6.0000	6.0000	6.0000	6.0000	0.0000	0%
Potassium, total	mg/L	0.3000	5.9000	5.8000	5.9000	5.8000	0.1000	2%
Residue, Filterable (TDS) @180C	mg/L	10.0000	400.0000	390.0000	400.0000	390.0000	10.0000	3%
Residue, Non-Filterable (TSS) @105C	mg/L	5.0000	<5	<5	3.5355	3.5355	0.0000	0%
Scandium, dissolved	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Scandium, total	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Selenium, dissolved	mg/L	0.0001	0.0022	0.0022	0.0022	0.0022	0.0000	0%
Selenium, total	mg/L	0.0001	0.0021	0.0021	0.0021	0.0021	0.0000	0%
Silver, dissolved	mg/L	0.0001	<0.00005	<0.00005	0.0000	0.0000	0.0000	0%
Silver, total	mg/L	0.0001	<0.00005	<0.00005	0.0000	0.0000	0.0000	0%
Sodium, dissolved	mg/L	0.3000	70.8000	70.6000	70.8000	70.6000	0.2000	0%
Sodium, total	mg/L	0.3000	70.7000	69.6000	70.7000	69.6000	1.1000	2%
Strontium, dissolved	mg/L	0.0100	0.1600	0.1600	0.1600	0.1600	0.0000	0%
Strontium, total	mg/L	0.0100	0.1600	0.1600	0.1600	0.1600	0.0000	0%
Sulfate	mg/L	1.0000	137.0000	133.0000	137.0000	133.0000	4.0000	3%
Thallium, dissolved	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Thallium, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Tin, dissolved	mg/L	0.0001	0.0001	<0.0001	0.0001	0.0001	0.0000	34%
Tin, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Titanium, dissolved	mg/L	0.0050	<0.005	<0.005	0.0035	0.0035	0.0000	0%
Titanium, total	mg/L	0.0050	<0.005	<0.005	0.0035	0.0035	0.0000	0%
Total Alkalinity	mg/L	2.0000	137.0000	136.0000	137.0000	136.0000	1.0000	1%
Uranium, dissolved	mg/L	0.0001	0.0054	0.0055	0.0054	0.0055	0.0001	2%
Uranium, total	mg/L	0.0001	0.0055	0.0054	0.0055	0.0054	0.0001	2%
Vanadium, dissolved	mg/L	0.0002	0.0215	0.0206	0.0215	0.0206	0.0009	4%
Vanadium, total	mg/L	0.0002	0.0217	0.0215	0.0217	0.0215	0.0002	1%
Zinc, dissolved	mg/L	0.0100	<0.01	<0.01	0.0071	0.0071	0.0000	0%
Zinc, total	mg/L	0.0100	<0.01	<0.01	0.0071	0.0071	0.0000	0%

[1]Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[2]Arithmetic difference between sample and duplicate

[3]RPD compares sample and duplicate, red values are greater than or equal to 20% and the sample and/or duplicate results are greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
RPD = Relative Percent Difference

Q2-2013			DI WATER	EQUIPMENT		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Aluminum, dissolved	mg/L	0.0300	0.02121	<0.03	0.02121	0.00	0%
Aluminum, total	mg/L	0.0300	0.02121	<0.03	0.02121	0.00	0%
Antimony, dissolved	mg/L	0.0004	0.00028	<0.0004	0.00028	0.00	0%
Antimony, total	mg/L	0.0004	0.00028	<0.0004	0.00028	0.00	0%
Arsenic, dissolved	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Arsenic, total	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Barium, dissolved	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Barium, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Beryllium, dissolved	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Beryllium, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Bicarbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Bismuth, dissolved	mg/L	0.0400	0.02828	<0.04	0.02828	0.00	0%
Bismuth, total	mg/L	0.0400	0.02828	<0.04	0.02828	0.00	0%
Boron, dissolved	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Boron, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Cadmium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Cadmium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Calcium, dissolved	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Calcium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Carbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Chloride	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Chromium, dissolved	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Chromium, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cobalt, dissolved	mg/L	0.0001	0.00004	0.00007	0.00007	0.00	66%
Cobalt, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Conductivity @25C	umhos/cm	1.0000	0.70711	<1	0.70711	0.00	0%
Copper, dissolved	mg/L	0.0005	0.00035	0.00	0.00070	0.00	66%
Copper, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cyanide, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Cyanide, WAD	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Fluoride	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Gallium, dissolved	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Gallium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Hardness as CaCO3	mg/L	1.0000	0.70711	<1	0.70711	0.00	0%
Hydroxide as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Iron, dissolved	mg/L	0.0200	0.01414	0.02	0.02000	0.01	34%
Iron, total	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Lead, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Lead, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Lithium, dissolved	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Lithium, total	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Magnesium, dissolved	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Magnesium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Manganese, dissolved	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Manganese, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Mercury, dissolved	ng/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Mercury, total	ng/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Molybdenum, dissolved	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Molybdenum, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Nickel, dissolved	mg/L	0.0006	0.00042	<0.0006	0.00042	0.00	0%
Nickel, total	mg/L	0.0006	0.00042	<0.0006	0.00042	0.00	0%
Nitrate/Nitrite as N	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrogen, ammonia	mg/L	0.0500	0.03536	<0.05	0.03536	0.00	0%
Phosphorus, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Potassium, dissolved	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Potassium, total	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Residue, Filterable (TDS) @180C	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>

Q2-2013			DI WATER	EQUIPMENT		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Residue, Non-Filterable (TSS) @105C	mg/L	5.0000	3.53553	<5	3.53553	0.00	0%
Scandium, dissolved	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Scandium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Selenium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Selenium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Silver, dissolved	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Silver, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Sodium, dissolved	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Sodium, total	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Strontium, dissolved	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Strontium, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Sulfate	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Thallium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Thallium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Tin, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Tin, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Titanium, dissolved	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%
Titanium, total	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%
Total Alkalinity	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Uranium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Uranium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Vanadium, dissolved	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Vanadium, total	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Zinc, dissolved	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Zinc, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%

[1]DI water assumed to have values below laboratory minimum detection limit; estimated values were generated by dividing the MDL by √2

[2]Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[3]Arithmetic difference between estimated DI water value and blank value

[4]RPD compares blank value and estimated DI water value, red values are greater than or equal to 20% and the blank results are greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
RPD = Relative Percent Difference
NA = Not Applicable

Q2-2013			DI WATER	TRANSFER		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Aluminum, total	mg/L	0.0300	0.02121	<0.03	0.02121	0.00	0%
Antimony, total	mg/L	0.0004	0.00028	<0.0004	0.00028	0.00	0%
Arsenic, total	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Barium, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Beryllium, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Bicarbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Bismuth, total	mg/L	0.0400	0.02828	<0.04	0.02828	0.00	0%
Boron, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Cadmium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Calcium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Carbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Chloride	mg/L	0.5000	0.35355	<0.5	0.35355	0.00	0%
Chromium, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cobalt, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Conductivity @25C	umhos/cm	1.0000	0.70711	<1	0.70711	0.00	0%
Copper, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cyanide, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Cyanide, WAD	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Fluoride	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Gallium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Hardness as CaCO3	mg/L	1.0000	0.70711	<1	0.70711	0.00	0%
Hydroxide as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Iron, total	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Lead, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Lithium, total	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Magnesium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Manganese, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Mercury, total	ng/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Molybdenum, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Nickel, total	mg/L	0.0006	0.00042	<0.0006	0.00042	0.00	0%
Nitrate as N, dissolved	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Nitrate/Nitrite as N	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrate/Nitrite as N, dissolved	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Nitrite as N, dissolved	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Nitrogen, ammonia	mg/L	0.0500	0.03536	0.09	0.09000	0.05	87%
Phosphorus, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Potassium, total	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Residue, Filterable (TDS) @180C	mg/L	10.0000	7.07107	<10	7.07107	0.00	0%
Residue, Non-Filterable (TSS) @105C	mg/L	5.0000	3.53553	<5	3.53553	0.00	0%
Scandium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Selenium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Silver, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Sodium, total	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Strontium, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%

Q2-2013			DI WATER	TRANSFER		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Sulfate	mg/L	0.5000	0.35355	<0.5	0.35355	0.00	0%
Thallium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Tin, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Titanium, total	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%
Total Alkalinity	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Uranium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Vanadium, total	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Zinc, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%

[1]DI water assumed to have values below laboratory minimum detection limit; estimated values were generated by dividing the MDL by √2

[2]Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[3]Arithmetic difference between estimated DI water value and blank value

[4]RPD compares blank value and estimated DI water value, red values are greater than or equal to 20% and the blank results are greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
RPD = Relative Percent Difference
NA = Not Applicable

Q4-2013			SAGEBRUSH SPRING				Difference[2]	RPD[3] (%)
PARAMETER	UNITS	MDL	SAMPLE	DUPLICATE	SAMPLE[1]	DUPLICATE[1]		
Aluminum, dissolved	mg/L	0.0300	<0.03	<0.03	0.0212	0.0212	0.0000	0%
Aluminum, total	mg/L	0.0300	<0.03	<0.03	0.0212	0.0212	0.0000	0%
Antimony, dissolved	mg/L	0.0004	<0.0004	<0.0004	0.0003	0.0003	0.0000	0%
Antimony, total	mg/L	0.0004	<0.0004	<0.0004	0.0003	0.0003	0.0000	0%
Arsenic, dissolved	mg/L	0.0002	0.0072	0.0072	0.0072	0.0072	0.0000	0%
Arsenic, total	mg/L	0.0002	0.0079	0.0077	0.0079	0.0077	0.0002	3%
Barium, dissolved	mg/L	0.0030	0.0040	0.0040	0.0040	0.0040	0.0000	0%
Barium, total	mg/L	0.0030	0.0040	0.0040	0.0040	0.0040	0.0000	0%
Beryllium, dissolved	mg/L	0.0001	<0.00005	<0.00005	0.0000	0.0000	0.0000	0%
Beryllium, total	mg/L	0.0001	<0.00005	<0.00005	0.0000	0.0000	0.0000	0%
Bicarbonate as CaCO3	mg/L	2.0000	157.0000	158.0000	157.0000	158.0000	1.0000	1%
Bismuth, dissolved	mg/L	0.0400	<0.04	<0.04	0.0283	0.0283	0.0000	0%
Bismuth, total	mg/L	0.0400	<0.04	<0.04	0.0283	0.0283	0.0000	0%
Boron, dissolved	mg/L	0.0100	0.0600	0.0600	0.0600	0.0600	0.0000	0%
Boron, total	mg/L	0.0100	0.0600	0.0600	0.0600	0.0600	0.0000	0%
Cadmium, dissolved	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Cadmium, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Calcium, dissolved	mg/L	0.2000	47.0000	46.6000	47.0000	46.6000	0.4000	1%
Calcium, total	mg/L	0.2000	46.6000	45.9000	46.6000	45.9000	0.7000	2%
Carbonate as CaCO3	mg/L	2.0000	<2	<2	1.4142	1.4142	0.0000	0%
Chloride	mg/L	0.5000	10.6000	10.6000	10.6000	10.6000	0.0000	0%
Chromium, dissolved	mg/L	0.0005	0.0010	0.0011	0.0010	0.0011	0.0001	10%
Chromium, total	mg/L	0.0005	0.0011	0.0011	0.0011	0.0011	0.0000	0%
Cobalt, dissolved	mg/L	0.0001	0.0005	0.0002	0.0005	0.0002	0.0003	102%
Cobalt, total	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0%
Conductivity @25C	umhos/cm	1.0000	389.0000	385.0000	389.0000	385.0000	4.0000	1%
Copper, dissolved	mg/L	0.0005	<0.0005	<0.0005	0.0004	0.0004	0.0000	0%
Copper, total	mg/L	0.0005	<0.0005	<0.0005	0.0004	0.0004	0.0000	0%
Cyanide, total	mg/L	0.0030	<0.003	<0.003	0.0021	0.0021	0.0000	0%
Cyanide, WAD	mg/L	0.0030	<0.003	<0.003	0.0021	0.0021	0.0000	0%
Fluoride	mg/L	0.1000	0.3600	0.3600	0.3600	0.3600	0.0000	0%
Gallium, dissolved	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Gallium, total	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Hardness as CaCO3	mg/L	1.0000	159.0000	158.0000	159.0000	158.0000	1.0000	1%
Hydroxide as CaCO3	mg/L	2.0000	<2	<2	1.4142	1.4142	0.0000	0%
Iron, dissolved	mg/L	0.0200	<0.02	<0.02	0.0141	0.0141	0.0000	0%
Iron, total	mg/L	0.0200	<0.02	<0.02	0.0141	0.0141	0.0000	0%
Lead, dissolved	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Lead, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Lithium, dissolved	mg/L	0.0200	0.0200	0.0200	0.0200	0.0200	0.0000	0%
Lithium, total	mg/L	0.0200	<0.02	<0.02	0.0141	0.0141	0.0000	0%
Magnesium, dissolved	mg/L	0.2000	10.1000	10.1000	10.1000	10.1000	0.0000	0%
Magnesium, total	mg/L	0.2000	10.0000	9.9000	10.0000	9.9000	0.1000	1%
Manganese, dissolved	mg/L	0.0005	0.0008	<0.0005	0.0008	0.0004	0.0004	77%
Manganese, total	mg/L	0.0005	<0.0005	<0.0005	0.0004	0.0004	0.0000	0%
Mercury, dissolved	ng/L	0.2000	<0.2	<0.2	0.1414	0.1414	0.0000	0%
Mercury, total	ng/L	0.2000	<0.2	<0.2	0.1414	0.1414	0.0000	0%
Molybdenum, dissolved	mg/L	0.0005	0.0018	0.0018	0.0018	0.0018	0.0000	0%
Molybdenum, total	mg/L	0.0005	0.0018	0.0019	0.0018	0.0019	0.0001	5%
Nickel, dissolved	mg/L	0.0006	<0.0006	<0.0006	0.0004	0.0004	0.0000	0%
Nickel, total	mg/L	0.0006	<0.0006	<0.0006	0.0004	0.0004	0.0000	0%
Nitrate as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrate/Nitrite as N	mg/L	0.0200	3.0900	3.0800	3.0900	3.0800	0.0100	0%
Nitrate/Nitrite as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>

Q4-2013			SAGEBRUSH SPRING				Difference[2]	RPD[3] (%)
PARAMETER	UNITS	MDL	SAMPLE	DUPLICATE	SAMPLE[1]	DUPLICATE[1]		
Nitrite as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrogen, ammonia	mg/L	0.0500	<0.05	<0.05	0.0354	0.0354	0.0000	0%
pH	units	0.1000	8.2000	8.2000	8.2000	8.2000	0.0000	0%
pH measured at	C	0.1000	22.0000	21.0000	22.0000	21.0000	1.0000	5%
Phosphorus, total	mg/L	0.0100	0.0200	0.0100	0.0200	0.0100	0.0100	67%
Potassium, dissolved	mg/L	0.3000	5.1000	5.0000	5.1000	5.0000	0.1000	2%
Potassium, total	mg/L	0.3000	5.1000	5.0000	5.1000	5.0000	0.1000	2%
Residue, Filterable (TDS) @180C	mg/L	10.0000	270.0000	270.0000	270.0000	270.0000	0.0000	0%
Residue, Non-Filterable (TSS) @105C	mg/L	5.0000	<5	<5	3.5355	3.5355	0.0000	0%
Scandium, dissolved	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Scandium, total	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Selenium, dissolved	mg/L	0.0001	0.0011	0.0011	0.0011	0.0011	0.0000	0%
Selenium, total	mg/L	0.0001	0.0011	0.0011	0.0011	0.0011	0.0000	0%
Silver, dissolved	mg/L	0.0001	<0.00005	<0.00005	0.0000	0.0000	0.0000	0%
Silver, total	mg/L	0.0001	<0.00005	<0.00005	0.0000	0.0000	0.0000	0%
Sodium, dissolved	mg/L	0.3000	20.5000	20.4000	20.5000	20.4000	0.1000	0%
Sodium, total	mg/L	0.3000	20.3000	20.0000	20.3000	20.0000	0.3000	1%
Strontium, dissolved	mg/L	0.0100	0.2100	0.2100	0.2100	0.2100	0.0000	0%
Strontium, total	mg/L	0.0100	0.2100	0.2000	0.2100	0.2000	0.0100	5%
Sulfate	mg/L	0.5000	17.9000	18.0000	17.9000	18.0000	0.1000	1%
Thallium, dissolved	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Thallium, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Tin, dissolved	mg/L	0.0001	0.0002	0.0001	0.0002	0.0001	0.0001	67%
Tin, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Titanium, dissolved	mg/L	0.0050	<0.005	<0.005	0.0035	0.0035	0.0000	0%
Titanium, total	mg/L	0.0050	<0.005	<0.005	0.0035	0.0035	0.0000	0%
Total Alkalinity	mg/L	2.0000	157.0000	158.0000	157.0000	158.0000	1.0000	1%
Uranium, dissolved	mg/L	0.0001	0.0038	0.0038	0.0038	0.0038	0.0000	0%
Uranium, total	mg/L	0.0001	0.0040	0.0039	0.0040	0.0039	0.0001	3%
Vanadium, dissolved	mg/L	0.0002	0.0205	0.0202	0.0205	0.0202	0.0003	1%
Vanadium, total	mg/L	0.0002	0.0211	0.0209	0.0211	0.0209	0.0002	1%
Zinc, dissolved	mg/L	0.0100	0.0200	0.0200	0.0200	0.0200	0.0000	0%
Zinc, total	mg/L	0.0100	0.0100	0.0200	0.0100	0.0200	0.0100	67%

[1]Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[2]Arithmetic difference between sample and duplicate

[3]RPD compares sample and duplicate, red values are greater than or equal to 20% and the sample and/or duplicate results are greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
RPD = Relative Percent Difference

Q4-2013			DI WATER	EQUIPMENT		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Aluminum, dissolved	mg/L	0.0300	0.02121	<0.03	0.02121	0.00	0%
Aluminum, total	mg/L	0.0300	0.02121	<0.03	0.02121	0.00	0%
Antimony, dissolved	mg/L	0.0004	0.00028	<0.0004	0.00028	0.00	0%
Antimony, total	mg/L	0.0004	0.00028	<0.0004	0.00028	0.00	0%
Arsenic, dissolved	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Arsenic, total	mg/L	0.0002	0.00014	0.0004	0.0004	0.00	96%
Barium, dissolved	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Barium, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Beryllium, dissolved	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Beryllium, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Bicarbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Bismuth, dissolved	mg/L	0.0400	0.02828	<0.04	0.02828	0.00	0%
Bismuth, total	mg/L	0.0400	0.02828	<0.04	0.02828	0.00	0%
Boron, dissolved	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Boron, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Cadmium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Cadmium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Calcium, dissolved	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Calcium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Carbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Chloride	mg/L	0.5000	0.35355	<0.5	0.35355	0.00	0%
Chromium, dissolved	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Chromium, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cobalt, dissolved	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Cobalt, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Conductivity @25C	umhos/cm	1.0000	0.70711	1.00	1.00000	0.29	34%
Copper, dissolved	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Copper, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cyanide, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Cyanide, WAD	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Fluoride	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Gallium, dissolved	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Gallium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Hardness as CaCO3	mg/L	1.0000	0.70711	<1	0.70711	0.00	0%
Hydroxide as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Iron, dissolved	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Iron, total	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Lead, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Lead, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Lithium, dissolved	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Lithium, total	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Magnesium, dissolved	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Magnesium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Manganese, dissolved	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Manganese, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Mercury, dissolved	ng/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Mercury, total	ng/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Molybdenum, dissolved	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Molybdenum, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Nickel, dissolved	mg/L	0.0006	0.00042	<0.0006	0.00042	0.00	0%
Nickel, total	mg/L	0.0006	0.00042	<0.0006	0.00042	0.00	0%
Nitrate/Nitrite as N	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Nitrogen, ammonia	mg/L	0.0500	0.03536	<0.05	0.03536	0.00	0%
Phosphorus, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Potassium, dissolved	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Potassium, total	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Residue, Filterable (TDS) @180C	mg/L	10.0000	7.07107	<10	7.07107	0.00	0%

Q4-2013			DI WATER	EQUIPMENT		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Residue, Non-Filterable (TSS) @105C	mg/L	5.0000	3.53553	<5	3.53553	0.00	0%
Scandium, dissolved	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Scandium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Selenium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Selenium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Silver, dissolved	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Silver, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Sodium, dissolved	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Sodium, total	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Strontium, dissolved	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Strontium, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Sulfate	mg/L	0.5000	0.35355	<0.5	0.35355	0.00	0%
Thallium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Thallium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Tin, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Tin, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Titanium, dissolved	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%
Titanium, total	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%
Total Alkalinity	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Uranium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Uranium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Vanadium, dissolved	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Vanadium, total	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Zinc, dissolved	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Zinc, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%

[1]DI water assumed to have values below laboratory minimum detection limit; estimated values were generated by dividing the MDL by √2

[2]Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[3]Arithmetic difference between estimated DI water value and blank value

[4]RPD compares blank value and estimated DI water value, red values are greater than or equal to 20% and the blank results are greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
RPD = Relative Percent Difference
NA = Not Applicable

Q4-2013			DI WATER	TRANSFER		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Aluminum, total	mg/L	0.0300	0.02121	<0.03	0.02121	0.00	0%
Antimony, total	mg/L	0.0004	0.00028	<0.0004	0.00028	0.00	0%
Arsenic, total	mg/L	0.0002	0.00014	0.0007	0.00070	0.00	133%
Barium, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Beryllium, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Bicarbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Bismuth, total	mg/L	0.0400	0.02828	<0.04	0.02828	0.00	0%
Boron, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Cadmium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Calcium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Carbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Chloride	mg/L	0.5000	0.35355	<0.5	0.35355	0.00	0%
Chromium, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cobalt, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Conductivity @25C	umhos/cm	1.0000	0.70711	<1	0.70711	0.00	0%
Copper, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cyanide, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Cyanide, WAD	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Fluoride	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Gallium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Hardness as CaCO3	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Hydroxide as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Iron, total	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Lead, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Lithium, total	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Magnesium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Manganese, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Mercury, total	ng/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Molybdenum, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Nickel, total	mg/L	0.0006	0.00042	<0.0006	0.00042	0.00	0%
Nitrate as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrate/Nitrite as N	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Nitrate/Nitrite as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrite as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrogen, ammonia	mg/L	0.0500	0.03536	<0.05	0.03536	0.00	0%
Phosphorus, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Potassium, total	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Residue, Filterable (TDS) @180C	mg/L	10.0000	7.07107	<10	7.07107	0.00	0%
Residue, Non-Filterable (TSS) @105C	mg/L	5.0000	3.53553	<5	3.53553	0.00	0%
Scandium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Selenium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Silver, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Sodium, total	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Strontium, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%

Q4-2013			DI WATER	TRANSFER		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Sulfate	mg/L	0.5000	0.35355	<0.5	0.35355	0.00	0%
Thallium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Tin, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Titanium, total	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%
Total Alkalinity	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Uranium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Vanadium, total	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Zinc, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%

[1]DI water assumed to have values below laboratory minimum detection limit; estimated values were generated by dividing the MDL by √2

[2]Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[3]Arithmetic difference between estimated DI water value and blank value

[4]RPD compares blank value and estimated DI water value, red values are greater than or equal to 20% and the blank results are greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
RPD = Relative Percent Difference
NA = Not Applicable

Q2-2014			Twin Springs South				Difference[2]	RPD[3] (%)
PARAMETER	UNITS	MDL	SAMPLE	DUPLICATE	SAMPLE[1]	DUPLICATE[1]		
Aluminum, dissolved	mg/L	0.0300	<0.03	<0.03	0.0212	0.0212	0.0000	0%
Aluminum, total	mg/L	0.0300	<0.03	<0.03	0.0212	0.0212	0.0000	0%
Antimony, dissolved	mg/L	0.0004	<0.0004	<0.0004	0.0003	0.0003	0.0000	0%
Antimony, total	mg/L	0.0004	<0.0004	<0.0004	0.0003	0.0003	0.0000	0%
Arsenic, dissolved	mg/L	0.0002	0.0380	0.0394	0.0380	0.0394	0.0014	4%
Arsenic, total	mg/L	0.0002	0.0409	0.0409	0.0409	0.0409	0.0000	0%
Barium, dissolved	mg/L	0.0030	0.0050	0.0050	0.0050	0.0050	0.0000	0%
Barium, total	mg/L	0.0030	0.0040	0.0030	0.0040	0.0030	0.0010	29%
Beryllium, dissolved	mg/L	0.0001	<0.00005	<0.0003	0.0000	0.0002	0.0002	143%
Beryllium, total	mg/L	0.0001	<0.00005	<0.00005	0.0000	0.0000	0.0000	0%
Bicarbonate as CaCO3	mg/L	2.0000	132.0000	133.0000	132.0000	133.0000	1.0000	1%
Bismuth, dissolved	mg/L	0.0400	<0.04	<0.04	0.0283	0.0283	0.0000	0%
Bismuth, total	mg/L	0.0400	<0.04	<0.04	0.0283	0.0283	0.0000	0%
Boron, dissolved	mg/L	0.0100	0.1100	0.1200	0.1100	0.1200	0.0100	9%
Boron, total	mg/L	0.0100	0.0900	0.0900	0.0900	0.0900	0.0000	0%
Cadmium, dissolved	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Cadmium, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Calcium, dissolved	mg/L	0.1000	26.8000	26.9000	26.8000	26.9000	0.1000	0%
Calcium, total	mg/L	0.1000	27.3000	26.7000	27.3000	26.7000	0.6000	2%
Carbonate as CaCO3	mg/L	2.0000	3.0000	<2	3.0000	1.4142	1.5858	72%
Chloride	mg/L	0.5000	10.5000	10.6000	10.5000	10.6000	0.1000	1%
Chromium, dissolved	mg/L	0.0005	0.0008	0.0008	0.0008	0.0008	0.0000	0%
Chromium, total	mg/L	0.0005	0.0009	0.0010	0.0009	0.0010	0.0001	11%
Cobalt, dissolved	mg/L	0.0001	0.0003	0.0001	0.0003	0.0001	0.0002	86%
Cobalt, total	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	13%
Conductivity @25C	umhos/cm	1.0000	456.0000	454.0000	456.0000	454.0000	2.0000	0%
Copper, dissolved	mg/L	0.0005	<0.0005	<0.0005	0.0004	0.0004	0.0000	0%
Copper, total	mg/L	0.0005	<0.0005	<0.0005	0.0004	0.0004	0.0000	0%
Cyanide, total	mg/L	0.0030	<0.003	<0.003	0.0021	0.0021	0.0000	0%
Cyanide, WAD	mg/L	0.0030	<0.003	<0.003	0.0021	0.0021	0.0000	0%
Fluoride	mg/L	0.0500	0.6200	0.6300	0.6200	0.6300	0.0100	2%
Gallium, dissolved	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Gallium, total	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Hardness as CaCO3	mg/L	0.8000	129.0000	129.0000	129.0000	129.0000	0.0000	0%
Hydroxide as CaCO3	mg/L	2.0000	<2	<2	1.4142	1.4142	0.0000	0%
Iron, dissolved	mg/L	0.0200	<0.02	<0.02	0.0141	0.0141	0.0000	0%
Iron, total	mg/L	0.0200	<0.02	<0.02	0.0141	0.0141	0.0000	0%
Lead, dissolved	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Lead, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Lithium, dissolved	mg/L	0.0080	0.0130	0.0130	0.0130	0.0130	0.0000	0%
Lithium, total	mg/L	0.0080	0.0130	0.0130	0.0130	0.0130	0.0000	0%
Magnesium, dissolved	mg/L	0.2000	15.0000	15.0000	15.0000	15.0000	0.0000	0%
Magnesium, total	mg/L	0.2000	15.2000	14.9000	15.2000	14.9000	0.3000	2%
Manganese, dissolved	mg/L	0.0005	0.0018	0.0015	0.0018	0.0015	0.0003	18%
Manganese, total	mg/L	0.0005	0.0043	0.0024	0.0043	0.0024	0.0019	57%
Mercury, dissolved	ng/L	0.2000	<0.2	<0.2	0.1414	0.1414	0.0000	0%
Mercury, total	ng/L	0.2000	<0.2	<0.2	0.1414	0.1414	0.0000	0%
Molybdenum, dissolved	mg/L	0.0030	0.0090	0.0090	0.0090	0.0090	0.0000	0%
Molybdenum, total	mg/L	0.0005	0.0093	0.0090	0.0093	0.0090	0.0003	3%
Nickel, dissolved	mg/L	0.0006	<0.0006	<0.0006	0.0004	0.0004	0.0000	0%
Nickel, total	mg/L	0.0006	<0.0006	<0.0006	0.0004	0.0004	0.0000	0%
Nitrate as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrate/Nitrite as N	mg/L	0.0200	1.9200	1.9300	1.9200	1.9300	0.0100	1%
Nitrate/Nitrite as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>

Q2-2014			Twin Springs South				Difference[2]	RPD[3] (%)
PARAMETER	UNITS	MDL	SAMPLE	DUPLICATE	SAMPLE[1]	DUPLICATE[1]		
Nitrite as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrogen, ammonia	mg/L	0.0500	<0.05	<0.05	0.0354	0.0354	0.0000	0%
pH	units	0.1000	8.3000	8.3000	8.3000	8.3000	0.0000	0%
pH measured at	C	0.1000	23.0000	22.0000	23.0000	22.0000	1.0000	4%
Phosphorus, total	mg/L	0.0100	0.0200	0.0200	0.0200	0.0200	0.0000	0%
Potassium, dissolved	mg/L	0.2000	9.0000	9.0000	9.0000	9.0000	0.0000	0%
Potassium, total	mg/L	0.2000	9.0000	8.8000	9.0000	8.8000	0.2000	2%
Residue, Filterable (TDS) @180C	mg/L	10.0000	300.0000	300.0000	300.0000	300.0000	0.0000	0%
Residue, Non-Filterable (TSS) @105C	mg/L	5.0000	<5	<5	3.5355	3.5355	0.0000	0%
Scandium, dissolved	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Scandium, total	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Selenium, dissolved	mg/L	0.0001	0.0046	0.0046	0.0046	0.0046	0.0000	0%
Selenium, total	mg/L	0.0001	0.0042	0.0042	0.0042	0.0042	0.0000	0%
Silver, dissolved	mg/L	0.0003	<0.0003	<0.0003	0.0002	0.0002	0.0000	0%
Silver, total	mg/L	0.0001	<0.00005	<0.00005	0.0000	0.0000	0.0000	0%
Sodium, dissolved	mg/L	0.2000	42.7000	42.8000	42.7000	42.8000	0.1000	0%
Sodium, total	mg/L	0.2000	43.2000	42.2000	43.2000	42.2000	1.0000	2%
Strontium, dissolved	mg/L	0.0050	0.1500	0.1500	0.1500	0.1500	0.0000	0%
Strontium, total	mg/L	0.0050	0.1510	0.1470	0.1510	0.1470	0.0040	3%
Sulfate	mg/L	0.5000	44.0000	43.9000	44.0000	43.9000	0.1000	0%
Thallium, dissolved	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Thallium, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Tin, dissolved	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Tin, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Titanium, dissolved	mg/L	0.0050	<0.005	<0.005	0.0035	0.0035	0.0000	0%
Titanium, total	mg/L	0.0050	<0.005	<0.005	0.0035	0.0035	0.0000	0%
Total Alkalinity	mg/L	2.0000	135.0000	135.0000	135.0000	135.0000	0.0000	0%
Uranium, dissolved	mg/L	0.0001	0.0028	0.0032	0.0028	0.0032	0.0004	13%
Uranium, total	mg/L	0.0001	0.0032	0.0032	0.0032	0.0032	0.0000	0%
Vanadium, dissolved	mg/L	0.0002	0.0416	0.0419	0.0416	0.0419	0.0003	1%
Vanadium, total	mg/L	0.0002	0.0441	0.0449	0.0441	0.0449	0.0008	2%
Zinc, dissolved	mg/L	0.0100	<0.01	<0.01	0.0071	0.0071	0.0000	0%
Zinc, total	mg/L	0.0100	<0.01	<0.01	0.0071	0.0071	0.0000	0%

[1]Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[2]Arithmetic difference between sample and duplicate

[3]RPD compares sample and duplicate, red values are greater than or equal to 20% and the sample and/or duplicate results are greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
RPD = Relative Percent Difference

Q2-2014			DI WATER	EQUIPMENT		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Aluminum, dissolved	mg/L	0.0300	0.02121	<0.03	0.02121	0.00	0%
Aluminum, total	mg/L	0.0300	0.02121	<0.03	0.02121	0.00	0%
Antimony, dissolved	mg/L	0.0004	0.00028	<0.0004	0.00028	0.00	0%
Antimony, total	mg/L	0.0004	0.00028	<0.0004	0.00028	0.00	0%
Arsenic, dissolved	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Arsenic, total	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Barium, dissolved	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Barium, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Beryllium, dissolved	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Beryllium, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Bicarbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Bismuth, dissolved	mg/L	0.0400	0.02828	<0.04	0.02828	0.00	0%
Bismuth, total	mg/L	0.0400	0.02828	<0.04	0.02828	0.00	0%
Boron, dissolved	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Boron, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Cadmium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Cadmium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Calcium, dissolved	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Calcium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Carbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Chloride	mg/L	0.5000	0.35355	<0.5	0.35355	0.00	0%
Chromium, dissolved	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Chromium, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cobalt, dissolved	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Cobalt, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Conductivity @25C	umhos/cm	1.0000	0.70711	1.00	1.00000	0.29	34%
Copper, dissolved	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Copper, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cyanide, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Cyanide, WAD	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Fluoride	mg/L	0.0500	0.03536	<0.05	0.03536	0.00	0%
Gallium, dissolved	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Gallium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Hardness as CaCO3	mg/L	0.8000	0.56569	<0.8	0.56569	0.00	0%
Hydroxide as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Iron, dissolved	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Iron, total	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Lead, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Lead, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Lithium, dissolved	mg/L	0.0080	0.00566	<0.008	0.00566	0.00	0%
Lithium, total	mg/L	0.0080	0.00566	<0.008	0.00566	0.00	0%
Magnesium, dissolved	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Magnesium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Manganese, dissolved	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Manganese, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Mercury, dissolved	ng/L	0.2000	0.14142	0.20	0.20000	0.06	34%
Mercury, total	ng/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Molybdenum, dissolved	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Molybdenum, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Nickel, dissolved	mg/L	0.0006	0.00042	<0.0006	0.00042	0.00	0%
Nickel, total	mg/L	0.0006	0.00042	<0.0006	0.00042	0.00	0%
Nitrate/Nitrite as N	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Nitrogen, ammonia	mg/L	0.0500	0.03536	<0.05	0.03536	0.00	0%
Phosphorus, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Potassium, dissolved	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Potassium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Residue, Filterable (TDS) @180C	mg/L	10.0000	7.07107	<10	7.07107	0.00	0%

Q2-2014			DI WATER	EQUIPMENT		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Residue, Non-Filterable (TSS) @105C	mg/L	5.0000	3.53553	<5	3.53553	0.00	0%
Scandium, dissolved	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Scandium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Selenium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Selenium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Silver, dissolved	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Silver, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Sodium, dissolved	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Sodium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Strontium, dissolved	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%
Strontium, total	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%
Sulfate	mg/L	0.5000	0.35355	<0.5	0.35355	0.00	0%
Thallium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Thallium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Tin, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Tin, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Titanium, dissolved	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%
Titanium, total	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%
Total Alkalinity	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Uranium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Uranium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Vanadium, dissolved	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Vanadium, total	mg/L	0.0002	0.00014	0.00	0.00030	0.00	72%
Zinc, dissolved	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Zinc, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%

[1]DI water assumed to have values below laboratory minimum detection limit; estimated values were generated by dividing the MDL by √2

[2]Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[3]Arithmetic difference between estimated DI water value and blank value

[4]RPD compares blank value and estimated DI water value, red values are greater than or equal to 20% and the blank results are greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
RPD = Relative Percent Difference
NA = Not Applicable

Q2-2014			DI WATER	TRANSFER		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Aluminum, total	mg/L	0.0300	0.02121	<0.03	0.02121	0.00	0%
Antimony, total	mg/L	0.0004	0.00028	<0.0004	0.00028	0.00	0%
Arsenic, total	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Barium, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Beryllium, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Bicarbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Bismuth, total	mg/L	0.0400	0.02828	<0.04	0.02828	0.00	0%
Boron, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Cadmium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Calcium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Carbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Chloride	mg/L	0.5000	0.35355	<0.5	0.35355	0.00	0%
Chromium, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cobalt, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Conductivity @25C	umhos/cm	1.0000	0.70711	1.00	1.00000	0.29	34%
Copper, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cyanide, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Cyanide, WAD	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Fluoride	mg/L	0.0500	0.03536	<0.05	0.03536	0.00	0%
Gallium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Hardness as CaCO3	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Hydroxide as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Iron, total	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Lead, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Lithium, total	mg/L	0.0080	0.00566	<0.008	0.00566	0.00	0%
Magnesium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Manganese, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Mercury, total	ng/L	0.2000	0.14142	0.20	0.20000	0.06	34%
Molybdenum, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Nickel, total	mg/L	0.0006	0.00042	<0.0006	0.00042	0.00	0%
Nitrate as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrate/Nitrite as N	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Nitrate/Nitrite as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrite as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrogen, ammonia	mg/L	0.0500	0.03536	<0.05	0.03536	0.00	0%
Phosphorus, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Potassium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Residue, Filterable (TDS) @180C	mg/L	10.0000	7.07107	<10	7.07107	0.00	0%
Residue, Non-Filterable (TSS) @105C	mg/L	5.0000	3.53553	<5	3.53553	0.00	0%
Scandium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Selenium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Silver, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Sodium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Strontium, total	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%

Q2-2014			DI WATER	TRANSFER		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Sulfate	mg/L	0.5000	0.35355	<0.5	0.35355	0.00	0%
Thallium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Tin, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Titanium, total	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%
Total Alkalinity	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Uranium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Vanadium, total	mg/L	0.0002	0.00014	0.0002	0.00020	0.00	34%
Zinc, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%

[1]DI water assumed to have values below laboratory minimum detection limit; estimated values were generated by dividing the MDL by √2

[2]Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[3]Arithmetic difference between estimated DI water value and blank value

[4]RPD compares blank value and estimated DI water value, red values are greater than or equal to 20% and the blank results are greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
RPD = Relative Percent Difference
NA = Not Applicable

Q2-2013			TRANSFER BLANK	
PARAMETER	**UNITS**	**MDL**	**VALUE**	**DATE**
Mercury, total	ng/L	0.2	<0.2	6/20/2013
Mercury, total	ng/L	0.2	<0.2	6/26/2013
Mercury, total	ng/L	0.2	<0.2	6/17/2013

Q4-2013			TRANSFER BLANK	
PARAMETER	**UNITS**	**MDL**	**VALUE**	**DATE**
Mercury, total	ng/L	0.2	<0.2	11/23/2013
Mercury, total	ng/L	0.2	<0.2	11/24/2013

Q2-2014			TRANSFER BLANK	
PARAMETER	**UNITS**	**MDL**	**VALUE**	**DATE**
Mercury, total	ng/L	0.2	<0.2	6/27/2014
Mercury, total	ng/L	0.2	<0.2	6/23/2014
Mercury, total	ng/L	0.2	<0.2	6/25/2014

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Dry Creek Arm Page No.: 1 of 1

Sampling Location Name: Dock @ dry creek arm of Owyhee

Personnel: Erik Bee

Date: 6/27/13 Photos (#,Name): 8-7

Weather: Sunny / warm

GPS Coord. (UTM 11N, NAD83) (Dry Crk Arm 8)

Northing: 4823307 Easting: 469153

Notes Re-GPS'd location, water receded since last time.

Flow Rate: _____ **Flow Rate Measurement Desc:** _____

Flow Units: _____

Water Quality

Sample Time: 14:20

Field Filtered? Y ~~N~~ per WP

Samples Filtered: _____ per WP

Equip Blank Set Collected? Y _____ N X

Transfer Blank Set Collected? Y _____ N X

Duplicate Set Collected? Y _____ N X

Sampler Signature:

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
13:50	8.74	229.5	243.0	22	8.5	113%	Re-receded since 1st dtr.
14:20							Sampled WQ

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Leslie Gulch Page No.: 1 of 1

Sampling Location Name: down gradient from concrete boat ramp

Personnel: Erik Boe

Date: 6/27/13 Photos (#,Name): 7-3

Weather: Sunny, clear skies

GPS Coord. (UTM 11N, NAD83)

Northing: 4796533 Easting: 473449

Notes Sampled ~ 300 ft down gradient from concrete boat ramp, reservoir receded.

Flow Rate: NA **Flow Rate Measurement Desc:** NA

Flow Units: NA

Water Quality

Sample Time: 9:00

Field Filtered? Y ____ N ____ per WP

Samples Filtered: ____ per WP

Equip Blank Set Collected? Y ____ N X

Transfer Blank Set Collected? Y ____ N X

Duplicate Set Collected? Y ____ N X

Sampler Signature: [signature]

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
8:50	8.08	330.4	349.7	22.1	8.0	99%	Calm water
9:00							WQ Samples Collected

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Owyee River Page No.: 1 of 1

Sampling Location Name: ~ 4mi north of dam

Personnel: Erik Boe

Date: 6/26/13 Photos (#,Name): 5-2

Weather: Overcast

GPS Coord. (UTM 11N, NAD83)

Northing: 4835877 Easting: 0480982

Notes Fly fisherman ~100 ft upstream of sampling site. Fisherman moved out of water, allowed to flow 10 min before sampling

Flow Rate: — **Flow Rate Measurement Desc:** —

Flow Units: —

Water Quality

Sample Time: 5:00 pm

Field Filtered? Y ____ N ____ per WP

Samples Filtered: ____ per WP

Equip Blank Set Collected? Y ____ N X

Transfer Blank Set Collected? Y ____ N X

Duplicate Set Collected? Y ____ N X

Sampler Signature: E.M.B.

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
16:50	8.67	187	239	13.3	10.7	116%	
17:00							Sampler Collected

Field Equipment Calibration Record

Instrument: pH Meter
Manufacturer / Model: YSI Ecosense pH100
Date / Time of Calibration: 6/27/13 8:10
Calibration Method: 2 - point
Buffers Used: 7 & 10
Slope Deviation:
Electrode Efficiency: 95.6%
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature:

Instrument: Conductivity Meter
Manufacturer / Model: YSI Ecosense EC300
Date / Time of Calibration: 6/27/13 8:20
Calibration Method: 1 point
Cell Constant: 4.83 Default? ____ Yes ____ No
Temperature Coefficient: ____ Default? ____ Yes ____ No
Temperature Reference: ____ Default? ____ Yes ____ No
Conductivity Standard: 1413 @ 25°C
Conductivity Standard @ 25C: 1413 @ 25°C
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature:

Instrument: Dissolved Oxygen Meter
Manufacturer / Model: OxyGuard Handy Polaris 2
Date / Time of Calibration: 6/27/13 8:25
Calibration Method: Auto Cal
Initial DO Saturation Reading: 101 % (Should read 100.5%)
Calibration Needed? ____ Yes X No
Calibration Precision: X Field ____ Normal ____ High
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature:

Field Equipment Calibration Record

Instrument: pH Meter
Manufacturer / Model: YSI Ecosense pH100
Date / Time of Calibration: 6/25/13 8:10
Calibration Method: 2 - point
Buffers Used: 7 & 10
Slope Deviation:
Electrode Efficiency: 95.1
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature:

Instrument: Conductivity Meter
Manufacturer / Model: YSI Ecosense EC300
Date / Time of Calibration: 6/26/13 8:00
Calibration Method: 1 pt.
Cell Constant: 4.83 Default? ____ Yes ____ No
Temperature Coefficient: ____ Default? ____ Yes ____ No
Temperature Reference: ____ Default? ____ Yes ____ No
Conductivity Standard: 1413 @ 25°C
Conductivity Standard @ 25C: 1413 @ 25°C
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: [signature]

Instrument: Dissolved Oxygen Meter
Manufacturer / Model: OxyGuard Handy Polaris 2
Date / Time of Calibration: 6/26/13 8:05
Calibration Method: Autocal
Initial DO Saturation Reading: 101 % (Should read 100.5%)
Calibration Needed? ____ Yes X No
Calibration Precision: X Field ____ Normal ____ High
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: [signature]

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Owyhee Reservoir Dry Creek arm Page No.: 1 of 1

Sampling Location Name: Dry Creek Arm

Personnel: Erik Boe

Date: 11/23/13 Photos (#,Name): 7-3

Weather: sunny, cold, no wind

GPS Coord. (UTM 11N, NAD83)

Northing: 4823359 Easting: 469151

Notes Reservoir has receded significantly since last time site is near edge (western most) of Reservoir dry creek arm.

Flow Rate: / **Flow Rate Measurement Desc:** /

Flow Units: /

Water Quality

Sample Time: 15:50

Field Filtered? Y ~~N~~

Samples Filtered: per work plan

Equip Blank Set Collected? Y ____ N X

Transfer Blank Set Collected? Y ____ N X

Duplicate Set Collected? Y ____ N X

Sampler Signature:

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
15:40	7.92	217	328	~~7.3~~	11.0	100%	measured params
15:50				7.3			collected WQ

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Twin Springs Creek above confluence at Dry Creek arm Page No.: 1 of 1

Sampling Location Name: NA

Personnel: Erik Boe

Date: 11/23/13 Photos (#,Name): 6-2

Weather: sunny, cold, no wind

GPS Coord. (UTM 11N, NAD83)

Northing: - Easting: -

Notes Dry, no water

Flow Rate: _____ **Flow Rate Measurement Desc:** _____

Flow Units: _____

Water Quality

Sample Time: _____ Equip Blank Set Collected? Y _____ N _____

Field Filtered? Y _____ N _____ Transfer Blank Set Collected? Y _____ N _____

Samples Filtered: _____ Duplicate Set Collected? Y _____ N _____

Sampler Signature: _____

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Negro Rock Canyon Creek Page No.: 1 of 1

Sampling Location Name: @ small waterfall

Personnel: Erik Bae

Date: 11/21/13 14:20 Photos (#,Name): 8-4

Weather: sunny, cold, windy

GPS Coord. (UTM 11N, NAD83)

Northing: — Easting: —

Notes low flows in Negro Creek at sample location (small waterfall). Approx 5 to 10 gpm

Flow Rate: 5→10 gpm **Flow Rate Measurement Desc:**

Flow Units: gpm visual ~~estimate~~ estimate

Water Quality

Sample Time: 14:55 Equip Blank Set Collected? Y ____ N X

Field Filtered? Y ~~____~~ N ~~____~~ Transfer Blank Set Collected? Y ____ N X

Samples Filtered: per work plan Duplicate Set Collected? Y ____ N X

Sampler Signature:

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
14:40	7.23		592	9.9	5.71	50.1	meas. parameters
14:55							collected WQ

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Owyhee River Down Stream of Owyhee Dam Page No.: 1 of 1

Sampling Location Name: Owyhee River DS of Owyhee Dam

Personnel: Erik Boe

Date: 11/20/13 Photos (#,Name): 2-3

Weather: partly cloudy, bit of sun, cool.

GPS Coord. (UTM 11N, NAD83)

Northing: 4835852 Easting: 480990

Notes Water flowing with slightly lower flow rate then was observed at Leslie Gulch earlier in the morning. Area ~~was~~ had no standing water, but appears to have recieved precip from the earlier system that blew through.

Flow Rate: NA **Flow Rate Measurement Desc:** NA

Flow Units: NA

Water Quality

Sample Time: 15:10

Field Filtered? Y ~~N~~

Samples Filtered: per work plan

Equip Blank Set Collected? Y ____ N X

Transfer Blank Set Collected? Y ____ N X

Duplicate Set Collected? Y ____ N X

Sampler Signature:

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
15:00	8.84	187	292	6.1	11.8	105%	~~Collected~~ measured parameters
15:10					~~11.8~~	~~105%~~	collected WQ samples

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Leslie Gulch Page No.: 1 of 1

Sampling Location Name: Leslie Gulch sample site at Owyhee Lake (River)

Personnel: Erik Boe

Date: 11/20/13 Photos (#,Name): 1-3

Weather: overcast, cold, rained earlier in day.

GPS Coord. (UTM 11N, NAD83)

Northing: 4796517 Easting: 473434

Notes Owyhee Lake drained/receded at Leslie Gulch site, Owyhee river flows. Water is relatively turbid, rain/snow receded while driving over the pass to Leslie Gulch.

Flow Rate: Unknown, but flowing. **Flow Rate Measurement Desc:** NA

Flow Units: NA

Water Quality

Sample Time: 11:00

Field Filtered? ~~Y~~ ~~N~~

Samples Filtered: Per work plan

Equip Blank Set Collected? Y ____ N X

Transfer Blank Set Collected? Y ____ N X

Duplicate Set Collected? Y ____ N X

Sampler Signature: E. T.

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
10:55	8.43	239	357	7.7	10.2	95%	meas. params.
11:00							collected WQ samples

Field Equipment Calibration Record

Instrument: pH Meter
Manufacturer / Model: YSI Ecosense pH100
Date / Time of Calibration: 11/20/13 10:40
Calibration Method: 2 - point
Buffers Used: 7 and 10
Slope Deviation:
Electrode Efficiency: 98.0
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: [signature]

Instrument: Conductivity Meter
Manufacturer / Model: YSI Ecosense EC300
Date / Time of Calibration: 11/12/13 10:35
Calibration Method: 1 pt, Cal SC to 1413 @ 25°C
Cell Constant: 5.34 Default? X Yes ____ No
Temperature Coefficient: ____ Default? X Yes ____ No
Temperature Reference: ____ Default? X Yes ____ No
Conductivity Standard: ~~1413~~
Conductivity Standard @ 25C: 1413 @ 25°C
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: [signature]

Instrument: Dissolved Oxygen Meter
Manufacturer / Model: OxyGuard Handy Polaris 2
Date / Time of Calibration: 11/20/13 10:45
Calibration Method: Auto Cal
Initial DO Saturation Reading: 100% (Should read 100.5%)
Calibration Needed? ____ Yes X No, But ~~auto~~ auto cal'd anyway.
Calibration Precision: X Field ____ Normal ____ High
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: [signature]

Field Equipment Calibration Record

Instrument: pH Meter
Manufacturer / Model: ~~YSI Ecosense pH100~~ YSI 556 MPS
Date / Time of Calibration: 11/21/13 9:30
Calibration Method: 2 - point
Buffers Used: 7 and 10 pH
Slope Deviation:
Electrode Efficiency:
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: [signature]

Instrument: Conductivity Meter
Manufacturer / Model: ~~YSI Ecosense EC300~~ YSI 556 MPS
Date / Time of Calibration: 11/21/13 9:35
Calibration Method: 1 pt
Cell Constant: — Default? X Yes ____ No
Temperature Coefficient: — Default? X Yes ____ No
Temperature Reference: — Default? X Yes ____ No
Conductivity Standard: —
Conductivity Standard @ 25C: 1413
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature:

Instrument: Dissolved Oxygen Meter
Manufacturer / Model: ~~OxyGuard Handy Polaris 2~~ YSI 556 MPS
Date / Time of Calibration: 11/21/13 9:45
Calibration Method: 1 pt
Initial DO Saturation Reading: NA (Should read 100.5%)
Calibration Needed? ____ Yes X No
Calibration Precision: X Field ____ Normal ____ High
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: [signature]

Field Equipment Calibration Record

Instrument: pH Meter
Manufacturer / Model: YSI Ecosense pH100
Date / Time of Calibration: 11/22/13 8:50
Calibration Method: 2 - point
Buffers Used: 7 and 10
Slope Deviation: —
Electrode Efficiency: 97.2 %
Successful Calibration? X Yes ____ No
If No, List Corrective Action: ____
Signature: [signature]

Instrument: Conductivity Meter
Manufacturer / Model: YSI Ecosense EC300
Date / Time of Calibration: 11/22/13 8:55
Calibration Method: 1 pt.
Cell Constant: — Default? X Yes ____ No
Temperature Coefficient: — Default? X Yes ____ No
Temperature Reference: — Default? X Yes ____ No
Conductivity Standard: ____
Conductivity Standard @ 25C: 1413 µS @ 25°C
Successful Calibration? X Yes ____ No
If No, List Corrective Action: ____
Signature: [signature]

Instrument: Dissolved Oxygen Meter
Manufacturer / Model: OxyGuard Handy Polaris 2
Date / Time of Calibration: 11/22/13 9:00
Calibration Method: Cal to air, Auto method
Initial DO Saturation Reading: 98.8 % (Should read 100.5%)
Calibration Needed? X Yes ____ No
Calibration Precision: X Field ____ Normal ____ High
Successful Calibration? X Yes ____ No
If No, List Corrective Action: ____
Signature: [signature]

Field Equipment Calibration Record

Instrument: pH Meter
Manufacturer / Model: YSI Ecosense pH100
Date / Time of Calibration: 11/23/13 9:30
Calibration Method: 2 - point
Buffers Used: 7 and 10
Slope Deviation: –
Electrode Efficiency: 95.0
Successful Calibration? X Yes ____ No
If No, List Corrective Action: ____
Signature: SMT

Instrument: Conductivity Meter
Manufacturer / Model: YSI Ecosense EC300
Date / Time of Calibration: 11/23/13 9:40
Calibration Method: 1 pt
Cell Constant: – Default? X Yes ____ No
Temperature Coefficient: – Default? X Yes ____ No
Temperature Reference: – Default? X Yes ____ No
Conductivity Standard: –
Conductivity Standard @ 25C: 1413 @ 25°C used
Successful Calibration? X Yes ____ No
If No, List Corrective Action: ____
Signature: SMT

Instrument: Dissolved Oxygen Meter
Manufacturer / Model: OxyGuard Handy Polaris 2
Date / Time of Calibration: 11/23/13 9:45
Calibration Method: to air
Initial DO Saturation Reading: 92% (Should read 100.5%)
Calibration Needed? X Yes ____ No
Calibration Precision: X Field ____ Normal ____ High
Successful Calibration? X Yes ____ No
If No, List Corrective Action: ____
Signature: SMT

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Dry Creek Arm Page No.: 1 of 1

Sampling Location Name: Dry Creek arm of Owyhee Lake

Personnel: Erik Boe

Date: 6/23/14 Photos (#,Name): 5-2

Weather: Sunny, warm, windy

GPS Coord. (UTM 11N, NAD83)

Northing: ~~from Same~~ Easting: Same

Notes Owyhee not recirded ~ 200 yds west of sample location

Flow Rate: NA **Flow Rate Measurement Desc:** NA

Flow Units: NA

Water Quality

Sample Time: 15:20

Field Filtered? Y ___ N per WP

Samples Filtered: ___ per WP

Equip Blank Set Collected? Y ___ N X

Transfer Blank Set Collected? Y ___ N X

Duplicate Set Collected? Y ___ N X

Sampler Signature:

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
15:15	8.57	263	275	22.8	8.7	112 %	
15:20							collected sample

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Leslie Gulch Page No.: 1 of 1

Sampling Location Name: Leslie Gulch sample site at Owyhee Lake/River

Personnel: Erik Boe

Date: 6/19/14 Photos (#,Name): 1-2

Weather: Sunny, clear skies, light breeze

GPS Coord. (UTM 11N, NAD83)

Northing: 4796517 Easting: 473434

Notes Owyhee Lake is low, river flows/conditions at Leslie Gulch. Water is turbid.

Flow Rate: unknown, but flowing **Flow Rate Measurement Desc:** NA

Flow Units: NA

Water Quality

Sample Time: 12:30

Field Filtered? Y ___ N ___ per W.P.

Samples Filtered: ___ per W.P.

Equip Blank Set Collected? Y ___ N X

Transfer Blank Set Collected? Y ___ N X

Duplicate Set Collected? Y ___ N X

Sampler Signature: E M. J

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
12:15	8.59	306	351	18.2	8.0	99 %	Meas. Parameters
12:30							Collected Samples

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Negro Rock Creek Page No.: 1 of 1

Sampling Location Name: Small waterfall on negro creek (same as before)

Personnel: Eric Bee

Date: 6/24/14 Photos (#,Name): 2-2

Weather: Sunny, windy

GPS Coord. (UTM 11N, NAD83)

Northing: same Easting: same

Notes Negro rock creek is at lower flows.

Flow Rate: 5-10 gpm **Flow Rate Measurement Desc:**

Flow Units: gpm visual estimate

Water Quality

Sample Time: 10:55

Field Filtered? Y ___ N ~~___~~ per WP

Samples Filtered: ~~___~~ per WP

Equip Blank Set Collected? Y ___ N X

Transfer Blank Set Collected? Y ___ N X

Duplicate Set Collected? Y ___ N X

Sampler Signature: E. R.

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
10:30	7.35	393	490	14.6	6.6	78%	
10:55							collected sample

flow ~ 5 gal / 10 sec

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Owyhee River DS Page No.: 1 of 1

Sampling Location Name: Owyhee River Site Down stream of Owyhee Dam

Personnel: Erik Bae

Date: 6/19/14 Photos (#,Name): 2-2

Weather: sunny, light wind

GPS Coord. (UTM 11N, NAD83)

Northing: 4835852 Easting: 480990

Notes Owyhee River flowing, lower flows than observed at Leslie Gulch earlier in the day. Fly fishermen approximately 100 yards upstream, and around 50 yards down stream of site.

Flow Rate: NA **Flow Rate Measurement Desc:** NA

Flow Units: NA

Water Quality

Sample Time: 15:45

Field Filtered? Y ___ N ___ per WP.

Samples Filtered: ___ per WP.

Equip Blank Set Collected? Y ___ N X

Transfer Blank Set Collected? Y ___ N X

Duplicate Set Collected? Y ___ N X

Sampler Signature:

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
15:30 ~~3:30 pm~~	8.81	230	~~285~~	14.3	10.4	116 %	
15:45 ~~3:45 pm~~			289				collected samples

Grassy Mountain Surface Water Monitoring Sampling Form

Surface Water Name: Twin Springs Creek Page No.: 1 of 1

Sampling Location Name: Twin Springs creek ~~north of~~ upstream of Dry Creek confluence.

Personnel: Erik Bae

Date: 6/23/14 Photos (#,Name): 4-2

Weather: Sunny, warm, windy

GPS Coord. (UTM 11N, NAD83)

Northing: same Easting: same

Notes Dry

Flow Rate: **Flow Rate Measurement Desc:**

Flow Units:

Water Quality

Sample Time: Equip Blank Set Collected? Y ___ N ___

Field Filtered? Y ___ N ___ Transfer Blank Set Collected? Y ___ N ___

Samples Filtered: Duplicate Set Collected? Y ___ N ___

Sampler Signature:

Time	pH [S.U.]	EC [µS/cm]	SC [µS/cm @ 25°C]	Temp [°C]	DO [mg/L]	DO [% Sat]	Notes (Visual Appearance)
14:55							Dry

Field Equipment Calibration Record

Instrument: pH Meter
Manufacturer / Model: YSI Ecosense pH100
Date / Time of Calibration: 6/19/14 ~~10:45~~ 11:45
Calibration Method: 2 - point
Buffers Used: 7 and 10 pH Standards
Slope Deviation:
Electrode Efficiency: 93.6%
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: S.A.T.

Instrument: Conductivity Meter
Manufacturer / Model: YSI Ecosense EC300
Date / Time of Calibration: 6/19/14 11:50
Calibration Method: 1 pt
Cell Constant: ~~5.00~~ 5.00 Default? X Yes ____ No
Temperature Coefficient: ~~25~~ 1.91 % Default? X Yes ____ No
Temperature Reference: 25 °C Default? X Yes ____ No
Conductivity Standard: —
Conductivity Standard @ 25C: 1413
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: S.A.T.

Instrument: Dissolved Oxygen Meter
Manufacturer / Model: OxyGuard Handy Polaris 2
Date / Time of Calibration: ~~Pre~~ 6/19/14 12:00
Calibration Method: to air (Auto)
Initial DO Saturation Reading: 100.5 % (Should read 100.5%)
Calibration Needed? ____ Yes X No
Calibration Precision: X Field ____ Normal ____ High
Successful Calibration? X Yes ____ No
If No, List Corrective Action: —
Signature: S.A.T.

Field Equipment Calibration Record

Instrument: pH Meter
Manufacturer / Model: YSI Ecosense pH100
Date / Time of Calibration: 6/23/14 10:00
Calibration Method: 2 - point
Buffers Used: 7 and 10 pH Stds.
Slope Deviation:
Electrode Efficiency: 95.1 %
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: S.A.T.

Instrument: Conductivity Meter
Manufacturer / Model: YSI Ecosense EC300
Date / Time of Calibration: 6/23/14 10:10
Calibration Method: 1 pt
Cell Constant: 5.00 Default? X Yes ____ No
Temperature Coefficient: 1.91 % Default? X Yes ____ No
Temperature Reference: 25°C Default? X Yes ____ No
Conductivity Standard: —
Conductivity Standard @ 25C: 1413 µS
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: S.A.T.

Instrument: Dissolved Oxygen Meter
Manufacturer / Model: OxyGuard Handy Polaris 2
Date / Time of Calibration: 6/23/14 10:15
Calibration Method: to air, auto
Initial DO Saturation Reading: 100.5 % (Should read 100.5%)
Calibration Needed? ____ Yes X No
Calibration Precision: X Field ____ Normal ____ High
Successful Calibration? X Yes ____ No
If No, List Corrective Action:
Signature: S.A.T.

Field Equipment Calibration Record

Instrument: pH Meter
Manufacturer / Model: YSI Ecosense pH100
Date / Time of Calibration: 6/24/14 8:50
Calibration Method: 2 - point
Buffers Used: pH 7 & 10 standards
Slope Deviation: —
Electrode Efficiency: 95.1
Successful Calibration? X Yes ____ No
If No, List Corrective Action: ____
Signature: [signature]

Instrument: Conductivity Meter
Manufacturer / Model: YSI Ecosense EC300
Date / Time of Calibration: 6/24/14 8:55
Calibration Method: 1 pt
Cell Constant: 5.00 Default? X Yes ____ No
Temperature Coefficient: 1.91 % Default? X Yes ____ No
Temperature Reference: 25 °C Default? X Yes ____ No
Conductivity Standard: —
Conductivity Standard @ 25C: 1413
Successful Calibration? X Yes ____ No
If No, List Corrective Action: ____
Signature: [signature]

Instrument: Dissolved Oxygen Meter
Manufacturer / Model: OxyGuard Handy Polaris 2
Date / Time of Calibration: 9:00 6/24/14
Calibration Method: 1 pt in air, auto cal
Initial DO Saturation Reading: 100 % (Should read 100.5%)
Calibration Needed? ____ Yes X No
Calibration Precision: X Field ____ Normal ____ High
Successful Calibration? X Yes ____ No
If No, List Corrective Action: ____
Signature: [signature]

Appendix B: Technical Review Team Correspondence

Oregon
John A. Kitzhaber, MD, Governor

Department of Geology and Mineral Industries
Mineral Land Regulation and Reclamation
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June 20, 2013

Vance Thornsberry
Calico Resources
PO Box Q
Vale, OR 98101

Re: Baseline Data Submittal – Sent electronically to vthornsberry@calicoresources.com & by US Mail (return receipt requested)

Dear Mr. Thornsberry:

We anticipate that Calico Resources will start filing baseline data with the State regarding the Calico project shortly. We strongly recommend that Calico file its individual baseline data with the State as it is collected to ensure that any questions raised by the baseline data can be resolved quickly and not delay the process.

Baseline Data Information

The Calico Technical Review Team has outlined some suggestions to make the review and tracking of the baseline data as efficient as possible, and they are outlined below:

1. Please file all baseline data collection information electronically as a PDF file and for water quality data, as an *Excel* spreadsheet also. Providing a PDF file provides a stable, searchable record of Calico's baseline data information; providing an *Excel* spreadsheet for the water quality data will allow the data to be graphed. Additional information on the water quality data submittal is below. We can access the information through the FTP site of your consultant, or we can provide you information on how to post the information to the DOGAMI FTP site.
2. Oregon Water Resources Department (WRD) needs the water level data entered in a specific spreadsheet that they are developing for use by Calico and its consultants. Use of the Water Resources Department water level spreadsheet will allow the Calico information to be integrated into the statewide water level tracking system. Please use the WRD-developed spreadsheet for reporting water level information. A copy of the spreadsheet is attached.
3. When baseline data is filed by Calico, it will be reviewed for completeness and consistency with the approved baseline data methodology by the appropriate members of the TRT. We will work with the TRT to ensure timely review. We will communicate the outcome of the baseline data review by discipline directly to Calico after the review.
4. For groundwater and surface water sampling information, please build a single *Excel* spreadsheet and include separate tabs for each quarterly sampling event.

5. The Oregon DEQ Laboratory and Environmental Assessment Division would like to participate in at least one groundwater sampling event to observe the sampling and possibly split samples for analysis at the DEQ laboratory. In order to accommodate the schedules of the DEQ field staff, please provide at least 45 days advance notice of a groundwater sampling event, in order that DEQ staff can plan to participate.
6. A reminder that the specifics of the detailed ambient air and meteorological monitoring plan must be submitted to DEQ for approval prior to implementation.
7. Please provide field notes as a separate PDF file.
8. A reminder that cultural resources should be maintained as confidential information per the State Historic Preservation Office guidelines and the Oregon Public Records Law; see ORS 192.501(11). Under state regulations, please also provide a paper copy of all cultural resources information mailed to Matt Diederich, Oregon Heritage, Oregon Parks & Recreation Department, 725 Summer St NE, Suite C, Salem, OR 97301.
9. Please provide all GIS-related information on a recordable DVD and send to Ed Buchner, GIS Specialist, DOGAMI, 229 Broadalbin SW, Albany, OR 97321.
10. Appropriate data quality control/quality assurance procedures, as outlined in the Final Revised Environmental Baseline Study Work Plan (March, 2013) should be included.

Water Quality Information

DEQ requests that for each round of water quality sampling, a Level 2 analytical report be submitted for the permanent file, along with a PDF copy sent to our Permit Coordinator for distribution to the Technical Review Team. A typical Level 2 analytical report includes:

1. Cover letter/sheet with authorized Project Manager signature
2. Sample Receipt Summary
3. Case narrative (if needed)
4. Analytical Results Summary
5. Batch QC Data Summary (Method Blank, LCS, Batch MS/MSD)
6. Data Qualifier Definitions and Legend
7. Field Chain of Custody Form and Sample Receipt Checklist

For ease of review, an Excel spreadsheet should be constructed that includes the necessary fields for each sampling event as tabs. The spreadsheet should be updated for each sampling event. This will ensure the complete data file is accessible to TRT members, Calico, and its consulting staff. An example *Excel* spread sheet is attached. This example may not include all necessary fields. All data collected for each site including field observations should be included, i.e. for wells, additional information such as depth to water; WRD well number; etc. should be included. This electronic format will facilitate review of the data.

If you have any questions regarding the water quality data submittal package request, please contact Lori Pillsbury, DEQ Laboratory and Environmental Assessment Division, in Hillsboro at (503) 693-5735 or by e-mail at pillsbury.lori@deq.state.or.us.

Confidential Business Information

All of the information submitted in the process above will be considered public information and maintained in the Calico files that are accessible to the public, if requested.

If Calico has information that it believes is exempt from public disclosure as a 'trade secret', that information should be separated from the other material, clearly marked as possibly exempt from public disclosure, and sent directly to Gary Lynch, Assistant Director of Regulation.

Should you or your consulting staff have any questions regarding submittal of baseline data, please let me know and we will work with the TRT to get your questions answered.

Sincerely,



Gary Lynch
Assistant Director of Regulation, Mineral Land Regulation and Reclamation Program
Oregon Department of Geology & Mineral Industries

Attachments:

1. *Example Excel file for water quality data*
2. *Water Resources Excel file template for water level monitoring*

cc: Calico Technical Review Team

Oregon
John A. Kitzhaber, MD, Governor

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August 6, 2013

Vance Thornsberry
Calico Resources
PO Box Q
Vale, OR 98101

Sent via e-mail to vthornsberry@calicoresources.com and US Post/Return Receipt

Dear Mr. Thornsberry:

Calico Resources and its water resources consultant, SPF Water Engineering, completed a quarterly water resources sampling event in March 2013, and filed the data and field notes with the State. The Technical Review Team – Water Resources Subcommittee reviewed the data, and we appreciate Calico and its consultants discussion with the TRT regarding the data in our call held July 18, 2013.

As we discussed in the TRT – Water Resources Subcommittee meeting, it would be useful to have a short (1 – 2 page) summary of the highlights of the sampling event to accompany the quarterly monitoring reports. We believe this summary will improve communication between the Calico team and the respective state agencies.

If you could also file copies of relevant photos that illustrate important points related to the sampling event that would also be useful.

Please let me know if you have any questions.

Sincerely,

Gary Lynch
Assistant Director of Regulation
Mineral Land Regulation and Reclamation Program
Oregon Department of Geology & Mineral Industries

cc: Rick Richins
Terry Scanlan, SPF Water Engineering
Jason Thompson, SPF Water Engineering
TRT – Water Resources Subcommittee

Oregon
John A. Kitzhaber, MD, Governor

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August 8, 2013

Vance Thornsberry
Calico Resources USA
PO Box Q
Vale, Oregon 97918

RE: Adjustments to Calico Resources Final Revised Baseline Methodologies approved 3/8/13

Sent via e-mail to vthornsberry@calicoresources.com & US Mail, return receipt requested

Dear Mr. Thornsberry:

At its July 18, 2013 meeting, the Calico Technical Review Team (TRT) Water Resources Subcommittee reviewed the first quarter 2013 water resources data supplied by the Company and its water consultants.

After reviewing the data, the TRT Water Resources Subcommittee is recommending that minor technical adjustments be made on the *Final Revised Environmental Baseline Study Work Plans*, approved by the TRT on 3/8/13, to ensure that baseline data collection is accurate, efficient, and complete.

These adjustments should be made to the *Final Revised Environmental Baseline Study Work Plans* for water resources:

1. **Nitrate/Nitrite Sampling**
   Replace nitrate and nitrite sampling with 48-hour hold times with a combined Nitrate+Nitrite (as N) analysis:
   a. *Laboratory Method:* SM4500-F or EPA 353.2
   b. *Hold Time:* 28 days
   c. *Preservation:* pH <2 with H_2O_4 (sulfuric acid), cool to <6 degrees
   d. *Bottle Type:* polyethylene or glass

   This change is being made to accommodate the short hold time (48 hours) for the previously approved method, and the remoteness of the proposed mine location. The Calico TRT Water Resources Subcommittee has concluded that the baseline data information from the revised methodology will provide adequate baseline data.

2. **Inorganic Arsenic**
   The TRT Water Resources Committee recommends that Inorganic Arsenic be removed from the required analytes on Table 15 (page 66) and Table 16 (page 67). Inorganic arsenic was erroneously included on the sample analyte list. Total arsenic is a required analyte.

Avian Count Form
Consulting wildlife biologists working for Calico have requested the attached *Avian Observation Data Sheet* be substituted for the *AZ IBA Point Count* form included in *Final Revised Environmental Baseline Study Work Plans,* **Appendix D – Data Field Forms, Terrestrial Wildlife**. The Oregon Department of Fish and Wildlife has reviewed this request, and concluded that the revised form (attached) will gather adequate baseline data. The attached *Avian Observation Data Sheet* will substitute for the *AZ IBA Point Count* form.

Acknowledgement and Agreement
Please respond within three (3) business days of receiving this request to indicate Calico Resources acceptance of the proposed baseline data methodology revisions, or disagreement.

Additional discussions by the Technical Review Team will be prompted by Calico's disagreement with the proposed revisions.

If you have any questions or need additional information, please contact me in Albany at 541-967-2053 or by e-mail at gary.w.lynch@mlrr.oregongeology.com.

Thank you for Calico's and your technical consultants continued collaboration with the Technical Review Team to gather high quality, comprehensive baseline data on the existing environmental conditions in the proposed mine site location.

Sincerely,

Gary W. Lynch
Assistant Director
Mined Land Regulation and Reclamation Division

Attachment - *Avian Observation Data Sheet*
cc: Rick Richins, Calico
Christine Whittaker, HDR
Terry Scanlan, SPF Water Engineering
Drew Martin, Yturri Rose Firm
Calico Technical Review Team

AVIAN OBSERVATION DATA SHEET **Grassy Mountain** **Plot *D***

DATE _____ OBSERVER_____ START TIME_____ END TIME_____ Page_____of_____

WEATHER: VISIBILITY (circle one) good fair poor CLOUD COVER (%)_____ TEMP_____ (C) (F) (circle one)

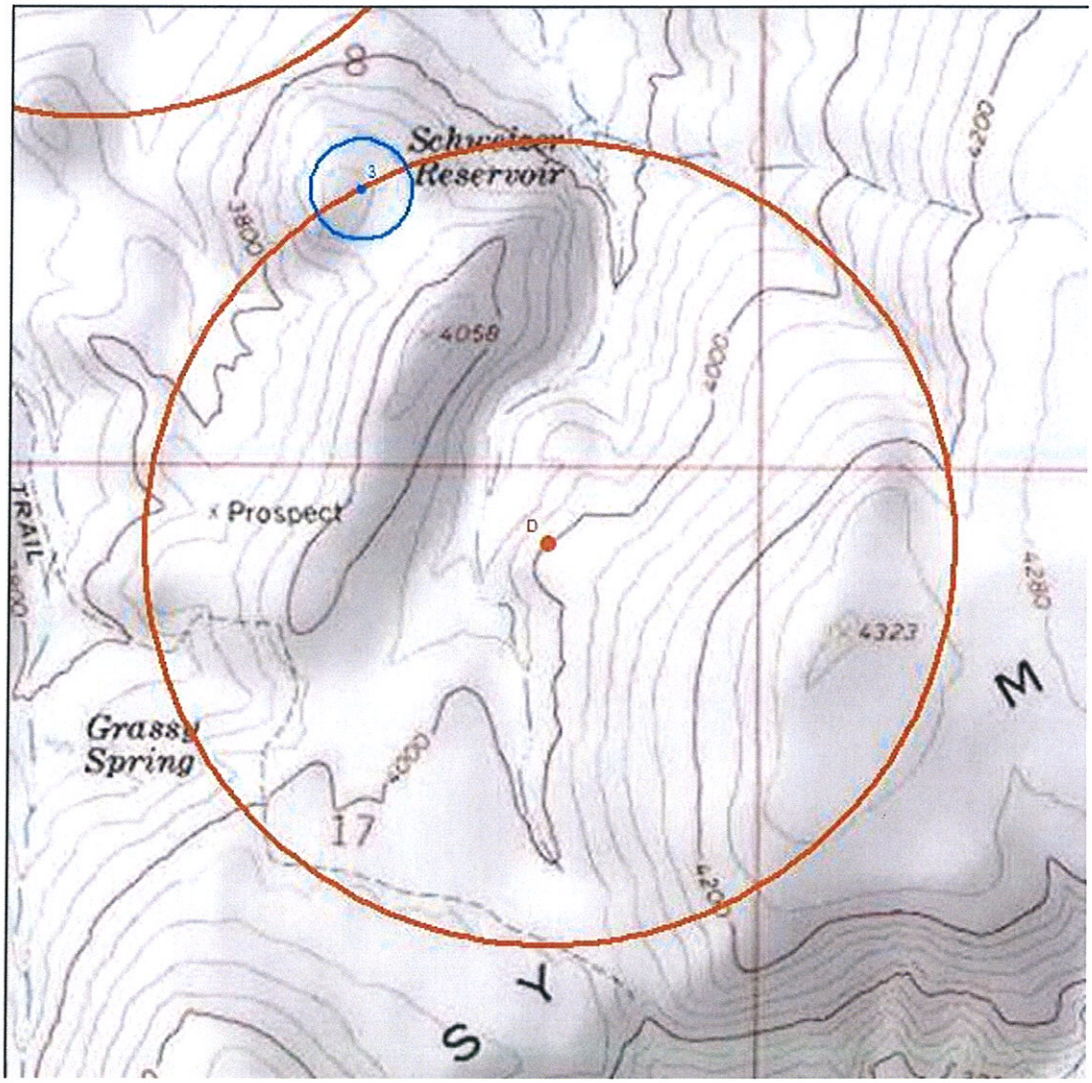
WIND: DIRECTION (circle one) N NE E SE S SW W NW n/a SPEED Low:_____ High:_____ (kph) (mph) (circle one)

PRECIPITATION (circle one) none light rain rain light snow snow sleet hail other

Obs. No.	Species	Sex	Age	No. of ind.	Dist.(m) from obs. 1st//closest	Activity			Flight Height (meters) 1st	low	high	Flight Dir.	Habitat				Inst. Count (height/distance) I1	I2	I3		A T	1st 2nd	Exposure Minutes/ Notes
1						PE	SO	FL					GR	SS	RO	UT							
						CS	HU	OT					AD	RI	DE	OT							
2						PE	SO	FL					GR	SS	RO	UT							
						CS	HU	OT					AD	RI	DE	OT							
3						PE	SO	FL					GR	SS	RO	UT							
						CS	HU	OT					AD	RI	DE	OT							
4						PE	SO	FL					GR	SS	RO	UT							
						CS	HU	OT					AD	RI	DE	OT							
5						PE	SO	FL					GR	SS	RO	UT							
						CS	HU	OT					AD	RI	DE	OT							
6						PE	SO	FL					GR	SS	RO	UT							
						CS	HU	OT					AD	RI	DE	OT							
7						PE	SO	FL					GR	SS	RO	UT							
						CS	HU	OT					AD	RI	DE	OT							
8						PE	SO	FL					GR	SS	RO	UT							
						CS	HU	OT					AD	RI	DE	OT							
9						PE	SO	FL					GR	SS	RO	UT							
						CS	HU	OT					AD	RI	DE	OT							
10						PE	SO	FL					GR	SS	RO	UT							
						CS	HU	OT					AD	RI	DE	OT							

Big Game-

Notes-



Oregon
John A. Kitzhaber, MD, Governor

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February 14, 2014

Vance Thornsberry
Calico Resources
PO Box Q
Vale, OR 97918

Re: Review of Third Quarter 2013 Water Resources Data
Sent electronically to vthornsberry@calicoresources.com & by US Mail (return receipt requested)

Dear Mr. Thornsberry:

The Technical Review Committee (TRT) Water Resources Subcommittee has reviewed the third quarter 2013 water resources data filed with the State on 12/16/13. The data are being collected and analyzed as outlined in the approved *Final Revised Environmental Baseline Study Work Plan 3/13)*, with the subsequent revisions.

After discussion at the TRT Water Resources Subcommittee meeting held January 22, 2014, the Subcommittee is requesting that Calico, or its water resources contractor, prepare a plan for revising the sample preservation practices to ensure that temperature sensitive analytes are received at the contract laboratory at the recommended preservation temperature (<6°C). The 3Q2013 data will be considered estimated but it is acceptable. However, this problem needs to be corrected before the Q1 2014 sampling event. The State wants to avoid the added time and expense needed with re-sampling events because data from samples that are not preserved according to the approved methods are considered "estimated" values and limited for scientific conclusions particularly for pre-existing water quality conditions prior to proposed chemical mining operations.

Lori Pillsbury at Oregon DEQ will review the plan for the TRT Water Resource Subcommittee. Please provide the plan directly to her electronically at PILLSBURY.Lori@deq.state.or.us and copy the project permit coordinator Janet Gillaspie at janet@envirostrategies.com.

Please respond to this letter with your schedule for completing the plan and providing it to the State.

Also, as requested in June 2013, the water sampling wells must be surveyed, including both elevations and location. Depth-to-water measuring points of the sampling wells used by the sampling technicians must be accurately surveyed for precise groundwater elevations. Groundwater elevations of aquifers in the high desert of eastern Oregon often yield a very slight gradient where accurate groundwater elevations are necessary to see flow direction. To

effectively understand the groundwater dynamics of the study area; particularly to decipher issues such as cross-connectivity of aquifers; and most importantly, to develop a plan for a designed system of monitoring wells and piezometers, and determining availability of mining/mineral processing production water, we need accurate groundwater elevations from precise measurements, provided by surveyed locations and elevations of measuring points. Please survey the wells and provide datum elevations in time to analyze all four quarters of piezometric data.

Please contact me in Albany should you have any questions or concerns about this request. I can be reached by phone at 541/967-2053 or by e-mail at gary.lynch@mlrr.oregongeology.com.

Sincerely,



Gary Lynch
Assistant Director of Regulation, Mineral Land Regulation and Reclamation Program
Oregon Department of Geology & Mineral Industries

cc: Rick Richins
Calico Technical Review Team Water Resources Subcommittee Members

Oregon
John A. Kitzhaber, MD, Governor

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March 25, 2014

Vance Thornsberry
Calico Resources USA
PO Box Q
Vale, Oregon 97918

Re: Adjustments to Calico Resources
Final Revised Baseline Methodologies, approved 03/08/13

Sent via e-mail to vthornsberry@calicoresources.com and US Mail, return receipt requested

Dear Mr. Thornsberry:

In its January 22, 2014 meeting, the Water Resources Subcommittee of the Calico Technical Review Team requested Calico and its consultants prepare a plan for ensuring the water monitoring samples collected for the Calico baseline data study are delivered to the analytical laboratory at the correct temperature.

Baseline Data Adjustment

Calico's consultant SPF Water Engineering, provided a *Proposed Plan For Revising Sample Preservation Practices To Ensure That Temperature Sensitive Samples Arrive At The Laboratory At Recommended Preservation Temperatures* dated March 6, 2014 (letter to Lori Pillsbury DEQ from Erik Boe).

Ms. Pillsbury with the Oregon DEQ Laboratory is the QA/QC expert for the TRT Water Resources Subcommittee. She has reviewed your plan and accepts it.

The March 6, 2014 proposed plan for revising the sampling procedures included in the *Calico Final Revised Baseline Methodologies* approved by the State on 03/08/13 is now modified with this revision to ensure that samples reach the analytical laboratory at the recommended preservation temperatures. The proposed plan affects baseline data collected under *Surface Water* (Section 3.3) and *Groundwater* (Section 3.4).

Acknowledgement and Agreement

Please respond within eight (8) business days of receiving this letter to indicate Calico Resources acceptance of the proposed baseline data methodology revisions, as submitted by your water resources consultant, SPF Engineering.

If you have any questions or need additional information on the overall process for baseline data methodology collection, please contact me in Albany at 541-967-2053 or by e-mail at gary.lynch@mlrr.oregongeology.com. If you have questions regarding the specific proposed plan for

revising sample preservation practices, please contact Lori Pillsbury at the DEQ Laboratory at 503-693-5135 or by email at pillsbury.lori@deq.state.or.us

Thank you for Calico's and its consultants continued collaboration with the Technical Review Team and its subcommittees to gather high quality, comprehensive baseline data on the existing environmental conditions in the proposed mine site location.

Sincerely,

Gary W. Lynch
Assistant Director
Mined Land Regulation and Reclamation Program

ec: Rick Richins, Calico
Erik Boe, SPF Water Engineering
Calico Technical Review Team, Water Resources Subcommittee

SPF WATER ENGINEERING

MEMORANDUM

DATE: August 12, 2013

TO: Calico Technical Review Team

CC: Rick Richins, Vance Thornsberry

FROM: Jason Thompson, P.E.

RE: Transmittal of 2nd Quarter Water Resources Baseline Data

FILE: 971.0050

A. Introduction

SPF Water Engineering (SPF) has completed monitoring activities for the 2nd Quarter 2013 sampling period for Calico Resources' Grassy Mountain Gold Project Water Resources Baseline Study. This work is described in the Final Revised Environmental Baseline Study Work Plans for the Grassy Mountain Project, approved by the State of Oregon's Technical Review Team (TRT) on March 13, 2013. Sampling for the 2nd Quarter occurred between June 17 and 27, 2013. This memorandum describes the sites sampled, the data collected, the data being transmitted, and discusses compliance with the approved work plans.

B. Sampling Sites

Manual water-level measurements and water quality samples were collected from 12 wells. These wells are listed in Table 1, along with the Oregon Department of Water Resources (OWRD) tag number.

300 E. Mallard Drive, Suite 350, Boise, Idaho 83706 Tel: 208-383-4140 Fax: 208-383-4156

Table 1. Water Quality Monitoring Wells

Calico Well ID	OWRD Well Tag Number
GW-1	107469
GW-4	107460
Prod 1	107457
PW-1	109353
PW-4	109351
BLM	109398
59760	107462
59761	109400
59763	109356
59766	107468
59772	109352
Bishop Well	None

Manual water-level measurements, without water quality samples, were collected from an additional 7 wells. These wells are listed in Table 2, along with the Oregon Department of Water Resources (OWRD) tag number.

Table 2. Water-level Monitoring Wells

Calico Well ID	OWRD Well Tag Number
GW-2	109357
GW-3	107467
GW-6	109368
89-2	109360
59762	109371
59764	107466
26-092-915	109354

Water-level pressure transducers were installed in 3 monitoring wells during the 1st Quarter sampling event to collect continuous baseline water-level data. The wells selected for continuous water-level measurements are listed in Table 3. These transducers were downloaded during the 2nd Quarter sampling event.

Table 3. Wells Used for Continuous Water-level Monitoring

Calico Well ID	OWRD Well Tag Number
GW-1	107469
GW-2	109357
GW-4	107460

During the 2nd Quarter sampling event, 11 springs were visited within the Water Resources Study Area. These springs are listed in Table 4, along with the flow rate measured during the event. Water quality samples and flow measurements were collected from 10 springs. Samples were not collected from Grassy Spring due to low flow conditions. Note that Lower Sourdough Spring was sampled during this event because a stock tank fed from this spring was located. Prior to locating this tank, this spring was not sampled because there was not a suitable location.

Table 4. Springs and Flow Rate

Spring	Flow Rate (gpm)
Government Corral Spring	1.44
Sagebrush Spring	0.48
Deposit Stock Tank (aka Grassy Spring Stock Tank)	0.17
Twin Springs North	1.57
Twin Springs South	6.08
Sourdough Spring Upper	0.10
Sourdough Spring Lower	0.10
Whiskey Spring	0.83
Lowe Spring	0.02
Poison Spring	0.99
Grassy Spring	< 1/4 liter per minute

A total of 5 surface water sites were visited during the 2nd Quarter sampling event. These sites are identified in Table 5. Water quality samples were collected from 4 of the surface water sites. Twin Springs Creek upstream of Dry Creek was dry at the time of the site visit.

Table 5. Surface Water Sites

Surface Water
Dry Creek Arm of Owyhee Lake
Twin Springs Creek US Dry Creek
Negro Rock Canyon Creek at Northern Boundary of Study Area
Owyhee River DS of Owyhee Dam
Owyhee River US of Owyhee Dam

C. Data Transmittal

Data collected during the 2nd Quarter sampling event is being transmitted to the TRT with this memorandum. Both manually collected water-level data using an electric-line well sounder and continuous water-level data collected using pressure transducers are being transmitted to the TRT. The data has been entered in a specific Excel spreadsheet provided by the Oregon Department of Water Resources (ODWR). Water quality data is being provided to the TRT in an Excel spreadsheet received directly from the laboratory that performed the analyses (ACZ Laboratories). The water quality data includes equipment and transfer blanks. Field notes are being sent as a separate PDF file. The Level 2 analytical report prepared by the laboratory is also being transmitted to the TRT.

D. Compliance with Approved Work Plans

The 2nd Quarter sampling event was performed in accordance with the Final Revised Environmental Baseline Study Work Plans for the Grassy Mountain Project, approved by the State of Oregon's Technical Review Team (TRT) on March 13, 2013. The only notable deviation from the approved plans was the equipment blank sample collected from the spring sampling equipment (peristaltic pump and silicone tubing) was not analyzed for all sampling parameters. The laboratory reported not receiving the sample to be analyzed for chloride, fluoride, nitrate, nitrite, nitrate+nitrite, total dissolved solids, and sulfate. SPF was not immediately notified that the sample was not received, instead we found out about it when we did not receive the results and noticed on the chain of custody that the laboratory noted that the sample was not received.

SPF is confident that the sample was collected, and the sample is identified on the chain of custody. However, this sample was not analyzed by the laboratory and unfortunately SPF was not immediately notified by the laboratory that the sample was not received. If we had been notified, there may have been an opportunity to collect another equipment

blank. SPF contacted the laboratory about this issue and they have confirmed that should this occur again in the future, we will be notified immediately.

SPF understands the importance of collecting equipment blanks, and we believe that the issue encountered during this sampling event can be avoided in the future if the laboratory contacts us if a sample is not received. Fortunately we did collect an equipment blank during the 1st Quarter sampling event, and this blank indicated that the sampling equipment did not have a significant impact on water quality results. The blank had levels of fluoride, total dissolved solids, and sulfate below the sample detection limit. The levels of nitrate, nitrite, and nitrate+nitrite were also below the detection limit, but these were analyzed past the sample hold time. The chloride concentration was 0.54 mg/L, a level reported as estimated because it is between the minimum detection limit and the practical quantitation limit.

A TRT Water Resources Subcommittee Meeting was held on July 18, 2013 to review the 1st Quarter sampling results. This meeting was held after the 2nd Quarter sampling event that occurred between June 17 and 27, 2013. Therefore any recommended revisions to the sampling protocol were not incorporated into the 2nd Quarter sampling. For the 3rd Quarter sampling, modifications were implemented, including:

- The static water level in wells that may be affected by purge pumping was measured prior to pumping.
- The measurement interval for the pressure transducers was changed to 30 minutes.
- The BLM well was sampled after purging 6 casing volumes.
- Samples for nitrate and nitrite were still collected separately, but samples for nitrate+nitrite with a 28-day sample hold time were also collected.
- Conductivity units were recorded consistently as µS/cm.

SPF WATER ENGINEERING

MEMORANDUM

DATE: January 29, 2014

TO: Calico Technical Review Team

CC: Rick Richins, Vance Thornsberry

FROM: Jason Thompson, P.E.

RE: Transmittal of 4th Quarter Water Resources Baseline Data

FILE: 971.0070

A. Introduction

SPF Water Engineering (SPF) has completed monitoring activities for the 4th Quarter 2013 sampling period for Calico Resources' Grassy Mountain Gold Project Water Resources Baseline Study. This work is described in the Final Revised Environmental Baseline Study Work Plans for the Grassy Mountain Project, approved by the State of Oregon's Technical Review Team (TRT) on March 13, 2013. Sampling for the 4th Quarter occurred between November 18 and 25, 2013. This memorandum describes the sites sampled, the data collected, the data being transmitted, and discusses compliance with the approved work plans.

B. Sampling Sites

Manual water-level measurements and water quality samples were collected from 12 wells. These wells are listed in Table 1, along with the Oregon Department of Water Resources (OWRD) tag numbers.

300 E. Mallard Drive, Suite 350, Boise, Idaho 83706 Tel: 208-383-4140 Fax: 208-383-4156

Table 1. Water Quality Monitoring Wells

Calico Well ID	OWRD Well Tag Number
GW-1	107469
GW-4	107460
Prod 1	107457
PW-1	109353
PW-4	109351
BLM	109398
59760	107462
59761	109400
59763	109356
59766	107468
59772	109352
Bishop Well	None

Manual water-level measurements, without water quality samples, were collected from an additional 7 wells. These wells are listed in Table 2, along with the Oregon Department of Water Resources (OWRD) tag numbers.

Table 2. Water-level Monitoring Wells

Calico Well ID	OWRD Well Tag Number
GW-2	109357
GW-3	107467
GW-6	109368
89-2	109360
59762	109371
59764	107466
26-092-915	109354

Water-level pressure transducers were installed in 3 monitoring wells during the 1st Quarter (2013) sampling event to collect continuous baseline water-level data. The wells selected for continuous water-level measurements are listed in Table 3. These transducers were downloaded during the 4th Quarter sampling event.

Table 3. Wells Used for Continuous Water-level Monitoring

Calico Well ID	OWRD Well Tag Number
GW-1	107469
GW-2	109357
GW-4	107460

During the 4th Quarter sampling event, 11 springs were visited within the Water Resources Study Area for flow measurement and sample collection if there is adequate flow (> ¼ liter per minute). These baseline springs are listed in Table 4, along with the flow rate measured during the event. Water quality samples and flow measurements were collected from 9 springs. Samples were not collected from Grassy Spring and Lowe Spring due to low flow conditions.

Table 4. Baseline Springs and Flow Rate

Spring	Flow Rate (gpm)
Government Corral Spring	1.55
Sagebrush Spring	0.46
Deposit Stock Tank (aka Grassy Spring Stock Tank)	0.25
Twin Springs North	1.51
Twin Springs South	6.34
Sourdough Spring Upper	0.10
Sourdough Spring Lower	0.08
Whiskey Spring	0.90
Lowe Spring	(1) 0.023
Poison Spring	(2) 1.00
Grassy Spring	(1) 0.016
(1) Flow rate was less than 1/4 liters per minute (0.066 gpm). (2) Approximate measurement value because water was flowing from crack and running down the side of the 2'x2' concrete well.	

In addition to visiting the 11 baseline springs, 16 other springs located within the Water Resources Study Area were visited during the 4th Quarter sampling event. These springs are identified as background springs in the Final Revised Environmental Baseline Study Work Plans, and are scheduled to be visited semi-annually (2nd and 4th Quarters). Photographs were taken of each of these springs, and flow measured if observed and a

suitable location existed for measuring the flow. The background springs are listed in Table 5, along with the flow rate if measurement was possible.

Table 5. Background Springs and Flow Rate

Spring	Flow Rate (gpm)
Bull Spring	0.69
Central Grassy Mountain Spring	(1) No Measurement
East Grassy Mountain Spring	(1) No Measurement
West Grassy Mountain Spring	(2) No Measurement
Negro Rock Spring	(3) No Measurement
Negro Rock Canyon Spring	(4) 5-10 gpm
Oxbow Spring	0.30
Oxyoke Spring	No Flow to Stock Tank
Red Tank No. 3	(3) No Measurement
Tank E of Negro Rock	9.91
Spring North of Lowe Reservoir	(3) No Measurement
Spring in Section 13 T22S R44E	0.83
Spring in Section 23 T21S R43E	(1) No Measurement
Spring South of Poison Spring	(1) No Measurement
West Whiskey Spring	(1) No Measurement
Wildcat Spring	(1) No Measurement

(1) Stagnant water, no obvious spring source for flow measurement.
(2) No water present, hydric vegetation dried out.
(3) Spring feeds stock tank below water surface, flow measurement not possible.
(4) Visual estimate, no direct source for flow measurement.

There are two flowing wells located within the Water Resources Study Area that are also identified as background monitoring locations. Photographs are to be taken and flow measured on a semi-annual basis (2nd and 4th Quarters) in accordance with the Final Revised Environmental Baseline Study Work Plans. These two wells were visited during the 4th Quarter sampling event, and are listed in Table 6 with the measured flow rate.

Table 6. Background Flowing Wells and Flow Rate

Flowing Well	Flow Rate (gpm)
Darky Rock Well	11.32
Flowing Well	3.11

A total of 5 surface water sites were visited during the 4th Quarter sampling event. These sites are identified in Table 7. Water quality samples were collected from 4 of the surface water sites. Twin Springs Creek upstream of Dry Creek was dry at the time of the site visit.

Table 7. Surface Water Sites

Surface Water
Dry Creek Arm of Owyhee Lake
Twin Springs Creek US Dry Creek
Negro Rock Canyon Creek at Northern Boundary of Study Area
Owyhee River DS of Owyhee Dam
Owyhee River US of Owyhee Dam

C. Data Transmittal

Data collected during the 4th Quarter sampling event is being transmitted to the TRT with this memorandum. Both manually collected water-level data using an electric-line well sounder and continuous water-level data collected using pressure transducers are being transmitted to the TRT. The water-level data has been entered in a specific Excel spreadsheet provided by the Oregon Department of Water Resources (ODWR). Water quality data is being provided to the TRT in an Excel spreadsheet received directly from the laboratory that performed the analyses (ACZ Laboratories). The water quality data includes equipment and transfer blanks. Field notes are being sent as a separate PDF file. The Level 2 analytical report prepared by the laboratory is also being transmitted to the TRT. Photographs of each of the springs and flowing wells visited during the 4th Quarter event are included with this transmittal.

During the State of Oregon's TRT Review of 2nd Quarter results on October 3, 2013, it was requested that we provide photographs documenting the water level measurement point of each monitoring well. These photographs were taken during the 4th Quarter sampling event and provided to the TRT with the 3rd Quarter data.

D. Compliance with Approved Work Plans

The 4th Quarter sampling event was performed in accordance with the Final Revised Environmental Baseline Study Work Plans for the Grassy Mountain Project, approved by the State of Oregon's Technical Review Team (TRT) on March 13, 2013. As per

recommendations from the TRT Water Resources Subcommittee Meeting, held on July 18, 2013, the following modifications were initially implemented during the 3rd Quarter sampling event and continued during the 4th Quarter event:

- The static water level in wells that may be affected by purge pumping was measured prior to pumping.
- The measurement interval for the pressure transducers was changed to 30 minutes.
- The BLM well was sampled after purging 6 casing volumes.
- During the 4th Quarter, samples for nitrate+nirite were collected by SPF and analyzed by ACZ Laboratories using Method 353.2 within the method hold time.
- Conductivity units were recorded consistently as µS/cm.

One notable deviation from the approved plans was the elevated temperature inside some of the shipping containers (ice chests) measured by ACZ Laboratories upon receipt of the shipments (Table 8). The challenge of maintaining internal ice chest temperatures below the recommended 6°C was apparent during the first few quarters of sampling at Grassy Mountain. This issue was discussed during the State of Oregon's TRT Review of 2nd Quarter results on October 3, 2013, where it was collectively decided that SPF work with ACZ Laboratories to determine a potential solution. ACZ recommended packing ice chests with loose ice secured inside multiple Ziploc bags. This recommendation was received after completion of 3rd Quarter sampling event, and was implemented during the 4th Quarter sampling event. Likely due to a combination of the improved ice packing method and cooler ambient temperatures, ice chest temperatures during the 4th Quarter were significantly lower (all were less than 9°C) than those from the 3rd Quarter (Table 8). A total of seven ice chests exceeded the 6°C threshold during the 4th Quarter sampling period.

As per the State of Oregon's Field Sampling Reference Guide (DEQ86-LAB-0002-QAG) and communication with ACZ Laboratories, samples impacted by temperatures exceeding 6°C include those not containing a preservative, those preserved with sulfuric acid, and those preserved with sodium hydroxide. All affected sample results are designated with a "Q6" identifier in the Qualifier Report section of the ACZ Level 2 analytical report.

This matter was again discussed during State of Oregon's TRT Review of 3rd Quarter results on January 22, 2014, where it was collectively decided that SPF prepare an action plan to address the ice chest temperature issue. The plan will be prepared and submitted to Lori Pillsbury from the Oregon Department of Environmental Quality for approval. The plan will likely involve a combination of expedited shipping (UPS Next Day Air), using ice chests with better insulating properties, and ensuring that samples are adequately chilled prior to shipping.

Table 8. Table of ice chest internal temperatures as measured upon receipt at the Laboratory during 3rd and 4th Quarter Periods.

Sampling Period	Ice Chest	Temperature (°C)	Shipment Method
Q4	L15734	5.2	3-day
Q4	L15770	5.2	3-day
Q4	L15771	4.2	3-day
Q4	L15772	5.6	3-day
Q4	L15820	6.5	3-day
Q4	L15821	7.9	3-day
Q4	L15822	8.0	3-day
Q4	L15823	7.1	3-day
Q4	L15824	6.9	3-day
Q4	L15825	5.1	3-day
Q4	L15826	8.9	3-day
Q4	L15834	7.2	3-day
Q3	L13751	8.8	overnight
Q3	L13761	17.1	overnight
Q3	L13763	12.6	3-day
Q3	L13796	14.7	3-day
Q3	L13800	19.5	overnight
Q3	L13811	15.8	3-day
Q3	L13873	8.9	overnight
Q3	L13920	14.7	3-day
Q3	L13923	15.8	overnight
Q3	L13939	21.4	3-day
Q3	L13940	23.2	3-day

During the 4th Quarter event, sample collection from Sourdough Springs Upper was slightly modified due to low flow conditions. Upon arrival to the site, water was flowing down the side of the pipe that discharges spring water into the stock tank. To create a sufficient stream of water for sampling, a piece of No. 15 silicone tubing (used for the peristaltic pump) was wrapped around the end of the discharge pipe as illustrated in Figure 1. This tubing was new, and free from contamination. We do not consider this modified sampling procedure to have any effect on the integrity of the samples collected.



Figure 1. Photograph of discharge at Sourdough Spring Upper

SPF WATER ENGINEERING

MEMORANDUM

DATE: September 4, 2014

TO: Calico Technical Review Team

CC: Rick Richins, Vance Thornsberry

FROM: Jason Thompson, P.E.

RE: Transmittal of 2nd Quarter Water Resources Baseline Data

FILE: 971.0091

A. Introduction

SPF Water Engineering (SPF) has completed monitoring activities for the 2nd Quarter 2014 sampling period for Calico Resources' Grassy Mountain Gold Project Water Resources Baseline Study. This work is described in the Final Revised Environmental Baseline Study Work Plans for the Grassy Mountain Project, approved by the State of Oregon's Technical Review Team (TRT) on March 13, 2013. Sampling for the 2nd Quarter occurred between June 19 and 30, 2014. This memorandum describes the sites sampled, the data collected, the data being transmitted, and discusses compliance with the approved work plans.

B. Sampling Sites

Manual water-level measurements and water quality samples were collected from 12 wells. These wells are listed in Table 1, along with the Oregon Department of Water Resources (OWRD) tag numbers.

300 E. Mallard Drive, Suite 350, Boise, Idaho 83706 Tel: 208-383-4140 Fax: 208-383-4156

Table 1. Water Quality Monitoring Wells

Calico Well ID	OWRD Well Tag Number
GW-1	107469
GW-4	107460
Prod 1	107457
PW-1	109353
PW-4	109351
BLM	109398
59760	107462
59761	109400
59763	109356
59766	107468
59772	109352
Bishop Well	None

Manual water-level measurements, without water quality samples, were collected from an additional 7 wells. These wells are listed in Table 2, along with the Oregon Department of Water Resources (OWRD) tag numbers.

Table 2. Water-level Monitoring Wells

Calico Well ID	OWRD Well Tag Number
GW-2	109357
GW-3	107467
GW-6	109368
89-2	109360
59762	109371
59764	107466
26-092-915	109354

Water-level pressure transducers were installed in 3 monitoring wells during the 2nd Quarter 2013 sampling event to collect continuous baseline water-level data. The wells selected for continuous water-level measurements are listed in Table 3. These transducers were downloaded during the 2nd Quarter sampling event.

Table 3. Wells Used for Continuous Water-level Monitoring

Calico Well ID	OWRD Well Tag Number
GW-1	107469
GW-2	109357
GW-4	107460

During the 2nd Quarter sampling event, 11 baseline springs were visited within the Water Resources Study Area for flow measurement and sample collection, assuming adequate flow (> ¼ liter per minute). These baseline springs are listed in Table 4, along with the flow rates measured during the event. Water quality samples and flow measurements were collected from 9 springs. Samples were not collected from Grassy Spring, Lowe Spring, and Sourdough Spring Lower due to low flow conditions.

Table 4. Baseline Springs and Flow Rate

Spring	Flow Rate (gpm)
Government Corral Spring	2.14
Sagebrush Spring	1.17
Deposit Stock Tank	0.14
Twin Springs North	1.42
Twin Springs South	5.49
Sourdough Spring Upper	0.085
Sourdough Spring Lower	(1) 0.053
Whiskey Spring	0.77
Lowe Spring	(1) 0.003
Poison Spring	(2) 1
Grassy Spring	(1) 0.013

(1) Flow rate was less than 1/4 liters per minute (0.066 gpm).
(2) Approximate measurement value because water was flowing from crack and running down the side of the 2'x2' concrete well.

In addition to visiting the 11 baseline springs, 16 other springs located within the Water Resources Study Area were visited during the 2nd Quarter sampling event. These springs are identified as background springs in the Final Revised Environmental Baseline Study Work Plans, and are scheduled to be visited semi-annually (2nd and 4th Quarters). Photographs were taken of each of these springs, and flow measured if observed and a suitable location existed for measuring the flow. The background springs are listed in Table 5, along with the flow rate if measurement was possible.

Table 5. Background Springs and Flow Rate

Spring	Flow Rate (gpm)
Bull Spring	0.73
Central Grassy Mountain Spring	(1) No Measurement
East Grassy Mountain Spring	(1) No Measurement
West Grassy Mountain Spring	(2) No Measurement
Negro Rock Spring	(3) No Measurement
Negro Rock Canyon Spring	(4) Stagnant at Source
Oxbow Spring	0.27
Oxyoke Spring	No Flow to Stock Tank
Red Tank No. 3	0.20
Tank E of Negro Rock	6.89
Spring North of Lowe Reservoir	(3) No Measurement
East Boundary Spring (aka Spring in Section 13 T22S R44E)	1.02
Northwest Boundary Spring (aka Spring in Section 23 T21S R43E)	(1) No Measurement
Spring South of Poison Spring	(1) No Measurement
West Whiskey Spring	(1) No Measurement
Wildcat Spring	(1) No Measurement

(1) Stagnant water, no obvious spring source for flow measurement.
(2) No water present, hydric vegetation dried out.
(3) Spring feeds stock tank below water surface, flow measurement not possible.
(4) Visual observation, no direct source for flow measurement.

There are two flowing wells located within the Water Resources Study Area that are also identified as background monitoring locations. Photographs are to be taken and flow measured on a semi-annual basis (2nd and 4th Quarters) in accordance with the Final Revised Environmental Baseline Study Work Plans. These two wells were visited during the 2nd Quarter sampling event, and are listed in Table 6 with the measured flow rate.

Table 6. Background Flowing Wells and Flow Rate

Flowing Well	Flow Rate (gpm)
Darky Rock Well	8.34
Flowing Well	4.95

A total of 5 surface water sites were visited during the 2nd Quarter sampling event. These sites are identified in Table 7. Water quality samples were collected from 4 of the surface water sites. Twin Springs Creek upstream of Dry Creek was dry at the time of the site visit.

Table 7. Surface Water Sites

Surface Water
Dry Creek Arm of Owyhee Lake
Twin Springs Creek US Dry Creek
Negro Rock Canyon Creek at Northern Boundary of Study Area
Owyhee River DS of Owyhee Dam
Owyhee River US of Owyhee Dam

C. Data Transmittal

Data collected during the 2nd Quarter sampling event is being transmitted to the TRT with this memorandum. Both manually collected water-level data using an electric-line well sounder and continuous water-level data collected using pressure transducers are being transmitted to the TRT. The water-level data has been entered in a specific Excel spreadsheet provided by the Oregon Department of Water Resources (ODWR). Water quality data is being provided to the TRT in an Excel spreadsheet received directly from the laboratory that performed the analyses (ACZ Laboratories). The water quality data includes equipment and transfer blanks. Field notes are being sent as a separate PDF

file. The Level 2 analytical report prepared by the laboratory is also being transmitted to the TRT. Photographs of each of the springs and flowing wells visited during the 2nd Quarter event are included with this transmittal.

D. Compliance with Approved Work Plans

The 2nd Quarter sampling event was performed in accordance with the Final Revised Environmental Baseline Study Work Plans for the Grassy Mountain Project, approved by the State of Oregon's Technical Review Team (TRT) on March 13, 2013. As per recommendations from the TRT Water Resources Subcommittee Meeting, held on July 18, 2013, the following modifications were initially implemented during the 3rd Quarter (2013) sampling event and continued during the 2nd Quarter event:

- The static water level in wells that may be affected by purge pumping was measured prior to pumping.
- The measurement interval for the pressure transducers was changed to 30 minutes.
- The BLM well was sampled after purging 6 casing volumes.
- During the 4th Quarter 2013 event, samples for nitrate+nitrite were collected by SPF and analyzed by ACZ Laboratories using Method 353.2 within the method hold time.
- Conductivity units were recorded consistently as µS/cm.

During the 2nd Quarter event, sample collection from Sourdough Springs Upper was slightly modified due to relatively low flow conditions. Similar to what was observed during previous sampling events, water was flowing down the side of the pipe that discharges spring water into the stock tank. To create a sufficient stream of water for sampling, a piece of No. 15 silicone tubing (used for the peristaltic pump) was wrapped around the end of the discharge pipe as illustrated in Figure 1. This tubing was new, and free from contamination. We do not consider this modified sampling procedure to have any effect on the integrity of the samples collected.



Figure 1. Photographs of temporary modification to the discharge pipe at Sourdough Spring Upper; photographs were captured during 4th Quarter 2013 sampling event.

Revised Sample Preservation Practices

In response to *Review of Third Quarter 2013 Water Resources Data* letter, dated February 14, 2014, from the TRT Water Resources Subcommittee, SPF submitted a proposed plan for revising sample preservation practices to ensure that temperature sensitive samples arrive to the laboratory at recommended preservation temperatures, between 0°C and 6°C. The proposed plan, approved by the TRT on March 26, 2014, involved the use of higher grade ice chests along with expedited (UPS Next Day Air) shipping practices, and is described below:

1. **Higher Grade Ice Chests:** Ice chests with better insulating properties will be used for shipping temperature sensitive bottles to ACZ Laboratories (ACZ). Higher grade ice chests, such as those manufactured by Yeti, have thicker (insulated) walls and full-frame gaskets to maintain desired temperatures.

2. **Expedited Shipping:** All temperature sensitive sample bottles will be shipped to ACZ via Next Day Air.

During the 2nd Quarter sample period, all samples arrived to the laboratory at recommended preservation temperatures, between 0°C to 6°C. Actual temperatures measured by ACZ were between 1.7 and 4.5 °C.

59762 Evaluation

The mean annual water level elevation associated with 59762 is a consistent 3105 feet above sea level, which is approximately 400 to 600 feet lower than nearby monitoring wells. This difference in water level elevation suggests 59762 is hydraulically

disconnected from the local aquifer that is monitored by nearby monitoring wells including 26-092-915, GW-1, GW-3, and PW-1.

During the 2nd Quarter sample period, a slug test was conducted to determine whether 59762 is hydraulically connected to a different water bearing zone, or if it is plugged. The slug test was conducted by (1) measuring static water level, (2) injecting 10 gallons of distilled water, and (3) measuring the response in water level. Results presented in Table 8 suggest that 59762 is not plugged and is hydraulically connected to a different water bearing zone.

Table 8. 59762 Slug test results

Date Time	Duration (min)	DTW (ft BMP)	Notes
6/30/2014 10:55		619.91	Static water level
6/30/2014 11:07			Begin input of 10 gallons distilled water
6/30/2014 11:11	0		end input of 10 gallons distilled water
6/30/2014 11:12	1	619.73	
6/30/2014 11:13	2	619.87	
6/30/2014 11:15	4	619.73	
6/30/2014 11:20	9	619.90	
6/30/2014 11:35	24	619.90	

Appendix C: ACZ Laboratories Analytical Report, QA/QC, Chain of Custody

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 11, 2013

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 2nd Q samplin
ACZ Project ID: L12893

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 22, 2013. This project has been assigned to ACZ's project number, L12893. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L12893. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 10, 2013. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: SPRING TRANSFER BLANK

ACZ Sample ID: ***L12893-07***
Date Sampled: *06/20/13 15:40*
Date Received: *06/22/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	1		U	*	mg/L	0.5	2.5	07/08/13 12:50	jlf
Fluoride	M300.0 - Ion Chromatography	1		U	*	mg/L	0.1	0.5	07/08/13 12:50	jlf
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2			U		mg/L	0.02	0.1	07/11/13 10:17	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		U		mg/L	0.02	0.1	06/22/13 15:08	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		U	*	mg/L	0.01	0.05	06/22/13 15:08	pjb
Residue, Filterable (TDS) @180C	SM2540C	1		U		mg/L	10	20	06/26/13 11:01	dcw
Sulfate	M300.0 - Ion Chromatography	1		U		mg/L	0.5	2.5	07/08/13 12:50	jlf

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4)	EPA SW-846. Test Methods for Evaluating Solid Waste.
(5)	Standard Methods for the Examination of Water and Wastewater.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5)	If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L12893***

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346168													
WG346168ICV	ICV	06/24/13 18:44	WI130624-1	19.98		20.3	mg/L	101.6	90	110			
WG346168ICB	ICB	06/24/13 19:01				U	mg/L		-1.5	1.5			
WG347052													
WG347052LFB1	LFB	07/05/13 14:23	WI130501-1	30		30.6	mg/L	102	90	110			
L12739-01DUP	DUP	07/05/13 19:03			81.5	81.6	mg/L				0.1	20	RA
L12893-01AS	AS	07/05/13 19:38	WI130501-1	30	11.2	42.3	mg/L	103.7	90	110			
WG347052LFB2	LFB	07/08/13 13:42	WI130501-1	30		32.7	mg/L	109	90	110			

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346168													
WG346168ICV	ICV	06/24/13 18:44	WI130624-1	4.004		4.19	mg/L	104.6	90	110			
WG346168ICB	ICB	06/24/13 19:01				U	mg/L		-0.3	0.3			
WG347052													
WG347052LFB1	LFB	07/05/13 14:23	WI130501-1	1.5		1.55	mg/L	103.3	90	110			
L12739-01DUP	DUP	07/05/13 19:03			.55	.55	mg/L				0	20	RA
L12893-01AS	AS	07/05/13 19:38	WI130501-1	1.5	.38	1.95	mg/L	104.7	90	110			

Nitrate/Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346212													
WG346212ICV	ICV	06/22/13 14:50	WI130411-3	2.416		2.445	mg/L	101.2	90	110			
WG346212ICB	ICB	06/22/13 14:51				U	mg/L		-0.06	0.06			
WG346212LFB	LFB	06/22/13 14:55	WI130215-3	2		1.955	mg/L	97.8	90	110			
L12893-02DUP	DUP	06/22/13 14:59			2.37	2.364	mg/L				0.3	20	
L12893-01AS	AS	06/22/13 15:10	WI130215-3	6	2.42	8.478	mg/L	101	90	110			

Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346212													
WG346212ICV	ICV	06/22/13 14:50	WI130411-3	.609		.608	mg/L	99.8	90	110			
WG346212ICB	ICB	06/22/13 14:51				U	mg/L		-0.03	0.03			
WG346212LFB	LFB	06/22/13 14:55	WI130215-3	1		1.005	mg/L	100.5	90	110			
L12893-01AS	AS	06/22/13 14:57	WI130215-3	1	U	.978	mg/L	97.8	90	110			
L12893-02DUP	DUP	06/22/13 14:59			U	U	mg/L				0	20	RA

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346443													
WG346443PBW	PBW	06/26/13 10:20				U	mg/L		-20	20			
WG346443LCSW	LCSW	06/26/13 10:22	PCN42882	260		244	mg/L	93.8	80	120			
L12893-03DUP	DUP	06/26/13 10:51			370	372	mg/L				0.5	10	
L12936-02DUP	DUP	06/26/13 11:20			520	518	mg/L				0.4	10	

SPF Water Engineering

ACZ Project ID: ***L12893***

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346168													
WG346168ICV	ICV	06/24/13 18:44	WI130624-1	50		50.2	mg/L	100.4	90	110			
WG346168ICB	ICB	06/24/13 19:01				U	mg/L		-1.5	1.5			
WG347052													
WG347052LFB1	LFB	07/05/13 14:23	WI130501-1	30		30.5	mg/L	101.7	90	110			
L12739-01DUP	DUP	07/05/13 19:03			57.9	57.9	mg/L				0	20	
L12893-01AS	AS	07/05/13 19:38	WI130501-1	30	18.8	49.6	mg/L	102.7	90	110			
WG347052LFB2	LFB	07/08/13 13:42	WI130501-1	30		32.1	mg/L	107	90	110			

SPF Water Engineering ACZ Project ID: ***L12893***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L12893-01	WG347052	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346212	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L12893-02	WG347052	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346212	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L12893-03	WG347052	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346212	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L12893-04	WG347052	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346212	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

SPF Water Engineering

ACZ Project ID: ***L12893***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L12893-05	WG347052	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346212	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L12893-06	WG347052	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346212	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L12893-07	WG347052	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346212	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Certification Qualifiers

SPF Water Engineering ACZ Project ID: ***L12893***

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Q sampling

ACZ Project ID: L12893
Date Received: 06/22/2013 10:04
Received By: gac
Date Printed: 6/24/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?			X
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?		X	

Some parameters were received past hold time.

Chain of Custody Related Remarks

Sample "Spring Equip Blank" was not received and was not entered with the project.

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
1815	1.7	12	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc. L12893

CHAIN of CUSTODY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Report to:

Name: Erik Boe
Company: SPF Water Engineering
E-mail: eboe@spfwater.com
Address: 300 E. Mallard Dr., Ste 350
Boise, ID 83706
Telephone: 208-383-4140

Copy of Report to:

Name: SAME
Company:
E-mail: SAME
Telephone:

Invoice to:

Name: SAME
Company:
E-mail:
Address: SAME
Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SHORT-HOLDS-WETCHEM
PO#: Calico 2nd Quarter Sampling
Reporting state for compliance testing:
Check box if samples include NRC licensed material? [ ]

ANALYSIS REQUESTED (attach list or use quote number)

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	SHORT-HOLDS-WETCHEM Quote #							
Sagebrush Spring	6/20/13 9:40		1	X							
Government Corral Spring	6/20/13 10:20		1	X							
Prod - 1	6/20/13 11:50		1	X							
Grassy Spring Stock Tank	6/20/13 12:50		1	X							
Twin Springs North	6/20/13 15:00		1	X							
Twin Springs South	6/20/13 14:00		1	X							
Spring Equip. Blank	6/20/13 16:30		1	X	sample was not received =>						
Spring Transfer Blank	6/20/13 15:40		1	X	removed from the project. AHK 6/22/13						

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	6/21/13 10:50	AHK 6/22/13	1004

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L12893 Chain of Custody

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 15, 2013

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 2nd Q samplin
ACZ Project ID: L12940

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 25, 2013. This project has been assigned to ACZ's project number, L12940. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L12940. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 14, 2013. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: SPRING EQUIP BLANK

ACZ Sample ID: ***L12940-03***
Date Sampled: *06/20/13 15:20*
Date Received: *06/25/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/02/13 12:32	mla
Cyanide, WAD	SM4500-CN I- distillation								07/02/13 15:12	mla
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/05/13 16:13	mpb/bsu
Total Hot Plate Digestion	M200.2 ICP								07/02/13 16:49	jjc/scp
Total Hot Plate Digestion	M200.2 ICP-MS								07/08/13 15:28	las

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: SPRING EQUIP BLANK

ACZ Sample ID: ***L12940-03***
Date Sampled: *06/20/13 15:20*
Date Received: *06/25/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	07/03/13 17:35	aeb
Aluminum, total	M200.7 ICP	1		U		mg/L	0.03	0.2	07/03/13 14:07	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.002	07/06/13 13:42	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/10/13 22:33	msh
Arsenic, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	07/06/13 13:42	msh
Arsenic, total	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	07/10/13 22:33	msh
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	07/03/13 17:35	aeb
Barium, total	M200.7 ICP	1		U		mg/L	0.003	0.02	07/03/13 14:07	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/06/13 13:42	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/10/13 22:33	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/03/13 17:35	aeb
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/03/13 14:07	jjc
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 17:35	aeb
Boron, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 14:07	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/06/13 13:42	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/10/13 22:33	msh
Calcium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	07/03/13 17:35	aeb
Calcium, total	M200.7 ICP	1		U		mg/L	0.2	1	07/03/13 14:07	jjc
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/06/13 13:42	msh
Chromium, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/10/13 22:33	msh
Cobalt, dissolved	M200.8 ICP-MS	1	0.00007	B		mg/L	0.00005	0.0003	07/06/13 13:42	msh
Cobalt, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/10/13 22:33	msh
Copper, dissolved	M200.8 ICP-MS	1	0.0007	B		mg/L	0.0005	0.003	07/06/13 13:42	msh
Copper, total	M200.8 ICP-MS	1		U	*	mg/L	0.0005	0.003	07/10/13 22:33	msh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/13 17:35	aeb
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/13 14:07	jjc
Iron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.02	0.05	07/03/13 17:35	aeb
Iron, total	M200.7 ICP	1		U		mg/L	0.02	0.05	07/03/13 14:07	jjc
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/06/13 13:42	msh
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/10/13 22:33	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	07/03/13 17:35	aeb
Lithium, total	M200.7 ICP	1		U		mg/L	0.02	0.1	07/03/13 14:07	jjc
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	07/03/13 17:35	aeb
Magnesium, total	M200.7 ICP	1		U		mg/L	0.2	1	07/03/13 14:07	jjc
Manganese, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/06/13 13:42	msh
Manganese, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/10/13 22:33	msh
Mercury, dissolved	M1631, Atomic Fluorescence	1		U	*	ng/L	0.2	0.5	07/09/13 14:05	las
Mercury, total	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	07/02/13 15:20	las
Molybdenum, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/06/13 13:42	msh
Molybdenum, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/10/13 22:33	msh
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/06/13 13:42	msh
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/10/13 22:33	msh
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.3	2	07/03/13 17:35	aeb

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: SPRING EQUIP BLANK

ACZ Sample ID: ***L12940-03***
Date Sampled: *06/20/13 15:20*
Date Received: *06/25/13*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1		U		mg/L	0.3	2	07/03/13 14:07	jjc
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/13 17:35	aeb
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/13 14:07	jjc
Selenium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	07/06/13 13:42	msh
Selenium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	07/10/13 22:33	msh
Silver, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/06/13 13:42	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/10/13 22:33	msh
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.3	2	07/03/13 17:35	aeb
Sodium, total	M200.7 ICP	1		U		mg/L	0.3	2	07/03/13 14:07	jjc
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 17:35	aeb
Strontium, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 14:07	jjc
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/06/13 13:42	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/10/13 22:33	msh
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/06/13 13:42	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/10/13 22:33	msh
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	07/03/13 17:35	aeb
Titanium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	07/03/13 14:07	jjc
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/06/13 13:42	msh
Uranium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/10/13 22:33	msh
Vanadium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0002	0.001	07/06/13 13:42	msh
Vanadium, total	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	07/11/13 22:19	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 17:35	aeb
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 14:07	jjc

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U	*	mg/L	2	20	06/26/13 0:00	khw
Carbonate as CaCO3		1		U	*	mg/L	2	20	06/26/13 0:00	khw
Hydroxide as CaCO3		1		U	*	mg/L	2	20	06/26/13 0:00	khw
Total Alkalinity		1		U	*	mg/L	2	20	06/26/13 0:00	khw
Conductivity @25C	SM2510B	1		U	*	umhos/cm	1	10	06/26/13 5:11	khw
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/02/13 17:37	mpb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/02/13 18:07	mpb
Hardness as CaCO3	SM2340B - Calculation			U		mg/L	1	7	07/15/13 10:26	calc
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	07/08/13 14:04	mpb
pH (lab)	SM4500H+ B									
pH		1	6.2	H	*	units	0.1	0.1	06/26/13 0:00	khw
pH measured at		1	21.0		*	C	0.1	0.1	06/26/13 0:00	khw
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.01	0.05	07/06/13 0:22	pjb
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	06/27/13 12:16	mss3

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: SPRING TRANSFER BLANK

ACZ Sample ID: ***L12940-04***
Date Sampled: *06/20/13 15:40*
Date Received: *06/25/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/02/13 12:39	mla
Cyanide, WAD	SM4500-CN I- distillation								07/02/13 15:19	mla
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/05/13 16:24	mpb/bsu
Total Hot Plate Digestion	M200.2 ICP-MS								07/08/13 15:40	las
Total Hot Plate Digestion	M200.2 ICP								07/02/13 17:01	jjc/scp

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: SPRING TRANSFER BLANK

ACZ Sample ID: ***L12940-04***
Date Sampled: *06/20/13 15:40*
Date Received: *06/25/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.07	B		mg/L	0.03	0.2	07/03/13 17:38	aeb
Aluminum, total	M200.7 ICP	1		U		mg/L	0.03	0.2	07/03/13 14:11	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.002	07/06/13 13:45	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/10/13 22:36	msh
Arsenic, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	07/06/13 13:45	msh
Arsenic, total	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	07/10/13 22:36	msh
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	07/03/13 17:38	aeb
Barium, total	M200.7 ICP	1		U		mg/L	0.003	0.02	07/03/13 14:11	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/06/13 13:45	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/10/13 22:36	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/03/13 17:38	aeb
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/03/13 14:11	jjc
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 17:38	aeb
Boron, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 14:11	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/06/13 13:45	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/10/13 22:36	msh
Calcium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	07/03/13 17:38	aeb
Calcium, total	M200.7 ICP	1		U		mg/L	0.2	1	07/03/13 14:11	jjc
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/06/13 13:45	msh
Chromium, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/10/13 22:36	msh
Cobalt, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/06/13 13:45	msh
Cobalt, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/10/13 22:36	msh
Copper, dissolved	M200.8 ICP-MS	1	0.0012	B		mg/L	0.0005	0.003	07/06/13 13:45	msh
Copper, total	M200.8 ICP-MS	1		U	*	mg/L	0.0005	0.003	07/10/13 22:36	msh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/13 17:38	aeb
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/13 14:11	jjc
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	07/03/13 17:38	aeb
Iron, total	M200.7 ICP	1		U		mg/L	0.02	0.05	07/03/13 14:11	jjc
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/06/13 13:45	msh
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/10/13 22:36	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	07/03/13 17:38	aeb
Lithium, total	M200.7 ICP	1		U		mg/L	0.02	0.1	07/03/13 14:11	jjc
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	07/03/13 17:38	aeb
Magnesium, total	M200.7 ICP	1		U		mg/L	0.2	1	07/03/13 14:11	jjc
Manganese, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/06/13 13:45	msh
Manganese, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/10/13 22:36	msh
Mercury, total	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	07/02/13 15:26	las
Molybdenum, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/06/13 13:45	msh
Molybdenum, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/10/13 22:36	msh
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/06/13 13:45	msh
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/10/13 22:36	msh
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.3	2	07/03/13 17:38	aeb
Potassium, total	M200.7 ICP	1		U		mg/L	0.3	2	07/03/13 14:11	jjc

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: SPRING TRANSFER BLANK

ACZ Sample ID: ***L12940-04***
Date Sampled: *06/20/13 15:40*
Date Received: *06/25/13*
Sample Matrix: *Ground Water*

Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/13 17:38	aeb
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/13 14:11	jjc
Selenium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	07/06/13 13:45	msh
Selenium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	07/10/13 22:36	msh
Silver, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/06/13 13:45	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/10/13 22:36	msh
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.3	2	07/03/13 17:38	aeb
Sodium, total	M200.7 ICP	1		U		mg/L	0.3	2	07/03/13 14:11	jjc
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 17:38	aeb
Strontium, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 14:11	jjc
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/06/13 13:45	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/10/13 22:36	msh
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/06/13 13:45	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/10/13 22:36	msh
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	07/03/13 17:38	aeb
Titanium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	07/03/13 14:11	jjc
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/06/13 13:45	msh
Uranium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/10/13 22:36	msh
Vanadium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0002	0.001	07/06/13 13:45	msh
Vanadium, total	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	07/11/13 22:22	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 17:38	aeb
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/13 14:11	jjc

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U	*	mg/L	2	20	06/26/13 0:00	khw
Carbonate as CaCO3		1		U	*	mg/L	2	20	06/26/13 0:00	khw
Hydroxide as CaCO3		1		U	*	mg/L	2	20	06/26/13 0:00	khw
Total Alkalinity		1		U	*	mg/L	2	20	06/26/13 0:00	khw
Conductivity @25C	SM2510B	1		U	*	umhos/cm	1	10	06/26/13 5:23	khw
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/02/13 17:37	mpb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/02/13 18:08	mpb
Hardness as CaCO3	SM2340B - Calculation			U		mg/L	1	7	07/15/13 10:26	calc
Nitrogen, ammonia	M350.1 - Automated Phenate	1	0.09	B	*	mg/L	0.05	0.5	07/08/13 13:41	mpb
pH (lab)	SM4500H+ B									
pH		1	5.9	H	*	units	0.1	0.1	06/26/13 0:00	khw
pH measured at		1	21.0		*	C	0.1	0.1	06/26/13 0:00	khw
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.01	0.05	07/06/13 0:26	pjb
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	06/27/13 12:18	mss3

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: HG TRIP BLANK

ACZ Sample ID: ***L12940-05***
Date Sampled: *06/20/13 16:00*
Date Received: *06/25/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Mercury, total	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	07/02/13 15:33	las

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4)	EPA SW-846. Test Methods for Evaluating Solid Waste.
(5)	Standard Methods for the Examination of Water and Wastewater.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5)	If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L12940***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346393													
WG346393PBW1	PBW	06/25/13 17:26				14.7	mg/L		-20	20			
WG346393LCSW2	LCSW	06/25/13 17:47	WC130625-	820.0001		745.8	mg/L	91	90	110			
WG346393LCSW5	LCSW	06/25/13 21:05	WC130625-	820.0001		784.9	mg/L	95.7	90	110			
WG346393PBW2	PBW	06/25/13 21:13				2.9	mg/L		-20	20			
WG346393LCSW8	LCSW	06/26/13 0:02	WC130625-	820.0001		772.9	mg/L	94.3	90	110			
WG346393PBW3	PBW	06/26/13 0:10				3.1	mg/L		-20	20			
WG346393LCSW11	LCSW	06/26/13 3:26	WC130625-	820.0001		775.5	mg/L	94.6	90	110			
WG346393PBW4	PBW	06/26/13 3:35				2.6	mg/L		-20	20			
L12940-03DUP	DUP	06/26/13 5:17			U	U	mg/L				0	20	RA
L12948-01DUP	DUP	06/26/13 6:30			185	184.6	mg/L				0.2	20	
WG346393LCSW14	LCSW	06/26/13 6:43	WC130625-	820.0001		797.6	mg/L	97.3	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	2		2.061	mg/L	103.1	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.09	0.09			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	1.0011		1.069	mg/L	106.8	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	1.0011	U	1.067	mg/L	106.6	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	1.0011	U	1.086	mg/L	108.5	85	115	1.76	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	2		1.993	mg/L	99.7	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.09	0.09			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.066	0.066			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	1.0011		1.005	mg/L	100.4	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	1.0011	U	1.004	mg/L	100.3	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	1.0011	U	1.012	mg/L	101.1	70	130	0.79	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.02		.021	mg/L	105	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0012	0.0012			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.01		.00999	mg/L	99.9	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.01	U	.00777	mg/L	77.7	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.01	U	.00988	mg/L	98.8	70	130	23.91	20	R4

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ACZ Project ID: ***L12940***

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.02		.02187	mg/L	109.4	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0012	0.0012			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00088	0.00088			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.01		.01049	mg/L	104.9	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.01	U	.0114	mg/L	114	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.01	U	.0107	mg/L	107	70	130	6.33	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.05111	mg/L	102.2	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0006	0.0006			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05005		.04824	mg/L	96.4	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05005	.0287	.0785	mg/L	99.5	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05005	.0287	.08241	mg/L	107.3	70	130	4.86	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.05191	mg/L	103.8	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0006	0.0006			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00044	0.00044			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05005		.05194	mg/L	103.8	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05005	.006	.0572	mg/L	102.3	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05005	.006	.05	mg/L	87.9	70	130	13.43	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	2		2.0468	mg/L	102.3	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.009	0.009			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	.5		.5175	mg/L	103.5	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	.5	.006	.52	mg/L	102.8	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	.5	.006	.5306	mg/L	104.9	85	115	2.02	20	

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	2		1.9682	mg/L	98.4	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.009	0.009			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.0066	0.0066			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	.5		.4811	mg/L	96.2	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	.5	.007	.493	mg/L	97.2	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	.5	.007	.5008	mg/L	98.8	70	130	1.57	20	

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ACZ Project ID: ***L12940***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.04599	mg/L	92	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.00015	0.00015			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.0501		.0461	mg/L	92	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.0501	U	.04598	mg/L	91.8	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.0501	U	.04657	mg/L	93	70	130	1.27	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.04744	mg/L	94.9	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.00015	0.00015			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00011	0.00011			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.0501		.0491	mg/L	98	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.0501	U	.04326	mg/L	86.3	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.0501	U	.04017	mg/L	80.2	70	130	7.41	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	2		2.016	mg/L	100.8	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.12	0.12			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	1		1.009	mg/L	100.9	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	1	U	1.024	mg/L	102.4	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	1	U	1.026	mg/L	102.6	85	115	0.2	20	

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	2		1.996	mg/L	99.8	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.12	0.12			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.088	0.088			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	1		.989	mg/L	98.9	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	1	U	.99	mg/L	99	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	1	U	.999	mg/L	99.9	70	130	0.9	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	2		2.061	mg/L	103.1	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.03	0.03			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	.5005		.529	mg/L	105.7	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	.5005	.11	.631	mg/L	104.1	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	.5005	.11	.636	mg/L	105.1	85	115	0.79	20	

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ACZ Project ID: ***L12940***

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	2		2.008	mg/L	100.4	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.03	0.03			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.022	0.022			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	.5005		.499	mg/L	99.7	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	.5005	.1	.618	mg/L	103.5	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	.5005	.1	.622	mg/L	104.3	70	130	0.65	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.05051	mg/L	101	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0003	0.0003			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.0501		.049	mg/L	97.8	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.0501	U	.04734	mg/L	94.5	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.0501	U	.04847	mg/L	96.7	70	130	2.36	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.05104	mg/L	102.1	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0003	0.0003			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00022	0.00022			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.0501		.0495	mg/L	98.8	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.0501	U	.047	mg/L	93.8	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.0501	U	.04345	mg/L	86.7	70	130	7.85	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	100		99.64	mg/L	99.6	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.6	0.6			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	67.95918		70.4	mg/L	103.6	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	67.95918	26.6	96.12	mg/L	102.3	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	67.95918	26.6	97.55	mg/L	104.4	85	115	1.48	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	100		98.46	mg/L	98.5	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.6	0.6			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.44	0.44			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	67.95918		68.61	mg/L	101	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	67.95918	26.3	95.26	mg/L	101.5	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	67.95918	26.3	95.76	mg/L	102.2	70	130	0.52	20	

SPF Water Engineering

ACZ Project ID: ***L12940***

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.04842	mg/L	96.8	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0015	0.0015			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05005		.04804	mg/L	96	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05005	U	.04442	mg/L	88.8	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05005	U	.04599	mg/L	91.9	70	130	3.47	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.04944	mg/L	98.9	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0015	0.0015			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.0011	0.0011			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05005		.04632	mg/L	92.5	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05005	U	.0453	mg/L	90.5	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05005	U	.0384	mg/L	76.7	70	130	16.49	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.04615	mg/L	92.3	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.00015	0.00015			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05005		.04535	mg/L	90.6	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05005	.00029	.04305	mg/L	85.4	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05005	.00029	.04378	mg/L	86.9	70	130	1.68	20	

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.04798	mg/L	96	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.00015	0.00015			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00011	0.00011			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05005		.04474	mg/L	89.4	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05005	.0013	.046	mg/L	89.3	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05005	.0013	.04365	mg/L	84.6	70	130	5.24	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346393													
WG346393LCSW1	LCSW	06/25/13 17:27	PCN41764	1408.8		1432.5	µmhos/cm	101.7	90	110			
WG346393LCSW4	LCSW	06/25/13 20:53	PCN41764	1408.8		1403.8	µmhos/cm	99.6	90	110			
WG346393LCSW7	LCSW	06/25/13 23:51	PCN41764	1408.8		1375.1	µmhos/cm	97.6	90	110			
WG346393LCSW10	LCSW	06/26/13 3:16	PCN41764	1408.8		1350.5	µmhos/cm	95.9	90	110			
L12940-03DUP	DUP	06/26/13 5:17			U	U	µmhos/cm				0	20	RA
L12948-01DUP	DUP	06/26/13 6:30			1100	1100	µmhos/cm				0	20	
WG346393LCSW13	LCSW	06/26/13 6:31	PCN41764	1408.8		1332.1	µmhos/cm	94.6	90	110			

SPF Water Engineering

ACZ Project ID: ***L12940***

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.04767	mg/L	95.3	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0015	0.0015			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05005		.04661	mg/L	93.1	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05005	U	.04193	mg/L	83.8	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05005	U	.04359	mg/L	87.1	70	130	3.88	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.04868	mg/L	97.4	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0015	0.0015			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.0011	0.0011			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05005		.04529	mg/L	90.5	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05005	U	.0408	mg/L	81.5	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05005	U	.0347	mg/L	69.3	70	130	16.16	20	MA

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346872													
WG346872ICV	ICV	07/02/13 13:37	WI130621-6	.3		.2976	mg/L	99.2	90	110			
WG346872ICB	ICB	07/02/13 13:38				U	mg/L		-0.003	0.003			
WG346907													
WG346844LRB	LRB	07/02/13 17:01				U	mg/L		-0.003	0.003			
WG346844LFB	LFB	07/02/13 17:02	WI130621-2	.2		.1955	mg/L	97.8	90	110			
L12937-02DUP	DUP	07/02/13 17:29			U	U	mg/L				0	20	RA
L12937-03LFM	LFM	07/02/13 17:31	WI130621-2	.2	U	.1966	mg/L	98.3	90	110			

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346872													
WG346872ICV	ICV	07/02/13 13:37	WI130621-6	.3		.2976	mg/L	99.2	90	110			
WG346872ICB	ICB	07/02/13 13:38				U	mg/L		-0.003	0.003			
WG346908													
WG346871LRB	LRB	07/02/13 17:57				U	mg/L		-0.003	0.003			
WG346871LFB	LFB	07/02/13 17:57	WI130621-4	.2		.2004	mg/L	100.2	90	110			
L12937-01DUP	DUP	07/02/13 17:59			U	U	mg/L				0	20	RA
L12937-02LFM	LFM	07/02/13 18:01	WI130621-4	.2	U	.1915	mg/L	95.8	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	2		2.07	mg/L	103.5	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.3	0.3			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	1		1.03	mg/L	103	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	1	U	1.02	mg/L	102	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	1	U	1.03	mg/L	103	85	115	0.98	20	

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ACZ Project ID: ***L12940***

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	2		2.02	mg/L	101	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.3	0.3			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.22	0.22			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	1		.97	mg/L	97	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	1	U	1	mg/L	100	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	1	U	.99	mg/L	99	70	130	1.01	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	2		2.027	mg/L	101.4	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.06	0.06			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	1		1.048	mg/L	104.8	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	1	U	1.046	mg/L	104.6	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	1	U	1.053	mg/L	105.3	85	115	0.67	20	

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	2		1.967	mg/L	98.4	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.06	0.06			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.044	0.044			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	1		.996	mg/L	99.6	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	1	U	1.024	mg/L	102.4	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	1	U	1.034	mg/L	103.4	70	130	0.97	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.04868	mg/L	97.4	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0003	0.0003			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05005		.04573	mg/L	91.4	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05005	U	.04513	mg/L	90.2	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05005	U	.04581	mg/L	91.5	70	130	1.5	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.05333	mg/L	106.7	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0003	0.0003			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00022	0.00022			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05005		.04729	mg/L	94.5	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05005	U	.0492	mg/L	98.3	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05005	U	.04661	mg/L	93.1	70	130	5.41	20	

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ACZ Project ID: ***L12940***

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	2		2.057	mg/L	102.9	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.06	0.06			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	1		1.023	mg/L	102.3	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	1	U	1.037	mg/L	103.7	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	1	U	1.053	mg/L	105.3	85	115	1.53	20	

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	2		1.982	mg/L	99.1	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.06	0.06			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.044	0.044			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	1		.953	mg/L	95.3	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	1	U	.981	mg/L	98.1	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	1	U	.991	mg/L	99.1	70	130	1.01	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	100		98.94	mg/L	98.9	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.6	0.6			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	49.99941		49.88	mg/L	99.8	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	49.99941	15	64.86	mg/L	99.7	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	49.99941	15	65.62	mg/L	101.2	85	115	1.16	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	100		98.3	mg/L	98.3	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.6	0.6			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.44	0.44			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	49.99941		49.17	mg/L	98.3	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	49.99941	14.9	64.21	mg/L	98.6	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	49.99941	14.9	64.5	mg/L	99.2	70	130	0.45	20	

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.05072	mg/L	101.4	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0015	0.0015			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05005		.04906	mg/L	98	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05005	U	.04673	mg/L	93.4	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05005	U	.04795	mg/L	95.8	70	130	2.58	20	

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ACZ Project ID: ***L12940***

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.04832	mg/L	96.6	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0015	0.0015			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.0011	0.0011			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05005		.04411	mg/L	88.1	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05005	.006	.0516	mg/L	91.1	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05005	.006	.049	mg/L	85.9	70	130	5.17	20	

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347159													
WG347159ICV	ICV	07/09/13 13:14	HG130517-4	10		10.58	ng/L	105.8	79	121			
WG347159ICB	ICB	07/09/13 13:21				U	ng/L		-0.5	0.5			
WG347159PQV	PQV	07/09/13 13:27	HG130517-6	.5		.43	ng/L	86	70	130			
WG347159LFB	LFB	07/09/13 13:34	HG130517-5	2		2.05	ng/L	102.5	71	125			
L12940-01MS	MS	07/09/13 14:18	HG130517-5	2	U	1.06	ng/L	53	71	125			M2
L12940-01MSD	MSD	07/09/13 14:25	HG130517-5	2	U	.96	ng/L	48	71	125	9.9	24	M2
WG347159CCV1	CCV	07/09/13 15:56	HG130517-4	10		8.58	ng/L	85.8	76.5	123.4			
WG347159CCB1	CCB	07/09/13 16:03				U	ng/L		-0.5	0.5			
WG347159CCV2	CCV	07/09/13 16:50	HG130517-4	10		9.06	ng/L	90.6	76.5	123.4			
WG347159CCB2	CCB	07/09/13 16:56				U	ng/L		-0.5	0.5			
WG347159CCV3	CCV	07/09/13 17:43	HG130517-4	10		10.06	ng/L	100.6	76.5	123.4			
WG347159CCB3	CCB	07/09/13 17:50				U	ng/L		-0.5	0.5			

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG345503													
WG345503ICV	ICV	06/17/13 11:57	HG130517-4	10		9.85	ng/L	98.5	79	121			
WG345503ICB	ICB	06/17/13 12:04				U	ng/L		-0.5	0.5			
WG346803													
WG346803CCV1	CCV	07/02/13 11:00	HG130517-4	10		11.8	ng/L	118	76.5	123.4			
WG346803CCB1	CCB	07/02/13 11:07				U	ng/L		-0.5	0.5			
WG346803PQV	PQV	07/02/13 11:14	HG130517-6	.5		.49	ng/L	98	70	130			
WG346803LFB	LFB	07/02/13 11:20	HG130517-5	2		2.31	ng/L	115.5	71	125			
WG346803CCV2	CCV	07/02/13 12:26	HG130517-4	10		10.97	ng/L	109.7	76.5	123.4			
WG346803CCB2	CCB	07/02/13 12:32				U	ng/L		-0.5	0.5			
WG346803CCV3	CCV	07/02/13 13:26	HG130517-4	10		11.09	ng/L	110.9	76.5	123.4			
WG346803CCB3	CCB	07/02/13 13:32				U	ng/L		-0.5	0.5			
L12940-02MS	MS	07/02/13 14:19	HG2XPREP	8	2.1	5.97	ng/L	96.8	71	125			
L12940-02MSD	MSD	07/02/13 14:26	HG2XPREP	8	2.1	5.91	ng/L	95.3	71	125	1.01	24	
WG346803CCV4	CCV	07/02/13 14:32	HG130517-4	10		10.64	ng/L	106.4	76.5	123.4			
WG346803CCB4	CCB	07/02/13 14:39				.26	ng/L		-0.5	0.5			
WG346803CCV5	CCV	07/02/13 15:40	HG130517-4	10		9.17	ng/L	91.7	76.5	123.4			
WG346803CCB5	CCB	07/02/13 15:46				U	ng/L		-0.5	0.5			

SPF Water Engineering

ACZ Project ID: ***L12940***

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.02006		.01845	mg/L	92	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0015	0.0015			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05		.04449	mg/L	89	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05	.0032	.04691	mg/L	87.4	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05	.0032	.04858	mg/L	90.8	70	130	3.5	20	

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.02006		.01978	mg/L	98.6	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0015	0.0015			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.0011	0.0011			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05		.04532	mg/L	90.6	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05	U	.0488	mg/L	97.6	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05	U	.0453	mg/L	90.6	70	130	7.44	20	

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.05028	mg/L	100.6	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0018	0.0018			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05005		.04822	mg/L	96.3	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05005	U	.04278	mg/L	85.5	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05005	U	.04483	mg/L	89.6	70	130	4.68	20	

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.0513	mg/L	102.6	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0018	0.0018			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00132	0.00132			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05005		.04655	mg/L	93	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05005	.011	.0545	mg/L	86.9	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05005	.011	.0464	mg/L	70.7	70	130	16.06	20	

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347124													
WG347124ICV	ICV	07/08/13 12:58	WI121105-5	1.003		.973	mg/L	97	90	110			
WG347124ICB	ICB	07/08/13 13:01				U	mg/L		-0.15	0.15			
WG347124LFB1	LFB	07/08/13 13:02	WI121218-3	1		.98	mg/L	98	90	110			
L12913-05AS	AS	07/08/13 13:19	WI121218-3	1	.08	1.098	mg/L	101.8	90	110			
L12936-01DUP	DUP	07/08/13 13:21			.62	.61	mg/L				1.6	20	
WG347124LFB2	LFB	07/08/13 13:33	WI121218-3	1		.993	mg/L	99.3	90	110			
L12940-02AS	AS	07/08/13 13:36	WI121218-3	1	U	.987	mg/L	98.7	90	110			
L12940-03DUP	DUP	07/08/13 14:05			U	U	mg/L				0	20	RA

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ACZ Project ID: ***L12940***

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346393													
WG346393LCSW3	LCSW	06/25/13 17:51	PCN40853	6		5.99	units	99.8	98	102			
WG346393LCSW6	LCSW	06/25/13 21:08	PCN40853	6		6.01	units	100.2	98	102			
WG346393LCSW9	LCSW	06/26/13 0:05	PCN40853	6		6.01	units	100.2	98	102			
WG346393LCSW12	LCSW	06/26/13 3:30	PCN40853	6		6	units	100	98	102			
L12940-03DUP	DUP	06/26/13 5:17			6.2	5.99	units				3.4	20	
L12948-01DUP	DUP	06/26/13 6:30			8.1	8.12	units				0.2	20	
WG346393LCSW15	LCSW	06/26/13 6:47	PCN40853	6		6.01	units	100.2	98	102			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347081													
WG347081ICV	ICV	07/05/13 22:40	WI130620-3	.65228		.633	mg/L	97	90	110			
WG347081ICB	ICB	07/05/13 22:42				U	mg/L		-0.03	0.03			
WG347083													
WG347057LRB	LRB	07/05/13 23:58				U	mg/L		-0.03	0.03			
WG347057LFB	LFB	07/06/13 0:00	WI130705-2	.5		.478	mg/L	95.6	90	110			
L12937-04LFM	LFM	07/06/13 0:18	WI130705-2	.5	.03	.502	mg/L	94.4	90	110			
L12940-01DUP	DUP	07/06/13 0:20			.03	.028	mg/L				6.9	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	20		20.13	mg/L	100.7	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.9	0.9			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	99.97161		100.6	mg/L	100.6	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	99.97161	9.1	109.9	mg/L	100.8	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	99.97161	9.1	111.2	mg/L	102.1	85	115	1.18	20	

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	20		20	mg/L	100	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.9	0.9			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.66	0.66			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	99.97161		98.38	mg/L	98.4	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	99.97161	8.9	107.5	mg/L	98.6	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	99.97161	8.9	107.9	mg/L	99	70	130	0.37	20	

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346565													
WG346565PBW	PBW	06/27/13 12:00				U	mg/L		-15	15			
WG346565LCSW	LCSW	06/27/13 12:01	PCN42882	160		143	mg/L	89.4	80	120			
L12889-02DUP	DUP	06/27/13 12:11			U	5	mg/L				200	10	RA
L12952-08DUP	DUP	06/27/13 12:29			U	U	mg/L				0	10	RA

SPF Water Engineering

ACZ Project ID: ***L12940***

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	2		2.03	mg/L	101.5	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.3	0.3			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	1.0009		1.04	mg/L	103.9	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	1.0009	U	1.05	mg/L	104.9	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	1.0009	U	1.07	mg/L	106.9	85	115	1.89	20	

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	2		1.95	mg/L	97.5	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.3	0.3			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.22	0.22			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	1.0009		.97	mg/L	96.9	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	1.0009	U	.99	mg/L	98.9	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	1.0009	U	1	mg/L	99.9	70	130	1.01	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.05067	mg/L	101.3	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0003	0.0003			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05005		.04939	mg/L	98.7	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05005	.0051	.05182	mg/L	93.3	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05005	.0051	.05415	mg/L	98	70	130	4.4	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.05213	mg/L	104.3	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0003	0.0003			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00022	0.00022			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05005		.0521	mg/L	104.1	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05005	.0235	.07575	mg/L	104.4	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05005	.0235	.06635	mg/L	85.6	70	130	13.23	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.02002		.02001	mg/L	100	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.00015	0.00015			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.01001		.009544	mg/L	95.3	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.01001	U	.007238	mg/L	72.3	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.01001	U	.009031	mg/L	90.2	70	130	22.04	20	R4

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ACZ Project ID: ***L12940***

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.02002		.02017	mg/L	100.7	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.00015	0.00015			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00011	0.00011			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.01001		.009128	mg/L	91.2	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.01001	U	.00846	mg/L	84.5	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.01001	U	.00819	mg/L	81.8	70	130	3.24	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	100		100.4	mg/L	100.4	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.9	0.9			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	100.0416		100.7	mg/L	100.7	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	100.0416	42.7	141.7	mg/L	99	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	100.0416	42.7	142.6	mg/L	99.9	85	115	0.63	20	

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	100		99.98	mg/L	100	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.9	0.9			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.66	0.66			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	100.0416		97.68	mg/L	97.6	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	100.0416	42.5	141.1	mg/L	98.6	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	100.0416	42.5	141.3	mg/L	98.8	70	130	0.14	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	2		2.07	mg/L	103.5	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.03	0.03			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	.5		.515	mg/L	103	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	.5	.16	.667	mg/L	101.4	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	.5	.16	.675	mg/L	103	85	115	1.19	20	

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	2		1.992	mg/L	99.6	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.03	0.03			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.022	0.022			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	.5		.477	mg/L	95.4	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	.5	.15	.63	mg/L	96	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	.5	.15	.631	mg/L	96.2	70	130	0.16	20	

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ACZ Project ID: ***L12940***

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.05172	mg/L	103.4	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0003	0.0003			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05005		.04679	mg/L	93.5	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05005	U	.04676	mg/L	93.4	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05005	U	.04733	mg/L	94.6	70	130	1.21	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.05473	mg/L	109.5	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0003	0.0003			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00022	0.00022			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05005		.0494	mg/L	98.7	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05005	U	.0527	mg/L	105.3	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05005	U	.04993	mg/L	99.8	70	130	5.4	20	

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05015		.04846	mg/L	96.6	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0003	0.0003			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05005		.04316	mg/L	86.2	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05005	U	.04164	mg/L	83.2	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05005	U	.04274	mg/L	85.4	70	130	2.61	20	

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05015		.04971	mg/L	99.1	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0003	0.0003			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00022	0.00022			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05005		.04282	mg/L	85.6	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05005	U	.04529	mg/L	90.5	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05005	U	.04108	mg/L	82.1	70	130	9.75	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	2		2.0352	mg/L	101.8	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.015	0.015			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	1		1.029	mg/L	102.9	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	1	U	1.031	mg/L	103.1	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	1	U	1.043	mg/L	104.3	85	115	1.16	20	

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ACZ Project ID: ***L12940***

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	2		1.9632	mg/L	98.2	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.015	0.015			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.011	0.011			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	1		.9576	mg/L	95.8	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	1	U	.9723	mg/L	97.2	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	1	U	.9777	mg/L	97.8	70	130	0.55	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.05306	mg/L	106.1	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0003	0.0003			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.05		.05019	mg/L	100.4	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.05	.0022	.05311	mg/L	101.8	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.05	.0022	.05417	mg/L	103.9	70	130	1.98	20	

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.05347	mg/L	106.9	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0003	0.0003			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00022	0.00022			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.05		.04806	mg/L	96.1	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.05	.0059	.0575	mg/L	103.2	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.05	.0059	.0536	mg/L	95.4	70	130	7.02	20	

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347071													
WG347071ICV	ICV	07/06/13 12:17	MS130416-2	.05		.04786	mg/L	95.7	90	110			
WG347071ICB	ICB	07/06/13 12:20				U	mg/L		-0.0006	0.0006			
WG347071LFB	LFB	07/06/13 12:24	MS130614-1	.0501		.04841	mg/L	96.6	85	115			
L12937-04AS	AS	07/06/13 13:21	MS130614-1	.0501	.039	.08494	mg/L	91.7	70	130			
L12937-04ASD	ASD	07/06/13 13:25	MS130614-1	.0501	.039	.08793	mg/L	97.7	70	130	3.46	20	

SPF Water Engineering

ACZ Project ID: ***L12940***

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347262													
WG347262ICV	ICV	07/10/13 22:12	MS130416-2	.05		.04867	mg/L	97.3	90	110			
WG347262ICB	ICB	07/10/13 22:15				U	mg/L		-0.0006	0.0006			
WG347108LRB	LRB	07/10/13 22:19				U	mg/L		-0.00044	0.00044			
WG347108LFB	LFB	07/10/13 22:22	MS130614-1	.0501		.04695	mg/L	93.7	85	115			
L12953-05LFM	LFM	07/10/13 23:03	MS130614-1	.0501	U	.0478	mg/L	95.4	70	130			
L12953-05LFMD	LFMD	07/10/13 23:06	MS130614-1	.0501	U	.0418	mg/L	83.4	70	130	13.39	20	
WG347448													
WG347448ICV	ICV	07/11/13 22:08	MS130416-2	.05		.0484	mg/L	96.8	90	110			
WG347448ICB	ICB	07/11/13 22:11				U	mg/L		-0.0006	0.0006			
WG347108LRB	LRB	07/11/13 22:14				U	mg/L		-0.00044	0.00044			
WG347108LFB	LFB	07/11/13 22:16	MS130614-1	.0501		.04763	mg/L	95.1	85	115			
L12953-05LFM	LFM	07/11/13 22:27	MS130614-1	.0501	.0005	.04762	mg/L	94.1	70	130			
L12953-05LFMD	LFMD	07/11/13 22:30	MS130614-1	.0501	.0005	.04603	mg/L	90.9	70	130	3.4	20	
WG347209LRB	LRB	07/11/13 22:32				U	mg/L		-0.00044	0.00044			
WG347209LFB	LFB	07/11/13 22:35	MS130614-1	.0501		.04702	mg/L	93.9	85	115			

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346944													
WG346944ICV	ICV	07/03/13 16:52	II130510-1	2		1.959	mg/L	98	95	105			
WG346944ICB	ICB	07/03/13 16:58				U	mg/L		-0.03	0.03			
WG346944LFB	LFB	07/03/13 17:10	II130621-2	.5		.507	mg/L	101.4	85	115			
L12940-01AS	AS	07/03/13 17:26	II130621-2	.5	U	.507	mg/L	101.4	85	115			
L12940-01ASD	ASD	07/03/13 17:29	II130621-2	.5	U	.513	mg/L	102.6	85	115	1.18	20	

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346958													
WG346958ICV	ICV	07/03/13 13:31	II130514-1	2		1.964	mg/L	98.2	95	105			
WG346958ICB	ICB	07/03/13 13:37				U	mg/L		-0.03	0.03			
WG346857LRB	LRB	07/03/13 13:49				U	mg/L		-0.022	0.022			
WG346857LFB	LFB	07/03/13 13:52	II130621-2	.5		.497	mg/L	99.4	85	115			
L12940-01LFM	LFM	07/03/13 13:58	II130621-2	.5	U	.497	mg/L	99.4	70	130			
L12940-01LFMD	LFMD	07/03/13 14:01	II130621-2	.5	U	.497	mg/L	99.4	70	130	0	20	

SPF Water Engineering ACZ Project ID: ***L12940***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L12940-01	WG347071	Antimony, dissolved	M200.8 ICP-MS	R4	RPD for a spike and spike duplicate exceeded the method or laboratory acceptance limit. At a minimum, one spike recovery met acceptance criteria.
	WG347262	Copper, total	M200.8 ICP-MS	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG347159	Mercury, dissolved	M1631, Atomic Fluorescence	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG347071	Silver, dissolved	M200.8 ICP-MS	R4	RPD for a spike and spike duplicate exceeded the method or laboratory acceptance limit. At a minimum, one spike recovery met acceptance criteria.
		Vanadium, dissolved	M200.8 ICP-MS	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG347262	Vanadium, total	M200.8 ICP-MS	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG346393	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
			SM2510B	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346907	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346908	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346393	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347124	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
	WG346393	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347083	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346565	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346393	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L12940***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L12940-02	WG347071	Antimony, dissolved	M200.8 ICP-MS	R4	RPD for a spike and spike duplicate exceeded the method or laboratory acceptance limit. At a minimum, one spike recovery met acceptance criteria.
	WG347262	Copper, total	M200.8 ICP-MS	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG347159	Mercury, dissolved	M1631, Atomic Fluorescence	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG347071	Silver, dissolved	M200.8 ICP-MS	R4	RPD for a spike and spike duplicate exceeded the method or laboratory acceptance limit. At a minimum, one spike recovery met acceptance criteria.
		Vanadium, dissolved	M200.8 ICP-MS	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG347262	Vanadium, total	M200.8 ICP-MS	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG346393	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
			SM2510B	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346907	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346908	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346393	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347124	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346393	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347083	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346565	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346393	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L12940***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L12940-03	WG347071	Antimony, dissolved	M200.8 ICP-MS	R4	RPD for a spike and spike duplicate exceeded the method or laboratory acceptance limit. At a minimum, one spike recovery met acceptance criteria.
	WG347262	Copper, total	M200.8 ICP-MS	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG347159	Mercury, dissolved	M1631, Atomic Fluorescence	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG347071	Silver, dissolved	M200.8 ICP-MS	R4	RPD for a spike and spike duplicate exceeded the method or laboratory acceptance limit. At a minimum, one spike recovery met acceptance criteria.
		Vanadium, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG346393	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
			SM2510B	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346907	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346908	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346393	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347124	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346393	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347083	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346565	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346393	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

SPF Water Engineering ACZ Project ID: ***L12940***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L12940-04	WG347071	Antimony, dissolved	M200.8 ICP-MS	R4	RPD for a spike and spike duplicate exceeded the method or laboratory acceptance limit. At a minimum, one spike recovery met acceptance criteria.
	WG347262	Copper, total	M200.8 ICP-MS	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG347071	Silver, dissolved	M200.8 ICP-MS	R4	RPD for a spike and spike duplicate exceeded the method or laboratory acceptance limit. At a minimum, one spike recovery met acceptance criteria.
		Vanadium, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG346393	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG346907	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346908	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346393	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347124	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346393	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347083	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346565	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346393	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Q sampling

ACZ Project ID: L12940
Date Received: 06/25/2013 10:28
Received By: mtb
Date Printed: 6/26/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?	X		
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
3884	14.8	11	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s) but was thawed by receipt at ACZ.

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc. L12940

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name: SAME	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [✓]

PROJECT INFORMATION

Quote #: SPF-2013-GW

PO#: Calico 2nd Quarter Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	SPF-2013-GW		SPF-2013-GW but remove dissolved Hg.		HG Trip Blank analysis			
Twin Springs South	6/20/13 14:00		7	X							
Twin Springs North	6/20/13 15:00		7	X							
Spring Equip. Blank	6/20/13 15:20		7	X							
Spring Transfer Blank	6/20/13 15:40		6			X					
HG Trip Blank	6/20/13 16:00		1					X			

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	6/20/13 15:00		6.25.13 10:28

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L12940 Chain of Custody

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 11, 2013

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 2nd Q sampling
ACZ Project ID: L13015

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 28, 2013. This project has been assigned to ACZ's project number, L13015. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L13015. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 10, 2013. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: NEGRO ROCK CANYON CREEK

ACZ Sample ID: ***L13015-03***
Date Sampled: *06/26/13 12:00*
Date Received: *06/28/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	1	18.6		*	mg/L	0.5	2.5	07/09/13 6:55	jlf
Fluoride	M300.0 - Ion Chromatography	1	0.69		*	mg/L	0.1	0.5	07/09/13 6:55	jlf
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		0.16	H		mg/L	0.02	0.1	07/11/13 13:33	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.16	H	*	mg/L	0.02	0.1	06/28/13 18:13	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		UH	*	mg/L	0.01	0.05	06/28/13 18:13	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	370		*	mg/L	10	20	07/01/13 15:25	khw
Sulfate	M300.0 - Ion Chromatography	1	77.8		*	mg/L	0.5	2.5	07/09/13 6:55	jlf

** Please refer to Qualifier Reports for details.*

SPF Water Engineering
Project ID: Calico 2nd Q samplin
Sample ID: OWYHEE RIVER

ACZ Sample ID: ***L13015-04***
Date Sampled: *06/26/13 05:00*
Date Received: *06/28/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	1	8.60		*	mg/L	0.5	2.5	07/09/13 7:12	jlf
Fluoride	M300.0 - Ion Chromatography	1	1.18		*	mg/L	0.1	0.5	07/09/13 7:12	jlf
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2			UH		mg/L	0.02	0.1	07/11/13 13:33	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		UH	*	mg/L	0.02	0.1	06/28/13 18:14	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		UH	*	mg/L	0.01	0.05	06/28/13 18:14	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	150		*	mg/L	10	20	07/02/13 12:20	mss3
Sulfate	M300.0 - Ion Chromatography	1	22.7		*	mg/L	0.5	2.5	07/09/13 7:12	jlf

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L13015***

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346168													
WG346168ICV	ICV	06/24/13 18:44	WI130624-1	19.98		20.3	mg/L	101.6	90	110			
WG346168ICB	ICB	06/24/13 19:01				U	mg/L		-1.5	1.5			
WG347169													
WG347169LFB1	LFB	07/08/13 19:32	WI130501-1	30		31.9	mg/L	106.3	90	110			
WG347169LFB2	LFB	07/09/13 4:00	WI130501-1	30		31	mg/L	103.3	90	110			
L12957-01DUP	DUP	07/09/13 4:35			U	U	mg/L				0	20	RA
L12957-02AS	AS	07/09/13 5:45	WI130501-1	30	U	29	mg/L	96.7	90	110			

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346168													
WG346168ICV	ICV	06/24/13 18:44	WI130624-1	4.004		4.19	mg/L	104.6	90	110			
WG346168ICB	ICB	06/24/13 19:01				U	mg/L		-0.3	0.3			
WG347169													
WG347169LFB1	LFB	07/08/13 19:32	WI130501-1	1.5		1.62	mg/L	108	90	110			
WG347169LFB2	LFB	07/09/13 4:00	WI130501-1	1.5		1.55	mg/L	103.3	90	110			
L12957-01DUP	DUP	07/09/13 4:35			U	U	mg/L				0	20	RA
L12957-02AS	AS	07/09/13 5:45	WI130501-1	1.5	U	1.41	mg/L	94	90	110			

Nitrate/Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346710													
WG346710ICV	ICV	06/28/13 17:41	WI130411-3	2.416		2.44	mg/L	101	90	110			
WG346710ICB	ICB	06/28/13 17:42				U	mg/L		-0.06	0.06			
WG346710LFB	LFB	06/28/13 17:46	WI130215-3	2		2.017	mg/L	100.9	90	110			
L13010-02AS	AS	06/28/13 19:35	WI130215-3	6	2.77	8.106	mg/L	88.9	90	110			M2
L13010-03DUP	DUP	06/28/13 19:37			U	U	mg/L				0	20	RA

Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346710													
WG346710ICV	ICV	06/28/13 17:41	WI130411-3	.609		.579	mg/L	95.1	90	110			
WG346710ICB	ICB	06/28/13 17:42				U	mg/L		-0.03	0.03			
WG346710LFB	LFB	06/28/13 17:46	WI130215-3	1		1.022	mg/L	102.2	90	110			
L13010-02AS	AS	06/28/13 18:05	WI130215-3	1	U	1.005	mg/L	100.5	90	110			
L13010-03DUP	DUP	06/28/13 18:07			U	U	mg/L				0	20	RA

SPF Water Engineering

ACZ Project ID: ***L13015***

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346795													
L13015-03DUP	DUP	07/01/13 15:26			370	370	mg/L				0	10	
WG346795LCSW	LCSW	07/01/13 15:28	PCN42878	260		256	mg/L	98.5	80	120			
WG346795PBW	PBW	07/01/13 15:29				U	mg/L		-20	20			
WG346856													
WG346856PBW	PBW	07/02/13 11:15				U	mg/L		-20	20			
WG346856LCSW	LCSW	07/02/13 11:18	PCN42878	260		254	mg/L	97.7	80	120			
L13006-03DUP	DUP	07/02/13 12:10			160	168	mg/L				4.9	10	

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346168													
WG346168ICV	ICV	06/24/13 18:44	WI130624-1	50		50.2	mg/L	100.4	90	110			
WG346168ICB	ICB	06/24/13 19:01				U	mg/L		-1.5	1.5			
WG347169													
WG347169LFB1	LFB	07/08/13 19:32	WI130501-1	30		31.6	mg/L	105.3	90	110			
WG347169LFB2	LFB	07/09/13 4:00	WI130501-1	30		30.6	mg/L	102	90	110			
L12957-01DUP	DUP	07/09/13 4:35			U	U	mg/L				0	20	RA
L12957-02AS	AS	07/09/13 5:45	WI130501-1	30	U	28.5	mg/L	95	90	110			

SPF Water Engineering ACZ Project ID: ***L13015***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13015-01	WG347169	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346710	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
			M353.2 - Automated Cadmium Reduction	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
			M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346795	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
	WG347169	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L13015-02	WG347169	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346710	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346795	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
	WG347169	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L13015***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13015-03	WG347169	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346710	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346795	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
	WG347169	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L13015***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13015-04	WG347169	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346710	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
			M353.2 - Automated Cadmium Reduction	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
			M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346856	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG347169	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Certification Qualifiers

SPF Water Engineering ACZ Project ID: ***L13015***

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Q sampling

ACZ Project ID: L13015
Date Received: 06/28/2013 10:46
Received By: gac
Date Printed: 7/1/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?	X		

A change was made in the sample identification section prior to ACZ custody.

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?			X
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?		X	

Some parameters were received past hold time.

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
NA17896	20.7	13	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s) but was thawed by receipt at ACZ.

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc. L13015

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name: SAME	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SHORT-HOLDS-WETCHEM

PO#: Calico 2nd Quarter Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	*Short Hold WETCHEM
Lower Spring	6/26/13 9:20		1	X
Poison Spring	6/26/13 10:55		1	X
Negro Rock Canyon Creek	6/26/13 12:00		1	X
[illegible]				
Owyhee River	6/26/13 5:00		1	X

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	6/27/13 9:00	[illegible]	6/28/13 10:40

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L13015 Chain of Custody

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 12, 2013

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 2nd Q samplin
ACZ Project ID: L13026

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 29, 2013. This project has been assigned to ACZ's project number, L13026. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L13026. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 11, 2013. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

SPF Water Engineering
Project ID: Calico 2nd Q samplin
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L13026-01***
Date Sampled: *06/27/13 09:00*
Date Received: *06/29/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	1	14.4		*	mg/L	0.5	2.5	07/09/13 7:30	jlf
Fluoride	M300.0 - Ion Chromatography	1	2.30		*	mg/L	0.1	0.5	07/09/13 7:30	jlf
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		0.17	H		mg/L	0.02	0.1	07/12/13 13:08	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.17	H	*	mg/L	0.02	0.1	06/29/13 13:41	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		UH	*	mg/L	0.01	0.05	06/29/13 13:41	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	230		*	mg/L	10	20	07/02/13 12:30	mss3
Sulfate	M300.0 - Ion Chromatography	1	38.3		*	mg/L	0.5	2.5	07/09/13 7:30	jlf

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L13026-02***
Date Sampled: *06/27/13 14:20*
Date Received: *06/29/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	1	8.66		*	mg/L	0.5	2.5	07/09/13 7:47	jlf
Fluoride	M300.0 - Ion Chromatography	1	1.21		*	mg/L	0.1	0.5	07/09/13 7:47	jlf
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2			U		mg/L	0.02	0.1	07/12/13 13:08	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		U	*	mg/L	0.02	0.1	06/29/13 13:43	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		U	*	mg/L	0.01	0.05	06/29/13 13:43	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	160		*	mg/L	10	20	07/02/13 14:27	mss3
Sulfate	M300.0 - Ion Chromatography	1	24.2		*	mg/L	0.5	2.5	07/09/13 7:47	jlf

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: WHISKEY DUPLICATE

ACZ Sample ID: ***L13026-04***
Date Sampled: *06/27/13 15:55*
Date Received: *06/29/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	2	7.23		*	mg/L	1	5	07/09/13 17:00	jlf
Fluoride	M300.0 - Ion Chromatography	2	0.71	B	*	mg/L	0.2	1	07/09/13 17:00	jlf
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		0.06	B		mg/L	0.02	0.1	07/12/13 13:08	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.06	B	*	mg/L	0.02	0.1	06/29/13 13:47	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		U	*	mg/L	0.01	0.05	06/29/13 13:47	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	390		*	mg/L	10	20	07/02/13 14:31	mss3
Sulfate	M300.0 - Ion Chromatography	2	133		*	mg/L	1	5	07/09/13 17:00	jlf

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L13026***

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346168													
WG346168ICV	ICV	06/24/13 18:44	WI130624-1	19.98		20.3	mg/L	101.6	90	110			
WG346168ICB	ICB	06/24/13 19:01				U	mg/L		-1.5	1.5			
WG347169													
WG347169LFB1	LFB	07/08/13 19:32	WI130501-1	30		31.9	mg/L	106.3	90	110			
WG347169LFB2	LFB	07/09/13 4:00	WI130501-1	30		31	mg/L	103.3	90	110			
L12957-01DUP	DUP	07/09/13 4:35			U	U	mg/L				0	20	RA
L12957-02AS	AS	07/09/13 5:45	WI130501-1	30	U	29	mg/L	96.7	90	110			
WG347235													
L12895-01DUP	DUP	07/09/13 15:32			.89	.92	mg/L				3.3	20	RA
L12895-02AS	AS	07/09/13 16:07	WI130501-1	30	.93	35.7	mg/L	115.9	90	110			M1
WG347235LFB	LFB	07/10/13 13:08	WI130501-1	30		31.8	mg/L	106	90	110			

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346168													
WG346168ICV	ICV	06/24/13 18:44	WI130624-1	4.004		4.19	mg/L	104.6	90	110			
WG346168ICB	ICB	06/24/13 19:01				U	mg/L		-0.3	0.3			
WG347169													
WG347169LFB1	LFB	07/08/13 19:32	WI130501-1	1.5		1.62	mg/L	108	90	110			
WG347169LFB2	LFB	07/09/13 4:00	WI130501-1	1.5		1.55	mg/L	103.3	90	110			
L12957-01DUP	DUP	07/09/13 4:35			U	U	mg/L				0	20	RA
L12957-02AS	AS	07/09/13 5:45	WI130501-1	1.5	U	1.41	mg/L	94	90	110			
WG347235													
L12895-01DUP	DUP	07/09/13 15:32			U	.1	mg/L				200	20	RA
L12895-02AS	AS	07/09/13 16:07	WI130501-1	1.5	.12	1.88	mg/L	117.3	90	110			M1
WG347235LFB	LFB	07/10/13 13:08	WI130501-1	1.5		1.6	mg/L	106.7	90	110			

Nitrate/Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346726													
WG346726ICV	ICV	06/29/13 13:35	WI130411-3	2.416		2.379	mg/L	98.5	90	110			
WG346726ICB	ICB	06/29/13 13:36				U	mg/L		-0.06	0.06			
WG346726LFB	LFB	06/29/13 13:40	WI130215-3	2		1.969	mg/L	98.5	90	110			
L13026-01AS	AS	06/29/13 13:42	WI130215-3	2	.17	2.145	mg/L	98.8	90	110			
L13026-02DUP	DUP	06/29/13 13:44			U	U	mg/L				0	20	RA

Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346726													
WG346726ICV	ICV	06/29/13 13:35	WI130411-3	.609		.57	mg/L	93.6	90	110			
WG346726ICB	ICB	06/29/13 13:36				U	mg/L		-0.03	0.03			
WG346726LFB	LFB	06/29/13 13:40	WI130215-3	1		1.009	mg/L	100.9	90	110			
L13026-01AS	AS	06/29/13 13:42	WI130215-3	1	U	1.01	mg/L	101	90	110			
L13026-02DUP	DUP	06/29/13 13:44			U	U	mg/L				0	20	RA

SPF Water Engineering

ACZ Project ID: ***L13026***

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346856													
WG346856PBW	PBW	07/02/13 11:15				U	mg/L		-20	20			
WG346856LCSW	LCSW	07/02/13 11:18	PCN42878	260		254	mg/L	97.7	80	120			
L13006-03DUP	DUP	07/02/13 12:10			160	168	mg/L				4.9	10	
WG346878													
WG346878LCSW	LCSW	07/02/13 14:20	PCN42878	260		264	mg/L	101.5	80	120			
WG346878PBW	PBW	07/02/13 14:21				U	mg/L		-20	20			
L13026-05DUP	DUP	07/02/13 14:34			290	286	mg/L				1.4	10	

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346168													
WG346168ICV	ICV	06/24/13 18:44	WI130624-1	50		50.2	mg/L	100.4	90	110			
WG346168ICB	ICB	06/24/13 19:01				U	mg/L		-1.5	1.5			
WG347169													
WG347169LFB1	LFB	07/08/13 19:32	WI130501-1	30		31.6	mg/L	105.3	90	110			
WG347169LFB2	LFB	07/09/13 4:00	WI130501-1	30		30.6	mg/L	102	90	110			
L12957-01DUP	DUP	07/09/13 4:35			U	U	mg/L				0	20	RA
L12957-02AS	AS	07/09/13 5:45	WI130501-1	30	U	28.5	mg/L	95	90	110			
WG347235													
WG347235LFB	LFB	07/09/13 14:57	WI130501-1	30		32.9	mg/L	109.7	90	110			
L12895-01DUP	DUP	07/09/13 15:32			11.7	12	mg/L				2.5	20	
L12895-02AS	AS	07/09/13 16:07	WI130501-1	30	12.4	46.7	mg/L	114.3	90	110			M1
WG347235LFB	LFB	07/10/13 13:08	WI130501-1	30		31.5	mg/L	105	90	110			

SPF Water Engineering ACZ Project ID: ***L13026***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13026-01	WG347169	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346726	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
			M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
			M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346856	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG347169	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L13026-02	WG347169	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346726	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346878	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG347169	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L13026***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13026-03	WG347169	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346726	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346878	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG347169	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L13026-04	WG347235	Chloride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346726	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346878	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG347235	Sulfate	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.

SPF Water Engineering ACZ Project ID: ***L13026***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13026-05	WG347235	Chloride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346726	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346878	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG347235	Sulfate	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
L13026-06	WG347235	Chloride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346726	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	Q6	Sample was received above recommended temperature.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346878	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG347235	Sulfate	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.

Certification Qualifiers

SPF Water Engineering ACZ Project ID: ***L13026***

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Q sampling

ACZ Project ID: L13026
Date Received: 06/29/2013 09:48
Received By: gac
Date Printed: 7/2/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?			X
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?		X	

Some parameters were received past hold time.

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
NA17899	17.8	13	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s) but was thawed by receipt at ACZ.

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

L13026

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name: SAME	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SHORT-HOLDS-WETCHEM

PO#: Calico 2nd Quarter Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	*SHORT-HOLDS-WETCHEM							
Leslie Gulch	6/27/13 9:00		1	X							
Dry Creek Arm	6/27/13 14:20		1	X							
Whiskey Spring	6/27/13 15:45		1	X							
Whiskey Duplicate	6/27/13 15:55		1	X							
Sourdough Spring Upper	6/27/13 17:15		1	X							
Sourdough Spring Lower	6/27/13 18:30		1	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	6/28/13 9:00		
			6.29.13 9:40

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L13026 Chain of Custody

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 19, 2013

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 2nd Q sampling
ACZ Project ID: L13032

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 01, 2013. This project has been assigned to ACZ's project number, L13032. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L13032. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 18, 2013. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

SPF Water Engineering

July 19, 2013

Project ID: Calico 2nd Q sampling
ACZ Project ID: L13032

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 5 ground water samples from SPF Water Engineering on July 1, 2013. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L13032. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The following anomaly required further explanation not provided by the Extended Qualifier Report:

1. For L13032-01, 02 and -04, the dissolved and total cobalt values were verified by re-digestion and re-analysis with no significant change.

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: NEGRO ROCK CANYON CREEK

ACZ Sample ID: ***L13032-03***
Date Sampled: *06/26/13 12:00*
Date Received: *07/01/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/10/13 11:48	mla
Cyanide, WAD	SM4500-CN I- distillation								07/09/13 13:12	mla
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/08/13 14:53	mla
Total Hot Plate Digestion	M200.2 ICP-MS								07/09/13 14:56	las
Total Hot Plate Digestion	M200.2 ICP								07/09/13 9:49	aeb

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: NEGRO ROCK CANYON CREEK

ACZ Sample ID: ***L13032-03***
Date Sampled: *06/26/13 12:00*
Date Received: *07/01/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	07/09/13 0:09	jjc
Aluminum, total	M200.7 ICP	1		U		mg/L	0.03	0.2	07/09/13 23:35	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/12/13 3:17	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/12/13 5:27	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0246			mg/L	0.0002	0.001	07/12/13 3:17	msh
Arsenic, total	M200.8 ICP-MS	1	0.0243			mg/L	0.0002	0.001	07/12/13 5:27	pmc
Barium, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.003	0.02	07/09/13 0:09	jjc
Barium, total	M200.7 ICP	1	0.016	B		mg/L	0.003	0.02	07/09/13 23:35	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 3:17	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 5:27	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/09/13 0:09	jjc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/09/13 23:35	aeb
Boron, dissolved	M200.7 ICP	1	0.11			mg/L	0.01	0.05	07/09/13 0:09	jjc
Boron, total	M200.7 ICP	1	0.12			mg/L	0.01	0.05	07/11/13 14:16	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 3:17	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 5:27	pmc
Calcium, dissolved	M200.7 ICP	1	31.2			mg/L	0.2	1	07/09/13 0:09	jjc
Calcium, total	M200.7 ICP	1	30.9			mg/L	0.2	1	07/09/13 23:35	aeb
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/12/13 3:17	msh
Chromium, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/12/13 5:27	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00028	B		mg/L	0.00005	0.0003	07/12/13 3:17	msh
Cobalt, total	M200.8 ICP-MS	1	0.00007	B		mg/L	0.00005	0.0003	07/12/13 5:27	pmc
Copper, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/12/13 3:17	msh
Copper, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/12/13 5:27	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 0:09	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 23:35	aeb
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	07/09/13 0:09	jjc
Iron, total	M200.7 ICP	1	0.03	B		mg/L	0.02	0.05	07/09/13 23:35	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 3:17	msh
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 5:27	pmc
Lithium, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.02	0.1	07/09/13 0:09	jjc
Lithium, total	M200.7 ICP	1	0.04	B		mg/L	0.02	0.1	07/09/13 23:35	aeb
Magnesium, dissolved	M200.7 ICP	1	10.1			mg/L	0.2	1	07/09/13 0:09	jjc
Magnesium, total	M200.7 ICP	1	10.0			mg/L	0.2	1	07/09/13 23:35	aeb
Manganese, dissolved	M200.8 ICP-MS	1	0.0109			mg/L	0.0005	0.003	07/12/13 3:17	msh
Manganese, total	M200.8 ICP-MS	1	0.0125			mg/L	0.0005	0.003	07/12/13 5:27	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	1	0.6		*	ng/L	0.2	0.5	07/09/13 16:23	las
Mercury, total	M1631, Atomic Fluorescence	2	0.7	B	*	ng/L	0.4	1	07/11/13 13:50	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0094			mg/L	0.0005	0.003	07/12/13 3:17	msh
Molybdenum, total	M200.8 ICP-MS	1	0.0095			mg/L	0.0005	0.003	07/12/13 5:27	pmc
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/12/13 3:17	msh
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/12/13 5:27	pmc
Potassium, dissolved	M200.7 ICP	1	8.0			mg/L	0.3	2	07/09/13 0:09	jjc

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: NEGRO ROCK CANYON CREEK

ACZ Sample ID: ***L13032-03***
Date Sampled: *06/26/13 12:00*
Date Received: *07/01/13*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	7.8			mg/L	0.3	2	07/09/13 23:35	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 0:09	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 23:35	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0003	07/12/13 3:17	msh
Selenium, total	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0003	07/12/13 5:27	pmc
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 3:17	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 5:27	pmc
Sodium, dissolved	M200.7 ICP	1	62.8			mg/L	0.3	2	07/09/13 0:09	jjc
Sodium, total	M200.7 ICP	1	61.5			mg/L	0.3	2	07/09/13 23:35	aeb
Strontium, dissolved	M200.7 ICP	1	0.17			mg/L	0.01	0.05	07/09/13 0:09	jjc
Strontium, total	M200.7 ICP	1	0.17			mg/L	0.01	0.05	07/09/13 23:35	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 3:17	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 5:27	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/12/13 3:17	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/12/13 5:27	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	07/09/13 0:09	jjc
Titanium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	07/09/13 23:35	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0022			mg/L	0.0001	0.0005	07/12/13 3:17	msh
Uranium, total	M200.8 ICP-MS	1	0.0023			mg/L	0.0001	0.0005	07/12/13 5:27	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0198		*	mg/L	0.0002	0.001	07/12/13 3:17	msh
Vanadium, total	M200.8 ICP-MS	1	0.0205			mg/L	0.0002	0.001	07/12/13 5:27	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/09/13 0:09	jjc
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/09/13 23:35	aeb

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	156		*	mg/L	2	20	07/02/13 0:00	abm
Carbonate as CaCO3		1		U	*	mg/L	2	20	07/02/13 0:00	abm
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/02/13 0:00	abm
Total Alkalinity		1	156		*	mg/L	2	20	07/02/13 0:00	abm
Conductivity @25C	SM2510B	1	515		*	umhos/cm	1	10	07/02/13 3:46	abm
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/10/13 23:03	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/09/13 14:28	bsu
Hardness as CaCO3	SM2340B - Calculation		120			mg/L	1	7	07/19/13 13:43	calc
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	07/08/13 18:19	mpb
pH (lab)	SM4500H+ B									
pH		1	8.1	H	*	units	0.1	0.1	07/02/13 0:00	abm
pH measured at		1	23.0		*	C	0.1	0.1	07/02/13 0:00	abm
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.06		*	mg/L	0.01	0.05	07/09/13 17:22	mpb
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	07/03/13 9:10	mss3

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: OWYHEE RIVER

ACZ Sample ID: ***L13032-04***
Date Sampled: *06/26/13 05:00*
Date Received: *07/01/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/10/13 11:54	mla
Cyanide, WAD	SM4500-CN I- distillation								07/09/13 13:20	mla
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/08/13 14:59	mla
Total Hot Plate Digestion	M200.2 ICP								07/09/13 10:01	aeb
Total Hot Plate Digestion	M200.2 ICP-MS				*				07/16/13 11:48	scp

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: OWYHEE RIVER

ACZ Sample ID: ***L13032-04***
Date Sampled: *06/26/13 05:00*
Date Received: *07/01/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	07/09/13 0:12	jjc
Aluminum, total	M200.7 ICP	1	0.22			mg/L	0.03	0.2	07/09/13 23:38	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/12/13 3:21	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/12/13 5:37	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0059			mg/L	0.0002	0.001	07/12/13 3:21	msh
Arsenic, total	M200.8 ICP-MS	1	0.0054			mg/L	0.0002	0.001	07/12/13 5:37	pmc
Barium, dissolved	M200.7 ICP	1	0.015	B		mg/L	0.003	0.02	07/09/13 0:12	jjc
Barium, total	M200.7 ICP	1	0.020			mg/L	0.003	0.02	07/09/13 23:38	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 3:21	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 5:37	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/09/13 0:12	jjc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/09/13 23:38	aeb
Boron, dissolved	M200.7 ICP	1	0.08			mg/L	0.01	0.05	07/09/13 0:12	jjc
Boron, total	M200.7 ICP	1	0.09			mg/L	0.01	0.05	07/11/13 14:19	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 3:21	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 5:37	pmc
Calcium, dissolved	M200.7 ICP	1	20.6			mg/L	0.2	1	07/09/13 0:12	jjc
Calcium, total	M200.7 ICP	1	20.4			mg/L	0.2	1	07/09/13 23:38	aeb
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/12/13 3:21	msh
Chromium, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/12/13 5:37	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00049			mg/L	0.00005	0.0003	07/18/13 0:31	msh
Cobalt, total	M200.8 ICP-MS	2		U		mg/L	0.0001	0.0005	07/18/13 3:40	pmc
Copper, dissolved	M200.8 ICP-MS	1	0.0007	B		mg/L	0.0005	0.003	07/12/13 3:21	msh
Copper, total	M200.8 ICP-MS	1	0.0011	B		mg/L	0.0005	0.003	07/12/13 5:37	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 0:12	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 23:38	aeb
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	07/09/13 0:12	jjc
Iron, total	M200.7 ICP	1	0.16			mg/L	0.02	0.05	07/09/13 23:38	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 3:21	msh
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 5:37	pmc
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	07/09/13 0:12	jjc
Lithium, total	M200.7 ICP	1		U		mg/L	0.02	0.1	07/09/13 23:38	aeb
Magnesium, dissolved	M200.7 ICP	1	5.5			mg/L	0.2	1	07/09/13 0:12	jjc
Magnesium, total	M200.7 ICP	1	5.4			mg/L	0.2	1	07/09/13 23:38	aeb
Manganese, dissolved	M200.8 ICP-MS	1	0.0010	B		mg/L	0.0005	0.003	07/12/13 3:21	msh
Manganese, total	M200.8 ICP-MS	1	0.0029	B		mg/L	0.0005	0.003	07/12/13 5:37	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	2	1.3		*	ng/L	0.4	1	07/09/13 16:30	las
Mercury, total	M1631, Atomic Fluorescence	2	1.6			ng/L	0.4	1	07/11/13 13:56	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0035			mg/L	0.0005	0.003	07/12/13 3:21	msh
Molybdenum, total	M200.8 ICP-MS	1	0.0035			mg/L	0.0005	0.003	07/12/13 5:37	pmc
Nickel, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0006	0.003	07/12/13 3:21	msh
Nickel, total	M200.8 ICP-MS	1	0.0008	B		mg/L	0.0006	0.003	07/12/13 5:37	pmc
Potassium, dissolved	M200.7 ICP	1	3.4			mg/L	0.3	2	07/09/13 0:12	jjc

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: OWYHEE RIVER

ACZ Sample ID: ***L13032-04***
Date Sampled: *06/26/13 05:00*
Date Received: *07/01/13*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	3.3			mg/L	0.3	2	07/09/13 23:38	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 0:12	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 23:38	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0003	07/12/13 3:21	msh
Selenium, total	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	07/12/13 5:37	pmc
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 3:21	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 5:37	pmc
Sodium, dissolved	M200.7 ICP	1	27.0			mg/L	0.3	2	07/09/13 0:12	jjc
Sodium, total	M200.7 ICP	1	26.3			mg/L	0.3	2	07/09/13 23:38	aeb
Strontium, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	07/09/13 0:12	jjc
Strontium, total	M200.7 ICP	1	0.10			mg/L	0.01	0.05	07/09/13 23:38	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 3:21	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 5:37	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/12/13 3:21	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/12/13 5:37	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	07/09/13 0:12	jjc
Titanium, total	M200.7 ICP	1	0.007	B		mg/L	0.005	0.03	07/09/13 23:38	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0014			mg/L	0.0001	0.0005	07/12/13 3:21	msh
Uranium, total	M200.8 ICP-MS	1	0.0015			mg/L	0.0001	0.0005	07/12/13 5:37	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0037			mg/L	0.0002	0.001	07/12/13 23:31	msh
Vanadium, total	M200.8 ICP-MS	1	0.0050			mg/L	0.0002	0.001	07/12/13 5:37	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/09/13 0:12	jjc
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/09/13 23:38	aeb

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	90		*	mg/L	2	20	07/02/13 0:00	abm
Carbonate as CaCO3		1	5	B	*	mg/L	2	20	07/02/13 0:00	abm
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/02/13 0:00	abm
Total Alkalinity		1	95		*	mg/L	2	20	07/02/13 0:00	abm
Conductivity @25C	SM2510B	1	264		*	umhos/cm	1	10	07/02/13 3:55	abm
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/10/13 23:04	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/09/13 14:31	bsu
Hardness as CaCO3	SM2340B - Calculation		74			mg/L	1	7	07/19/13 13:44	calc
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	07/08/13 18:20	mpb
pH (lab)	SM4500H+ B									
pH		1	8.4	H	*	units	0.1	0.1	07/02/13 0:00	abm
pH measured at		1	23.0		*	C	0.1	0.1	07/02/13 0:00	abm
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B	*	mg/L	0.01	0.05	07/09/13 17:23	mpb
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	07/03/13 9:11	mss3

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: HG TRIP BLANK

ACZ Sample ID: ***L13032-05***
Date Sampled: *06/26/13 17:30*
Date Received: *07/01/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Mercury, total	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	07/11/13 13:03	las

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.

(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.

(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.

(4) EPA SW-846. Test Methods for Evaluating Solid Waste.

(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.

(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.

(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.

(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.

(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L13032***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346808													
WG346808PBW1	PBW	07/01/13 16:53				3.7	mg/L		-20	20			
WG346808LCSW2	LCSW	07/01/13 17:07	WC130625-	820.0001		775.1	mg/L	94.5	90	110			
WG346808LCSW5	LCSW	07/01/13 20:04	WC130625-	820.0001		769.7	mg/L	93.9	90	110			
WG346808PBW2	PBW	07/01/13 20:13				3	mg/L		-20	20			
WG346808LCSW8	LCSW	07/01/13 23:09	WC130625-	820.0001		791.4	mg/L	96.5	90	110			
WG346808PBW3	PBW	07/01/13 23:17				2.9	mg/L		-20	20			
L13032-01DUP	DUP	07/02/13 3:05			348	329.3	mg/L				5.5	20	
WG346808LCSW11	LCSW	07/02/13 3:19	WC130625-	820.0001		778	mg/L	94.9	90	110			
WG346808PBW4	PBW	07/02/13 3:28				3.9	mg/L		-20	20			
L13032-04DUP	DUP	07/02/13 4:04			95	96.4	mg/L				1.5	20	
WG346808LCSW14	LCSW	07/02/13 4:17	WC130625-	820.0001		795	mg/L	97	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.037	mg/L	101.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.09	0.09			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1.0011		1.044	mg/L	104.3	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	1.0011	U	1.043	mg/L	104.2	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	1.0011	U	1.044	mg/L	104.3	85	115	0.1	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.986	mg/L	99.3	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.09	0.09			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.066	0.066			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1.0011		1.007	mg/L	100.6	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1.0011	U	.995	mg/L	99.4	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1.0011	U	.983	mg/L	98.2	70	130	1.21	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.02		.02184	mg/L	109.2	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0012	0.0012			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.01		.0099	mg/L	99	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.01	U	.00832	mg/L	83.2	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.01	U	.00893	mg/L	89.3	70	130	7.07	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.01	U	.00872	mg/L	87.2	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.01	U	.00886	mg/L	88.6	70	130	1.59	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.02		.02045	mg/L	102.3	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0012	0.0012			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00088	0.00088			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.01		.01046	mg/L	104.6	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.01	U	.01058	mg/L	105.8	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.01	U	.01061	mg/L	106.1	70	130	0.28	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05457	mg/L	109.1	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0006	0.0006			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.05269	mg/L	105.3	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05005	.0016	.05527	mg/L	107.2	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05005	.0016	.05761	mg/L	111.9	70	130	4.15	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.0059	.06096	mg/L	110	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.0059	.06136	mg/L	110.8	70	130	0.65	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.05103	mg/L	102.1	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0006	0.0006			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00044	0.00044			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05005		.0494	mg/L	98.7	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05005	.0054	.05517	mg/L	99.4	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05005	.0054	.05444	mg/L	98	70	130	1.33	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.0295	mg/L	101.5	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.009	0.009			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5		.5063	mg/L	101.3	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	.5	.192	.6907	mg/L	99.7	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	.5	.192	.6941	mg/L	100.4	85	115	0.49	20	

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.9378	mg/L	96.9	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.009	0.009			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.0066	0.0066			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	.5		.4766	mg/L	95.3	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	.5	.005	.467	mg/L	92.4	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	.5	.005	.4601	mg/L	91	70	130	1.49	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.04782	mg/L	95.6	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.00015	0.00015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.0501		.04741	mg/L	94.6	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.0501	U	.0478	mg/L	95.4	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.0501	U	.04973	mg/L	99.3	70	130	3.96	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.0501	U	.04977	mg/L	99.3	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.0501	U	.04944	mg/L	98.7	70	130	0.67	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.04682	mg/L	93.6	90	110			
WG347452ICB	ICB	07/12/13 4:58				.000077	mg/L		-0.00015	0.00015			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00011	0.00011			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.0501		.04615	mg/L	92.1	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.0501	U	.04824	mg/L	96.3	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.0501	U	.04834	mg/L	96.5	70	130	0.21	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		1.995	mg/L	99.8	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.12	0.12			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.007	mg/L	100.7	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	1	U	.999	mg/L	99.9	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	1	U	1.015	mg/L	101.5	85	115	1.59	20	

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.971	mg/L	98.6	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.12	0.12			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.088	0.088			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		1.016	mg/L	101.6	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	1.011	mg/L	101.1	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	.977	mg/L	97.7	70	130	3.42	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.047	mg/L	102.4	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.03	0.03			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5005		.514	mg/L	102.7	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	.5005	.38	.891	mg/L	102.1	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	.5005	.38	.89	mg/L	101.9	85	115	0.11	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		2.016	mg/L	100.8	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.03	0.03			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.022	0.022			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	.5005		.482	mg/L	96.3	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	.5005	.12	.604	mg/L	96.7	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	.5005	.12	.607	mg/L	97.3	70	130	0.5	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.0506	mg/L	101.2	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.0501		.04923	mg/L	98.3	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.0501	U	.04835	mg/L	96.5	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.0501	U	.05047	mg/L	100.7	70	130	4.29	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.0501	U	.04976	mg/L	99.3	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.0501	U	.04917	mg/L	98.1	70	130	1.19	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.05028	mg/L	100.6	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0003	0.0003			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00022	0.00022			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.0501		.04848	mg/L	96.8	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.0501	U	.04856	mg/L	96.9	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.0501	U	.04867	mg/L	97.1	70	130	0.23	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	100		99.86	mg/L	99.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.6	0.6			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	68.0028		71.18	mg/L	104.7	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	68.0028	2.4	73.16	mg/L	104.1	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	68.0028	2.4	72.96	mg/L	103.8	85	115	0.27	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	100		98.28	mg/L	98.3	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.6	0.6			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.44	0.44			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	68.0028		68.43	mg/L	100.6	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	68.0028	1.1	69.08	mg/L	100	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	68.0028	1.1	67.97	mg/L	98.3	70	130	1.62	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05152	mg/L	103	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0015	0.0015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.05088	mg/L	101.7	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05005	U	.04713	mg/L	94.2	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05005	U	.04896	mg/L	97.8	70	130	3.81	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	U	.04827	mg/L	96.4	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	U	.04885	mg/L	97.6	70	130	1.19	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.04865	mg/L	97.3	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0015	0.0015			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.0011	0.0011			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05005		.04781	mg/L	95.5	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05005	U	.04754	mg/L	95	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05005	U	.04734	mg/L	94.6	70	130	0.42	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.04724	mg/L	94.5	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.00015	0.00015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.04697	mg/L	93.8	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05005	.00015	.04434	mg/L	88.3	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05005	.00015	.04578	mg/L	91.2	70	130	3.2	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.00046	.04597	mg/L	90.9	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.00046	.04537	mg/L	89.7	70	130	1.31	20	
WG347770													
WG347770ICV	ICV	07/18/13 0:11	MS130717-9	.05		.04703	mg/L	94.1	90	110			
WG347770ICB	ICB	07/18/13 0:14				U	mg/L		-0.00015	0.00015			
WG347770LFB	LFB	07/18/13 0:17	MS130717-1	.05005		.04866	mg/L	97.2	85	115			
L13141-02AS	AS	07/18/13 0:45	MS130717-1	.1001	.003	.11272	mg/L	109.6	70	130			
L13141-02ASD	ASD	07/18/13 0:55	MS130717-1	.1001	.003	.10496	mg/L	101.9	70	130	7.13	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.04923	mg/L	98.5	90	110			
WG347452ICB	ICB	07/12/13 4:58				.000063	mg/L		-0.00015	0.00015			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00011	0.00011			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05005		.05001	mg/L	99.9	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05005	.0001	.04869	mg/L	97.1	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05005	.0001	.04891	mg/L	97.5	70	130	0.45	20	
WG347782													
WG347782ICV	ICV	07/18/13 3:21	MS130717-9	.05		.05008	mg/L	100.2	90	110			
WG347782ICB	ICB	07/18/13 3:24				U	mg/L		-0.00015	0.00015			
WG347677LRB	LRB	07/18/13 3:27				U	mg/L		-0.00011	0.00011			
WG347677LFB	LFB	07/18/13 3:30	MS130614-1	.05005		.05029	mg/L	100.5	85	115			
L13179-02LFM	LFM	07/18/13 3:53	MS130614-1	.05005	.00263	.05186	mg/L	98.4	70	130			
L13179-02LFMD	LFMD	07/18/13 4:02	MS130614-1	.05005	.00263	.05147	mg/L	97.6	70	130	0.75	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346808													
WG346808LCSW1	LCSW	07/01/13 16:55	PCN42820	1408.8		1434.5	umhos/cm	101.8	90	110			
WG346808LCSW4	LCSW	07/01/13 19:53	PCN42820	1408.8		1402.8	umhos/cm	99.6	90	110			
WG346808LCSW7	LCSW	07/01/13 22:57	PCN42820	1408.8		1382.3	umhos/cm	98.1	90	110			
L13032-01DUP	DUP	07/02/13 3:05			885	886	umhos/cm				0.1	20	
WG346808LCSW10	LCSW	07/02/13 3:07	PCN42820	1408.8		1364.9	umhos/cm	96.9	90	110			
L13032-04DUP	DUP	07/02/13 4:04			264	263	umhos/cm				0.4	20	
WG346808LCSW13	LCSW	07/02/13 4:06	PCN42820	1408.8		1347.6	umhos/cm	95.7	90	110			

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05134	mg/L	102.7	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0015	0.0015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.04955	mg/L	99	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05005	U	.04616	mg/L	92.2	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05005	U	.04798	mg/L	95.9	70	130	3.87	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.0007	.0471	mg/L	92.7	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.0007	.04755	mg/L	93.6	70	130	0.95	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.04936	mg/L	98.7	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0015	0.0015			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.0011	0.0011			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05005		.04796	mg/L	95.8	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05005	.0011	.04724	mg/L	92.2	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05005	.0011	.04753	mg/L	92.8	70	130	0.61	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347370													
WG347370ICV	ICV	07/10/13 22:36	WI130708-6	.3		.287	mg/L	95.7	90	110			
WG347370ICB	ICB	07/10/13 22:37				U	mg/L		-0.003	0.003			
WG347291LRB	LRB	07/10/13 22:39				U	mg/L		-0.003	0.003			
WG347291LFB	LFB	07/10/13 22:40	WI130708-2	.2		.2073	mg/L	103.7	90	110			
L13004-05DUP	DUP	07/10/13 22:54			U	U	mg/L				0	20	RA
L13004-06LFM	LFM	07/10/13 22:56	WI130708-2	.2	U	.1915	mg/L	95.8	90	110			

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347220													
WG347220ICV	ICV	07/09/13 11:40	WI130708-6	.3		.2844	mg/L	94.8	90	110			
WG347220ICB	ICB	07/09/13 11:41				U	mg/L		-0.003	0.003			
WG347242													
WG347195LRB	LRB	07/09/13 14:09				U	mg/L		-0.003	0.003			
WG347195LFB	LFB	07/09/13 14:10	WI130708-4	.2		.1967	mg/L	98.4	90	110			
L13029-04DUP	DUP	07/09/13 14:24			U	U	mg/L				0	20	RA
L13032-01LFM	LFM	07/09/13 14:38	WI130708-4	.2	U	.1858	mg/L	92.9	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.07	mg/L	103.5	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.3	0.3			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.04	mg/L	104	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	1	U	1.03	mg/L	103	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	1	U	1.06	mg/L	106	85	115	2.87	20	

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.99	mg/L	99.5	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.3	0.3			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.22	0.22			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		1.03	mg/L	103	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	1.03	mg/L	103	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	1.01	mg/L	101	70	130	1.96	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.003	mg/L	100.2	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.06	0.06			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1.0014		1.021	mg/L	102	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	1.0014	U	1.023	mg/L	102.2	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	1.0014	U	1.02	mg/L	101.9	85	115	0.29	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.963	mg/L	98.2	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.06	0.06			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.044	0.044			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1.0014		.979	mg/L	97.8	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1.0014	U	.957	mg/L	95.6	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1.0014	U	.948	mg/L	94.7	70	130	0.94	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05172	mg/L	103.4	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.04923	mg/L	98.4	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05005	U	.04767	mg/L	95.2	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05005	U	.04933	mg/L	98.6	70	130	3.42	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	U	.04888	mg/L	97.7	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	U	.04821	mg/L	96.3	70	130	1.38	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.05091	mg/L	101.8	90	110			
WG347452ICB	ICB	07/12/13 4:58				.00014	mg/L		-0.0003	0.0003			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00022	0.00022			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05005		.04748	mg/L	94.9	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05005	U	.04783	mg/L	95.6	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05005	U	.04804	mg/L	96	70	130	0.44	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.04	mg/L	102	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.06	0.06			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.021	mg/L	102.1	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	1	.1	1.101	mg/L	100.1	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	1	.1	1.107	mg/L	100.7	85	115	0.54	20	

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.952	mg/L	97.6	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.06	0.06			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.044	0.044			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		.995	mg/L	99.5	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	.977	mg/L	97.7	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	.966	mg/L	96.6	70	130	1.13	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	100		98.9	mg/L	98.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.6	0.6			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	49.99752		50.08	mg/L	100.2	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	49.99752	2.1	51.55	mg/L	98.9	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	49.99752	2.1	51.42	mg/L	98.6	85	115	0.25	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	100		97.76	mg/L	97.8	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.6	0.6			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.44	0.44			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	49.99752		48.97	mg/L	97.9	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	49.99752	U	48.32	mg/L	96.6	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	49.99752	U	47.34	mg/L	94.7	70	130	2.05	20	

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.04731	mg/L	94.6	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0015	0.0015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.04638	mg/L	92.7	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05005	.0037	.04785	mg/L	88.2	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05005	.0037	.0495	mg/L	91.5	70	130	3.39	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.001	.04651	mg/L	90.9	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.001	.04585	mg/L	89.6	70	130	1.43	20	

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.05007	mg/L	100.1	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0015	0.0015			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.0011	0.0011			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05005		.04955	mg/L	99	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05005	.0029	.05151	mg/L	97.1	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05005	.0029	.05183	mg/L	97.8	70	130	0.62	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347159													
WG347159ICV	ICV	07/09/13 13:14	HG130517-4	10		10.58	ng/L	105.8	79	121			
WG347159ICB	ICB	07/09/13 13:21				U	ng/L		-0.5	0.5			
WG347159PQV	PQV	07/09/13 13:27	HG130517-6	.5		.43	ng/L	86	70	130			
WG347159LFB	LFB	07/09/13 13:34	HG130517-5	2		2.05	ng/L	102.5	71	125			
L12940-01MS	MS	07/09/13 14:18	HG130517-5	2	U	1.06	ng/L	53	71	125			M2
L12940-01MSD	MSD	07/09/13 14:25	HG130517-5	2	U	.96	ng/L	48	71	125	9.9	24	M2
WG347159CCV1	CCV	07/09/13 15:56	HG130517-4	10		8.58	ng/L	85.8	76.5	123.4			
WG347159CCB1	CCB	07/09/13 16:03				U	ng/L		-0.5	0.5			
WG347159CCV2	CCV	07/09/13 16:50	HG130517-4	10		9.06	ng/L	90.6	76.5	123.4			
WG347159CCB2	CCB	07/09/13 16:56				U	ng/L		-0.5	0.5			
WG347159CCV3	CCV	07/09/13 17:43	HG130517-4	10		10.06	ng/L	100.6	76.5	123.4			
WG347159CCB3	CCB	07/09/13 17:50				U	ng/L		-0.5	0.5			

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347365													
WG347365ICV	ICV	07/11/13 12:36	HG130517-4	10		10.44	ng/L	104.4	79	121			
WG347365ICB	ICB	07/11/13 12:42				U	ng/L		-0.5	0.5			
WG347365PQV	PQV	07/11/13 12:49	HG130517-6	.5		.54	ng/L	108	70	130			
WG347365LFB	LFB	07/11/13 12:55	HG130517-5	2		1.96	ng/L	98	71	125			
L13032-01MS	MS	07/11/13 13:30	HG2XPREP	8	1.5	5.05	ng/L	88.8	71	125			
L13032-01MSD	MSD	07/11/13 13:36	HG2XPREP	8	1.5	4.82	ng/L	83	71	125	4.66	24	
WG347365CCV1	CCV	07/11/13 14:03	HG130517-4	10		9.01	ng/L	90.1	76.5	123.4			
WG347365CCB1	CCB	07/11/13 14:10				U	ng/L		-0.5	0.5			
WG347365CCV2	CCV	07/11/13 14:56	HG130517-4	10		9.25	ng/L	92.5	76.5	123.4			
WG347365CCB2	CCB	07/11/13 15:03				U	ng/L		-0.5	0.5			
WG347365CCV3	CCV	07/11/13 15:43	HG130517-4	10		9.95	ng/L	99.5	76.5	123.4			
WG347365CCB3	CCB	07/11/13 15:50				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.02006		.02012	mg/L	100.3	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0015	0.0015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05		.04835	mg/L	96.7	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05	.0011	.04741	mg/L	92.6	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05	.0011	.04968	mg/L	97.2	70	130	4.68	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05	.0035	.05147	mg/L	95.9	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05	.0035	.05116	mg/L	95.3	70	130	0.6	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.02006		.01939	mg/L	96.7	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0015	0.0015			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.0011	0.0011			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05		.04765	mg/L	95.3	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05	.0035	.05178	mg/L	96.6	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05	.0035	.05133	mg/L	95.7	70	130	0.87	20	

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05279	mg/L	105.6	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0018	0.0018			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.05114	mg/L	102.2	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05005	U	.04666	mg/L	93.2	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05005	U	.04857	mg/L	97	70	130	4.01	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.0006	.04799	mg/L	94.7	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.0006	.04864	mg/L	96	70	130	1.35	20	

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.05059	mg/L	101.2	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0018	0.0018			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00132	0.00132			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05005		.0482	mg/L	96.3	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05005	.0008	.04808	mg/L	94.5	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05005	.0008	.0479	mg/L	94.1	70	130	0.38	20	

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347124													
WG347124ICV	ICV	07/08/13 12:58	WI121105-5	1.003		.973	mg/L	97	90	110			
WG347124ICB	ICB	07/08/13 13:01				U	mg/L		-0.15	0.15			
WG347161													
WG347161LFB1	LFB	07/08/13 16:54	WI121218-3	1		.982	mg/L	98.2	90	110			
WG347161ICV	ICV	07/08/13 17:47	WI121105-5	1.003		.975	mg/L	97.2	90	110			
WG347161ICB	ICB	07/08/13 17:50				U	mg/L		-0.15	0.15			
WG347161LFB2	LFB	07/08/13 18:10	WI121218-3	1		1.042	mg/L	104.2	90	110			
L13030-06AS	AS	07/08/13 18:12	WI121218-3	1	U	1.019	mg/L	101.9	90	110			
L13030-07DUP	DUP	07/08/13 18:14			U	U	mg/L				0	20	RA

SPF Water Engineering

ACZ Project ID: ***L13032***

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346808													
WG346808LCSW3	LCSW	07/01/13 17:10	PCN40853	6		5.99	units	99.8	98	102			
WG346808LCSW6	LCSW	07/01/13 20:08	PCN40853	6		6.01	units	100.2	98	102			
WG346808LCSW9	LCSW	07/01/13 23:12	PCN40853	6		6.01	units	100.2	98	102			
L13032-01DUP	DUP	07/02/13 3:05			8.3	8.37	units				0.8	20	
WG346808LCSW12	LCSW	07/02/13 3:22	PCN40853	6		6	units	100	98	102			
L13032-04DUP	DUP	07/02/13 4:04			8.4	8.46	units				0.7	20	
WG346808LCSW15	LCSW	07/02/13 4:21	PCN40853	6		6	units	100	98	102			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347250													
WG347250ICV	ICV	07/09/13 14:53	WI130620-3	.65228		.633	mg/L	97	90	110			
WG347250ICB	ICB	07/09/13 14:54				U	mg/L		-0.03	0.03			
WG347256													
WG347133LRB	LRB	07/09/13 17:06				U	mg/L		-0.03	0.03			
WG347133LFB	LFB	07/09/13 17:07	WI130705-2	.5		.53	mg/L	106	90	110			
L13031-02LFM	LFM	07/09/13 17:09	WI130705-2	.5	.03	.542	mg/L	102.4	90	110			
L13031-03DUP	DUP	07/09/13 17:11			.04	.034	mg/L				16.2	20	RA
L13032-04LFM	LFM	07/09/13 17:24	WI130705-2	.5	.02	.527	mg/L	101.4	90	110			
L13046-16DUP	DUP	07/09/13 17:55			1.05	1.051	mg/L				0.1	20	

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	20		20.16	mg/L	100.8	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.9	0.9			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	99.96112		100.6	mg/L	100.6	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	99.96112	.6	100.3	mg/L	99.7	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	99.96112	.6	100.7	mg/L	100.1	85	115	0.4	20	

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	20		19.82	mg/L	99.1	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.9	0.9			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.66	0.66			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	99.96112		97.83	mg/L	97.9	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	99.96112	5.8	102.2	mg/L	96.4	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	99.96112	5.8	100.5	mg/L	94.7	70	130	1.68	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346839													
WG346839PBW	PBW	07/02/13 10:55				U	mg/L		-15	15			
WG346839LCSW	LCSW	07/02/13 10:56	PCN42878	160		149	mg/L	93.1	80	120			
L13030-07DUP	DUP	07/02/13 11:16			71	72	mg/L				1.4	10	
WG346926													
WG346926PBW	PBW	07/03/13 8:40				U	mg/L		-15	15			
WG346926LCSW	LCSW	07/03/13 8:41	PCN42878	160		158	mg/L	98.8	80	120			
L13032-02DUP	DUP	07/03/13 9:08			U	U	mg/L				0	10	RA

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.01	mg/L	100.5	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.3	0.3			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1.0009		1.05	mg/L	104.9	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	1.0009	U	1.05	mg/L	104.9	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	1.0009	U	1.05	mg/L	104.9	85	115	0	20	

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.92	mg/L	96	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.3	0.3			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.22	0.22			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1.0009		1.01	mg/L	100.9	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1.0009	U	.98	mg/L	97.9	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1.0009	U	.97	mg/L	96.9	70	130	1.03	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05509	mg/L	110.2	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.05133	mg/L	102.6	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05005	.0001	.05146	mg/L	102.6	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05005	.0001	.05509	mg/L	109.9	70	130	6.81	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.0002	.05349	mg/L	106.5	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.0002	.05344	mg/L	106.4	70	130	0.09	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.05279	mg/L	105.6	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0003	0.0003			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00022	0.00022			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05005		.04886	mg/L	97.6	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05005	.0003	.04966	mg/L	98.6	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05005	.0003	.04947	mg/L	98.2	70	130	0.38	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.02002		.02074	mg/L	103.6	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.00015	0.00015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.01001		.009802	mg/L	97.9	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.01001	U	.008351	mg/L	83.4	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.01001	U	.0091	mg/L	90.9	70	130	8.58	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.01001	U	.008807	mg/L	88	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.01001	U	.008673	mg/L	86.6	70	130	1.53	20	

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.02002		.01996	mg/L	99.7	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.00015	0.00015			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00011	0.00011			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.01001		.009554	mg/L	95.4	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.01001	U	.009342	mg/L	93.3	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.01001	U	.009311	mg/L	93	70	130	0.33	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	100		100.7	mg/L	100.7	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.9	0.9			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	100.0495		100.9	mg/L	100.9	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	100.0495	316	407.6	mg/L	91.6	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	100.0495	316	405.7	mg/L	89.7	85	115	0.47	20	

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	100		98.87	mg/L	98.9	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.9	0.9			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.66	0.66			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	100.0495		97.32	mg/L	97.3	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	100.0495	110	203	mg/L	93	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	100.0495	110	199.3	mg/L	89.3	70	130	1.84	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.054	mg/L	102.7	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.03	0.03			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5		.511	mg/L	102.2	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	.5	.39	.886	mg/L	99.2	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	.5	.39	.888	mg/L	99.6	85	115	0.23	20	

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.977	mg/L	98.9	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.03	0.03			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.022	0.022			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	.5		.484	mg/L	96.8	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	.5	U	.48	mg/L	96	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	.5	U	.472	mg/L	94.4	70	130	1.68	20	

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05415	mg/L	108.3	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.05203	mg/L	104	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05005	U	.05104	mg/L	102	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05005	U	.05271	mg/L	105.3	70	130	3.22	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	U	.05221	mg/L	104.3	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	U	.05143	mg/L	102.8	70	130	1.51	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.05333	mg/L	106.7	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0003	0.0003			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00022	0.00022			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05005		.04945	mg/L	98.8	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05005	U	.04972	mg/L	99.3	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05005	U	.05021	mg/L	100.3	70	130	0.98	20	

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05015		.05222	mg/L	104.1	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.04558	mg/L	91.1	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05005	U	.042	mg/L	83.9	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05005	U	.04418	mg/L	88.3	70	130	5.06	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	U	.04402	mg/L	88	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	U	.04402	mg/L	88	70	130	0	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05015		.05054	mg/L	100.8	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0003	0.0003			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00022	0.00022			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05005		.04643	mg/L	92.8	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05005	U	.04785	mg/L	95.6	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05005	U	.04567	mg/L	91.2	70	130	4.66	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.0275	mg/L	101.4	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.015	0.015			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.033	mg/L	103.3	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	1	U	1.034	mg/L	103.4	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	1	U	1.035	mg/L	103.5	85	115	0.1	20	

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.9495	mg/L	97.5	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.015	0.015			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.011	0.011			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		.997	mg/L	99.7	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	.9898	mg/L	99	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	.9777	mg/L	97.8	70	130	1.23	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05288	mg/L	105.8	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05		.05079	mg/L	101.6	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.05	.0002	.0502	mg/L	100	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.05	.0002	.05189	mg/L	103.4	70	130	3.31	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05	.0014	.0527	mg/L	102.6	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05	.0014	.05187	mg/L	100.9	70	130	1.59	20	

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.05278	mg/L	105.6	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0003	0.0003			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00022	0.00022			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.05		.04997	mg/L	99.9	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.05	.0015	.05362	mg/L	104.2	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.05	.0015	.05314	mg/L	103.3	70	130	0.9	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05088	mg/L	101.8	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0006	0.0006			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.0501		.05098	mg/L	101.8	85	115			
L13031-03AS	AS	07/12/13 2:40	MS130614-1	.0501	.0005	.04939	mg/L	97.6	70	130			
L13031-03ASD	ASD	07/12/13 2:43	MS130614-1	.0501	.0005	.05144	mg/L	101.7	70	130	4.07	20	
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.0501	.0045	.05429	mg/L	99.4	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.0501	.0045	.05528	mg/L	101.4	70	130	1.81	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.04707	mg/L	94.1	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0006	0.0006			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.0501		.04942	mg/L	98.6	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.0501	.027	.07561	mg/L	97	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.0501	.027	.07594	mg/L	97.7	70	130	0.44	20	
WG347530													
WG347530ICV	ICV	07/13/13 22:18	MS130416-2	.05		.04938	mg/L	98.8	90	110			
WG347530ICB	ICB	07/13/13 22:21				U	mg/L		-0.0006	0.0006			
WG347530LFB	LFB	07/13/13 22:24	MS130614-1	.0501		.05187	mg/L	103.5	85	115			
L13105-01AS	AS	07/13/13 22:47	MS130614-1	.0501	U	.05215	mg/L	104.1	70	130			
L13105-01ASD	ASD	07/13/13 22:50	MS130614-1	.0501	U	.05178	mg/L	103.4	70	130	0.71	20	

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347452													
WG347452ICV	ICV	07/12/13 4:55	MS130416-2	.05		.04846	mg/L	96.9	90	110			
WG347452ICB	ICB	07/12/13 4:58				U	mg/L		-0.0006	0.0006			
WG347211LRB	LRB	07/12/13 5:02				U	mg/L		-0.00044	0.00044			
WG347211LFB	LFB	07/12/13 5:05	MS130614-1	.0501		.04862	mg/L	97	85	115			
L13032-04LFM	LFM	07/12/13 5:40	MS130614-1	.0501	.005	.05358	mg/L	97	70	130			
L13032-04LFMD	LFMD	07/12/13 5:43	MS130614-1	.0501	.005	.05338	mg/L	96.6	70	130	0.37	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		1.958	mg/L	97.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.03	0.03			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5		.513	mg/L	102.6	85	115			
L13011-03AS	AS	07/08/13 23:44	II130708-3	.5	U	.512	mg/L	102.4	85	115			
L13011-03ASD	ASD	07/08/13 23:47	II130708-3	.5	U	.512	mg/L	102.4	85	115	0	20	

SPF Water Engineering

ACZ Project ID: ***L13032***

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.946	mg/L	97.3	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.03	0.03			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.022	0.022			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	.5		.504	mg/L	100.8	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	.5	U	.496	mg/L	99.2	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	.5	U	.486	mg/L	97.2	70	130	2.04	20	

SPF Water Engineering ACZ Project ID: ***L13032***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13032-01	WG347159	Mercury, dissolved	M1631, Atomic Fluorescence	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG346808	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG347370	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347242	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346808	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347161	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346808	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347256	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346839	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
	WG346808	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.

SPF Water Engineering ACZ Project ID: ***L13032***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13032-02	WG347159	Mercury, dissolved	M1631, Atomic Fluorescence	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG347365	Mercury, total	M1631, Atomic Fluorescence	DF	Sample required dilution due to high sediment.
	WG347432	Vanadium, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG346808	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG347370	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347242	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346808	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347161	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346808	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347256	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346926	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346808	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.

SPF Water Engineering ACZ Project ID: ***L13032***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13032-03	WG347159	Mercury, dissolved	M1631, Atomic Fluorescence	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG347365	Mercury, total	M1631, Atomic Fluorescence	DF	Sample required dilution due to high sediment.
	WG347432	Vanadium, dissolved	M200.8 ICP-MS	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG346808	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG347370	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347242	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346808	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347161	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346808	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347256	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346926	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346808	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.

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Inorganic Extended Qualifier Report

SPF Water Engineering ACZ Project ID: ***L13032***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13032-04	WG347677	Total Hot Plate Digestion	M200.2 ICP-MS	DJ	Sample dilution required due to insufficient sample.
	WG347159	Mercury, dissolved	M1631, Atomic Fluorescence	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG346808	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG347370	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347242	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346808	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347161	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346808	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347256	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
	WG346926	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346808	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Q sampling

ACZ Project ID: L13032
Date Received: 07/01/2013 10:09
Received By: gac
Date Printed: 7/2/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?		X	

L13032-01 : HG-1631's not in sealed double bags.

L13032-02 : HG-1631's not in sealed double bags.

L13032-03 : HG-1631's not in sealed double bags.

L13032-04 : HG-1631's not in sealed double bags.

L13032-05 : HG-1631 not in sealed double bags.

16) Is there an Hg-1631 trip blank present?	X		
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
4110	20.9	13	Yes

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Q sampling

ACZ Project ID:	L13032
Date Received:	07/01/2013 10:09
Received By:	gac
Date Printed:	7/2/2013

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s) but was thawed by receipt at ACZ.

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

C13032

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name:	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SPF-2013-GW

PO#: Calico 2nd Quarter Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	SPF-2013-GW	HG-trip Blank
Lowe Spring	6/26/13 9:20		7	X	
Poison Spring	6/26/13 10:55		7	X	
Negro Rock Canyon Creek	6/26/13 12:00		7	X	
Gunnison River	6/26/13 5:00		7	X	
HG-Trip Blank	6/26/13 5:30		1		X

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	6/27/13 9:08		
			7-1-13 10:09

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

C13032 Chain of Custody

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 19, 2013

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 2nd Q sampling
ACZ Project ID: L13047

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 02, 2013. This project has been assigned to ACZ's project number, L13047. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L13047. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 18, 2013. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

SPF Water Engineering July 19, 2013

Project ID: Calico 2nd Q sampling
ACZ Project ID: L13047

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 2 ground water samples from SPF Water Engineering on July 2, 2013. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L13047. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The following anomaly required further explanation not provided by the Extended Qualifier Report:

1. For L13047-01, the dissolved and total cobalt values were verified by re-digestion and re-analysis with no significant change.

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L13047-01***
Date Sampled: *06/27/13 09:00*
Date Received: *07/02/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/10/13 11:59	mla
Cyanide, WAD	SM4500-CN I- distillation								07/10/13 20:06	mla
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/08/13 15:44	mla
Total Hot Plate Digestion	M200.2 ICP-MS								07/10/13 11:04	las
Total Hot Plate Digestion	M200.2 ICP								07/09/13 10:12	aeb

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L13047-01***
Date Sampled: *06/27/13 09:00*
Date Received: *07/02/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	07/09/13 0:15	jjc
Aluminum, total	M200.7 ICP	1	1.34			mg/L	0.03	0.2	07/09/13 23:41	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/12/13 0:52	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/12/13 7:20	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0111			mg/L	0.0002	0.001	07/12/13 0:52	msh
Arsenic, total	M200.8 ICP-MS	1	0.0114			mg/L	0.0002	0.001	07/12/13 7:20	pmc
Barium, dissolved	M200.7 ICP	1	0.028			mg/L	0.003	0.02	07/09/13 0:15	jjc
Barium, total	M200.7 ICP	1	0.042			mg/L	0.003	0.02	07/09/13 23:41	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/13/13 1:47	msh
Beryllium, total	M200.8 ICP-MS	1	0.00009	B		mg/L	0.00005	0.0003	07/12/13 7:20	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/09/13 0:15	jjc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/09/13 23:41	aeb
Boron, dissolved	M200.7 ICP	1	0.17			mg/L	0.01	0.05	07/09/13 0:15	jjc
Boron, total	M200.7 ICP	1	0.17			mg/L	0.01	0.05	07/11/13 14:22	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 0:52	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 7:20	pmc
Calcium, dissolved	M200.7 ICP	1	21.5			mg/L	0.2	1	07/09/13 0:15	jjc
Calcium, total	M200.7 ICP	1	21.4			mg/L	0.2	1	07/09/13 23:41	aeb
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/12/13 0:52	msh
Chromium, total	M200.8 ICP-MS	1	0.0013	B		mg/L	0.0005	0.002	07/12/13 7:20	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00216			mg/L	0.00005	0.0003	07/12/13 0:52	msh
Cobalt, total	M200.8 ICP-MS	1	0.00054			mg/L	0.00005	0.0003	07/12/13 7:20	pmc
Copper, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0005	0.003	07/12/13 0:52	msh
Copper, total	M200.8 ICP-MS	1	0.0021	B		mg/L	0.0005	0.003	07/13/13 3:49	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 0:15	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 23:41	aeb
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	07/09/13 0:15	jjc
Iron, total	M200.7 ICP	1	1.15			mg/L	0.02	0.05	07/09/13 23:41	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 0:52	msh
Lead, total	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	07/13/13 3:49	pmc
Lithium, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.02	0.1	07/09/13 0:15	jjc
Lithium, total	M200.7 ICP	1	0.03	B		mg/L	0.02	0.1	07/09/13 23:41	aeb
Magnesium, dissolved	M200.7 ICP	1	6.2			mg/L	0.2	1	07/09/13 0:15	jjc
Magnesium, total	M200.7 ICP	1	6.3			mg/L	0.2	1	07/09/13 23:41	aeb
Manganese, dissolved	M200.8 ICP-MS	1	0.0184			mg/L	0.0005	0.003	07/12/13 0:52	msh
Manganese, total	M200.8 ICP-MS	1	0.0662			mg/L	0.0005	0.003	07/12/13 7:20	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	2	1.4			ng/L	0.4	1	07/09/13 16:36	las
Mercury, total	M1631, Atomic Fluorescence	5	23			ng/L	1	3	07/11/13 14:16	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0066			mg/L	0.0005	0.003	07/12/13 0:52	msh
Molybdenum, total	M200.8 ICP-MS	1	0.0066			mg/L	0.0005	0.003	07/12/13 7:20	pmc
Nickel, dissolved	M200.8 ICP-MS	1	0.0007	B		mg/L	0.0006	0.003	07/12/13 0:52	msh
Nickel, total	M200.8 ICP-MS	1	0.0014	B		mg/L	0.0006	0.003	07/12/13 7:20	pmc
Potassium, dissolved	M200.7 ICP	1	4.9			mg/L	0.3	2	07/09/13 0:15	jjc

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L13047-01***
Date Sampled: *06/27/13 09:00*
Date Received: *07/02/13*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	5.0			mg/L	0.3	2	07/09/13 23:41	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 0:15	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 23:41	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0003	07/12/13 0:52	msh
Selenium, total	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0003	07/12/13 7:20	pmc
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 0:52	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 7:20	pmc
Sodium, dissolved	M200.7 ICP	1	49.0			mg/L	0.3	2	07/09/13 0:15	jjc
Sodium, total	M200.7 ICP	1	47.8			mg/L	0.3	2	07/09/13 23:41	aeb
Strontium, dissolved	M200.7 ICP	1	0.11			mg/L	0.01	0.05	07/09/13 0:15	jjc
Strontium, total	M200.7 ICP	1	0.11			mg/L	0.01	0.05	07/09/13 23:41	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 0:52	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 7:20	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/12/13 0:52	msh
Tin, total	M200.8 ICP-MS	1	0.0001	B	*	mg/L	0.0001	0.0005	07/12/13 7:20	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	07/09/13 0:15	jjc
Titanium, total	M200.7 ICP	1	0.047			mg/L	0.005	0.03	07/09/13 23:41	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0027			mg/L	0.0001	0.0005	07/12/13 0:52	msh
Uranium, total	M200.8 ICP-MS	1	0.0028			mg/L	0.0001	0.0005	07/12/13 7:20	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0100			mg/L	0.0002	0.001	07/12/13 0:52	msh
Vanadium, total	M200.8 ICP-MS	1	0.0129			mg/L	0.0002	0.001	07/12/13 7:20	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/09/13 0:15	jjc
Zinc, total	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	07/09/13 23:41	aeb

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	139		*	mg/L	2	20	07/04/13 0:00	abm
Carbonate as CaCO3		1	4	B	*	mg/L	2	20	07/04/13 0:00	abm
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/04/13 0:00	abm
Total Alkalinity		1	143		*	mg/L	2	20	07/04/13 0:00	abm
Conductivity @25C	SM2510B	1	373		*	umhos/cm	1	10	07/04/13 0:52	abm
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/10/13 23:05	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/11/13 14:15	mpb
Hardness as CaCO3	SM2340B - Calculation		79			mg/L	1	7	07/19/13 13:57	calc
Nitrogen, ammonia	M350.1 - Automated Phenate	1	0.12	B	*	mg/L	0.05	0.5	07/10/13 12:34	bsu
pH (lab)	SM4500H+ B									
pH		1	8.3	H	*	units	0.1	0.1	07/04/13 0:00	abm
pH measured at		1	22.0		*	C	0.1	0.1	07/04/13 0:00	abm
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.08		*	mg/L	0.01	0.05	07/09/13 17:33	mpb
Residue, Non-Filterable (TSS) @105C	SM2540D	1	26		*	mg/L	5	20	07/03/13 11:08	mss3

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L13047-02***
Date Sampled: *06/27/13 14:20*
Date Received: *07/02/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/11/13 11:44	mla
Cyanide, WAD	SM4500-CN I- distillation								07/10/13 20:56	mla
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/08/13 15:50	mla
Total Hot Plate Digestion	M200.2 ICP-MS								07/16/13 12:00	scp
Total Hot Plate Digestion	M200.2 ICP								07/09/13 10:24	aeb

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L13047-02***
Date Sampled: *06/27/13 14:20*
Date Received: *07/02/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.08	B		mg/L	0.03	0.2	07/09/13 0:18	jjc
Aluminum, total	M200.7 ICP	1	0.64			mg/L	0.03	0.2	07/09/13 23:44	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/12/13 0:55	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/12/13 7:23	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0057			mg/L	0.0002	0.001	07/12/13 0:55	msh
Arsenic, total	M200.8 ICP-MS	1	0.0057			mg/L	0.0002	0.001	07/12/13 7:23	pmc
Barium, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.003	0.02	07/09/13 0:18	jjc
Barium, total	M200.7 ICP	1	0.019	B		mg/L	0.003	0.02	07/09/13 23:44	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/13/13 1:58	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 7:23	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/09/13 0:18	jjc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/09/13 23:44	aeb
Boron, dissolved	M200.7 ICP	1	0.08			mg/L	0.01	0.05	07/09/13 0:18	jjc
Boron, total	M200.7 ICP	1	0.09			mg/L	0.01	0.05	07/11/13 14:25	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 0:55	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 7:23	pmc
Calcium, dissolved	M200.7 ICP	1	20.0			mg/L	0.2	1	07/09/13 0:18	jjc
Calcium, total	M200.7 ICP	1	19.8			mg/L	0.2	1	07/09/13 23:44	aeb
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/12/13 0:55	msh
Chromium, total	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0005	0.002	07/12/13 7:23	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00039			mg/L	0.00005	0.0003	07/12/13 0:55	msh
Cobalt, total	M200.8 ICP-MS	1	0.00030			mg/L	0.00005	0.0003	07/12/13 7:23	pmc
Copper, dissolved	M200.8 ICP-MS	1	0.0128			mg/L	0.0005	0.003	07/12/13 0:55	msh
Copper, total	M200.8 ICP-MS	1	0.0021	B		mg/L	0.0005	0.003	07/18/13 3:43	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 0:18	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 23:44	aeb
Iron, dissolved	M200.7 ICP	1	0.07			mg/L	0.02	0.05	07/09/13 0:18	jjc
Iron, total	M200.7 ICP	1	0.59			mg/L	0.02	0.05	07/09/13 23:44	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	07/12/13 0:55	msh
Lead, total	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	07/13/13 3:51	pmc
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	07/09/13 0:18	jjc
Lithium, total	M200.7 ICP	1		U		mg/L	0.02	0.1	07/09/13 23:44	aeb
Magnesium, dissolved	M200.7 ICP	1	5.3			mg/L	0.2	1	07/09/13 0:18	jjc
Magnesium, total	M200.7 ICP	1	5.3			mg/L	0.2	1	07/09/13 23:44	aeb
Manganese, dissolved	M200.8 ICP-MS	1	0.0031			mg/L	0.0005	0.003	07/12/13 0:55	msh
Manganese, total	M200.8 ICP-MS	1	0.0163			mg/L	0.0005	0.003	07/12/13 7:23	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	2	0.7	B	*	ng/L	0.4	1	07/09/13 16:43	las
Mercury, total	M1631, Atomic Fluorescence	5	4			ng/L	1	3	07/11/13 14:23	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0035			mg/L	0.0005	0.003	07/12/13 0:55	msh
Molybdenum, total	M200.8 ICP-MS	1	0.0036			mg/L	0.0005	0.003	07/12/13 7:23	pmc
Nickel, dissolved	M200.8 ICP-MS	1	0.0007	B		mg/L	0.0006	0.003	07/12/13 0:55	msh
Nickel, total	M200.8 ICP-MS	1	0.0011	B		mg/L	0.0006	0.003	07/12/13 7:23	pmc
Potassium, dissolved	M200.7 ICP	1	3.5			mg/L	0.3	2	07/09/13 0:18	jjc

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L13047-02***
Date Sampled: *06/27/13 14:20*
Date Received: *07/02/13*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	3.5			mg/L	0.3	2	07/09/13 23:44	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 0:18	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 23:44	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	07/12/13 0:55	msh
Selenium, total	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	07/12/13 7:23	pmc
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 0:55	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 7:23	pmc
Sodium, dissolved	M200.7 ICP	1	26.9			mg/L	0.3	2	07/09/13 0:18	jjc
Sodium, total	M200.7 ICP	1	26.3			mg/L	0.3	2	07/09/13 23:44	aeb
Strontium, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	07/09/13 0:18	jjc
Strontium, total	M200.7 ICP	1	0.10			mg/L	0.01	0.05	07/09/13 23:44	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 0:55	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 7:23	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/12/13 0:55	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/12/13 7:23	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	07/09/13 0:18	jjc
Titanium, total	M200.7 ICP	1	0.033			mg/L	0.005	0.03	07/09/13 23:44	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0014			mg/L	0.0001	0.0005	07/12/13 0:55	msh
Uranium, total	M200.8 ICP-MS	1	0.0014			mg/L	0.0001	0.0005	07/12/13 7:23	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0051			mg/L	0.0002	0.001	07/12/13 0:55	msh
Vanadium, total	M200.8 ICP-MS	1	0.0069			mg/L	0.0002	0.001	07/12/13 7:23	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/09/13 0:18	jjc
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/09/13 23:44	aeb

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	86		*	mg/L	2	20	07/04/13 0:00	abm
Carbonate as CaCO3		1	5	B	*	mg/L	2	20	07/04/13 0:00	abm
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/04/13 0:00	abm
Total Alkalinity		1	91		*	mg/L	2	20	07/04/13 0:00	abm
Conductivity @25C	SM2510B	1	261		*	umhos/cm	1	10	07/04/13 1:01	abm
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/11/13 14:56	mpb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/11/13 14:16	mpb
Hardness as CaCO3	SM2340B - Calculation		72			mg/L	1	7	07/19/13 13:57	calc
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	07/10/13 12:35	bsu
pH (lab)	SM4500H+ B									
pH		1	8.4	H	*	units	0.1	0.1	07/04/13 0:00	abm
pH measured at		1	22.0		*	C	0.1	0.1	07/04/13 0:00	abm
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.04	B	*	mg/L	0.01	0.05	07/09/13 17:34	mpb
Residue, Non-Filterable (TSS) @105C	SM2540D	1	5	B	*	mg/L	5	20	07/03/13 11:09	mss3

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.

(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.

(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.

(4) EPA SW-846. Test Methods for Evaluating Solid Waste.

(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.

(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.

(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.

(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.

(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L13047***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346995													
WG346995PBW1	PBW	07/03/13 17:11				U	mg/L		-20	20			
WG346995LCSW2	LCSW	07/03/13 17:24	WC130625-	820.0001		777	mg/L	94.8	90	110			
WG346995LCSW5	LCSW	07/03/13 20:41	WC130625-	820.0001		788.2	mg/L	96.1	90	110			
WG346995PBW2	PBW	07/03/13 20:49				2.7	mg/L		-20	20			
WG346995LCSW8	LCSW	07/03/13 23:48	WC130625-	820.0001		776.4	mg/L	94.7	90	110			
WG346995PBW3	PBW	07/03/13 23:56				2.4	mg/L		-20	20			
L13050-01DUP	DUP	07/04/13 1:36			U	U	mg/L				0	20	RA
WG346995LCSW11	LCSW	07/04/13 3:07	WC130625-	820.0001		776.2	mg/L	94.7	90	110			
WG346995PBW4	PBW	07/04/13 3:15				2.6	mg/L		-20	20			
WG346995LCSW14	LCSW	07/04/13 6:16	WC130625-	820.0001		783	mg/L	95.5	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.037	mg/L	101.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.09	0.09			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1.0011		1.044	mg/L	104.3	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1.0011	.08	1.138	mg/L	105.7	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1.0011	.08	1.143	mg/L	106.2	85	115	0.44	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.986	mg/L	99.3	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.09	0.09			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.066	0.066			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1.0011		1.007	mg/L	100.6	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1.0011	U	.995	mg/L	99.4	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1.0011	U	.983	mg/L	98.2	70	130	1.21	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.02		.02147	mg/L	107.4	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0012	0.0012			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.01		.00949	mg/L	94.9	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.01	U	.00835	mg/L	83.5	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.01	U	.00869	mg/L	86.9	70	130	3.99	20	

SPF Water Engineering

ACZ Project ID: ***L13047***

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.02		.02062	mg/L	103.1	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0012	0.0012			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00088	0.00088			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.01		.01038	mg/L	103.8	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.01	U	.01044	mg/L	104.4	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.01	U	.01043	mg/L	104.3	70	130	0.1	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.05092	mg/L	101.8	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0006	0.0006			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05005		.04742	mg/L	94.7	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05005	.0004	.05184	mg/L	102.8	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05005	.0004	.05245	mg/L	104	70	130	1.17	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05152	mg/L	103	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0006	0.0006			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00044	0.00044			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.05103	mg/L	102	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.0004	.05044	mg/L	100	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.0004	.04981	mg/L	98.7	70	130	1.26	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.0295	mg/L	101.5	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.009	0.009			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5		.5063	mg/L	101.3	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	.5	.011	.5154	mg/L	100.9	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	.5	.011	.5196	mg/L	101.7	85	115	0.81	20	

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.9378	mg/L	96.9	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.009	0.009			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.0066	0.0066			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	.5		.4766	mg/L	95.3	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	.5	.005	.467	mg/L	92.4	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	.5	.005	.4601	mg/L	91	70	130	1.49	20	

SPF Water Engineering

ACZ Project ID: ***L13047***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347511													
WG347511ICV	ICV	07/13/13 1:37	MS130416-2	.05		.04746	mg/L	94.9	90	110			
WG347511ICB	ICB	07/13/13 1:40				U	mg/L		-0.00015	0.00015			
WG347511LFB	LFB	07/13/13 1:44	MS130614-1	.0501		.0478	mg/L	95.4	85	115			
L13047-01AS	AS	07/13/13 1:51	MS130614-1	.0501	U	.05	mg/L	99.8	70	130			
L13047-01ASD	ASD	07/13/13 1:54	MS130614-1	.0501	U	.05162	mg/L	103	70	130	3.19	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.04696	mg/L	93.9	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.00015	0.00015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00011	0.00011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.0501		.04685	mg/L	93.5	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.0501	U	.0468	mg/L	93.4	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.0501	U	.0471	mg/L	94	70	130	0.64	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		1.995	mg/L	99.8	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.12	0.12			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.007	mg/L	100.7	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1	U	.988	mg/L	98.8	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1	U	1.001	mg/L	100.1	85	115	1.31	20	

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.971	mg/L	98.6	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.12	0.12			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.088	0.088			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		1.016	mg/L	101.6	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	1.011	mg/L	101.1	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	.977	mg/L	97.7	70	130	3.42	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.047	mg/L	102.4	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.03	0.03			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5005		.514	mg/L	102.7	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	.5005	.08	.592	mg/L	102.3	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	.5005	.08	.601	mg/L	104.1	85	115	1.51	20	

SPF Water Engineering

ACZ Project ID: ***L13047***

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		2.016	mg/L	100.8	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.03	0.03			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.022	0.022			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	.5005		.482	mg/L	96.3	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	.5005	.12	.604	mg/L	96.7	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	.5005	.12	.607	mg/L	97.3	70	130	0.5	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.05	mg/L	100	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0003	0.0003			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.0501		.04726	mg/L	94.3	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.0501	U	.04912	mg/L	98	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.0501	U	.04974	mg/L	99.3	70	130	1.25	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05094	mg/L	101.9	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00022	0.00022			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.0501		.04936	mg/L	98.5	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.0501	.0009	.04971	mg/L	97.4	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.0501	.0009	.04899	mg/L	96	70	130	1.46	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	100		99.86	mg/L	99.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.6	0.6			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	68.0028		71.18	mg/L	104.7	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	68.0028	20	89.99	mg/L	102.9	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	68.0028	20	90.37	mg/L	103.5	85	115	0.42	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	100		98.28	mg/L	98.3	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.6	0.6			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.44	0.44			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	68.0028		68.43	mg/L	100.6	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	68.0028	1.1	69.08	mg/L	100	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	68.0028	1.1	67.97	mg/L	98.3	70	130	1.62	20	

SPF Water Engineering

ACZ Project ID: ***L13047***

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.0488	mg/L	97.6	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0015	0.0015			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05005		.0461	mg/L	92.1	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05005	U	.04596	mg/L	91.8	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05005	U	.04633	mg/L	92.6	70	130	0.8	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.04882	mg/L	97.6	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0015	0.0015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.0011	0.0011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.0473	mg/L	94.5	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.0008	.04803	mg/L	94.4	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.0008	.04781	mg/L	93.9	70	130	0.46	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.0469	mg/L	93.8	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.00015	0.00015			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05005		.04604	mg/L	92	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05005	.00018	.04455	mg/L	88.7	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05005	.00018	.0448	mg/L	89.2	70	130	0.56	20	

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05058	mg/L	101.2	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.00015	0.00015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00011	0.00011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04897	mg/L	97.8	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.00067	.04951	mg/L	97.6	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.00067	.04885	mg/L	96.3	70	130	1.34	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346995													
WG346995LCSW1	LCSW	07/03/13 17:12	PCN42820	1408.8		1448.7	µmhos/cm	102.8	90	110			
WG346995LCSW4	LCSW	07/03/13 20:29	PCN42820	1408.8		1420.1	µmhos/cm	100.8	90	110			
WG346995LCSW7	LCSW	07/03/13 23:37	PCN42820	1408.8		1397.7	µmhos/cm	99.2	90	110			
L13050-01DUP	DUP	07/04/13 1:36			1440	1437	µmhos/cm				0.2	20	
WG346995LCSW10	LCSW	07/04/13 2:56	PCN42820	1408.8		1380.4	µmhos/cm	98	90	110			
WG346995LCSW13	LCSW	07/04/13 6:04	PCN42820	1408.8		1370.2	µmhos/cm	97.3	90	110			

SPF Water Engineering

ACZ Project ID: ***L13047***

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.0482	mg/L	96.4	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0015	0.0015			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05005		.04459	mg/L	89.1	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05005	.0007	.04484	mg/L	88.2	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05005	.0007	.04533	mg/L	89.2	70	130	1.09	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347525													
WG347525ICV	ICV	07/13/13 3:38	MS130416-2	.05		.05016	mg/L	100.3	90	110			
WG347525ICB	ICB	07/13/13 3:41				U	mg/L		-0.0015	0.0015			
WG347265LRB	LRB	07/13/13 3:43				U	mg/L		-0.0011	0.0011			
WG347265LFB	LFB	07/13/13 3:46	MS130614-1	.05005		.05099	mg/L	101.9	85	115			
L13067-01LFM	LFM	07/13/13 4:00	MS130614-1	.05005	.0014	.05077	mg/L	98.6	70	130			
L13067-01LFMD	LFMD	07/13/13 4:02	MS130614-1	.05005	.0014	.05078	mg/L	98.7	70	130	0.02	20	
WG347782													
WG347782ICV	ICV	07/18/13 3:21	MS130717-9	.05		.04915	mg/L	98.3	90	110			
WG347782ICB	ICB	07/18/13 3:24				U	mg/L		-0.0015	0.0015			
WG347677LRB	LRB	07/18/13 3:27				U	mg/L		-0.0011	0.0011			
WG347677LFB	LFB	07/18/13 3:30	MS130614-1	.05005		.0489	mg/L	97.7	85	115			
L13179-02LFM	LFM	07/18/13 3:53	MS130614-1	.05005	.0074	.05281	mg/L	90.7	70	130			
L13179-02LFMD	LFMD	07/18/13 4:02	MS130614-1	.05005	.0074	.05173	mg/L	88.6	70	130	2.07	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347370													
WG347370ICV	ICV	07/10/13 22:36	WI130708-6	.3		.287	mg/L	95.7	90	110			
WG347370ICB	ICB	07/10/13 22:37				U	mg/L		-0.003	0.003			
WG347291LRB	LRB	07/10/13 22:39				U	mg/L		-0.003	0.003			
WG347291LFB	LFB	07/10/13 22:40	WI130708-2	.2		.2073	mg/L	103.7	90	110			
L13004-05DUP	DUP	07/10/13 22:54			U	U	mg/L				0	20	RA
L13004-06LFM	LFM	07/10/13 22:56	WI130708-2	.2	U	.1915	mg/L	95.8	90	110			
WG347421													
WG347421ICV	ICV	07/11/13 14:08	WI130708-6	.3		.2842	mg/L	94.7	90	110			
WG347421ICB	ICB	07/11/13 14:09				U	mg/L		-0.003	0.003			
WG347426													
WG347404LRB	LRB	07/11/13 14:54				U	mg/L		-0.003	0.003			
WG347404LFB	LFB	07/11/13 14:55	WI130708-2	.2		.1979	mg/L	99	90	110			
L13047-02DUP	DUP	07/11/13 14:57			U	U	mg/L				0	20	RA
L13048-01LFM	LFM	07/11/13 14:59	WI130708-2	.2	U	.195	mg/L	97.5	90	110			

SPF Water Engineering

ACZ Project ID: ***L13047***

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347421													
WG347421ICV	ICV	07/11/13 14:08	WI130708-6	.3		.2842	mg/L	94.7	90	110			
WG347421ICB	ICB	07/11/13 14:09				U	mg/L		-0.003	0.003			
WG347335LRB	LRB	07/11/13 14:10				U	mg/L		-0.003	0.003			
WG347335LFB	LFB	07/11/13 14:11	WI130708-4	.2		.1922	mg/L	96.1	90	110			
L13001-06DUP	DUP	07/11/13 14:12			U	U	mg/L				0	20	RA
L13001-07LFM	LFM	07/11/13 14:14	WI130708-4	.2	U	.1727	mg/L	86.4	90	110			M2

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.07	mg/L	103.5	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.3	0.3			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.04	mg/L	104	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1	U	1.04	mg/L	104	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1	U	1.05	mg/L	105	85	115	0.96	20	

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.99	mg/L	99.5	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.3	0.3			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.22	0.22			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		1.03	mg/L	103	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	1.03	mg/L	103	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	1.01	mg/L	101	70	130	1.96	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.003	mg/L	100.2	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.06	0.06			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1.0014		1.021	mg/L	102	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1.0014	.07	1.093	mg/L	102.2	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1.0014	.07	1.1	mg/L	102.9	85	115	0.64	20	

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.963	mg/L	98.2	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.06	0.06			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.044	0.044			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1.0014		.979	mg/L	97.8	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1.0014	U	.957	mg/L	95.6	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1.0014	U	.948	mg/L	94.7	70	130	0.94	20	

SPF Water Engineering

ACZ Project ID: ***L13047***

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.05168	mg/L	103.4	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0003	0.0003			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05005		.04831	mg/L	96.5	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05005	U	.04852	mg/L	96.9	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05005	U	.04865	mg/L	97.2	70	130	0.27	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347525													
WG347525ICV	ICV	07/13/13 3:38	MS130416-2	.05		.05215	mg/L	104.3	90	110			
WG347525ICB	ICB	07/13/13 3:41				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/13/13 3:43				U	mg/L		-0.00022	0.00022			
WG347265LFB	LFB	07/13/13 3:46	MS130614-1	.05005		.04844	mg/L	96.8	85	115			
L13067-01LFM	LFM	07/13/13 4:00	MS130614-1	.05005	.0025	.05155	mg/L	98	70	130			
L13067-01LFMD	LFMD	07/13/13 4:02	MS130614-1	.05005	.0025	.05124	mg/L	97.4	70	130	0.6	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.04	mg/L	102	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.06	0.06			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.021	mg/L	102.1	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1	U	1.025	mg/L	102.5	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1	U	1.028	mg/L	102.8	85	115	0.29	20	

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.952	mg/L	97.6	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.06	0.06			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.044	0.044			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		.995	mg/L	99.5	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	.977	mg/L	97.7	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	.966	mg/L	96.6	70	130	1.13	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	100		98.9	mg/L	98.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.6	0.6			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	49.99752		50.08	mg/L	100.2	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	49.99752	5.3	55.22	mg/L	99.8	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	49.99752	5.3	55.48	mg/L	100.4	85	115	0.47	20	

SPF Water Engineering

ACZ Project ID: ***L13047***

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	100		97.76	mg/L	97.8	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.6	0.6			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.44	0.44			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	49.99752		48.97	mg/L	97.9	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	49.99752	U	48.32	mg/L	96.6	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	49.99752	U	47.34	mg/L	94.7	70	130	2.05	20	

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.04803	mg/L	96.1	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0015	0.0015			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05005		.04619	mg/L	92.3	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05005	.005	.05233	mg/L	94.6	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05005	.005	.05287	mg/L	95.6	70	130	1.03	20	

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.0507	mg/L	101.4	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0015	0.0015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.0011	0.0011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04878	mg/L	97.5	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.1275	.1749	mg/L	94.7	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.1275	.1728	mg/L	90.5	70	130	1.21	20	

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347159													
WG347159ICV	ICV	07/09/13 13:14	HG130517-4	10		10.58	ng/L	105.8	79	121			
WG347159ICB	ICB	07/09/13 13:21				U	ng/L		-0.5	0.5			
WG347159PQV	PQV	07/09/13 13:27	HG130517-6	.5		.43	ng/L	86	70	130			
WG347159LFB	LFB	07/09/13 13:34	HG130517-5	2		2.05	ng/L	102.5	71	125			
WG347159CCV1	CCV	07/09/13 15:56	HG130517-4	10		8.58	ng/L	85.8	76.5	123.4			
WG347159CCB1	CCB	07/09/13 16:03				U	ng/L		-0.5	0.5			
WG347159CCV2	CCV	07/09/13 16:50	HG130517-4	10		9.06	ng/L	90.6	76.5	123.4			
WG347159CCB2	CCB	07/09/13 16:56				U	ng/L		-0.5	0.5			
L13048-04MS	MS	07/09/13 17:30	HG2XPREP	8	1.1	4.23	ng/L	78.3	71	125			
L13048-04MSD	MSD	07/09/13 17:36	HG2XPREP	8	1.1	4.66	ng/L	89	71	125	9.67	24	
WG347159CCV3	CCV	07/09/13 17:43	HG130517-4	10		10.06	ng/L	100.6	76.5	123.4			
WG347159CCB3	CCB	07/09/13 17:50				U	ng/L		-0.5	0.5			

SPF Water Engineering

ACZ Project ID: ***L13047***

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347365													
WG347365ICV	ICV	07/11/13 12:36	HG130517-4	10		10.44	ng/L	104.4	79	121			
WG347365ICB	ICB	07/11/13 12:42				U	ng/L		-0.5	0.5			
WG347365PQV	PQV	07/11/13 12:49	HG130517-6	.5		.54	ng/L	108	70	130			
WG347365LFB	LFB	07/11/13 12:55	HG130517-5	2		1.96	ng/L	98	71	125			
L13032-01MS	MS	07/11/13 13:30	HG2XPREP	8	1.5	5.05	ng/L	88.8	71	125			
L13032-01MSD	MSD	07/11/13 13:36	HG2XPREP	8	1.5	4.82	ng/L	83	71	125	4.66	24	
WG347365CCV1	CCV	07/11/13 14:03	HG130517-4	10		9.01	ng/L	90.1	76.5	123.4			
WG347365CCB1	CCB	07/11/13 14:10				U	ng/L		-0.5	0.5			
WG347365CCV2	CCV	07/11/13 14:56	HG130517-4	10		9.25	ng/L	92.5	76.5	123.4			
WG347365CCB2	CCB	07/11/13 15:03				U	ng/L		-0.5	0.5			
WG347365CCV3	CCV	07/11/13 15:43	HG130517-4	10		9.95	ng/L	99.5	76.5	123.4			
WG347365CCB3	CCB	07/11/13 15:50				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.02006		.01968	mg/L	98.1	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0015	0.0015			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05		.04776	mg/L	95.5	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05	.0008	.04737	mg/L	93.1	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05	.0008	.04801	mg/L	94.4	70	130	1.34	20	

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.02006		.01971	mg/L	98.3	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0015	0.0015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.0011	0.0011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05		.04786	mg/L	95.7	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05	U	.04819	mg/L	96.4	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05	U	.04781	mg/L	95.6	70	130	0.79	20	

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.04998	mg/L	100	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0018	0.0018			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05005		.04608	mg/L	92.1	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05005	.0008	.04516	mg/L	88.6	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05005	.0008	.04568	mg/L	89.7	70	130	1.14	20	

SPF Water Engineering

ACZ Project ID: ***L13047***

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05167	mg/L	103.3	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0018	0.0018			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00132	0.00132			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04888	mg/L	97.7	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.0048	.05277	mg/L	95.8	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.0048	.05311	mg/L	96.5	70	130	0.64	20	

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347305													
WG347305ICV	ICV	07/10/13 12:15	WI121105-5	1.003		1.002	mg/L	99.9	90	110			
WG347305ICB	ICB	07/10/13 12:18				U	mg/L		-0.15	0.15			
WG347305LFB1	LFB	07/10/13 12:19	WI121218-3	1		.989	mg/L	98.9	90	110			
L13031-01AS	AS	07/10/13 12:21	WI121218-3	1	U	1.014	mg/L	101.4	90	110			
L13031-02DUP	DUP	07/10/13 12:23			U	U	mg/L				0	20	RA
L13047-02AS	AS	07/10/13 12:36	WI121218-3	1	U	.991	mg/L	99.1	90	110			
L13048-01DUP	DUP	07/10/13 12:38			U	U	mg/L				0	20	RA
WG347305LFB2	LFB	07/10/13 12:50	WI121218-3	1		.973	mg/L	97.3	90	110			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346995													
WG346995LCSW3	LCSW	07/03/13 17:27	PCN40853	6		5.99	units	99.8	98	102			
WG346995LCSW6	LCSW	07/03/13 20:44	PCN40853	6		6.01	units	100.2	98	102			
WG346995LCSW9	LCSW	07/03/13 23:51	PCN40853	6		6.01	units	100.2	98	102			
L13050-01DUP	DUP	07/04/13 1:36			4	3.8	units				5.1	20	
WG346995LCSW12	LCSW	07/04/13 3:10	PCN40853	6		6.02	units	100.3	98	102			
WG346995LCSW15	LCSW	07/04/13 6:19	PCN40853	6		6.02	units	100.3	98	102			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347250													
WG347250ICV	ICV	07/09/13 14:53	WI130620-3	.65228		.633	mg/L	97	90	110			
WG347250ICB	ICB	07/09/13 14:54				U	mg/L		-0.03	0.03			
WG347256													
WG347133LRB	LRB	07/09/13 17:06				U	mg/L		-0.03	0.03			
WG347133LFB	LFB	07/09/13 17:07	WI130705-2	.5		.53	mg/L	106	90	110			
L13032-04LFM	LFM	07/09/13 17:24	WI130705-2	.5	.02	.527	mg/L	101.4	90	110			
L13046-16DUP	DUP	07/09/13 17:55			1.05	1.051	mg/L				0.1	20	

SPF Water Engineering

ACZ Project ID: ***L13047***

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	20		20.16	mg/L	100.8	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.9	0.9			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	99.96112		100.6	mg/L	100.6	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	99.96112	3.5	104	mg/L	100.5	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	99.96112	3.5	104.3	mg/L	100.8	85	115	0.29	20	

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	20		19.82	mg/L	99.1	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.9	0.9			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.66	0.66			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	99.96112		97.83	mg/L	97.9	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	99.96112	5.8	102.2	mg/L	96.4	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	99.96112	5.8	100.5	mg/L	94.7	70	130	1.68	20	

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346943													
WG346943PBW	PBW	07/03/13 10:45				U	mg/L		-15	15			
WG346943LCSW	LCSW	07/03/13 10:46	PCN42878	160		157	mg/L	98.1	80	120			
L13047-02DUP	DUP	07/03/13 11:11			5	6	mg/L				18.2	10	RA
L13048-02DUP	DUP	07/03/13 11:14			U	U	mg/L				0	10	RA

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.01	mg/L	100.5	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.3	0.3			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1.0009		1.05	mg/L	104.9	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1.0009	U	1.05	mg/L	104.9	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1.0009	U	1.05	mg/L	104.9	85	115	0	20	

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.92	mg/L	96	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.3	0.3			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.22	0.22			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1.0009		1.01	mg/L	100.9	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1.0009	U	.98	mg/L	97.9	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1.0009	U	.97	mg/L	96.9	70	130	1.03	20	

SPF Water Engineering

ACZ Project ID: ***L13047***

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.05318	mg/L	106.4	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0003	0.0003			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05005		.04705	mg/L	94	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05005	.0002	.05355	mg/L	106.6	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05005	.0002	.05241	mg/L	104.3	70	130	2.15	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05287	mg/L	105.7	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00022	0.00022			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.05193	mg/L	103.8	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.0001	.04929	mg/L	98.3	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.0001	.04955	mg/L	98.8	70	130	0.53	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.02002		.02027	mg/L	101.2	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.00015	0.00015			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.01001		.009222	mg/L	92.1	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.01001	U	.00859	mg/L	85.8	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.01001	U	.008839	mg/L	88.3	70	130	2.86	20	

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.02002		.0202	mg/L	100.9	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.00015	0.00015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00011	0.00011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.01001		.009514	mg/L	95	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.01001	.0001	.009428	mg/L	93.2	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.01001	.0001	.009457	mg/L	93.5	70	130	0.31	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	100		100.7	mg/L	100.7	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.9	0.9			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	100.0495		100.9	mg/L	100.9	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	100.0495	26.9	127.1	mg/L	100.2	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	100.0495	26.9	126.9	mg/L	100	85	115	0.16	20	

SPF Water Engineering

ACZ Project ID: ***L13047***

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	100		98.87	mg/L	98.9	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.9	0.9			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.66	0.66			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	100.0495		97.32	mg/L	97.3	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	100.0495	110	203	mg/L	93	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	100.0495	110	199.3	mg/L	89.3	70	130	1.84	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.054	mg/L	102.7	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.03	0.03			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5		.511	mg/L	102.2	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	.5	.1	.602	mg/L	100.4	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	.5	.1	.603	mg/L	100.6	85	115	0.17	20	

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.977	mg/L	98.9	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.03	0.03			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.022	0.022			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	.5		.484	mg/L	96.8	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	.5	U	.48	mg/L	96	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	.5	U	.472	mg/L	94.4	70	130	1.68	20	

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.05496	mg/L	109.9	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0003	0.0003			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05005		.05159	mg/L	103.1	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05005	U	.05241	mg/L	104.7	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05005	U	.05248	mg/L	104.9	70	130	0.13	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05394	mg/L	107.9	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00022	0.00022			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04953	mg/L	99	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	U	.0501	mg/L	100.1	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	U	.04977	mg/L	99.4	70	130	0.66	20	

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05015		.05027	mg/L	100.2	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0003	0.0003			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05005		.04547	mg/L	90.8	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05005	U	.04383	mg/L	87.6	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05005	U	.04307	mg/L	86.1	70	130	1.75	20	

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05015		.05125	mg/L	102.2	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/12/13 7:14				.0002	mg/L		-0.00022	0.00022			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04633	mg/L	92.6	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	U	.04562	mg/L	91.1	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	U	.04587	mg/L	91.6	70	130	0.55	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.0275	mg/L	101.4	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.015	0.015			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.033	mg/L	103.3	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1	U	1.037	mg/L	103.7	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1	U	1.039	mg/L	103.9	85	115	0.19	20	

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.9495	mg/L	97.5	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.015	0.015			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.011	0.011			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		.997	mg/L	99.7	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	.9898	mg/L	99	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	.9777	mg/L	97.8	70	130	1.23	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.05257	mg/L	105.1	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0003	0.0003			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.05		.04952	mg/L	99	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.05	.0004	.05079	mg/L	100.8	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.05	.0004	.05126	mg/L	101.7	70	130	0.92	20	

SPF Water Engineering

ACZ Project ID: ***L13047***

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05317	mg/L	106.3	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00022	0.00022			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05		.04927	mg/L	98.5	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05	U	.05125	mg/L	102.5	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05	U	.05059	mg/L	101.2	70	130	1.3	20	

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347429													
WG347429ICV	ICV	07/12/13 0:01	MS130416-2	.05		.04797	mg/L	95.9	90	110			
WG347429ICB	ICB	07/12/13 0:04				U	mg/L		-0.0006	0.0006			
WG347429LFB	LFB	07/12/13 0:08	MS130614-1	.0501		.04538	mg/L	90.6	85	115			
L13030-03AS	AS	07/12/13 0:25	MS130614-1	.0501	U	.04745	mg/L	94.7	70	130			
L13030-03ASD	ASD	07/12/13 0:28	MS130614-1	.0501	U	.04805	mg/L	95.9	70	130	1.26	20	

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.04917	mg/L	98.3	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0006	0.0006			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00044	0.00044			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.0501		.04825	mg/L	96.3	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.0501	.0004	.04925	mg/L	97.5	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.0501	.0004	.04868	mg/L	96.4	70	130	1.16	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		1.958	mg/L	97.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.03	0.03			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5		.513	mg/L	102.6	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	.5	U	.51	mg/L	102	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	.5	U	.515	mg/L	103	85	115	0.98	20	

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.946	mg/L	97.3	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.03	0.03			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.022	0.022			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	.5		.504	mg/L	100.8	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	.5	U	.496	mg/L	99.2	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	.5	U	.486	mg/L	97.2	70	130	2.04	20	

SPF Water Engineering ACZ Project ID: ***L13047***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13047-01	WG346995	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG347370	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347421	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347305	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347256	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
	WG346943	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L13047***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13047-02	WG347159	Mercury, dissolved	M1631, Atomic Fluorescence	DF	Sample required dilution due to high sediment.
	WG346995	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG347426	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347421	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347305	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347256	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
	WG346943	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Q sampling

ACZ Project ID: L13047
Date Received: 07/02/2013 10:17
Received By: gac
Date Printed: 7/3/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
NA17912	22.5	15	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s) but was thawed by receipt at ACZ.

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc. L13047

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name:	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SPF-2013-GW

PO#: Calico 2nd Quarter Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	*SPF-2013-GW
Leslie Gulch	6/27/13 9:00		7	X
Dry Creek Arm	6/27/13 14:20		7	X

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	6/28/13 9:00		7/2/13 10:10

L13047 Chain of Custody

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 19, 2013

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 2nd Q sampling
ACZ Project ID: L13048

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 02, 2013. This project has been assigned to ACZ's project number, L13048. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L13048. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 18, 2013. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

SPF Water Engineering July 19, 2013

Project ID: Calico 2nd Q sampling
ACZ Project ID: L13048

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 4 ground water samples from SPF Water Engineering on July 2, 2013. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L13048. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The following anomaly required further explanation not provided by the Extended Qualifier Report:

1. For L13048-01, -04, the dissolved and total cobalt values were verified by re-digestion and re-analysis with no significant change.

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: WHISKEY DUPLICATE

ACZ Sample ID: ***L13048-02***
Date Sampled: *06/27/13 15:55*
Date Received: *07/02/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	07/09/13 0:31	jjc
Aluminum, total	M200.7 ICP	1		U		mg/L	0.03	0.2	07/09/13 23:57	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0008	B		mg/L	0.0004	0.002	07/12/13 23:34	msh
Antimony, total	M200.8 ICP-MS	1	0.0007	B		mg/L	0.0004	0.002	07/12/13 7:30	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0889			mg/L	0.0002	0.001	07/12/13 23:34	msh
Arsenic, total	M200.8 ICP-MS	1	0.0821			mg/L	0.0002	0.001	07/12/13 7:30	pmc
Barium, dissolved	M200.7 ICP	1	0.046			mg/L	0.003	0.02	07/09/13 0:31	jjc
Barium, total	M200.7 ICP	1	0.047			mg/L	0.003	0.02	07/09/13 23:57	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 23:34	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 7:30	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/09/13 0:31	jjc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/09/13 23:57	aeb
Boron, dissolved	M200.7 ICP	1	0.18			mg/L	0.01	0.05	07/09/13 0:31	jjc
Boron, total	M200.7 ICP	1	0.18			mg/L	0.01	0.05	07/11/13 14:38	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 23:34	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 7:30	pmc
Calcium, dissolved	M200.7 ICP	1	37.2			mg/L	0.2	1	07/09/13 0:31	jjc
Calcium, total	M200.7 ICP	1	36.8			mg/L	0.2	1	07/09/13 23:57	aeb
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/12/13 23:34	msh
Chromium, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/12/13 7:30	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00022	B		mg/L	0.00005	0.0003	07/12/13 23:34	msh
Cobalt, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 7:30	pmc
Copper, dissolved	M200.8 ICP-MS	1	0.0017	B		mg/L	0.0005	0.003	07/12/13 23:34	msh
Copper, total	M200.8 ICP-MS	1		U	*	mg/L	0.0005	0.003	07/12/13 7:30	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 0:31	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 23:57	aeb
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	07/09/13 0:31	jjc
Iron, total	M200.7 ICP	1		U		mg/L	0.02	0.05	07/09/13 23:57	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 23:34	msh
Lead, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/12/13 7:30	pmc
Lithium, dissolved	M200.7 ICP	1	0.11			mg/L	0.02	0.1	07/09/13 0:31	jjc
Lithium, total	M200.7 ICP	1	0.10			mg/L	0.02	0.1	07/09/13 23:57	aeb
Magnesium, dissolved	M200.7 ICP	1	6.2			mg/L	0.2	1	07/09/13 0:31	jjc
Magnesium, total	M200.7 ICP	1	6.1			mg/L	0.2	1	07/09/13 23:57	aeb
Manganese, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/12/13 23:34	msh
Manganese, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/12/13 7:30	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	1	0.4	B		ng/L	0.2	0.5	07/09/13 17:10	las
Mercury, total	M1631, Atomic Fluorescence	1	0.3	B		ng/L	0.2	0.5	07/11/13 14:36	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0214			mg/L	0.0005	0.003	07/12/13 23:34	msh
Molybdenum, total	M200.8 ICP-MS	1	0.0210			mg/L	0.0005	0.003	07/12/13 7:30	pmc
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/12/13 23:34	msh
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/12/13 7:30	pmc
Potassium, dissolved	M200.7 ICP	1	6.0			mg/L	0.3	2	07/09/13 0:31	jjc

SPF Water Engineering
Project ID: Calico 2nd Q sampling
Sample ID: WHISKEY DUPLICATE

ACZ Sample ID: ***L13048-02***
Date Sampled: *06/27/13 15:55*
Date Received: *07/02/13*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	5.8			mg/L	0.3	2	07/09/13 23:57	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 0:31	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/09/13 23:57	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0022			mg/L	0.0001	0.0003	07/12/13 23:34	msh
Selenium, total	M200.8 ICP-MS	1	0.0021			mg/L	0.0001	0.0003	07/12/13 7:30	pmc
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 23:34	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/12/13 7:30	pmc
Sodium, dissolved	M200.7 ICP	1	70.6			mg/L	0.3	2	07/09/13 0:31	jjc
Sodium, total	M200.7 ICP	1	69.6			mg/L	0.3	2	07/09/13 23:57	aeb
Strontium, dissolved	M200.7 ICP	1	0.16			mg/L	0.01	0.05	07/09/13 0:31	jjc
Strontium, total	M200.7 ICP	1	0.16			mg/L	0.01	0.05	07/09/13 23:57	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 23:34	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/13 7:30	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/12/13 23:34	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/12/13 7:30	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	07/09/13 0:31	jjc
Titanium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	07/09/13 23:57	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0055			mg/L	0.0001	0.0005	07/12/13 23:34	msh
Uranium, total	M200.8 ICP-MS	1	0.0054			mg/L	0.0001	0.0005	07/12/13 7:30	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0206			mg/L	0.0002	0.001	07/12/13 23:34	msh
Vanadium, total	M200.8 ICP-MS	1	0.0215			mg/L	0.0002	0.001	07/12/13 7:30	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/09/13 0:31	jjc
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/09/13 23:57	aeb

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	136		*	mg/L	2	20	07/04/13 0:00	abm
Carbonate as CaCO3		1		U	*	mg/L	2	20	07/04/13 0:00	abm
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/04/13 0:00	abm
Total Alkalinity		1	136		*	mg/L	2	20	07/04/13 0:00	abm
Conductivity @25C	SM2510B	1	542		*	umhos/cm	1	10	07/04/13 1:19	abm
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/11/13 14:59	mpb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/11/13 14:17	mpb
Hardness as CaCO3	SM2340B - Calculation		118			mg/L	1	7	07/19/13 9:25	calc
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	07/10/13 12:39	bsu
pH (lab)	SM4500H+ B									
pH		1	8.2	H	*	units	0.1	0.1	07/04/13 0:00	abm
pH measured at		1	22.0		*	C	0.1	0.1	07/04/13 0:00	abm
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.05		*	mg/L	0.01	0.05	07/09/13 17:36	mpb
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	07/03/13 11:13	mss3

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4)	EPA SW-846. Test Methods for Evaluating Solid Waste.
(5)	Standard Methods for the Examination of Water and Wastewater.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5)	If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L13048***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346995													
WG346995PBW1	PBW	07/03/13 17:11				U	mg/L		-20	20			
WG346995LCSW2	LCSW	07/03/13 17:24	WC130625-	820.0001		777	mg/L	94.8	90	110			
WG346995LCSW5	LCSW	07/03/13 20:41	WC130625-	820.0001		788.2	mg/L	96.1	90	110			
WG346995PBW2	PBW	07/03/13 20:49				2.7	mg/L		-20	20			
WG346995LCSW8	LCSW	07/03/13 23:48	WC130625-	820.0001		776.4	mg/L	94.7	90	110			
WG346995PBW3	PBW	07/03/13 23:56				2.4	mg/L		-20	20			
L13050-01DUP	DUP	07/04/13 1:36			U	U	mg/L				0	20	RA
WG346995LCSW11	LCSW	07/04/13 3:07	WC130625-	820.0001		776.2	mg/L	94.7	90	110			
WG346995PBW4	PBW	07/04/13 3:15				2.6	mg/L		-20	20			
WG346995LCSW14	LCSW	07/04/13 6:16	WC130625-	820.0001		783	mg/L	95.5	90	110			
WG347030													
WG347030PBW1	PBW	07/05/13 11:33				2.6	mg/L		-20	20			
WG347030LCSW2	LCSW	07/05/13 11:47	WC130625-	820.0001		778.1	mg/L	94.9	90	110			
L13053-01DUP	DUP	07/05/13 12:51			10	13.3	mg/L				28.3	20	RA
WG347030LCSW5	LCSW	07/05/13 14:55	WC130625-	820.0001		773.2	mg/L	94.3	90	110			
WG347030PBW2	PBW	07/05/13 15:03				3.1	mg/L		-20	20			
WG347030LCSW8	LCSW	07/05/13 15:59	WC130625-	820.0001		793.2	mg/L	96.7	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.037	mg/L	101.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.09	0.09			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1.0011		1.044	mg/L	104.3	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1.0011	.08	1.138	mg/L	105.7	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1.0011	.08	1.143	mg/L	106.2	85	115	0.44	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.986	mg/L	99.3	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.09	0.09			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.066	0.066			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1.0011		1.007	mg/L	100.6	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1.0011	U	.995	mg/L	99.4	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1.0011	U	.983	mg/L	98.2	70	130	1.21	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		1.998	mg/L	99.9	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.09	0.09			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.066	0.066			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	1.0011		.995	mg/L	99.4	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	1.0011	U	.995	mg/L	99.4	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	1.0011	U	.984	mg/L	98.3	70	130	1.11	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.02		.02184	mg/L	109.2	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0012	0.0012			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.01		.0099	mg/L	99	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.01	U	.00872	mg/L	87.2	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.01	U	.00886	mg/L	88.6	70	130	1.59	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.02		.02143	mg/L	107.2	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0012	0.0012			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.01		.01019	mg/L	101.9	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.01	U	.00922	mg/L	92.2	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.01	U	.00976	mg/L	97.6	70	130	5.69	20	

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.02		.02062	mg/L	103.1	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0012	0.0012			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00088	0.00088			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.01		.01038	mg/L	103.8	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.01	U	.01044	mg/L	104.4	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.01	U	.01043	mg/L	104.3	70	130	0.1	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05457	mg/L	109.1	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0006	0.0006			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.05269	mg/L	105.3	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.0059	.06096	mg/L	110	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.0059	.06136	mg/L	110.8	70	130	0.65	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.04985	mg/L	99.7	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0006	0.0006			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05005		.04984	mg/L	99.6	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05005	.0283	.08147	mg/L	106.2	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05005	.0283	.08186	mg/L	107	70	130	0.48	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05152	mg/L	103	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0006	0.0006			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00044	0.00044			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.05103	mg/L	102	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.0004	.05044	mg/L	100	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.0004	.04981	mg/L	98.7	70	130	1.26	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.0295	mg/L	101.5	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.009	0.009			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5		.5063	mg/L	101.3	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	.5	.011	.5154	mg/L	100.9	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	.5	.011	.5196	mg/L	101.7	85	115	0.81	20	

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.9378	mg/L	96.9	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.009	0.009			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.0066	0.0066			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	.5		.4766	mg/L	95.3	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	.5	.005	.467	mg/L	92.4	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	.5	.005	.4601	mg/L	91	70	130	1.49	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		1.9615	mg/L	98.1	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.009	0.009			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.0066	0.0066			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	.5		.4663	mg/L	93.3	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	.5	U	.4692	mg/L	93.8	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	.5	U	.4673	mg/L	93.5	70	130	0.41	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.04782	mg/L	95.6	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.00015	0.00015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.0501		.04741	mg/L	94.6	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.0501	U	.04977	mg/L	99.3	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.0501	U	.04944	mg/L	98.7	70	130	0.67	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.0474	mg/L	94.8	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.00015	0.00015			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.0501		.04793	mg/L	95.7	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.0501	U	.04981	mg/L	99.4	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.0501	U	.05008	mg/L	100	70	130	0.54	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.04696	mg/L	93.9	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.00015	0.00015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00011	0.00011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.0501		.04685	mg/L	93.5	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.0501	U	.0468	mg/L	93.4	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.0501	U	.0471	mg/L	94	70	130	0.64	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		1.995	mg/L	99.8	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.12	0.12			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.007	mg/L	100.7	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1	U	.988	mg/L	98.8	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1	U	1.001	mg/L	100.1	85	115	1.31	20	

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.971	mg/L	98.6	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.12	0.12			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.088	0.088			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		1.016	mg/L	101.6	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	1.011	mg/L	101.1	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	.977	mg/L	97.7	70	130	3.42	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		1.998	mg/L	99.9	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.12	0.12			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.088	0.088			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	1		1.014	mg/L	101.4	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	1	U	1.014	mg/L	101.4	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	1	U	1.011	mg/L	101.1	70	130	0.3	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.047	mg/L	102.4	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.03	0.03			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5005		.514	mg/L	102.7	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	.5005	.08	.592	mg/L	102.3	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	.5005	.08	.601	mg/L	104.1	85	115	1.51	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		2.016	mg/L	100.8	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.03	0.03			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.022	0.022			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	.5005		.482	mg/L	96.3	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	.5005	.12	.604	mg/L	96.7	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	.5005	.12	.607	mg/L	97.3	70	130	0.5	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.0506	mg/L	101.2	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.0501		.04923	mg/L	98.3	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.0501	U	.04976	mg/L	99.3	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.0501	U	.04917	mg/L	98.1	70	130	1.19	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.04963	mg/L	99.3	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0003	0.0003			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.0501		.04919	mg/L	98.2	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.0501	U	.04899	mg/L	97.8	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.0501	U	.0498	mg/L	99.4	70	130	1.64	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05094	mg/L	101.9	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00022	0.00022			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.0501		.04936	mg/L	98.5	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.0501	.0009	.04971	mg/L	97.4	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.0501	.0009	.04899	mg/L	96	70	130	1.46	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	100		99.86	mg/L	99.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.6	0.6			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	68.0028		71.18	mg/L	104.7	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	68.0028	20	89.99	mg/L	102.9	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	68.0028	20	90.37	mg/L	103.5	85	115	0.42	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	100		98.28	mg/L	98.3	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.6	0.6			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.44	0.44			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	68.0028		68.43	mg/L	100.6	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	68.0028	1.1	69.08	mg/L	100	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	68.0028	1.1	67.97	mg/L	98.3	70	130	1.62	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	100		98.45	mg/L	98.5	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.6	0.6			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.44	0.44			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	68.0028		68.07	mg/L	100.1	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	68.0028	1.1	69.05	mg/L	99.9	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	68.0028	1.1	68.24	mg/L	98.7	70	130	1.18	20	

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05152	mg/L	103	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0015	0.0015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.05088	mg/L	101.7	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	U	.04827	mg/L	96.4	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	U	.04885	mg/L	97.6	70	130	1.19	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.04748	mg/L	95	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0015	0.0015			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05005		.0496	mg/L	99.1	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05005	U	.04666	mg/L	93.2	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05005	U	.04684	mg/L	93.6	70	130	0.39	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.04882	mg/L	97.6	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0015	0.0015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.0011	0.0011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.0473	mg/L	94.5	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.0008	.04803	mg/L	94.4	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.0008	.04781	mg/L	93.9	70	130	0.46	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.04724	mg/L	94.5	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.00015	0.00015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.04697	mg/L	93.8	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.00046	.04597	mg/L	90.9	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.00046	.04537	mg/L	89.7	70	130	1.31	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.04699	mg/L	94	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.00015	0.00015			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05005		.04841	mg/L	96.7	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05005	.00027	.04639	mg/L	92.1	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05005	.00027	.04646	mg/L	92.3	70	130	0.15	20	

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05058	mg/L	101.2	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.00015	0.00015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00011	0.00011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04897	mg/L	97.8	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.00067	.04951	mg/L	97.6	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.00067	.04885	mg/L	96.3	70	130	1.34	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346995													
WG346995LCSW1	LCSW	07/03/13 17:12	PCN42820	1408.8		1448.7	umhos/cm	102.8	90	110			
WG346995LCSW4	LCSW	07/03/13 20:29	PCN42820	1408.8		1420.1	umhos/cm	100.8	90	110			
WG346995LCSW7	LCSW	07/03/13 23:37	PCN42820	1408.8		1397.7	umhos/cm	99.2	90	110			
L13050-01DUP	DUP	07/04/13 1:36			1440	1437	umhos/cm				0.2	20	
WG346995LCSW10	LCSW	07/04/13 2:56	PCN42820	1408.8		1380.4	umhos/cm	98	90	110			
WG346995LCSW13	LCSW	07/04/13 6:04	PCN42820	1408.8		1370.2	umhos/cm	97.3	90	110			
WG347030													
WG347030LCSW1	LCSW	07/05/13 11:35	PCN42820	1408.8		1469	umhos/cm	104.3	90	110			
L13053-01DUP	DUP	07/05/13 12:51			125	123.6	umhos/cm				1.1	20	
WG347030LCSW4	LCSW	07/05/13 14:44	PCN42820	1408.8		1428.3	umhos/cm	101.4	90	110			
WG347030LCSW7	LCSW	07/05/13 15:47	PCN42820	1408.8		1415	umhos/cm	100.4	90	110			

SPF Water Engineering

ACZ Project ID: ***L13048***

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05134	mg/L	102.7	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0015	0.0015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.04955	mg/L	99	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.0007	.0471	mg/L	92.7	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.0007	.04755	mg/L	93.6	70	130	0.95	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.04834	mg/L	96.7	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0015	0.0015			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05005		.04944	mg/L	98.8	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05005	.0013	.04593	mg/L	89.2	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05005	.0013	.04602	mg/L	89.4	70	130	0.2	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.0489	mg/L	97.8	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0015	0.0015			
WG347265LRB	LRB	07/12/13 7:14				.00433	mg/L		-0.0011	0.0011			BF
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04698	mg/L	93.9	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.0011	.04771	mg/L	93.1	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.0011	.04755	mg/L	92.8	70	130	0.34	20	
WG347525													
WG347525ICV	ICV	07/13/13 3:38	MS130416-2	.05		.05016	mg/L	100.3	90	110			
WG347525ICB	ICB	07/13/13 3:41				U	mg/L		-0.0015	0.0015			
WG347265LRB	LRB	07/13/13 3:43				U	mg/L		-0.0011	0.0011			
WG347265LFB	LFB	07/13/13 3:46	MS130614-1	.05005		.05099	mg/L	101.9	85	115			
L13067-01LFM	LFM	07/13/13 4:00	MS130614-1	.05005	.0014	.05077	mg/L	98.6	70	130			
L13067-01LFMD	LFMD	07/13/13 4:02	MS130614-1	.05005	.0014	.05078	mg/L	98.7	70	130	0.02	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347421													
WG347421ICV	ICV	07/11/13 14:08	WI130708-6	.3		.2842	mg/L	94.7	90	110			
WG347421ICB	ICB	07/11/13 14:09				U	mg/L		-0.003	0.003			
WG347426													
WG347404LRB	LRB	07/11/13 14:54				U	mg/L		-0.003	0.003			
WG347404LFB	LFB	07/11/13 14:55	WI130708-2	.2		.1979	mg/L	99	90	110			
L13047-02DUP	DUP	07/11/13 14:57			U	U	mg/L				0	20	RA
L13048-01LFM	LFM	07/11/13 14:59	WI130708-2	.2	U	.195	mg/L	97.5	90	110			

SPF Water Engineering

ACZ Project ID: ***L13048***

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347421													
WG347421ICV	ICV	07/11/13 14:08	WI130708-6	.3		.2842	mg/L	94.7	90	110			
WG347421ICB	ICB	07/11/13 14:09				U	mg/L		-0.003	0.003			
WG347335LRB	LRB	07/11/13 14:10				U	mg/L		-0.003	0.003			
WG347335LFB	LFB	07/11/13 14:11	WI130708-4	.2		.1922	mg/L	96.1	90	110			
L13001-06DUP	DUP	07/11/13 14:12			U	U	mg/L				0	20	RA
L13001-07LFM	LFM	07/11/13 14:14	WI130708-4	.2	U	.1727	mg/L	86.4	90	110			M2

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.07	mg/L	103.5	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.3	0.3			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.04	mg/L	104	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1	U	1.04	mg/L	104	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1	U	1.05	mg/L	105	85	115	0.96	20	

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.99	mg/L	99.5	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.3	0.3			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.22	0.22			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		1.03	mg/L	103	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	1.03	mg/L	103	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	1.01	mg/L	101	70	130	1.96	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		2.03	mg/L	101.5	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.3	0.3			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.22	0.22			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	1		1.01	mg/L	101	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	1	U	1.01	mg/L	101	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	1	U	1.02	mg/L	102	70	130	0.99	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.003	mg/L	100.2	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.06	0.06			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1.0014		1.021	mg/L	102	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1.0014	.07	1.093	mg/L	102.2	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1.0014	.07	1.1	mg/L	102.9	85	115	0.64	20	
WG347659													
WG347659ICV	ICV	07/16/13 16:41	II130711-2	2		2.019	mg/L	101	95	105			
WG347659ICB	ICB	07/16/13 16:45				U	mg/L		-0.06	0.06			
WG347659LFB	LFB	07/16/13 16:57	II130708-3	1.0014		1.058	mg/L	105.7	85	115			
L13202-01AS	AS	07/16/13 17:10	II130708-3	1.0014	.18	1.225	mg/L	104.4	85	115			
L13202-01ASD	ASD	07/16/13 17:13	II130708-3	1.0014	.18	1.221	mg/L	104	85	115	0.33	20	

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.963	mg/L	98.2	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.06	0.06			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.044	0.044			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1.0014		.979	mg/L	97.8	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1.0014	U	.957	mg/L	95.6	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1.0014	U	.948	mg/L	94.7	70	130	0.94	20	
WG347728													
WG347728ICV	ICV	07/17/13 16:32	II130711-1	2		2.023	mg/L	101.2	95	105			
WG347728ICB	ICB	07/17/13 16:36				U	mg/L		-0.06	0.06			
WG347669LRB	LRB	07/17/13 16:48				.102	mg/L		-0.044	0.044			BF
WG347669LFB	LFB	07/17/13 16:51	II130708-3	1.0014		1.054	mg/L	105.3	85	115			
L13179-01LFM	LFM	07/17/13 17:13	II130708-3	1.0014	.92	1.908	mg/L	98.7	70	130			
L13179-01LFMD	LFMD	07/17/13 17:16	II130708-3	1.0014	.92	1.901	mg/L	98	70	130	0.37	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05172	mg/L	103.4	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.04923	mg/L	98.4	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	U	.04888	mg/L	97.7	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	U	.04821	mg/L	96.3	70	130	1.38	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.04958	mg/L	99.2	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0003	0.0003			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05005		.04872	mg/L	97.3	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05005	U	.04794	mg/L	95.8	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05005	U	.0481	mg/L	96.1	70	130	0.33	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05191	mg/L	103.8	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/12/13 7:14				.00041	mg/L		-0.00022	0.00022			BF
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04756	mg/L	95	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.0024	.05088	mg/L	96.9	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.0024	.05025	mg/L	95.6	70	130	1.25	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.04	mg/L	102	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.06	0.06			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.021	mg/L	102.1	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1	U	1.025	mg/L	102.5	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1	U	1.028	mg/L	102.8	85	115	0.29	20	

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.952	mg/L	97.6	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.06	0.06			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.044	0.044			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		.995	mg/L	99.5	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	.977	mg/L	97.7	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	.966	mg/L	96.6	70	130	1.13	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		1.976	mg/L	98.8	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.06	0.06			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.044	0.044			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	1		.979	mg/L	97.9	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	1	U	.984	mg/L	98.4	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	1	U	.98	mg/L	98	70	130	0.41	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	100		98.9	mg/L	98.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.6	0.6			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	49.99752		50.08	mg/L	100.2	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	49.99752	5.3	55.22	mg/L	99.8	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	49.99752	5.3	55.48	mg/L	100.4	85	115	0.47	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	100		97.76	mg/L	97.8	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.6	0.6			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.44	0.44			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	49.99752		48.97	mg/L	97.9	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	49.99752	U	48.32	mg/L	96.6	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	49.99752	U	47.34	mg/L	94.7	70	130	2.05	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	100		99.1	mg/L	99.1	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.6	0.6			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.44	0.44			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	49.99752		48.59	mg/L	97.2	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	49.99752	U	48.68	mg/L	97.4	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	49.99752	U	48.07	mg/L	96.1	70	130	1.26	20	

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.04731	mg/L	94.6	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0015	0.0015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.04638	mg/L	92.7	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.001	.04651	mg/L	90.9	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.001	.04585	mg/L	89.6	70	130	1.43	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.04745	mg/L	94.9	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0015	0.0015			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05005		.04887	mg/L	97.6	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05005	U	.04608	mg/L	92.1	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05005	U	.04633	mg/L	92.6	70	130	0.54	20	

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.0507	mg/L	101.4	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0015	0.0015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.0011	0.0011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04878	mg/L	97.5	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.1275	.1749	mg/L	94.7	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.1275	.1728	mg/L	90.5	70	130	1.21	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347159													
WG347159ICV	ICV	07/09/13 13:14	HG130517-4	10		10.58	ng/L	105.8	79	121			
WG347159ICB	ICB	07/09/13 13:21				U	ng/L		-0.5	0.5			
WG347159PQV	PQV	07/09/13 13:27	HG130517-6	.5		.43	ng/L	86	70	130			
WG347159LFB	LFB	07/09/13 13:34	HG130517-5	2		2.05	ng/L	102.5	71	125			
WG347159CCV1	CCV	07/09/13 15:56	HG130517-4	10		8.58	ng/L	85.8	76.5	123.4			
WG347159CCB1	CCB	07/09/13 16:03				U	ng/L		-0.5	0.5			
WG347159CCV2	CCV	07/09/13 16:50	HG130517-4	10		9.06	ng/L	90.6	76.5	123.4			
WG347159CCB2	CCB	07/09/13 16:56				U	ng/L		-0.5	0.5			
L13048-04MS	MS	07/09/13 17:30	HG2XPREP	8	1.1	4.23	ng/L	78.3	71	125			
L13048-04MSD	MSD	07/09/13 17:36	HG2XPREP	8	1.1	4.66	ng/L	89	71	125	9.67	24	
WG347159CCV3	CCV	07/09/13 17:43	HG130517-4	10		10.06	ng/L	100.6	76.5	123.4			
WG347159CCB3	CCB	07/09/13 17:50				U	ng/L		-0.5	0.5			

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347365													
WG347365ICV	ICV	07/11/13 12:36	HG130517-4	10		10.44	ng/L	104.4	79	121			
WG347365ICB	ICB	07/11/13 12:42				U	ng/L		-0.5	0.5			
WG347365PQV	PQV	07/11/13 12:49	HG130517-6	.5		.54	ng/L	108	70	130			
WG347365LFB	LFB	07/11/13 12:55	HG130517-5	2		1.96	ng/L	98	71	125			
L13032-01MS	MS	07/11/13 13:30	HG2XPREP	8	1.5	5.05	ng/L	88.8	71	125			
L13032-01MSD	MSD	07/11/13 13:36	HG2XPREP	8	1.5	4.82	ng/L	83	71	125	4.66	24	
WG347365CCV1	CCV	07/11/13 14:03	HG130517-4	10		9.01	ng/L	90.1	76.5	123.4			
WG347365CCB1	CCB	07/11/13 14:10				U	ng/L		-0.5	0.5			
WG347365CCV2	CCV	07/11/13 14:56	HG130517-4	10		9.25	ng/L	92.5	76.5	123.4			
WG347365CCB2	CCB	07/11/13 15:03				U	ng/L		-0.5	0.5			
L13113-02MS	MS	07/11/13 15:23	HG5XPREP	50	3	11.3	ng/L	81.4	71	125			
L13113-02MSD	MSD	07/11/13 15:30	HG5XPREP	50	3	11.3	ng/L	81.4	71	125	0	24	
WG347365CCV3	CCV	07/11/13 15:43	HG130517-4	10		9.95	ng/L	99.5	76.5	123.4			
WG347365CCB3	CCB	07/11/13 15:50				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.02006		.02012	mg/L	100.3	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0015	0.0015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05		.04835	mg/L	96.7	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05	.0035	.05147	mg/L	95.9	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05	.0035	.05116	mg/L	95.3	70	130	0.6	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.02006		.01959	mg/L	97.7	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0015	0.0015			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05		.04885	mg/L	97.7	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05	.0037	.0521	mg/L	96.8	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05	.0037	.05281	mg/L	98.2	70	130	1.35	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.02006		.01971	mg/L	98.3	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0015	0.0015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.0011	0.0011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05		.04786	mg/L	95.7	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05	U	.04819	mg/L	96.4	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05	U	.04781	mg/L	95.6	70	130	0.79	20	

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05279	mg/L	105.6	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0018	0.0018			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.05114	mg/L	102.2	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.0006	.04799	mg/L	94.7	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.0006	.04864	mg/L	96	70	130	1.35	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.04848	mg/L	97	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0018	0.0018			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05005		.04948	mg/L	98.9	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05005	U	.046	mg/L	91.9	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05005	U	.04637	mg/L	92.6	70	130	0.8	20	

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05167	mg/L	103.3	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0018	0.0018			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00132	0.00132			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04888	mg/L	97.7	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.0048	.05277	mg/L	95.8	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.0048	.05311	mg/L	96.5	70	130	0.64	20	

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347305													
WG347305ICV	ICV	07/10/13 12:15	WI121105-5	1.003		1.002	mg/L	99.9	90	110			
WG347305ICB	ICB	07/10/13 12:18				U	mg/L		-0.15	0.15			
WG347305LFB1	LFB	07/10/13 12:19	WI121218-3	1		.989	mg/L	98.9	90	110			
L13047-02AS	AS	07/10/13 12:36	WI121218-3	1	U	.991	mg/L	99.1	90	110			
L13048-01DUP	DUP	07/10/13 12:38			U	U	mg/L				0	20	RA
WG347305LFB2	LFB	07/10/13 12:50	WI121218-3	1		.973	mg/L	97.3	90	110			

SPF Water Engineering

ACZ Project ID: ***L13048***

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346995													
WG346995LCSW3	LCSW	07/03/13 17:27	PCN40853	6		5.99	units	99.8	98	102			
WG346995LCSW6	LCSW	07/03/13 20:44	PCN40853	6		6.01	units	100.2	98	102			
WG346995LCSW9	LCSW	07/03/13 23:51	PCN40853	6		6.01	units	100.2	98	102			
L13050-01DUP	DUP	07/04/13 1:36			4	3.8	units				5.1	20	
WG346995LCSW12	LCSW	07/04/13 3:10	PCN40853	6		6.02	units	100.3	98	102			
WG346995LCSW15	LCSW	07/04/13 6:19	PCN40853	6		6.02	units	100.3	98	102			
WG347030													
WG347030LCSW3	LCSW	07/05/13 11:50	PCN40853	6		5.98	units	99.7	98	102			
L13053-01DUP	DUP	07/05/13 12:51			7.5	7.4	units				1.3	20	
WG347030LCSW6	LCSW	07/05/13 14:58	PCN40853	6		5.96	units	99.3	98	102			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347250													
WG347250ICV	ICV	07/09/13 14:53	WI130620-3	.65228		.633	mg/L	97	90	110			
WG347250ICB	ICB	07/09/13 14:54				U	mg/L		-0.03	0.03			
WG347256													
WG347133LRB	LRB	07/09/13 17:06				U	mg/L		-0.03	0.03			
WG347133LFB	LFB	07/09/13 17:07	WI130705-2	.5		.53	mg/L	106	90	110			
L13032-04LFM	LFM	07/09/13 17:24	WI130705-2	.5	.02	.527	mg/L	101.4	90	110			
L13046-16DUP	DUP	07/09/13 17:55			1.05	1.051	mg/L				0.1	20	
WG347280													
WG347280ICV	ICV	07/10/13 0:00	WI130620-3	.65228		.635	mg/L	97.4	90	110			
WG347280ICB	ICB	07/10/13 0:02				U	mg/L		-0.03	0.03			
WG347229LRB	LRB	07/10/13 0:04				.011	mg/L		-0.03	0.03			
WG347229LFB	LFB	07/10/13 0:05	WI130705-2	.5		.478	mg/L	95.6	90	110			
L13048-04LFM	LFM	07/10/13 0:07	WI130705-2	.5	.02	.488	mg/L	93.6	90	110			
L13049-01DUP	DUP	07/10/13 0:09			.03	.026	mg/L				14.3	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	20		20.16	mg/L	100.8	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.9	0.9			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	99.96112		100.6	mg/L	100.6	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	99.96112	3.5	104	mg/L	100.5	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	99.96112	3.5	104.3	mg/L	100.8	85	115	0.29	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	20		19.82	mg/L	99.1	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.9	0.9			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.66	0.66			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	99.96112		97.83	mg/L	97.9	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	99.96112	5.8	102.2	mg/L	96.4	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	99.96112	5.8	100.5	mg/L	94.7	70	130	1.68	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	20		19.97	mg/L	99.9	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.9	0.9			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.66	0.66			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	99.96112		96.93	mg/L	97	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	99.96112	5.8	102.3	mg/L	96.5	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	99.96112	5.8	101.3	mg/L	95.5	70	130	0.98	20	

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG346943													
WG346943PBW	PBW	07/03/13 10:45				U	mg/L		-15	15			
WG346943LCSW	LCSW	07/03/13 10:46	PCN42878	160		157	mg/L	98.1	80	120			
L13048-02DUP	DUP	07/03/13 11:14			U	U	mg/L				0	10	RA
WG346974													
WG346974PBW	PBW	07/03/13 14:00				U	mg/L		-15	15			
WG346974LCSW	LCSW	07/03/13 14:01	PCN42878	160		162	mg/L	101.3	80	120			
L13049-01DUP	DUP	07/03/13 14:15			10	10	mg/L				0	10	RA

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.01	mg/L	100.5	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.3	0.3			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1.0009		1.05	mg/L	104.9	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1.0009	U	1.05	mg/L	104.9	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1.0009	U	1.05	mg/L	104.9	85	115	0	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.92	mg/L	96	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.3	0.3			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.22	0.22			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1.0009		1.01	mg/L	100.9	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1.0009	U	.98	mg/L	97.9	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1.0009	U	.97	mg/L	96.9	70	130	1.03	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		1.94	mg/L	97	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.3	0.3			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.22	0.22			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	1.0009		.99	mg/L	98.9	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	1.0009	U	.99	mg/L	98.9	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	1.0009	U	.99	mg/L	98.9	70	130	0	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05509	mg/L	110.2	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.05133	mg/L	102.6	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	.0002	.05349	mg/L	106.5	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	.0002	.05344	mg/L	106.4	70	130	0.09	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.05022	mg/L	100.4	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0003	0.0003			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05005		.04923	mg/L	98.4	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05005	.0013	.05189	mg/L	101.1	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05005	.0013	.05284	mg/L	103	70	130	1.81	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05287	mg/L	105.7	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00022	0.00022			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.05193	mg/L	103.8	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	.0001	.04929	mg/L	98.3	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	.0001	.04955	mg/L	98.8	70	130	0.53	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.02002		.02074	mg/L	103.6	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.00015	0.00015			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.01001		.009802	mg/L	97.9	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.01001	U	.008807	mg/L	88	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.01001	U	.008673	mg/L	86.6	70	130	1.53	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.02002		.01997	mg/L	99.8	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.00015	0.00015			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.01001		.00968	mg/L	96.7	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.01001	U	.009088	mg/L	90.8	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.01001	U	.009442	mg/L	94.3	70	130	3.82	20	

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.02002		.0202	mg/L	100.9	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.00015	0.00015			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00011	0.00011			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.01001		.009514	mg/L	95	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.01001	.0001	.009428	mg/L	93.2	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.01001	.0001	.009457	mg/L	93.5	70	130	0.31	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	100		100.7	mg/L	100.7	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.9	0.9			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	100.0495		100.9	mg/L	100.9	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	100.0495	26.9	127.1	mg/L	100.2	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	100.0495	26.9	126.9	mg/L	100	85	115	0.16	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	100		98.87	mg/L	98.9	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.9	0.9			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.66	0.66			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	100.0495		97.32	mg/L	97.3	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	100.0495	110	203	mg/L	93	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	100.0495	110	199.3	mg/L	89.3	70	130	1.84	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	100		99.37	mg/L	99.4	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.9	0.9			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.66	0.66			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	100.0495		96.24	mg/L	96.2	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	100.0495	110	203.7	mg/L	93.7	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	100.0495	110	202.5	mg/L	92.5	70	130	0.59	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.054	mg/L	102.7	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.03	0.03			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5		.511	mg/L	102.2	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	.5	.1	.602	mg/L	100.4	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	.5	.1	.603	mg/L	100.6	85	115	0.17	20	

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.977	mg/L	98.9	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.03	0.03			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.022	0.022			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	.5		.484	mg/L	96.8	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	.5	U	.48	mg/L	96	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	.5	U	.472	mg/L	94.4	70	130	1.68	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		1.995	mg/L	99.8	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.03	0.03			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.022	0.022			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	.5		.477	mg/L	95.4	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	.5	U	.479	mg/L	95.8	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	.5	U	.474	mg/L	94.8	70	130	1.05	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05415	mg/L	108.3	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.05203	mg/L	104	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	U	.05221	mg/L	104.3	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	U	.05143	mg/L	102.8	70	130	1.51	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.04949	mg/L	99	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0003	0.0003			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05005		.04889	mg/L	97.7	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05005	U	.04862	mg/L	97.1	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05005	U	.04846	mg/L	96.8	70	130	0.33	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05394	mg/L	107.9	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00022	0.00022			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04953	mg/L	99	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	U	.0501	mg/L	100.1	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	U	.04977	mg/L	99.4	70	130	0.66	20	

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05015		.05222	mg/L	104.1	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05005		.04558	mg/L	91.1	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05005	U	.04402	mg/L	88	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05005	U	.04402	mg/L	88	70	130	0	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05015		.05061	mg/L	100.9	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0003	0.0003			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05005		.04631	mg/L	92.5	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05005	U	.04427	mg/L	88.5	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05005	U	.04469	mg/L	89.3	70	130	0.94	20	

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05015		.05125	mg/L	102.2	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/12/13 7:14				.0002	mg/L		-0.00022	0.00022			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05005		.04633	mg/L	92.6	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05005	U	.04562	mg/L	91.1	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05005	U	.04587	mg/L	91.6	70	130	0.55	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		2.0275	mg/L	101.4	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.015	0.015			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	1		1.033	mg/L	103.3	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	1	U	1.037	mg/L	103.7	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	1	U	1.039	mg/L	103.9	85	115	0.19	20	

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.9495	mg/L	97.5	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.015	0.015			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.011	0.011			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	1		.997	mg/L	99.7	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	1	U	.9898	mg/L	99	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	1	U	.9777	mg/L	97.8	70	130	1.23	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		1.9678	mg/L	98.4	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.015	0.015			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.011	0.011			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	1		.9899	mg/L	99	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	1	U	.9883	mg/L	98.8	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	1	U	.9866	mg/L	98.7	70	130	0.17	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05288	mg/L	105.8	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0003	0.0003			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.05		.05079	mg/L	101.6	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.05	.0014	.0527	mg/L	102.6	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.05	.0014	.05187	mg/L	100.9	70	130	1.59	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.0516	mg/L	103.2	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0003	0.0003			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.05		.05131	mg/L	102.6	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.05	.0026	.05435	mg/L	103.5	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.05	.0026	.05462	mg/L	104	70	130	0.5	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.05317	mg/L	106.3	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0003	0.0003			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00022	0.00022			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.05		.04927	mg/L	98.5	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.05	U	.05125	mg/L	102.5	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.05	U	.05059	mg/L	101.2	70	130	1.3	20	

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347432													
WG347432ICV	ICV	07/12/13 2:16	MS130416-2	.05		.05088	mg/L	101.8	90	110			
WG347432ICB	ICB	07/12/13 2:19				U	mg/L		-0.0006	0.0006			
WG347432LFB	LFB	07/12/13 2:23	MS130614-1	.0501		.05098	mg/L	101.8	85	115			
L13032-04AS	AS	07/12/13 3:24	MS130614-1	.0501	.0045	.05429	mg/L	99.4	70	130			
L13032-04ASD	ASD	07/12/13 3:27	MS130614-1	.0501	.0045	.05528	mg/L	101.4	70	130	1.81	20	
WG347512													
WG347512ICV	ICV	07/12/13 23:21	MS130416-2	.05		.04707	mg/L	94.1	90	110			
WG347512ICB	ICB	07/12/13 23:24				U	mg/L		-0.0006	0.0006			
WG347512LFB	LFB	07/12/13 23:27	MS130614-1	.0501		.04942	mg/L	98.6	85	115			
L13048-03AS	AS	07/12/13 23:41	MS130614-1	.0501	.027	.07561	mg/L	97	70	130			
L13048-03ASD	ASD	07/12/13 23:45	MS130614-1	.0501	.027	.07594	mg/L	97.7	70	130	0.44	20	

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347453													
WG347453ICV	ICV	07/12/13 7:07	MS130416-2	.05		.04917	mg/L	98.3	90	110			
WG347453ICB	ICB	07/12/13 7:11				U	mg/L		-0.0006	0.0006			
WG347265LRB	LRB	07/12/13 7:14				U	mg/L		-0.00044	0.00044			
WG347265LFB	LFB	07/12/13 7:17	MS130614-1	.0501		.04825	mg/L	96.3	85	115			
L13067-01LFM	LFM	07/12/13 7:52	MS130614-1	.0501	.0004	.04925	mg/L	97.5	70	130			
L13067-01LFMD	LFMD	07/12/13 7:56	MS130614-1	.0501	.0004	.04868	mg/L	96.4	70	130	1.16	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347140													
WG347140ICV	ICV	07/08/13 23:10	II130510-1	2		1.958	mg/L	97.9	95	105			
WG347140ICB	ICB	07/08/13 23:16				U	mg/L		-0.03	0.03			
WG347140LFB	LFB	07/08/13 23:28	II130708-3	.5		.513	mg/L	102.6	85	115			
L13047-02AS	AS	07/09/13 0:21	II130708-3	.5	U	.51	mg/L	102	85	115			
L13047-02ASD	ASD	07/09/13 0:24	II130708-3	.5	U	.515	mg/L	103	85	115	0.98	20	

SPF Water Engineering

ACZ Project ID: ***L13048***

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG347248													
WG347248ICV	ICV	07/09/13 22:58	II130514-1	2		1.946	mg/L	97.3	95	105			
WG347248ICB	ICB	07/09/13 23:04				U	mg/L		-0.03	0.03			
WG347178LRB	LRB	07/09/13 23:16				U	mg/L		-0.022	0.022			
WG347178LFB	LFB	07/09/13 23:20	II130708-3	.5		.504	mg/L	100.8	85	115			
L13032-02LFM	LFM	07/09/13 23:29	II130708-3	.5	U	.496	mg/L	99.2	70	130			
L13032-02LFMD	LFMD	07/09/13 23:32	II130708-3	.5	U	.486	mg/L	97.2	70	130	2.04	20	
WG347303													
WG347303ICV	ICV	07/11/13 13:39	II130514-1	2		1.963	mg/L	98.2	95	105			
WG347303ICB	ICB	07/11/13 13:45				U	mg/L		-0.03	0.03			
WG347178LRB	LRB	07/11/13 13:58				U	mg/L		-0.022	0.022			
WG347178LFB	LFB	07/11/13 14:01	II130708-3	.5		.493	mg/L	98.6	85	115			
L13032-02LFM	LFM	07/11/13 14:10	II130708-3	.5	U	.493	mg/L	98.6	70	130			
L13032-02LFMD	LFMD	07/11/13 14:13	II130708-3	.5	U	.49	mg/L	98	70	130	0.61	20	

ACZ Laboratories, Inc.
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Inorganic Extended Qualifier Report

SPF Water Engineering ACZ Project ID: ***L13048***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13048-01	WG347453	Copper, total	M200.8 ICP-MS	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG347728	Iron, total	M200.7 ICP	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG347453	Lead, total	M200.8 ICP-MS	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG347432	Vanadium, dissolved	M200.8 ICP-MS	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG346995	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG347426	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347421	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347305	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347256	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
	WG346943	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L13048***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13048-02	WG347453	Copper, total	M200.8 ICP-MS	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
		Lead, total	M200.8 ICP-MS	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG346995	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG347426	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347421	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347305	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347256	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
	WG346943	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L13048***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13048-03	WG347453	Lead, total	M200.8 ICP-MS	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG346995	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG347426	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347421	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347305	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347256	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
	WG346974	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346995	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L13048***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L13048-04	WG347453	Copper, total	M200.8 ICP-MS	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
		Lead, total	M200.8 ICP-MS	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG347030	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG347426	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347421	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347030	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG347305	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347030	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG347280	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG346974	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG347030	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Q sampling

ACZ Project ID: L13048
Date Received: 07/02/2013 10:18
Received By: gac
Date Printed: 7/3/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
3554	25.7	16	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s) but was thawed by receipt at ACZ.

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc. L13048

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name:	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SPF-2013-GW

PO#: Calico 2nd Quarter Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	*SPF-2013-GW
Whiskey Spring	6/27/13 15:45		7	X
Whiskey Duplicate	6/27/13 15:55		7	X
Sourdough Spring Upper	6/27/13 17:15		7	X
Sourdough Spring Lower	6/27/13 18:30		7	X

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	6/28/13 9:00	[signature]	7.2.13 10:18

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L13048 Chain of Custody

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 09, 2014

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 2nd Quarter 2014 Sampli
ACZ Project ID: L19044

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 24, 2014. This project has been assigned to ACZ's project number, L19044. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L19044. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 08, 2014. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Max Janicek has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Case Narrative

SPF Water Engineering

July 09, 2014

Project ID: Calico 2nd Quarter 2014 Sampli
ACZ Project ID: L19044

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 2 ground water samples from SPF Water Engineering on June 24, 2014. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L19044. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

Any analyses not performed within EPA recommended holding times have been qualified with an "H" flag.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

Some of the dissolved Cobalt values exceed the corresponding total values for project L19044. In some cases, RPDs between dissolved and total values exceed the standard acceptance limit of 20%. Samples were re-analyzed for verification, and results for both parameters were confirmed. This is a consistent anomaly with these sample types, and discrepancies may be attributed to a matrix or field sampling issue.

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L19044-01***
Date Sampled: *06/19/14 12:30*
Date Received: *06/24/14*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/02/14 12:38	mpb
Cyanide, WAD	SM4500-CN I- distillation								06/30/14 14:33	mss2
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/01/14 10:33	mss2
Total Hot Plate Digestion	M200.2 ICP-MS								06/26/14 21:21	las
Total Hot Plate Digestion	M200.2 ICP								06/30/14 16:06	aeb

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L19044-01***
Date Sampled: *06/19/14 12:30*
Date Received: *06/24/14*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	06/25/14 22:34	aeb
Aluminum, total	M200.7 ICP	1	1.42		*	mg/L	0.03	0.2	07/01/14 12:31	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	06/28/14 4:30	pmc
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	06/27/14 23:22	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0110			mg/L	0.0002	0.001	06/28/14 4:30	pmc
Arsenic, total	M200.8 ICP-MS	1	0.0108			mg/L	0.0002	0.001	06/27/14 23:22	msh
Barium, dissolved	M200.7 ICP	1	0.024			mg/L	0.003	0.02	06/25/14 22:34	aeb
Barium, total	M200.7 ICP	1	0.040			mg/L	0.003	0.02	07/01/14 12:31	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/28/14 4:30	pmc
Beryllium, total	M200.8 ICP-MS	1	0.00006	B		mg/L	0.00005	0.0003	06/27/14 23:22	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/25/14 22:34	aeb
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/01/14 12:31	aeb
Boron, dissolved	M200.7 ICP	1	0.17			mg/L	0.01	0.05	06/27/14 0:05	aeb
Boron, total	M200.7 ICP	1	0.17			mg/L	0.01	0.05	07/01/14 12:31	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/28/14 4:30	pmc
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/27/14 23:22	msh
Calcium, dissolved	M200.7 ICP	1	22.4		*	mg/L	0.1	0.5	06/25/14 22:34	aeb
Calcium, total	M200.7 ICP	1	22			mg/L	0.1	0.5	07/01/14 12:31	aeb
Chromium, dissolved	M200.8 ICP-MS	1	0.0008	B		mg/L	0.0005	0.002	06/28/14 4:30	pmc
Chromium, total	M200.8 ICP-MS	1	0.0017	B		mg/L	0.0005	0.002	06/27/14 23:22	msh
Cobalt, dissolved	M200.8 ICP-MS	1	0.00055			mg/L	0.00005	0.0003	06/28/14 4:30	pmc
Cobalt, total	M200.8 ICP-MS	1	0.00056			mg/L	0.00005	0.0003	06/27/14 23:22	msh
Copper, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0005	0.003	06/28/14 4:30	pmc
Copper, total	M200.8 ICP-MS	1	0.0021	B		mg/L	0.0005	0.003	06/27/14 23:22	msh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/27/14 0:05	aeb
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/01/14 12:31	aeb
Iron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.02	0.05	06/25/14 22:34	aeb
Iron, total	M200.7 ICP	1	1.22			mg/L	0.02	0.05	07/01/14 12:31	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/28/14 4:30	pmc
Lead, total	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	06/27/14 23:22	msh
Lithium, dissolved	M200.7 ICP	1	0.023	B		mg/L	0.008	0.04	06/25/14 22:34	aeb
Lithium, total	M200.7 ICP	1	0.027	B		mg/L	0.008	0.04	07/01/14 12:31	aeb
Magnesium, dissolved	M200.7 ICP	1	6.5			mg/L	0.2	1	06/25/14 22:34	aeb
Magnesium, total	M200.7 ICP	1	6.8			mg/L	0.2	1	07/01/14 12:31	aeb
Manganese, dissolved	M200.8 ICP-MS	1	0.0068			mg/L	0.0005	0.003	06/28/14 4:30	pmc
Manganese, total	M200.8 ICP-MS	1	0.0357			mg/L	0.0005	0.003	06/27/14 23:22	msh
Mercury, dissolved	M1631, Atomic Fluorescence	1	1.2			ng/L	0.2	0.5	06/26/14 15:24	las
Mercury, total	M1631, Atomic Fluorescence	2	19.9			ng/L	0.4	1	06/26/14 16:22	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0067			mg/L	0.0005	0.003	06/28/14 4:30	pmc
Molybdenum, total	M200.8 ICP-MS	1	0.0064			mg/L	0.0005	0.003	06/27/14 23:22	msh
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	06/28/14 4:30	pmc
Nickel, total	M200.8 ICP-MS	1	0.0014	B		mg/L	0.0006	0.003	06/27/14 23:22	msh
Potassium, dissolved	M200.7 ICP	1	4.6			mg/L	0.2	1	06/25/14 22:34	aeb

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L19044-01***
Date Sampled: *06/19/14 12:30*
Date Received: *06/24/14*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	4.9			mg/L	0.2	1	07/01/14 12:31	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/25/14 22:34	aeb
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/01/14 12:31	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0003	06/28/14 4:30	pmc
Selenium, total	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0003	06/27/14 23:22	msh
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/28/14 4:30	pmc
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/27/14 23:22	msh
Sodium, dissolved	M200.7 ICP	1	47.5		*	mg/L	0.2	1	06/25/14 22:34	aeb
Sodium, total	M200.7 ICP	1	47.3			mg/L	0.2	1	07/01/14 12:31	aeb
Strontium, dissolved	M200.7 ICP	1	0.113		*	mg/L	0.005	0.03	06/25/14 22:34	aeb
Strontium, total	M200.7 ICP	1	0.113			mg/L	0.005	0.03	07/01/14 12:31	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/28/14 4:30	pmc
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/27/14 23:22	msh
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	06/28/14 4:30	pmc
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	06/27/14 23:22	msh
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/25/14 22:34	aeb
Titanium, total	M200.7 ICP	1	0.061			mg/L	0.005	0.03	07/01/14 12:31	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0026			mg/L	0.0001	0.0005	06/28/14 4:30	pmc
Uranium, total	M200.8 ICP-MS	1	0.0027			mg/L	0.0001	0.0005	06/27/14 23:22	msh
Vanadium, dissolved	M200.8 ICP-MS	1	0.0103			mg/L	0.0002	0.001	06/28/14 4:30	pmc
Vanadium, total	M200.8 ICP-MS	1	0.0121			mg/L	0.0002	0.001	06/27/14 23:22	msh
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/25/14 22:34	aeb
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/01/14 12:31	aeb

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L19044-01***
Date Sampled: *06/19/14 12:30*
Date Received: *06/24/14*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	98			mg/L	2	20	06/30/14 0:00	abd
Carbonate as CaCO3		1	8	B		mg/L	2	20	06/30/14 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	06/30/14 0:00	abd
Total Alkalinity		1	106			mg/L	2	20	06/30/14 0:00	abd
Chloride	M300.0 - Ion Chromatography	1	13.7		*	mg/L	0.5	2.5	07/01/14 10:07	tcd
Conductivity @25C	SM2510B	1	365			umhos/cm	1	10	06/30/14 19:50	abd
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/02/14 22:26	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	06/30/14 18:51	mpb
Fluoride	M300.0 - Ion Chromatography	1	2.21		*	mg/L	0.05	0.25	07/01/14 10:07	tcd
Hardness as CaCO3	SM2340B - Calculation		83			mg/L	0.8	4	07/08/14 11:40	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.20		*	mg/L	0.02	0.1	07/02/14 23:59	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.2	07/02/14 12:33	bsu
pH (lab)	SM4500H+ B									
pH		1	8.6	H		units	0.1	0.1	06/30/14 0:00	abd
pH measured at		1	21			C	0.1	0.1	06/30/14 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.05		*	mg/L	0.01	0.05	07/01/14 17:37	mpb
Residue, Filterable (TDS) @180C	SM2540C	1	200			mg/L	10	20	06/25/14 15:44	eaa
Residue, Non-Filterable (TSS) @105C	SM2540D	1	34		*	mg/L	5	20	04/26/14 13:31	eaa
Sulfate	M300.0 - Ion Chromatography	1	33.1			mg/L	0.5	2.5	07/02/14 21:25	tcd

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: OWYHEE RIVER DS

ACZ Sample ID: ***L19044-02***
Date Sampled: *06/19/14 15:45*
Date Received: *06/24/14*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/02/14 12:57	mpb
Cyanide, WAD	SM4500-CN I- distillation								07/01/14 16:14	mpb
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/01/14 10:38	mss2
Total Hot Plate Digestion	M200.2 ICP-MS								06/26/14 21:31	las
Total Hot Plate Digestion	M200.2 ICP								06/30/14 17:13	aeb

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: OWYHEE RIVER DS

ACZ Sample ID: ***L19044-02***
Date Sampled: *06/19/14 15:45*
Date Received: *06/24/14*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.09	B		mg/L	0.03	0.2	06/25/14 22:37	aeb
Aluminum, total	M200.7 ICP	1	0.54		*	mg/L	0.03	0.2	07/01/14 12:41	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	06/28/14 4:40	pmc
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	06/27/14 23:25	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0063			mg/L	0.0002	0.001	06/28/14 4:40	pmc
Arsenic, total	M200.8 ICP-MS	1	0.0061			mg/L	0.0002	0.001	06/27/14 23:25	msh
Barium, dissolved	M200.7 ICP	1	0.016	B		mg/L	0.003	0.02	06/25/14 22:37	aeb
Barium, total	M200.7 ICP	1	0.021			mg/L	0.003	0.02	07/01/14 12:41	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/28/14 4:40	pmc
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/27/14 23:25	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/25/14 22:37	aeb
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/01/14 12:41	aeb
Boron, dissolved	M200.7 ICP	1	0.11			mg/L	0.01	0.05	06/27/14 0:08	aeb
Boron, total	M200.7 ICP	1	0.11			mg/L	0.01	0.05	07/01/14 12:41	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/28/14 4:40	pmc
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/27/14 23:25	msh
Calcium, dissolved	M200.7 ICP	1	21.7		*	mg/L	0.1	0.5	06/25/14 22:37	aeb
Calcium, total	M200.7 ICP	1	21.6			mg/L	0.1	0.5	07/01/14 12:41	aeb
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	06/28/14 4:40	pmc
Chromium, total	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0005	0.002	06/27/14 23:25	msh
Cobalt, dissolved	M200.8 ICP-MS	1	0.00066			mg/L	0.00005	0.0003	06/28/14 4:40	pmc
Cobalt, total	M200.8 ICP-MS	1	0.00019	B		mg/L	0.00005	0.0003	06/27/14 23:25	msh
Copper, dissolved	M200.8 ICP-MS	1	0.0007	B		mg/L	0.0005	0.003	06/28/14 4:40	pmc
Copper, total	M200.8 ICP-MS	1	0.0010	B		mg/L	0.0005	0.003	06/27/14 23:25	msh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/27/14 0:08	aeb
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/01/14 12:41	aeb
Iron, dissolved	M200.7 ICP	1	0.06			mg/L	0.02	0.05	06/25/14 22:37	aeb
Iron, total	M200.7 ICP	1	0.42			mg/L	0.02	0.05	07/01/14 12:41	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/28/14 4:40	pmc
Lead, total	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	06/27/14 23:25	msh
Lithium, dissolved	M200.7 ICP	1	0.014	B		mg/L	0.008	0.04	06/25/14 22:37	aeb
Lithium, total	M200.7 ICP	1	0.018	B		mg/L	0.008	0.04	07/01/14 12:41	aeb
Magnesium, dissolved	M200.7 ICP	1	5.8			mg/L	0.2	1	06/25/14 22:37	aeb
Magnesium, total	M200.7 ICP	1	5.9			mg/L	0.2	1	07/01/14 12:41	aeb
Manganese, dissolved	M200.8 ICP-MS	1	0.0032			mg/L	0.0005	0.003	06/28/14 4:40	pmc
Manganese, total	M200.8 ICP-MS	1	0.0070			mg/L	0.0005	0.003	06/27/14 23:25	msh
Mercury, dissolved	M1631, Atomic Fluorescence	1	1.2			ng/L	0.2	0.5	06/26/14 15:29	las
Mercury, total	M1631, Atomic Fluorescence	2	2.7			ng/L	0.4	1	06/26/14 16:27	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0045			mg/L	0.0005	0.003	06/28/14 4:40	pmc
Molybdenum, total	M200.8 ICP-MS	1	0.0042			mg/L	0.0005	0.003	06/27/14 23:25	msh
Nickel, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0006	0.003	06/28/14 4:40	pmc
Nickel, total	M200.8 ICP-MS	1	0.0008	B		mg/L	0.0006	0.003	06/27/14 23:25	msh
Potassium, dissolved	M200.7 ICP	1	3.8			mg/L	0.2	1	06/25/14 22:37	aeb

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: OWYHEE RIVER DS

ACZ Sample ID: ***L19044-02***
Date Sampled: *06/19/14 15:45*
Date Received: *06/24/14*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	3.8			mg/L	0.2	1	07/01/14 12:41	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/25/14 22:37	aeb
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/01/14 12:41	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	06/28/14 4:40	pmc
Selenium, total	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	06/27/14 23:25	msh
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/28/14 4:40	pmc
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/27/14 23:25	msh
Sodium, dissolved	M200.7 ICP	1	34.5		*	mg/L	0.2	1	06/25/14 22:37	aeb
Sodium, total	M200.7 ICP	1	34.1			mg/L	0.2	1	07/01/14 12:41	aeb
Strontium, dissolved	M200.7 ICP	1	0.101		*	mg/L	0.005	0.03	06/25/14 22:37	aeb
Strontium, total	M200.7 ICP	1	0.103			mg/L	0.005	0.03	07/01/14 12:41	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/28/14 4:40	pmc
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/27/14 23:25	msh
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	06/28/14 4:40	pmc
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	06/27/14 23:25	msh
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/25/14 22:37	aeb
Titanium, total	M200.7 ICP	1	0.023	B		mg/L	0.005	0.03	07/01/14 12:41	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0017			mg/L	0.0001	0.0005	06/28/14 4:40	pmc
Uranium, total	M200.8 ICP-MS	1	0.0017			mg/L	0.0001	0.0005	06/27/14 23:25	msh
Vanadium, dissolved	M200.8 ICP-MS	1	0.0048			mg/L	0.0002	0.001	06/28/14 4:40	pmc
Vanadium, total	M200.8 ICP-MS	1	0.0055			mg/L	0.0002	0.001	06/27/14 23:25	msh
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/25/14 22:37	aeb
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/01/14 12:41	aeb

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: OWYHEE RIVER DS

ACZ Sample ID: ***L19044-02***
Date Sampled: *06/19/14 15:45*
Date Received: *06/24/14*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	81			mg/L	2	20	06/30/14 0:00	abd
Carbonate as CaCO3		1	6	B		mg/L	2	20	06/30/14 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	06/30/14 0:00	abd
Total Alkalinity		1	87			mg/L	2	20	06/30/14 0:00	abd
Chloride	M300.0 - Ion Chromatography	1	10.00		*	mg/L	0.5	2.5	07/01/14 10:25	tcd
Conductivity @25C	SM2510B	1	304			umhos/cm	1	10	06/30/14 19:58	abd
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/02/14 22:27	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/02/14 23:35	pjb
Fluoride	M300.0 - Ion Chromatography	1	1.49		*	mg/L	0.05	0.25	07/01/14 10:25	tcd
Hardness as CaCO3	SM2340B - Calculation		78			mg/L	0.8	4	07/08/14 11:40	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.06	B	*	mg/L	0.02	0.1	07/03/14 0:01	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.2	07/02/14 12:34	bsu
pH (lab)	SM4500H+ B									
pH		1	8.6	H		units	0.1	0.1	06/30/14 0:00	abd
pH measured at		1	21			C	0.1	0.1	06/30/14 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B	*	mg/L	0.01	0.05	07/01/14 17:38	mpb
Residue, Filterable (TDS) @180C	SM2540C	1	180			mg/L	10	20	06/25/14 15:46	eaa
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	04/26/14 13:33	eaa
Sulfate	M300.0 - Ion Chromatography	1	30.5			mg/L	0.5	2.5	07/02/14 22:01	tcd

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L19044***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366783													
WG366783PBW1	PBW	06/30/14 16:45				U	mg/L		-20	20			
WG366783LCSW3	LCSW	06/30/14 17:03	WC140610-	820.0001		830.7	mg/L	101.3	90	110			
L19046-02DUP	DUP	06/30/14 20:43			167	167	mg/L				0	20	
WG366783LCSW6	LCSW	06/30/14 21:02	WC140610-	820.0001		848	mg/L	103.4	90	110			
WG366783PBW2	PBW	06/30/14 21:11				2.3	mg/L		-20	20			
WG366783LCSW9	LCSW	07/01/14 0:39	WC140610-	820.0001		848.3	mg/L	103.5	90	110			
WG366783PBW3	PBW	07/01/14 0:48				2.7	mg/L		-20	20			
WG366783LCSW12	LCSW	07/01/14 4:18	WC140610-	820.0001		831.1	mg/L	101.4	90	110			
WG366783PBW4	PBW	07/01/14 4:27				2.2	mg/L		-20	20			
WG366783LCSW15	LCSW	07/01/14 7:59	WC140610-	820.0001		823.2	mg/L	100.4	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	2		2.006	mg/L	100.3	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.09	0.09			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	1.0011		1.095	mg/L	109.4	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	1.0011	1.62	2.622	mg/L	100.1	85	115			
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	1.0011	1.62	2.664	mg/L	104.3	85	115	1.59	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	2		2	mg/L	100	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.09	0.09			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.066	0.066			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	1.0011		1.082	mg/L	108.1	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	1.0011	1.42	2.805	mg/L	138.3	70	130			M1
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	1.0011	1.42	2.787	mg/L	136.5	70	130	0.64	20	M1

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.02002		.02046	mg/L	102.2	90	110			
WG366719ICB	ICB	06/28/14 3:57				.00046	mg/L		-0.0012	0.0012			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.01		.01032	mg/L	103.2	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.01	U	.00967	mg/L	96.7	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.01	U	.0101	mg/L	101	70	130	4.35	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.02002		.01945	mg/L	97.2	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0012	0.0012			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00088	0.00088			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.01		.01031	mg/L	103.1	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.01	U	.01038	mg/L	103.8	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.01	U	.0103	mg/L	103	70	130	0.77	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.0521	mg/L	104.2	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0006	0.0006			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.0501		.05069	mg/L	101.2	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.0501	.0011	.05256	mg/L	102.7	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.0501	.0011	.0521	mg/L	101.8	70	130	0.88	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.05204	mg/L	104.1	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0006	0.0006			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00044	0.00044			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.0501		.05197	mg/L	103.7	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.0501	.0061	.05592	mg/L	99.4	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.0501	.0061	.05699	mg/L	101.6	70	130	1.9	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	2		2.0008	mg/L	100	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.009	0.009			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	.5		.509	mg/L	101.8	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	.5	.079	.5749	mg/L	99.2	85	115			
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	.5	.079	.5743	mg/L	99.1	85	115	0.1	20	

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	2		1.9838	mg/L	99.2	95	105			
WG366836ICB	ICB	07/01/14 12:09				.0031	mg/L		-0.009	0.009			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.0066	0.0066			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	.5		.5101	mg/L	102	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	.5	.04	.5504	mg/L	102.1	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	.5	.04	.553	mg/L	102.6	70	130	0.47	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.0484	mg/L	96.8	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.00015	0.00015			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.05005		.04852	mg/L	96.9	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.05005	U	.04609	mg/L	92.1	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.05005	U	.04665	mg/L	93.2	70	130	1.21	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.04759	mg/L	95.2	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.00015	0.00015			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00011	0.00011			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.05005		.04796	mg/L	95.8	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.05005	U	.04725	mg/L	94.4	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.05005	U	.04626	mg/L	92.4	70	130	2.12	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	2		1.988	mg/L	99.4	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.12	0.12			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	.999		1.009	mg/L	101	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	.999	U	1.024	mg/L	102.5	85	115			
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	.999	U	1.023	mg/L	102.4	85	115	0.1	20	

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	2		1.985	mg/L	99.3	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.12	0.12			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.088	0.088			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	.999		1.019	mg/L	102	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	.999	U	1.037	mg/L	103.8	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	.999	U	1.046	mg/L	104.7	70	130	0.86	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366570													
WG366570ICV	ICV	06/26/14 23:04	II140512-2	2		2.016	mg/L	100.8	95	105			
WG366570ICB	ICB	06/26/14 23:11				U	mg/L		-0.03	0.03			
WG366570LFB	LFB	06/26/14 23:23	II140611-2	.5005		.507	mg/L	101.3	85	115			
L19036-04AS	AS	06/26/14 23:43	II140611-2	2.5025	U	2.603	mg/L	104	85	115			
L19036-04ASD	ASD	06/26/14 23:46	II140611-2	2.5025	U	2.611	mg/L	104.3	85	115	0.31	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	2		2.02	mg/L	101	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.03	0.03			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.022	0.022			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	.5005		.515	mg/L	102.9	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	.5005	.17	.687	mg/L	103.3	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	.5005	.17	.686	mg/L	103.1	70	130	0.15	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.04944	mg/L	98.9	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0003	0.0003			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.0501		.04885	mg/L	97.5	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.0501	U	.04581	mg/L	91.4	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.0501	U	.04683	mg/L	93.5	70	130	2.2	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.05031	mg/L	100.6	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0003	0.0003			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00022	0.00022			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.0501		.0501	mg/L	100	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.0501	U	.04819	mg/L	96.2	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.0501	U	.04758	mg/L	95	70	130	1.27	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	100		100.41	mg/L	100.4	95	105			
WG366492ICB	ICB	06/25/14 21:16				.1	mg/L		-0.3	0.3			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	67.98099		73.39	mg/L	108	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	67.98099	924	945.4	mg/L	31.5	85	115			M3
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	67.98099	924	934.5	mg/L	15.4	85	115	1.16	20	M3

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	100		99.82	mg/L	99.8	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.3	0.3			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.22	0.22			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	67.98099		73.1	mg/L	107.5	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	67.98099	22	95.79	mg/L	108.5	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	67.98099	22	96.16	mg/L	109.1	70	130	0.39	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	19.98		20.3	mg/L	101.6	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-1.5	1.5			
WG366755													
WG366755LFB	LFB	06/30/14 13:36	WI140610-6	30		31.2	mg/L	104	90	110			
L18963-07DUP	DUP	06/30/14 18:23			41.9	42.1	mg/L				0.5	20	RA
L18963-08AS	AS	06/30/14 18:59	WI140610-6	30000	14500	45500	mg/L	103.3	90	110			

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.05016	mg/L	100.3	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0015	0.0015			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.05005		.05074	mg/L	101.4	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.05005	U	.04691	mg/L	93.7	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.05005	U	.04687	mg/L	93.6	70	130	0.09	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.04831	mg/L	96.6	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0015	0.0015			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.0011	0.0011			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.05005		.04738	mg/L	94.7	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.05005	.0006	.04699	mg/L	92.7	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.05005	.0006	.04664	mg/L	92	70	130	0.75	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.05021	mg/L	100.4	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.00015	0.00015			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.05005		.05163	mg/L	103.2	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.05005	.00121	.0502	mg/L	97.9	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.05005	.00121	.05094	mg/L	99.4	70	130	1.46	20	

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.0488	mg/L	97.6	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.00015	0.00015			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00011	0.00011			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.05005		.04991	mg/L	99.7	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.05005	.00019	.04934	mg/L	98.2	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.05005	.00019	.04831	mg/L	96.1	70	130	2.11	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366783													
WG366783LCSW2	LCSW	06/30/14 16:50	PCN44568	1408.8		1454.5	umhos/cm	103.2	90	110			
L19046-02DUP	DUP	06/30/14 20:43			950	947	umhos/cm				0.3	20	
WG366783LCSW5	LCSW	06/30/14 20:48	PCN44568	1408.8		1443.4	umhos/cm	102.5	90	110			
WG366783LCSW8	LCSW	07/01/14 0:25	PCN44568	1408.8		1439.3	umhos/cm	102.2	90	110			
WG366783LCSW11	LCSW	07/01/14 4:04	PCN44568	1408.8		1433.2	umhos/cm	101.7	90	110			
WG366783LCSW14	LCSW	07/01/14 7:45	PCN44568	1408.8		1422.1	umhos/cm	100.9	90	110			

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.04878	mg/L	97.6	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0015	0.0015			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.05		.04854	mg/L	97.1	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.05	.0009	.04167	mg/L	81.5	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.05	.0009	.04118	mg/L	80.6	70	130	1.18	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.04792	mg/L	95.8	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0015	0.0015			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.0011	0.0011			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.05		.04674	mg/L	93.5	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.05	.001	.04551	mg/L	89	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.05	.001	.04556	mg/L	89.1	70	130	0.11	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366995													
WG366995ICV	ICV	07/02/14 22:20	WI140702-5	.3		.289	mg/L	96.3	90	110			
WG366995ICB	ICB	07/02/14 22:21				U	mg/L		-0.003	0.003			
WG366949LRB	LRB	07/02/14 22:22				U	mg/L		-0.003	0.003			
WG366949LFB	LFB	07/02/14 22:23	WI140702-2	.2		.1977	mg/L	98.9	90	110			
L19044-01DUP	DUP	07/02/14 22:26			U	U	mg/L				0	20	RA
L19044-02LFM	LFM	07/02/14 22:28	WI140702-2	.2	U	.1972	mg/L	98.6	90	110			

SPF Water Engineering

ACZ Project ID: ***L19044***

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366801													
WG366801ICV	ICV	06/30/14 17:57	WI140617-1	.3		.3018	mg/L	100.6	90	110			
WG366801ICB	ICB	06/30/14 17:58				U	mg/L		-0.003	0.003			
WG366802													
WG366758LRB	LRB	06/30/14 18:36				U	mg/L		-0.003	0.003			
WG366758LFB	LFB	06/30/14 18:37	WI140617-1	.2		.2004	mg/L	100.2	90	110			
L19038-04DUP	DUP	06/30/14 18:51			U	U	mg/L				0	20	RA
L19099-02LFM	LFM	06/30/14 19:00	WI140617-1	.2	U	.2016	mg/L	100.8	90	110			
WG366995													
WG366995ICV	ICV	07/02/14 22:20	WI140702-5	.3		.289	mg/L	96.3	90	110			
WG366995ICB	ICB	07/02/14 22:21				U	mg/L		-0.003	0.003			
WG366909													
WG366886LRB	LRB	07/02/14 23:33				U	mg/L		-0.003	0.003			
WG366886LFB	LFB	07/02/14 23:34	WI140617-1	.2		.2024	mg/L	101.2	90	110			
L19044-02DUP	DUP	07/02/14 23:36			U	U	mg/L				0	20	RA
L19067-01LFM	LFM	07/02/14 23:37	WI140617-1	.2	U	.2016	mg/L	100.8	90	110			

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	4.02		4.17	mg/L	103.7	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-0.3	0.3			
WG366755													
WG366755LFB	LFB	06/30/14 13:36	WI140610-6	1.5		1.56	mg/L	104	90	110			
L18963-07DUP	DUP	06/30/14 18:23			.92	.92	mg/L				0	20	RA
L18963-08AS	AS	06/30/14 18:59	WI140610-6	1500	292	1860	mg/L	104.5	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366570													
WG366570ICV	ICV	06/26/14 23:04	II140512-2	2		2.03	mg/L	101.5	95	105			
WG366570ICB	ICB	06/26/14 23:11				U	mg/L		-0.3	0.3			
WG366570LFB	LFB	06/26/14 23:23	II140611-2	1.001		1.06	mg/L	105.9	85	115			
L19036-04AS	AS	06/26/14 23:43	II140611-2	5.005	U	5.26	mg/L	105.1	85	115			
L19036-04ASD	ASD	06/26/14 23:46	II140611-2	5.005	U	5.29	mg/L	105.7	85	115	0.57	20	

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	2		2.03	mg/L	101.5	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.3	0.3			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.22	0.22			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	1.001		1.05	mg/L	104.9	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	1.001	U	1.06	mg/L	105.9	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	1.001	U	1.07	mg/L	106.9	70	130	0.94	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	2		1.998	mg/L	99.9	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.06	0.06			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	1.0014		1.037	mg/L	103.6	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	1.0014	.06	1.027	mg/L	97.6	85	115			
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	1.0014	.06	1.024	mg/L	97.3	85	115	0.29	20	

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	2		2.007	mg/L	100.4	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.06	0.06			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.044	0.044			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	1.0014		1.032	mg/L	103.1	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	1.0014	1.22	2.273	mg/L	105.2	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	1.0014	1.22	2.294	mg/L	107.2	70	130	0.92	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.05141	mg/L	102.8	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0003	0.0003			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.05005		.05056	mg/L	101	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.05005	U	.05093	mg/L	101.8	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.05005	U	.05128	mg/L	102.5	70	130	0.68	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.05	mg/L	100	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0003	0.0003			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00022	0.00022			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.05005		.04767	mg/L	95.2	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.05005	.0002	.04745	mg/L	94.4	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.05005	.0002	.04799	mg/L	95.5	70	130	1.13	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	2		2.0108	mg/L	100.5	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.024	0.024			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	1.002		1.005	mg/L	100.3	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	1.002	.148	1.156	mg/L	100.6	85	115			
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	1.002	.148	1.158	mg/L	100.8	85	115	0.17	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	2		1.9972	mg/L	99.9	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.024	0.024			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.0176	0.0176			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	1.002		1.023	mg/L	102.1	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	1.002	.027	1.042	mg/L	101.3	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	1.002	.027	1.045	mg/L	101.6	70	130	0.29	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	100		97.29	mg/L	97.3	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.6	0.6			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	50.00131		50.22	mg/L	100.4	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	50.00131	81.3	126.8	mg/L	91	85	115			
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	50.00131	81.3	126.7	mg/L	90.8	85	115	0.08	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	100		96.98	mg/L	97	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.6	0.6			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.44	0.44			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	50.00131		50.11	mg/L	100.2	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	50.00131	6.8	57.28	mg/L	101	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	50.00131	6.8	57.55	mg/L	101.5	70	130	0.47	20	

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.05224	mg/L	104.5	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0015	0.0015			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.0501		.05146	mg/L	102.7	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.0501	.3949	.4391	mg/L	88.2	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.0501	.3949	.4429	mg/L	95.8	70	130	0.86	20	

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.05168	mg/L	103.4	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0015	0.0015			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.0011	0.0011			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.0501		.04948	mg/L	98.8	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.0501	.007	.05656	mg/L	98.9	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.0501	.007	.05645	mg/L	98.7	70	130	0.19	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366407													
WG366407ICV	ICV	06/24/14 15:11	HG140624-4	10		10.2	ng/L	102	79	121			
WG366407ICB	ICB	06/24/14 15:16				U	ng/L		-0.5	0.5			
WG366551													
WG366551CCV	CCV	06/26/14 14:34	HG140624-4	10		9.87	ng/L	98.7	76.5	123.4			
WG366551CCB	CCB	06/26/14 14:39				U	ng/L		-0.5	0.5			
WG366551PQV	PQV	06/26/14 14:44	HG140624-6	.5		.52	ng/L	104	70	130			
WG366551LFB	LFB	06/26/14 14:49	HG140624-5	2		1.93	ng/L	96.5	71	125			
L18942-01MS	MS	06/26/14 14:59	HG140624-5	2	U	1.98	ng/L	99	71	125			
L18942-01MSD	MSD	06/26/14 15:04	HG140624-5	2	U	1.96	ng/L	98	71	125	1.02	24	
WG366551CCV1	CCV	06/26/14 15:34	HG140624-4	10		10.1	ng/L	101	76.5	123.4			
WG366551CCB1	CCB	06/26/14 15:39				U	ng/L		-0.5	0.5			

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366407													
WG366407ICV	ICV	06/24/14 15:11	HG140624-4	10		10.2	ng/L	102	79	121			
WG366407ICB	ICB	06/24/14 15:16				U	ng/L		-0.5	0.5			
WG366605													
WG366605CCV	CCV	06/26/14 15:34	HG140624-4	10		10.1	ng/L	101	76.5	123.4			
WG366605CCB	CCB	06/26/14 15:39				U	ng/L		-0.5	0.5			
WG366605PQV	PQV	06/26/14 15:46	HG140624-6	.5		.52	ng/L	104	70	130			
WG366605LFB	LFB	06/26/14 15:51	HG140624-5	2		1.99	ng/L	99.5	71	125			
L19008-01MS	MS	06/26/14 16:01	HG140624-5	2	.2	2.2	ng/L	100	71	125			
L19008-01MSD	MSD	06/26/14 16:06	HG140624-5	2	.2	2.21	ng/L	100.5	71	125	0.45	24	
WG366605CCV1	CCV	06/26/14 16:32	HG140624-4	10		10.2	ng/L	102	76.5	123.4			
WG366605CCB1	CCB	06/26/14 16:37				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.01998		.01867	mg/L	93.4	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0015	0.0015			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.0502		.04958	mg/L	98.8	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.0502	.045	.09547	mg/L	100.5	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.0502	.045	.09729	mg/L	104.2	70	130	1.89	20	

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.01998		.01822	mg/L	91.2	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0015	0.0015			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.0011	0.0011			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.0502		.04637	mg/L	92.4	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.0502	.0042	.05059	mg/L	92.4	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.0502	.0042	.05034	mg/L	91.9	70	130	0.5	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.05024	mg/L	100.5	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0018	0.0018			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.05		.0501	mg/L	100.2	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.05	.0018	.04443	mg/L	85.3	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.05	.0018	.04394	mg/L	84.3	70	130	1.11	20	

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.04952	mg/L	99	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0018	0.0018			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00132	0.00132			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.05		.04784	mg/L	95.7	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.05	.0008	.04632	mg/L	91	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.05	.0008	.04633	mg/L	91.1	70	130	0.02	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366994													
WG366994ICV	ICV	07/02/14 21:46	WI140417-3	2.416		2.361	mg/L	97.7	90	110			
WG366994ICB	ICB	07/02/14 21:48				U	mg/L		-0.06	0.06			
WG366998													
WG366998LFB1	LFB	07/02/14 23:24	WI140215-3	2		1.983	mg/L	99.2	90	110			
WG366998LFB2	LFB	07/02/14 23:58	WI140215-3	2		2.024	mg/L	101.2	90	110			
L19044-01AS	AS	07/03/14 0:00	WI140215-3	2	.2	2.207	mg/L	100.4	90	110			
L19044-02DUP	DUP	07/03/14 0:02			.06	.058	mg/L				3.4	20	RA

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366944													
WG366944ICV	ICV	07/02/14 12:03	WI131021-1	1.003		1.025	mg/L	102.2	90	110			
WG366944ICB	ICB	07/02/14 12:06				U	mg/L		-0.15	0.15			
WG366944LFB1	LFB	07/02/14 12:07	WI140113-8	1		.984	mg/L	98.4	90	110			
L19035-05AS	AS	07/02/14 12:24	WI140113-8	1	U	1.03	mg/L	103	90	110			
L19035-06DUP	DUP	07/02/14 12:26			.06	.08	mg/L				28.6	20	RA
WG366944LFB2	LFB	07/02/14 12:38	WI140113-8	1		.991	mg/L	99.1	90	110			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366783													
WG366783LCSW1	LCSW	06/30/14 16:48	PCN45265	5.99		6.04	units	100.8	5.89	6.09			
L19046-02DUP	DUP	06/30/14 20:43			8.2	8.16	units				0.5	20	
WG366783LCSW4	LCSW	06/30/14 20:46	PCN45265	5.99		6.09	units	101.7	5.89	6.09			
WG366783LCSW7	LCSW	07/01/14 0:23	PCN45265	5.99		6.09	units	101.7	5.89	6.09			
WG366783LCSW10	LCSW	07/01/14 4:02	PCN45265	5.99		6.09	units	101.7	5.89	6.09			
WG366783LCSW13	LCSW	07/01/14 7:44	PCN45265	5.99		6.09	units	101.7	5.89	6.09			

SPF Water Engineering

ACZ Project ID: ***L19044***

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366873													
WG366873ICV	ICV	07/01/14 15:57	WI140620-3	.65228		.677	mg/L	103.8	90	110			
WG366873ICB	ICB	07/01/14 15:58				.011	mg/L		-0.03	0.03			
WG366894													
WG366843LRB	LRB	07/01/14 17:29				.011	mg/L		-0.03	0.03			
WG366843LFB	LFB	07/01/14 17:30	WI140701-2	.5		.498	mg/L	99.6	90	110			
L18897-01LFM	LFM	07/01/14 17:32	WI140701-2	.5	.01	.486	mg/L	95.2	90	110			
L19035-07DUP	DUP	07/01/14 17:34			.01	.012	mg/L				18.2	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	20		19.92	mg/L	99.6	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.6	0.6			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	99.99364		101.9	mg/L	101.9	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	99.99364	13.5	116.8	mg/L	103.3	85	115			
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	99.99364	13.5	116.9	mg/L	103.4	85	115	0.09	20	

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	20		19.76	mg/L	98.8	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.6	0.6			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.44	0.44			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	99.99364		101.2	mg/L	101.2	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	99.99364	4.9	106.9	mg/L	102	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	99.99364	4.9	107.4	mg/L	102.5	70	130	0.47	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366515													
WG366515PBW	PBW	06/25/14 15:15				U	mg/L		-20	20			
WG366515LCSW	LCSW	06/25/14 15:16	PCN46083	260		246	mg/L	94.6	80	120			
L19048-04DUP	DUP	06/25/14 15:55			160	158	mg/L				1.3	10	

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366584													
WG366584PBW	PBW	04/26/14 12:55				U	mg/L		-6	6			
WG366584LCSW	LCSW	04/26/14 12:56	PCN46084	160		151	mg/L	94.4	80	120			
L19044-02DUP	DUP	04/26/14 13:34			U	U	mg/L				0	10	RA

SPF Water Engineering

ACZ Project ID: ***L19044***

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	2		2.05	mg/L	102.5	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.3	0.3			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	1.0009		1.06	mg/L	105.9	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	1.0009	U	1.04	mg/L	103.9	85	115			
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	1.0009	U	1.04	mg/L	103.9	85	115	0	20	

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	2		2.02	mg/L	101	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.3	0.3			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.22	0.22			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	1.0009		1.08	mg/L	107.9	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	1.0009	U	1.08	mg/L	107.9	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	1.0009	U	1.09	mg/L	108.9	70	130	0.92	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.05152	mg/L	103	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0003	0.0003			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.05005		.05006	mg/L	100	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.05005	.0002	.05208	mg/L	103.7	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.05005	.0002	.05231	mg/L	104.1	70	130	0.44	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.05196	mg/L	103.9	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0003	0.0003			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00022	0.00022			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.05005		.05222	mg/L	104.3	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.05005	.0003	.04934	mg/L	98	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.05005	.0003	.04922	mg/L	97.7	70	130	0.24	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.02002		.02002	mg/L	100	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.00015	0.00015			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.01002		.009868	mg/L	98.5	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.01002	U	.007203	mg/L	71.9	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.01002	U	.008316	mg/L	83	70	130	14.34	20	

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ACZ Project ID: ***L19044***

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.02002		.01957	mg/L	97.8	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.00015	0.00015			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00011	0.00011			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.01002		.009514	mg/L	95	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.01002	U	.009107	mg/L	90.9	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.01002	U	.00912	mg/L	91	70	130	0.14	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	100		99.61	mg/L	99.6	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.6	0.6			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	100.0393		102.3	mg/L	102.3	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	100.0393	375	456	mg/L	81	85	115			M3
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	100.0393	375	466	mg/L	91	85	115	2.17	20	

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	100		98.61	mg/L	98.6	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.6	0.6			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.44	0.44			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	100.0393		101.4	mg/L	101.4	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	100.0393	47.3	149.2	mg/L	101.9	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	100.0393	47.3	149.9	mg/L	102.6	70	130	0.47	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	2		2.0092	mg/L	100.5	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.015	0.015			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	.5005		.5176	mg/L	103.4	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	.5005	2.38	2.783	mg/L	80.5	85	115			M3
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	.5005	2.38	2.791	mg/L	82.1	85	115	0.29	20	M3

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	2		1.995	mg/L	99.8	95	105			
WG366836ICB	ICB	07/01/14 12:09				.005	mg/L		-0.015	0.015			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.011	0.011			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	.5005		.5149	mg/L	102.9	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	.5005	.113	.6277	mg/L	102.8	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	.5005	.113	.63	mg/L	103.3	70	130	0.37	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	49.95		51.2	mg/L	102.5	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-1.5	1.5			
WG366969													
WG366969LFB1	LFB	07/02/14 19:56	WI140610-6	30		31.5	mg/L	105	90	110			
L19044-01DUP	DUP	07/02/14 21:43			33.1	33.4	mg/L				0.9	20	
L19044-02AS	AS	07/02/14 22:19	WI140610-6	30	30.5	60.9	mg/L	101.3	90	110			
WG366969LFB2	LFB	07/03/14 12:32	WI140610-6	30		30.4	mg/L	101.3	90	110			

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.05343	mg/L	106.9	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0003	0.0003			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.0502		.05194	mg/L	103.5	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.0502	U	.05345	mg/L	106.5	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.0502	U	.05356	mg/L	106.7	70	130	0.21	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.05487	mg/L	109.7	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0003	0.0003			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00022	0.00022			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.0502		.05029	mg/L	100.2	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.0502	U	.05001	mg/L	99.6	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.0502	U	.05043	mg/L	100.5	70	130	0.84	20	

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.0501		.0521	mg/L	104	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0003	0.0003			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.05005		.05181	mg/L	103.5	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.05005	U	.04884	mg/L	97.6	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.05005	U	.05031	mg/L	100.5	70	130	2.97	20	

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.0501		.04795	mg/L	95.7	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0003	0.0003			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00022	0.00022			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.05005		.04852	mg/L	96.9	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.05005	U	.04758	mg/L	95.1	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.05005	U	.04696	mg/L	93.8	70	130	1.31	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	2		2.0295	mg/L	101.5	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.015	0.015			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	1		1.037	mg/L	103.7	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	1		.9919	mg/L	99.2	85	115			
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	1		.9878	mg/L	98.8	85	115	0.41	20	

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	2		1.9998	mg/L	100	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.015	0.015			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.011	0.011			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	1		1.036	mg/L	103.6	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	1	.061	1.096	mg/L	103.5	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	1	.061	1.103	mg/L	104.2	70	130	0.64	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.05106	mg/L	102.1	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0003	0.0003			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.05005		.05058	mg/L	101.1	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.05005	.0106	.06306	mg/L	104.8	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.05005	.0106	.06252	mg/L	103.7	70	130	0.86	20	

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.05218	mg/L	104.4	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0003	0.0003			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00022	0.00022			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.05005		.0487	mg/L	97.3	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.05005	.0017	.0523	mg/L	101.1	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.05005	.0017	.0527	mg/L	101.9	70	130	0.76	20	

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366719													
WG366719ICV	ICV	06/28/14 3:54	MS140513-1	.05		.05013	mg/L	100.3	90	110			
WG366719ICB	ICB	06/28/14 3:57				U	mg/L		-0.0006	0.0006			
WG366719LFB	LFB	06/28/14 4:00	MS140625-3	.05005		.05248	mg/L	104.9	85	115			
L18903-03AS	AS	06/28/14 4:14	MS140625-3	.05005	.003	.05411	mg/L	102.1	70	130			
L18903-03ASD	ASD	06/28/14 4:17	MS140625-3	.05005	.003	.05367	mg/L	101.2	70	130	0.82	20	

SPF Water Engineering

ACZ Project ID: ***L19044***

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366706													
WG366706ICV	ICV	06/27/14 21:57	MS140513-1	.05		.04852	mg/L	97	90	110			
WG366706ICB	ICB	06/27/14 22:01				U	mg/L		-0.0006	0.0006			
WG366618LRB	LRB	06/27/14 22:04				U	mg/L		-0.00044	0.00044			
WG366618LFB	LFB	06/27/14 22:07	MS140625-3	.05005		.04905	mg/L	98	85	115			
L19044-02LFM	LFM	06/27/14 23:28	MS140625-3	.05005	.0055	.05463	mg/L	98.2	70	130			
L19044-02LFMD	LFMD	06/27/14 23:32	MS140625-3	.05005	.0055	.05435	mg/L	97.6	70	130	0.51	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366492													
WG366492ICV	ICV	06/25/14 21:10	II140512-2	2		2.006	mg/L	100.3	95	105			
WG366492ICB	ICB	06/25/14 21:16				U	mg/L		-0.03	0.03			
WG366492LFB	LFB	06/25/14 21:29	II140611-2	.5005		.529	mg/L	105.7	85	115			
L19036-05AS	AS	06/25/14 22:20	II140611-2	.5005	.27	.775	mg/L	100.9	85	115			
L19036-05ASD	ASD	06/25/14 22:24	II140611-2	.5005	.27	.777	mg/L	101.3	85	115	0.26	20	

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366836													
WG366836ICV	ICV	07/01/14 12:03	II140624-2	2		1.933	mg/L	96.7	95	105			
WG366836ICB	ICB	07/01/14 12:09				U	mg/L		-0.03	0.03			
WG366774LRB	LRB	07/01/14 12:22				U	mg/L		-0.022	0.022			
WG366774LFB	LFB	07/01/14 12:25	II140611-2	.5005		.523	mg/L	104.5	85	115			
L19044-01LFM	LFM	07/01/14 12:35	II140611-2	.5005	U	.529	mg/L	105.7	70	130			
L19044-01LFMD	LFMD	07/01/14 12:38	II140611-2	.5005	U	.534	mg/L	106.7	70	130	0.94	20	

SPF Water Engineering ACZ Project ID: ***L19044***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L19044-01	WG366836	Aluminum, total	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG366492	Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Sodium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG366755	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366995	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366802	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366755	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366998	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366944	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366894	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366584	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L19044***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L19044-02	WG366836	Aluminum, total	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG366492	Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Sodium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG366755	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366995	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366909	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366755	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366998	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366944	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366894	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366584	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Quarter 2014 Sampling

ACZ Project ID: L19044
Date Received: 06/24/2014 09:38
Received By: mtb
Date Printed: 6/24/2014

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
NA19884	1.8	15	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

L19044

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name:	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SPF-2014-GW

PO#: Calico 2nd Quarter 2014 Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	*SPF-2014-GW
Leslie Gulch	6/19/14 12:30	SW	8	X
Owyhee River DS	6/19/14 15:45	SW	8	X

Matrix: (SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	6/23/14 9:00	MPC	6/24/14 0930

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L19044 Chain of Custody

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Bottle Order Packing List

Account: SPFWATER/SPF Water Engineering
Bottle Order: BO31482

Bill to Account: Bill to ACZ
Ship Date Requested: 05/07/2014
Request Placed at: 05/05/2014 10:29
Service Requested: UPS SecondDay

Sampling supplies

PACK	Qty	ACZ ID	Type	Description
	4	COC	Chain of Custody	Chain of Custody, 1 for 10 samples.
	2	SEAL	Custody Seal	Custody seals for cooler, two for each cooler.
	1	RETURN	Return Address	Return Address label, one for each cooler.
	272	LABELS	Sample Labels	ACZ supplied labels for sample containers
	4	TRIP CN		
	4	TRIP HG		

ACZ Coolers

PACK	Qty	ACZ ID	Size	Weight	UPS Tracking Number
	1	box	Small	55	1Z8101300275007472

Quote number: SPF-2014-GW
Sample Quantity: 33

Quarterly Analysis of Groundwater and Springs

Client is responsible for necessary field filtering

PACK	Qty	Type	Size	Filter/Raw/Preserve	Instructions
	1	GREEN PC	250 ML	Green pre-cleaned Filtered/Nitiric	Metals (dissolved including ICPMS) - Filter sample with .45 micron filter. Do not overfill as there is Nitric Acid in the bottle.
	1	HG-1631	250 ML	Mercury 1631	Mercury by 1631 - See method specific sampling instructions.
	1	HG-1631 D	250 ML	Mercury 1631 Dissolved	Mercury (dissolved) by 1631 - See method specific sampling instructions.
	1	PURPLE	500 ML	Raw/NaOH	Cyanide - Do not overfill as there is Sodium Hydroxide in the bottle.
	1	RAW	500 ML	Raw	Wet Chemistry (analyses that do not require preservative or filtration) - Completely fill container.
	1	RED PC	250 ML	Red pre-cleaned Raw/Nitric	Metals (total including ICPMS) - Do not overfill as there is Nitric Acid in the bottle.
	1	WHITE	250 ML	Filtered	Wet chemistry (dissolved) - Filter sample with .45 micron filter. Completely fill container.
	1	YELLOW	250 ML	Raw/Sulfuric	For total wet chemistry analyses. Do not overfill as there is Sulfuric Acid in the bottle.

Prepared By/Date: _____

mjj

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 11, 2014

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 2nd Quarter 2
ACZ Project ID: L19105

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 26, 2014. This project has been assigned to ACZ's project number, L19105. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L19105. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 10, 2014. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Max Janicek has reviewed and approved this report.

SPF Water Engineering

July 11, 2014

Project ID: Calico 2nd Quarter 2
ACZ Project ID: L19105

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 4 miscellaneous samples from SPF Water Engineering on June 26, 2014. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L19105. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

Any analyses not performed within EPA recommended holding times have been qualified with an "H" flag.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

Some of the dissolved Cobalt values exceed the corresponding total values for project L19105. In some cases, RPDs between dissolved and total values exceed the standard acceptance limit of 20%. Samples were re-analyzed for verification, and results for both parameters were confirmed. This is a consistent anomaly with these sample types, and discrepancies may be attributed to a matrix or field sampling issue.

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L19105-02***
Date Sampled: *06/23/14 15:20*
Date Received: *06/26/14*
Sample Matrix: *Surface Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/02/14 16:49	mpb
Cyanide, WAD	SM4500-CN I- distillation								07/03/14 11:38	mss2
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/07/14 10:04	tcd
Total Hot Plate Digestion	M200.2 ICP								07/02/14 10:54	jjc
Total Hot Plate Digestion	M200.2 ICP-MS								07/02/14 9:42	las

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L19105-02***
Date Sampled: *06/23/14 15:20*
Date Received: *06/26/14*
Sample Matrix: *Surface Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.17	B		mg/L	0.03	0.2	06/30/14 22:13	jjc
Aluminum, total	M200.7 ICP	1	1.73			mg/L	0.03	0.2	07/03/14 14:19	jjc
Antimony, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0004	0.002	06/30/14 23:19	pmc
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/09/14 18:05	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0063			mg/L	0.0002	0.001	06/30/14 23:19	pmc
Arsenic, total	M200.8 ICP-MS	1	0.0064			mg/L	0.0002	0.001	07/09/14 18:05	pmc
Barium, dissolved	M200.7 ICP	1	0.014	B		mg/L	0.003	0.02	06/30/14 22:13	jjc
Barium, total	M200.7 ICP	1	0.021			mg/L	0.003	0.02	07/03/14 14:19	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/30/14 23:19	pmc
Beryllium, total	M200.8 ICP-MS	1	0.00007	B		mg/L	0.00005	0.0003	07/09/14 18:05	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/30/14 22:13	jjc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/03/14 14:19	jjc
Boron, dissolved	M200.7 ICP	1	0.11			mg/L	0.01	0.05	06/30/14 22:13	jjc
Boron, total	M200.7 ICP	1	0.09			mg/L	0.01	0.05	07/03/14 14:19	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/30/14 23:19	pmc
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:05	pmc
Calcium, dissolved	M200.7 ICP	1	20.1			mg/L	0.1	0.5	06/30/14 22:13	jjc
Calcium, total	M200.7 ICP	1	20.7			mg/L	0.1	0.5	07/03/14 14:19	jjc
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	06/30/14 23:19	pmc
Chromium, total	M200.8 ICP-MS	1	0.0014	B		mg/L	0.0005	0.002	07/09/14 18:05	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00113			mg/L	0.00005	0.0003	06/30/14 23:19	pmc
Cobalt, total	M200.8 ICP-MS	1	0.00048			mg/L	0.00005	0.0003	07/09/14 18:05	pmc
Copper, dissolved	M200.8 ICP-MS	1	0.0008	B		mg/L	0.0005	0.003	06/30/14 23:19	pmc
Copper, total	M200.8 ICP-MS	1	0.0020	B		mg/L	0.0005	0.003	07/10/14 19:14	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/30/14 22:13	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/14 14:19	jjc
Iron, dissolved	M200.7 ICP	1	0.17			mg/L	0.02	0.05	06/30/14 22:13	jjc
Iron, total	M200.7 ICP	1	1.45			mg/L	0.02	0.05	07/03/14 14:19	jjc
Lead, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	06/30/14 23:19	pmc
Lead, total	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	07/09/14 18:05	pmc
Lithium, dissolved	M200.7 ICP	1	0.016	B		mg/L	0.008	0.04	06/30/14 22:13	jjc
Lithium, total	M200.7 ICP	1	0.018	B		mg/L	0.008	0.04	07/03/14 14:19	jjc
Magnesium, dissolved	M200.7 ICP	1	5.3			mg/L	0.2	1	06/30/14 22:13	jjc
Magnesium, total	M200.7 ICP	1	5.8			mg/L	0.2	1	07/03/14 14:19	jjc
Manganese, dissolved	M200.8 ICP-MS	1	0.0093			mg/L	0.0005	0.003	06/30/14 23:19	pmc
Manganese, total	M200.8 ICP-MS	1	0.0308			mg/L	0.0005	0.003	07/09/14 18:05	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	1	2.4			ng/L	0.2	0.5	07/01/14 14:03	las
Mercury, total	M1631, Atomic Fluorescence	2	5.1			ng/L	0.4	1	07/01/14 10:45	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0045			mg/L	0.0005	0.003	06/30/14 23:19	pmc
Molybdenum, total	M200.8 ICP-MS	1	0.0043			mg/L	0.0005	0.003	07/09/14 18:05	pmc
Nickel, dissolved	M200.8 ICP-MS	1	0.0009	B		mg/L	0.0006	0.003	06/30/14 23:19	pmc
Nickel, total	M200.8 ICP-MS	1	0.0016	B		mg/L	0.0006	0.003	07/09/14 18:05	pmc
Potassium, dissolved	M200.7 ICP	1	3.7			mg/L	0.2	1	06/30/14 22:13	jjc

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L19105-02***
Date Sampled: *06/23/14 15:20*
Date Received: *06/26/14*
Sample Matrix: *Surface Water*

Potassium, total	M200.7 ICP	1	3.8			mg/L	0.2	1	07/03/14 14:19	jjc
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/30/14 22:13	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/14 14:19	jjc
Selenium, dissolved	M200.8 ICP-MS	1	0.0004			mg/L	0.0001	0.0003	06/30/14 23:19	pmc
Selenium, total	M200.8 ICP-MS	1	0.0004			mg/L	0.0001	0.0003	07/09/14 18:05	pmc
Silver, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	06/30/14 23:19	pmc
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/09/14 18:05	pmc
Sodium, dissolved	M200.7 ICP	1	31.4			mg/L	0.2	1	06/30/14 22:13	jjc
Sodium, total	M200.7 ICP	1	31.8			mg/L	0.2	1	07/03/14 14:19	jjc
Strontium, dissolved	M200.7 ICP	1	0.093			mg/L	0.005	0.03	06/30/14 22:13	jjc
Strontium, total	M200.7 ICP	1	0.095			mg/L	0.005	0.03	07/03/14 14:19	jjc
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/30/14 23:19	pmc
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:05	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	06/30/14 23:19	pmc
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/09/14 18:05	pmc
Titanium, dissolved	M200.7 ICP	1	0.007	B		mg/L	0.005	0.03	06/30/14 22:13	jjc
Titanium, total	M200.7 ICP	1	0.084			mg/L	0.005	0.03	07/03/14 14:19	jjc
Uranium, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0005	06/30/14 23:19	pmc
Uranium, total	M200.8 ICP-MS	1	0.0015			mg/L	0.0001	0.0005	07/09/14 18:05	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0067			mg/L	0.0002	0.001	06/30/14 23:19	pmc
Vanadium, total	M200.8 ICP-MS	1	0.0087			mg/L	0.0002	0.001	07/09/14 18:05	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/30/14 22:13	jjc
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/14 14:19	jjc

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L19105-02***
Date Sampled: *06/23/14 15:20*
Date Received: *06/26/14*
Sample Matrix: *Surface Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	89			mg/L	2	20	07/02/14 0:00	abd
Carbonate as CaCO3		1	4	B		mg/L	2	20	07/02/14 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	07/02/14 0:00	abd
Total Alkalinity		1	92		*	mg/L	2	20	07/02/14 0:00	abd
Chloride	M300.0 - Ion Chromatography	1	9.40		*	mg/L	0.5	2.5	07/07/14 22:04	jlf
Conductivity @25C	SM2510B	1	287		*	umhos/cm	1	10	07/02/14 2:41	abd
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/02/14 23:11	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/04/14 1:11	pjb
Fluoride	M300.0 - Ion Chromatography	1	1.42		*	mg/L	0.05	0.25	07/07/14 22:04	jlf
Hardness as CaCO3	SM2340B - Calculation		72			mg/L	0.8	4	07/11/14 11:50	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U		mg/L	0.02	0.1	07/05/14 15:15	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.2	07/02/14 15:57	bsu
pH (lab)	SM4500H+ B									
pH		1	8.5	H		units	0.1	0.1	07/02/14 0:00	abd
pH measured at		1	22			C	0.1	0.1	07/02/14 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.03	B	*	mg/L	0.01	0.05	07/09/14 0:17	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	180			mg/L	10	20	06/30/14 11:24	nml
Residue, Non-Filterable (TSS) @105C	SM2540D	1	9	B	*	mg/L	5	20	06/30/14 15:17	eaa
Sulfate	M300.0 - Ion Chromatography	1	29.4			mg/L	0.5	2.5	07/07/14 22:04	jlf

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ACZ Sample ID: ***L19105-04***
Date Sampled: *06/24/14 13:40*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/02/14 17:14	mpb
Cyanide, WAD	SM4500-CN I- distillation								07/01/14 18:09	mpb
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/07/14 10:04	tcd
Total Hot Plate Digestion	M200.2 ICP-MS								07/02/14 10:25	las
Total Hot Plate Digestion	M200.2 ICP								07/01/14 20:25	aeb

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ACZ Sample ID: ***L19105-04***
Date Sampled: *06/24/14 13:40*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	06/30/14 22:19	jjc
Aluminum, total	M200.7 ICP	1		U		mg/L	0.03	0.2	07/03/14 12:43	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	06/30/14 23:26	pmc
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/09/14 18:18	pmc
Arsenic, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	06/30/14 23:26	pmc
Arsenic, total	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	07/09/14 18:18	pmc
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	06/30/14 22:19	jjc
Barium, total	M200.7 ICP	1		U		mg/L	0.003	0.02	07/03/14 12:43	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/30/14 23:26	pmc
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/09/14 18:18	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/30/14 22:19	jjc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/03/14 12:43	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/30/14 22:19	jjc
Boron, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/14 12:43	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/30/14 23:26	pmc
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:18	pmc
Calcium, dissolved	M200.7 ICP	1		U		mg/L	0.1	0.5	06/30/14 22:19	jjc
Calcium, total	M200.7 ICP	1		U		mg/L	0.1	0.5	07/03/14 12:43	aeb
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	06/30/14 23:26	pmc
Chromium, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/09/14 18:18	pmc
Cobalt, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/30/14 23:26	pmc
Cobalt, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/09/14 18:18	pmc
Copper, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	06/30/14 23:26	pmc
Copper, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/10/14 19:24	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/30/14 22:19	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/14 12:43	aeb
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	06/30/14 22:19	jjc
Iron, total	M200.7 ICP	1		U	*	mg/L	0.02	0.05	07/03/14 12:43	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/30/14 23:26	pmc
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:18	pmc
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/30/14 22:19	jjc
Lithium, total	M200.7 ICP	1		U		mg/L	0.008	0.04	07/03/14 12:43	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/30/14 22:19	jjc
Magnesium, total	M200.7 ICP	1		U		mg/L	0.2	1	07/03/14 12:43	aeb
Manganese, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	06/30/14 23:26	pmc
Manganese, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/09/14 18:18	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	1	0.2	B		ng/L	0.2	0.5	07/01/14 14:13	las
Mercury, total	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	07/01/14 10:55	las
Molybdenum, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	06/30/14 23:26	pmc
Molybdenum, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/09/14 18:18	pmc
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	06/30/14 23:26	pmc
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/09/14 18:18	pmc
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/30/14 22:19	jjc

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Sample ID: EQUIPMENT BLANK

ACZ Sample ID: ***L19105-04***
Date Sampled: *06/24/14 13:40*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1		U		mg/L	0.2	1	07/03/14 12:43	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/30/14 22:19	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/14 12:43	aeb
Selenium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	06/30/14 23:26	pmc
Selenium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	07/09/14 18:18	pmc
Silver, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	06/30/14 23:26	pmc
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/09/14 18:18	pmc
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/30/14 22:19	jjc
Sodium, total	M200.7 ICP	1		U		mg/L	0.2	1	07/03/14 12:43	aeb
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/30/14 22:19	jjc
Strontium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	07/03/14 12:43	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/30/14 23:26	pmc
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:18	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	06/30/14 23:26	pmc
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/09/14 18:18	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/30/14 22:19	jjc
Titanium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	07/03/14 12:43	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/30/14 23:26	pmc
Uranium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:18	pmc
Vanadium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	06/30/14 23:26	pmc
Vanadium, total	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0002	0.001	07/09/14 18:18	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/30/14 22:19	jjc
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/14 12:43	aeb

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Sample ID: EQUIPMENT BLANK

ACZ Sample ID: ***L19105-04***
Date Sampled: *06/24/14 13:40*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	07/02/14 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	07/02/14 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	07/02/14 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	07/02/14 0:00	abd
Chloride	M300.0 - Ion Chromatography	1		U	*	mg/L	0.5	2.5	07/07/14 22:40	jlf
Conductivity @25C	SM2510B	1	1	B	*	umhos/cm	1	10	07/02/14 2:57	abd
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/02/14 23:13	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U		mg/L	0.003	0.01	07/02/14 23:51	pjb
Fluoride	M300.0 - Ion Chromatography	1		U	*	mg/L	0.05	0.25	07/07/14 22:40	jlf
Hardness as CaCO3	SM2340B - Calculation			U		mg/L	0.8	4	07/11/14 11:51	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U		mg/L	0.02	0.1	07/05/14 15:41	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.2	07/02/14 15:59	bsu
pH (lab)	SM4500H+ B									
pH		1	6.2	H		units	0.1	0.1	07/02/14 0:00	abd
pH measured at		1	22			C	0.1	0.1	07/02/14 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.01	0.05	07/09/14 0:19	pjb
Residue, Filterable (TDS) @180C	SM2540C	1		U		mg/L	10	20	06/27/14 10:56	eaa
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	07/01/14 9:01	nml
Sulfate	M300.0 - Ion Chromatography	1		U	*	mg/L	0.5	2.5	07/07/14 22:40	jlf

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4)	EPA SW-846. Test Methods for Evaluating Solid Waste.
(5)	Standard Methods for the Examination of Water and Wastewater.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5)	If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L19105***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366884													
WG366884PBW1	PBW	07/01/14 19:03				U	mg/L		-20	20			
WG366884LCSW3	LCSW	07/01/14 19:22	WC140630-	820.0001		841.6	mg/L	102.6	90	110			
WG366884LCSW6	LCSW	07/01/14 23:36	WC140630-	820.0001		826.8	mg/L	100.8	90	110			
WG366884PBW2	PBW	07/01/14 23:44				U	mg/L		-20	20			
L19101-01DUP	DUP	07/02/14 1:50			U	U	mg/L				0	20	RA
WG366884LCSW9	LCSW	07/02/14 3:26	WC140630-	820.0001		830.4	mg/L	101.3	90	110			
WG366884PBW3	PBW	07/02/14 3:35				U	mg/L		-20	20			
WG366884LCSW12	LCSW	07/02/14 7:22	WC140630-	820.0001		830.4	mg/L	101.3	90	110			
WG366884PBW4	PBW	07/02/14 7:31				2.1	mg/L		-20	20			
WG366884LCSW15	LCSW	07/02/14 11:01	WC140630-	820.0001		831.9	mg/L	101.5	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.006	mg/L	100.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.09	0.09			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.0011		1.101	mg/L	110	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	1.0011	U	1.148	mg/L	114.7	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	1.0011	U	1.141	mg/L	114	85	115	0.61	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.0011	U	1.091	mg/L	109	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.0011	U	1.093	mg/L	109.2	85	115	0.18	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	2		1.989	mg/L	99.5	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.09	0.09			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.066	0.066			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	1.0011		1.123	mg/L	112.2	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	1.0011	.03	1.136	mg/L	110.5	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	1.0011	.03	1.134	mg/L	110.3	70	130	0.18	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.995	mg/L	99.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.09	0.09			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.066	0.066			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.0011		1.09	mg/L	108.9	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1.0011	U	1.099	mg/L	109.8	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1.0011	U	1.084	mg/L	108.3	70	130	1.37	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.02002		.02046	mg/L	102.2	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0012	0.0012			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.01		.01018	mg/L	101.8	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.01	U	.00975	mg/L	97.5	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.01	U	.01004	mg/L	100.4	70	130	2.93	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.02002		.02018	mg/L	100.8	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0012	0.0012			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00088	0.00088			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.01		.01083	mg/L	108.3	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.01	.0004	.01131	mg/L	109.1	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.01	.0004	.01124	mg/L	108.4	70	130	0.62	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.05406	mg/L	108.1	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0006	0.0006			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.0501		.04938	mg/L	98.6	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.0501	.0348	.08717	mg/L	104.5	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.0501	.0348	.08687	mg/L	103.9	70	130	0.34	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05318	mg/L	106.4	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0006	0.0006			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00044	0.00044			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.0501		.05519	mg/L	110.2	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.0501	.0268	.07832	mg/L	102.8	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.0501	.0268	.07833	mg/L	102.9	70	130	0.01	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.9683	mg/L	98.4	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.009	0.009			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5		.5041	mg/L	100.8	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	.5	.059	.5626	mg/L	100.7	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	.5	.059	.5682	mg/L	101.8	85	115	0.99	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5	.005	.5081	mg/L	100.6	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5	.005	.5103	mg/L	101.1	85	115	0.43	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	2		1.9735	mg/L	98.7	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.009	0.009			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.0066	0.0066			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	.5		.5089	mg/L	101.8	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	.5	.313	.8203	mg/L	101.5	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	.5	.313	.8187	mg/L	101.1	70	130	0.2	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.976	mg/L	98.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.009	0.009			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.0066	0.0066			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5		.5114	mg/L	102.3	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	.5	U	.5147	mg/L	102.9	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	.5	U	.511	mg/L	102.2	70	130	0.72	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.04797	mg/L	95.9	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.00015	0.00015			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.05005		.04803	mg/L	96	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.05005	U	.05188	mg/L	103.7	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.05005	U	.05319	mg/L	106.3	70	130	2.49	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05115	mg/L	102.3	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.00015	0.00015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00011	0.00011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.05167	mg/L	103.2	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	U	.05111	mg/L	102.1	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	U	.05162	mg/L	103.1	70	130	0.99	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.007	mg/L	100.4	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.12	0.12			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.999		1.044	mg/L	104.5	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	.999	U	1.045	mg/L	104.6	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	.999	U	1.027	mg/L	102.8	85	115	1.74	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	.999	U	1.023	mg/L	102.4	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.999	U	1.019	mg/L	102	85	115	0.39	20	

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ACZ Project ID: ***L19105***

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	2		2.02	mg/L	101	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.12	0.12			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.088	0.088			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	.999		1.039	mg/L	104	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	.999	U	1.036	mg/L	103.7	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	.999	U	1.039	mg/L	104	70	130	0.29	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.003	mg/L	100.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.12	0.12			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.088	0.088			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.999		1.034	mg/L	103.5	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	.999	U	1.072	mg/L	107.3	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	.999	U	1.029	mg/L	103	70	130	4.09	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.015	mg/L	100.8	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.03	0.03			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5005		.525	mg/L	104.9	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	.5005	.14	.657	mg/L	103.3	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	.5005	.14	.652	mg/L	102.3	85	115	0.76	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5005	.11	.625	mg/L	102.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5005	.11	.625	mg/L	102.9	85	115	0	20	

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	2		2.04	mg/L	102	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.03	0.03			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.022	0.022			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	.5005		.52	mg/L	103.9	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	.5005	U	.508	mg/L	101.5	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	.5005	U	.511	mg/L	102.1	70	130	0.59	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.004	mg/L	100.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.03	0.03			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.022	0.022			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5005		.506	mg/L	101.1	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	.5005	.11	.617	mg/L	101.3	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	.5005	.11	.616	mg/L	101.1	70	130	0.16	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.04941	mg/L	98.8	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0003	0.0003			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.0501		.04851	mg/L	96.8	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.0501	U	.04976	mg/L	99.3	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.0501	U	.0507	mg/L	101.2	70	130	1.87	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.04962	mg/L	99.2	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.0501		.04942	mg/L	98.6	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.0501	U	.04846	mg/L	96.7	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.0501	U	.04787	mg/L	95.5	70	130	1.22	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	100		99.28	mg/L	99.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.3	0.3			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	67.98099		73.58	mg/L	108.2	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	67.98099	230	292.8	mg/L	92.4	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	67.98099	230	293.3	mg/L	93.1	85	115	0.17	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	67.98099	26.8	99.64	mg/L	107.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	67.98099	26.8	99.62	mg/L	107.1	85	115	0.02	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	100		100.45	mg/L	100.5	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.3	0.3			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.22	0.22			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	67.98099		76.54	mg/L	112.6	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	67.98099	14	89.4	mg/L	110.9	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	67.98099	14	89.27	mg/L	110.7	70	130	0.15	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	100		99.24	mg/L	99.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.3	0.3			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.22	0.22			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	67.98099		74.57	mg/L	109.7	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	67.98099	1.1	76.22	mg/L	110.5	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	67.98099	1.1	75.38	mg/L	109.3	70	130	1.11	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	19.98		20.3	mg/L	101.6	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-1.5	1.5			
WG367124													
WG367124LFB1	LFB	07/07/14 18:11	WI140610-6	30		31.1	mg/L	103.7	90	110			
L19103-01DUP	DUP	07/07/14 19:59			2.36	2.34	mg/L				0.9	20	RA
L19103-02AS	AS	07/07/14 20:34	WI140610-6	30	3.19	33	mg/L	99.4	90	110			
L19105-04DUP	DUP	07/07/14 22:58			U	U	mg/L				0	20	RA
L19106-01AS	AS	07/07/14 23:34	WI140610-6	30	10.5	41.5	mg/L	103.3	90	110			
WG367124LFB2	LFB	07/08/14 2:51	WI140610-6	30		31.2	mg/L	104	90	110			

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.05148	mg/L	103	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0015	0.0015			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.05005		.05036	mg/L	100.6	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.05005	U	.04852	mg/L	96.9	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.05005	U	.04782	mg/L	95.5	70	130	1.45	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05067	mg/L	101.3	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0015	0.0015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.0011	0.0011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.04994	mg/L	99.8	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	U	.04846	mg/L	96.8	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	U	.04908	mg/L	98.1	70	130	1.27	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.04961	mg/L	99.2	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.00015	0.00015			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.05005		.05104	mg/L	102	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.05005	.0001	.05119	mg/L	102.1	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.05005	.0001	.05189	mg/L	103.5	70	130	1.36	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.04989	mg/L	99.8	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.00015	0.00015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00011	0.00011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.05064	mg/L	101.2	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	.00008	.04872	mg/L	97.2	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	.00008	.04874	mg/L	97.2	70	130	0.04	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366884													
WG366884LCSW2	LCSW	07/01/14 19:09	PCN44568	1408.8		1433.3	umhos/cm	101.7	90	110			
WG366884LCSW5	LCSW	07/01/14 23:21	PCN44568	1408.8		1422.1	umhos/cm	100.9	90	110			
L19101-01DUP	DUP	07/02/14 1:50			1	1.1	umhos/cm				9.5	20	RA
WG366884LCSW8	LCSW	07/02/14 3:12	PCN44568	1408.8		1403.9	umhos/cm	99.7	90	110			
WG366884LCSW11	LCSW	07/02/14 7:08	PCN44568	1408.8		1391.7	umhos/cm	98.8	90	110			
WG366884LCSW14	LCSW	07/02/14 10:46	PCN44568	1408.8		1372.4	umhos/cm	97.4	90	110			

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.05008	mg/L	100.2	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0015	0.0015			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.05		.04763	mg/L	95.3	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.05	U	.04374	mg/L	87.5	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.05	U	.04296	mg/L	85.9	70	130	1.8	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367311													
WG367311ICV	ICV	07/10/14 19:01	MS140513-1	.05		.04899	mg/L	98	90	110			
WG367311ICB	ICB	07/10/14 19:04				U	mg/L		-0.0015	0.0015			
WG366912LRB	LRB	07/10/14 19:06				U	mg/L		-0.0011	0.0011			
WG366912LFB	LFB	07/10/14 19:09	MS140625-3	.05		.04703	mg/L	94.1	85	115			
L19105-03LFM	LFM	07/10/14 19:19	MS140625-3	.05	U	.04547	mg/L	90.9	70	130			
L19105-03LFMD	LFMD	07/10/14 19:21	MS140625-3	.05	U	.045	mg/L	90	70	130	1.04	20	
WG367077LRB	LRB	07/10/14 19:46				.00068	mg/L		-0.0011	0.0011			
WG367077LFB	LFB	07/10/14 19:49	MS140625-3	.05		.04713	mg/L	94.3	85	115			

SPF Water Engineering

ACZ Project ID: ***L19105***

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366995													
WG366995ICV	ICV	07/02/14 22:20	WI140702-5	.3		.289	mg/L	96.3	90	110			
WG366995ICB	ICB	07/02/14 22:21				U	mg/L		-0.003	0.003			
WG366997													
WG366967LRB	LRB	07/02/14 22:57				U	mg/L		-0.003	0.003			
WG366967LFB	LFB	07/02/14 22:58	WI140702-2	.2		.2005	mg/L	100.3	90	110			
L19067-01DUP	DUP	07/02/14 23:00			U	U	mg/L				0	20	RA
L19067-02LFM	LFM	07/02/14 23:02	WI140702-2	.2	U	.2033	mg/L	101.7	90	110			
L19105-03DUP	DUP	07/02/14 23:12			U	U	mg/L				0	20	RA
L19105-04LFM	LFM	07/02/14 23:14	WI140702-2	.2	U	.2016	mg/L	100.8	90	110			

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366995													
WG366995ICV	ICV	07/02/14 22:20	WI140702-5	.3		.289	mg/L	96.3	90	110			
WG366995ICB	ICB	07/02/14 22:21				U	mg/L		-0.003	0.003			
WG366909													
WG366886LRB	LRB	07/02/14 23:33				U	mg/L		-0.003	0.003			
WG366886LFB	LFB	07/02/14 23:34	WI140617-1	.2		.2024	mg/L	101.2	90	110			
L19094-01DUP	DUP	07/02/14 23:48			.03	.0293	mg/L				2.4	20	
L19105-03LFM	LFM	07/02/14 23:50	WI140617-1	.2	U	.2031	mg/L	101.6	90	110			
WG367056													
WG367056ICV	ICV	07/04/14 0:14	WI140702-5	.3		.2924	mg/L	97.5	90	110			
WG367056ICB	ICB	07/04/14 0:15				U	mg/L		-0.003	0.003			
WG367057													
WG367029LRB	LRB	07/04/14 1:07				U	mg/L		-0.003	0.003			
WG367029LFB	LFB	07/04/14 1:08	WI140702-4	.2		.18	mg/L	90	90	110			
L19105-01LFM	LFM	07/04/14 1:10	WI140702-4	.2	U	.1625	mg/L	81.3	90	110			M2
L19105-02DUP	DUP	07/04/14 1:11			U	U	mg/L				0	20	RA

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	4.02		4.17	mg/L	103.7	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-0.3	0.3			
WG367124													
WG367124LFB1	LFB	07/07/14 18:11	WI140610-6	1.5		1.54	mg/L	102.7	90	110			
L19103-01DUP	DUP	07/07/14 19:59			.46	.46	mg/L				0	20	RA
L19103-02AS	AS	07/07/14 20:34	WI140610-6	1.5	.57	2.1	mg/L	102	90	110			
L19105-04DUP	DUP	07/07/14 22:58			U	U	mg/L				0	20	RA
L19106-01AS	AS	07/07/14 23:34	WI140610-6	1.5	.62	2.18	mg/L	104	90	110			
WG367124LFB2	LFB	07/08/14 2:51	WI140610-6	1.5		1.55	mg/L	103.3	90	110			

SPF Water Engineering

ACZ Project ID: ***L19105***

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.06	mg/L	103	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.3	0.3			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.001		1.05	mg/L	104.9	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	1.001	U	1.07	mg/L	106.9	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	1.001	U	1.1	mg/L	109.9	85	115	2.76	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.001	U	1.05	mg/L	104.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.001	U	1.04	mg/L	103.9	85	115	0.96	20	

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	2		2	mg/L	100	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.3	0.3			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.22	0.22			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	1.001		1.11	mg/L	110.9	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	1.001	U	1.08	mg/L	107.9	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	1.001	U	1.06	mg/L	105.9	70	130	1.87	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.03	mg/L	101.5	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.3	0.3			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.22	0.22			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.001		1.04	mg/L	103.9	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1.001	U	1.05	mg/L	104.9	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1.001	U	1.01	mg/L	100.9	70	130	3.88	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.966	mg/L	98.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.06	0.06			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.0014		1.029	mg/L	102.8	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	1.0014	U	1.024	mg/L	102.3	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	1.0014	U	1.029	mg/L	102.8	85	115	0.49	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.0014	U	1.021	mg/L	102	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.0014	U	1.024	mg/L	102.3	85	115	0.29	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	2		1.975	mg/L	98.8	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.06	0.06			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.044	0.044			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	1.0014		1.053	mg/L	105.2	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	1.0014	42.1	42.06	mg/L	-4	70	130			M3
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	1.0014	42.1	41.7	mg/L	-39.9	70	130	0.86	20	M3
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.965	mg/L	98.3	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.06	0.06			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.044	0.044			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.0014		1.046	mg/L	104.5	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1.0014	U	1.045	mg/L	104.4	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1.0014	U	1.036	mg/L	103.5	70	130	0.86	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.05113	mg/L	102.3	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0003	0.0003			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.05005		.04989	mg/L	99.7	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.05005	U	.05084	mg/L	101.6	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.05005	U	.05128	mg/L	102.5	70	130	0.86	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05152	mg/L	103	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.04887	mg/L	97.6	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	U	.04932	mg/L	98.5	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	U	.04962	mg/L	99.1	70	130	0.61	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.9912	mg/L	99.6	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.024	0.024			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.002		1.005	mg/L	100.3	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	1.002	.058	1.079	mg/L	101.9	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	1.002	.058	1.086	mg/L	102.6	85	115	0.65	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.002	.013	.999	mg/L	98.4	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.002	.013	1.009	mg/L	99.4	85	115	1	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	2		1.9822	mg/L	99.1	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.024	0.024			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.0176	0.0176			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	1.002		1.035	mg/L	103.3	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	1.002	.019	1.048	mg/L	102.7	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	1.002	.019	1.046	mg/L	102.5	70	130	0.19	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.9815	mg/L	99.1	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.024	0.024			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.0176	0.0176			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.002		1.01	mg/L	100.8	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1.002	U	1.016	mg/L	101.4	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1.002	U	1.013	mg/L	101.1	70	130	0.3	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	100		96.44	mg/L	96.4	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.6	0.6			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	50.00131		50.21	mg/L	100.4	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	50.00131	155	201.2	mg/L	92.4	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	50.00131	155	200.8	mg/L	91.6	85	115	0.2	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	50.00131	15	64.79	mg/L	99.6	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	50.00131	15	64.82	mg/L	99.6	85	115	0.05	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	100		97.52	mg/L	97.5	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.6	0.6			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.44	0.44			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	50.00131		52.62	mg/L	105.2	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	50.00131	3.8	55.59	mg/L	103.6	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	50.00131	3.8	55.5	mg/L	103.4	70	130	0.16	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	100		96.61	mg/L	96.6	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.6	0.6			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.44	0.44			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	50.00131		51.21	mg/L	102.4	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	50.00131	.2	51.32	mg/L	102.2	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	50.00131	.2	50.69	mg/L	101	70	130	1.24	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.05173	mg/L	103.5	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0015	0.0015			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.0501		.0501	mg/L	100	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.0501	.001	.0502	mg/L	98.2	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.0501	.001	.05091	mg/L	99.6	70	130	1.4	20	

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05216	mg/L	104.3	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0015	0.0015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.0011	0.0011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.0501		.05004	mg/L	99.9	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.0501	U	.04919	mg/L	98.2	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.0501	U	.0497	mg/L	99.2	70	130	1.03	20	

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366407													
WG366407ICV	ICV	06/24/14 15:11	HG140624-4	10		10.2	ng/L	102	79	121			
WG366407ICB	ICB	06/24/14 15:16				U	ng/L		-0.5	0.5			
WG366851													
WG366851CCV1	CCV	07/01/14 13:19	HG140624-4	10		10.2	ng/L	102	76.5	123.4			
WG366851CCB1	CCB	07/01/14 13:24				U	ng/L		-0.5	0.5			
WG366851PQV	PQV	07/01/14 13:48	HG140624-6	.5		.65	ng/L	130	70	130			
WG366851LFB	LFB	07/01/14 13:53	HG140624-5	2		1.87	ng/L	93.5	71	125			
L19106-01MS	MS	07/01/14 14:23	HG140624-5	2	U	1.98	ng/L	99	71	125			
L19106-01MSD	MSD	07/01/14 14:28	HG140624-5	2	U	2	ng/L	100	71	125	1.01	24	
WG366851CCV2	CCV	07/01/14 14:43	HG140624-4	10		10.1	ng/L	101	76.5	123.4			
WG366851CCB2	CCB	07/01/14 14:48				U	ng/L		-0.5	0.5			
WG366851CCV3	CCV	07/01/14 16:35	HG140624-4	10		9.9	ng/L	99	76.5	123.4			
WG366851CCB3	CCB	07/01/14 16:40				U	ng/L		-0.5	0.5			
WG366851CCV4	CCV	07/01/14 17:36	HG140624-4	10		9.95	ng/L	99.5	76.5	123.4			
WG366851CCB4	CCB	07/01/14 17:41				U	ng/L		-0.5	0.5			
WG366851CCV5	CCV	07/01/14 18:11	HG140624-4	10		10.1	ng/L	101	76.5	123.4			
WG366851CCB5	CCB	07/01/14 18:16				U	ng/L		-0.5	0.5			

SPF Water Engineering

ACZ Project ID: ***L19105***

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366407													
WG366407ICV	ICV	06/24/14 15:11	HG140624-4	10		10.2	ng/L	102	79	121			
WG366407ICB	ICB	06/24/14 15:16				U	ng/L		-0.5	0.5			
WG366793													
WG366793CCV1	CCV	07/01/14 9:39	HG140624-4	10		9.66	ng/L	96.6	76.5	123.4			
WG366793CCB1	CCB	07/01/14 9:44				U	ng/L		-0.5	0.5			
WG366793PQV	PQV	07/01/14 9:49	HG140624-6	.5		.59	ng/L	118	70	130			
WG366793LFB	LFB	07/01/14 9:54	HG140624-5	2		1.83	ng/L	91.5	71	125			
L19086-01MS	MS	07/01/14 10:04	HG5XPREP	50	20	29.3	ng/L	93	71	125			
L19086-01MSD	MSD	07/01/14 10:09	HG5XPREP	50	20	29.1	ng/L	91	71	125	0.68	24	
WG366793CCV2	CCV	07/01/14 10:30	HG140624-4	10		9.99	ng/L	99.9	76.5	123.4			
WG366793CCB2	CCB	07/01/14 10:35				U	ng/L		-0.5	0.5			
WG366793CCV3	CCV	07/01/14 11:20	HG140624-4	10		10	ng/L	100	76.5	123.4			
WG366793CCB3	CCB	07/01/14 11:25				U	ng/L		-0.5	0.5			
WG366793CCV4	CCV	07/01/14 12:34	HG140624-4	10		10.2	ng/L	102	76.5	123.4			
WG366793CCB4	CCB	07/01/14 12:39				U	ng/L		-0.5	0.5			
WG366793CCV5	CCV	07/01/14 13:19	HG140624-4	10		10.2	ng/L	102	76.5	123.4			
WG366793CCB5	CCB	07/01/14 13:24				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.01998		.01856	mg/L	92.9	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0015	0.0015			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.0502		.04678	mg/L	93.2	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.0502	.0168	.06744	mg/L	100.9	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.0502	.0168	.06778	mg/L	101.6	70	130	0.5	20	

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.01998		.01835	mg/L	91.8	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0015	0.0015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.0011	0.0011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.0502		.04825	mg/L	96.1	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.0502	.0033	.05198	mg/L	97	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.0502	.0033	.05236	mg/L	97.7	70	130	0.73	20	

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.05171	mg/L	103.4	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0018	0.0018			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.05		.04971	mg/L	99.4	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.05	U	.04609	mg/L	92.2	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.05	U	.04525	mg/L	90.5	70	130	1.84	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05168	mg/L	103.4	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0018	0.0018			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00132	0.00132			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05		.04999	mg/L	100	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05	U	.04781	mg/L	95.6	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05	U	.04731	mg/L	94.6	70	130	1.05	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367059													
WG367059ICV	ICV	07/05/14 14:41	WI140417-3	2.416		2.4	mg/L	99.3	90	110			
WG367059ICB	ICB	07/05/14 14:42				U	mg/L		-0.06	0.06			
WG367059LFB1	LFB	07/05/14 14:45	WI140215-3	2		1.985	mg/L	99.3	90	110			
L19051-01AS	AS	07/05/14 15:04	WI140215-3	2	.06	2.135	mg/L	103.8	90	110			
L19051-02DUP	DUP	07/05/14 15:06			.58	.593	mg/L				2.2	20	
WG367059LFB2	LFB	07/05/14 15:19	WI140215-3	2		2.059	mg/L	103	90	110			

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366944													
WG366944ICV	ICV	07/02/14 12:03	WI131021-1	1.003		1.025	mg/L	102.2	90	110			
WG366944ICB	ICB	07/02/14 12:06				U	mg/L		-0.15	0.15			
WG366971													
WG366971LFB1	LFB	07/02/14 15:11	WI140113-8	1		1.016	mg/L	101.6	90	110			
L19069-02AS	AS	07/02/14 15:28	WI140113-8	1	U	1.039	mg/L	103.9	90	110			
L19079-01DUP	DUP	07/02/14 15:30			U	U	mg/L				0	20	RA
WG366971LFB2	LFB	07/02/14 16:00	WI140113-8	1		.969	mg/L	96.9	90	110			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366884													
WG366884LCSW1	LCSW	07/01/14 19:07	PCN45265	5.99		6.04	units	100.8	5.89	6.09			
WG366884LCSW4	LCSW	07/01/14 23:19	PCN45265	5.99		6.06	units	101.2	5.89	6.09			
L19101-01DUP	DUP	07/02/14 1:50			6.3	6.12	units				2.9	20	
WG366884LCSW7	LCSW	07/02/14 3:10	PCN45265	5.99		6.06	units	101.2	5.89	6.09			
WG366884LCSW10	LCSW	07/02/14 7:06	PCN45265	5.99		6.07	units	101.3	5.89	6.09			
WG366884LCSW13	LCSW	07/02/14 10:44	PCN45265	5.99		6.07	units	101.3	5.89	6.09			

SPF Water Engineering

ACZ Project ID: ***L19105***

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367218													
WG367218ICV	ICV	07/08/14 23:45	WI140620-3	.65228		.677	mg/L	103.8	90	110			
WG367218ICB	ICB	07/08/14 23:48				.013	mg/L		-0.03	0.03			
WG367043LRB	LRB	07/08/14 23:49				U	mg/L		-0.03	0.03			
WG367043LFB	LFB	07/08/14 23:50	WI140701-2	.5		.466	mg/L	93.2	90	110			
L19095-03LFM	LFM	07/09/14 0:08	WI140701-2	.5	.03	.502	mg/L	94.4	90	110			
L19095-04DUP	DUP	07/09/14 0:10			.06	.053	mg/L				12.4	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	20		19.69	mg/L	98.5	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.6	0.6			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	99.99364		102	mg/L	102	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	99.99364	4.5	108.9	mg/L	104.4	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	99.99364	4.5	109.6	mg/L	105.1	85	115	0.64	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	99.99364	9	111.1	mg/L	102.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	99.99364	9	111.3	mg/L	102.3	85	115	0.18	20	

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	20		19.75	mg/L	98.8	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.6	0.6			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.44	0.44			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	99.99364		104.9	mg/L	104.9	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	99.99364	6.2	110.3	mg/L	104.1	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	99.99364	6.2	110.4	mg/L	104.2	70	130	0.09	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	20		19.54	mg/L	97.7	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.6	0.6			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.44	0.44			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	99.99364		102.1	mg/L	102.1	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	99.99364	5.7	108.4	mg/L	102.7	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	99.99364	5.7	107.6	mg/L	101.9	70	130	0.74	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366654													
WG366654PBW	PBW	06/27/14 10:27				U	mg/L		-20	20			
WG366654LCSW	LCSW	06/27/14 10:28	PCN46084	260		240	mg/L	92.3	80	120			
L19121-02DUP	DUP	06/27/14 11:06			730	732	mg/L				0.3	10	
WG366693													
WG366693PBW	PBW	06/27/14 13:59				U	mg/L		-20	20			
WG366693LCSW	LCSW	06/27/14 14:00	PCN46084	260		260	mg/L	100	80	120			
L19131-02DUP	DUP	06/27/14 14:38			2000	2042	mg/L				2.1	10	
WG366743													
WG366743PBW	PBW	06/30/14 10:45				U	mg/L		-20	20			
WG366743LCSW	LCSW	06/30/14 10:47	PCN46084	260		254	mg/L	97.7	80	120			
L19136-04DUP	DUP	06/30/14 11:45			1190	1230	mg/L				3.3	10	

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366744													
WG366744PBW	PBW	06/30/14 14:55				U	mg/L		-15	15			
WG366744LCSW	LCSW	06/30/14 14:56	PCN46084	160		144	mg/L	90	80	120			
L19121-03DUP	DUP	06/30/14 15:34			U	U	mg/L				0	10	RA
WG366814													
WG366814PBW	PBW	07/01/14 8:20				U	mg/L		-15	15			
WG366814LCSW	LCSW	07/01/14 8:22	PCN46080	160		138	mg/L	86.3	80	120			
L19107-03DUP	DUP	07/01/14 9:09			U	U	mg/L				0	10	RA

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.02	mg/L	101	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.3	0.3			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.0009		1.05	mg/L	104.9	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	1.0009	U	1.05	mg/L	104.9	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	1.0009	U	1.06	mg/L	105.9	85	115	0.95	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.0009	U	1.05	mg/L	104.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.0009	U	1.06	mg/L	105.9	85	115	0.95	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	2		2.01	mg/L	100.5	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.3	0.3			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.22	0.22			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	1.0009		1.11	mg/L	110.9	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	1.0009	U	1.1	mg/L	109.9	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	1.0009	U	1.11	mg/L	110.9	70	130	0.9	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.01	mg/L	100.5	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.3	0.3			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.22	0.22			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.0009		1.06	mg/L	105.9	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1.0009	U	1.07	mg/L	106.9	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1.0009	U	1.06	mg/L	105.9	70	130	0.94	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.05097	mg/L	101.9	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0003	0.0003			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.05005		.05115	mg/L	102.2	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.05005	U	.05359	mg/L	107.1	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.05005	U	.05342	mg/L	106.7	70	130	0.32	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05149	mg/L	103	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.05207	mg/L	104	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	.0011	.04974	mg/L	97.2	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	.0011	.04952	mg/L	96.7	70	130	0.44	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.02002		.02007	mg/L	100.2	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.00015	0.00015			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.01002		.009884	mg/L	98.6	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.01002	U	.007403	mg/L	73.9	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.01002	U	.005995	mg/L	59.8	70	130	21.02	20	M2 RF

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.02002		.01977	mg/L	98.8	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.00015	0.00015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00011	0.00011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.01002		.009615	mg/L	96	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.01002	U	.009348	mg/L	93.3	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.01002	U	.009246	mg/L	92.3	70	130	1.1	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	100		98.24	mg/L	98.2	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.6	0.6			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	100.0393		102.3	mg/L	102.3	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	100.0393	141	241.1	mg/L	100.1	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	100.0393	141	240.1	mg/L	99.1	85	115	0.42	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	100.0393	42.7	142.8	mg/L	100.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	100.0393	42.7	143.2	mg/L	100.5	85	115	0.28	20	

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	100		98.87	mg/L	98.9	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.6	0.6			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.44	0.44			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	100.0393		104.5	mg/L	104.5	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	100.0393	3.7	107.6	mg/L	103.9	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	100.0393	3.7	107.8	mg/L	104.1	70	130	0.19	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	100		97.84	mg/L	97.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.6	0.6			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.44	0.44			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	100.0393		102.1	mg/L	102.1	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	100.0393	108	210.4	mg/L	102.4	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	100.0393	108	211.2	mg/L	103.2	70	130	0.38	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.9738	mg/L	98.7	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.015	0.015			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5005		.5175	mg/L	103.4	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	.5005	1.43	1.884	mg/L	90.7	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	.5005	1.43	1.889	mg/L	91.7	85	115	0.27	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5005	.15	.6609	mg/L	102.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5005	.15	.661	mg/L	102.1	85	115	0.02	20	

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	2		1.9905	mg/L	99.5	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.015	0.015			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.011	0.011			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	.5005		.5279	mg/L	105.5	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	.5005	.226	.7495	mg/L	104.6	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	.5005	.226	.7495	mg/L	104.6	70	130	0	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.9695	mg/L	98.5	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.015	0.015			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.011	0.011			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5005		.514	mg/L	102.7	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	.5005	U	.5235	mg/L	104.6	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	.5005	U	.5187	mg/L	103.6	70	130	0.92	20	

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	49.95		51.2	mg/L	102.5	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-1.5	1.5			
WG367124													
WG367124LFB1	LFB	07/07/14 18:11	WI140610-6	30		30.9	mg/L	103	90	110			
L19103-01DUP	DUP	07/07/14 19:59			17	17.3	mg/L				1.7	20	
L19103-02AS	AS	07/07/14 20:34	WI140610-6	30	7.52	37.1	mg/L	98.6	90	110			
L19105-04DUP	DUP	07/07/14 22:58			U	U	mg/L				0	20	RA
L19106-01AS	AS	07/07/14 23:34	WI140610-6	30	44	73.8	mg/L	99.3	90	110			
WG367124LFB2	LFB	07/08/14 2:51	WI140610-6	30		30.8	mg/L	102.7	90	110			

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.05466	mg/L	109.3	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0003	0.0003			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.0502		.05241	mg/L	104.4	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.0502	U	.05313	mg/L	105.8	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.0502	U	.05344	mg/L	106.5	70	130	0.58	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05459	mg/L	109.2	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.0502		.05019	mg/L	100	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.0502	U	.05127	mg/L	102.1	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.0502	U	.05136	mg/L	102.3	70	130	0.18	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.0501		.05206	mg/L	103.9	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0003	0.0003			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.05005		.051	mg/L	101.9	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.05005	U	.05112	mg/L	102.1	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.05005	U	.05291	mg/L	105.7	70	130	3.44	20	

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.0501		.04959	mg/L	99	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.05509	mg/L	110.1	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	U	.04974	mg/L	99.4	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	U	.05242	mg/L	104.7	70	130	5.25	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2	mg/L	100	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.015	0.015			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1		1.027	mg/L	102.7	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	1	U	1.026	mg/L	102.6	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	1	U	1.033	mg/L	103.3	85	115	0.68	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	1	U	1.022	mg/L	102.2	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1	U	1.025	mg/L	102.5	85	115	0.29	20	

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	2		2.0008	mg/L	100	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.015	0.015			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.011	0.011			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	1		1.068	mg/L	106.8	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	1	U	1.065	mg/L	106.5	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	1	U	1.062	mg/L	106.2	70	130	0.28	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.9955	mg/L	99.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.015	0.015			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.011	0.011			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1		1.035	mg/L	103.5	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1	U	1.041	mg/L	104.1	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1	U	1.032	mg/L	103.2	70	130	0.87	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.05146	mg/L	102.9	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0003	0.0003			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.05005		.05015	mg/L	100.2	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.05005	U	.05174	mg/L	103.4	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.05005	U	.05239	mg/L	104.7	70	130	1.25	20	

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05136	mg/L	102.7	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.04828	mg/L	96.5	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	.0025	.05283	mg/L	100.6	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	.0025	.05285	mg/L	100.6	70	130	0.04	20	

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366807													
WG366807ICV	ICV	06/30/14 22:33	MS140513-1	.05		.05152	mg/L	103	90	110			
WG366807ICB	ICB	06/30/14 22:36				U	mg/L		-0.0006	0.0006			
WG366807LFB	LFB	06/30/14 22:39	MS140625-3	.05005		.05207	mg/L	104	85	115			
L19105-01AS	AS	06/30/14 23:06	MS140625-3	.05005	.0002	.05203	mg/L	103.6	70	130			
L19105-01ASD	ASD	06/30/14 23:09	MS140625-3	.05005	.0002	.05192	mg/L	103.3	70	130	0.21	20	

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05107	mg/L	102.1	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0006	0.0006			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00044	0.00044			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.05141	mg/L	102.7	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	.0308	.08198	mg/L	102.3	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	.0308	.08372	mg/L	105.7	70	130	2.1	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.985	mg/L	99.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.03	0.03			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5005		.534	mg/L	106.7	85	115			
L19079-01AS	AS	06/30/14 21:39	II140611-2	.5005	U	.54	mg/L	107.9	85	115			
L19079-01ASD	ASD	06/30/14 21:42	II140611-2	.5005	U	.54	mg/L	107.9	85	115	0	20	
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5005	U	.535	mg/L	106.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5005	U	.536	mg/L	107.1	85	115	0.19	20	

SPF Water Engineering

ACZ Project ID: ***L19105***

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366925													
WG366925ICV	ICV	07/03/14 10:52	II140624-2	2		1.953	mg/L	97.7	95	105			
WG366925ICB	ICB	07/03/14 10:58				U	mg/L		-0.03	0.03			
WG366879LRB	LRB	07/03/14 11:11				U	mg/L		-0.022	0.022			
WG366879LFB	LFB	07/03/14 11:14	II140611-2	.5005		.548	mg/L	109.5	85	115			
L19103-03LFM	LFM	07/03/14 12:33	II140611-2	.5005	.07	.605	mg/L	106.9	70	130			
L19103-03LFMD	LFMD	07/03/14 12:36	II140611-2	.5005	.07	.607	mg/L	107.3	70	130	0.33	20	
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.944	mg/L	97.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.03	0.03			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.022	0.022			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5005		.532	mg/L	106.3	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	.5005	U	.534	mg/L	106.7	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	.5005	U	.528	mg/L	105.5	70	130	1.13	20	

SPF Water Engineering ACZ Project ID: ***L19105***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L19105-01	WG366807	Silver, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.8 ICP-MS	RF	Relative Percent Difference (RPD) for Ag in spiked samples exceeded limit. In the absence of HCl, precipitation of Ag may occur at different rates.
	WG367124	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366884	Conductivity @25C	SM2510B	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366997	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367057	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366971	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367218	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366814	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366884	Total Alkalinity	SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L19105***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L19105-02	WG366807	Silver, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.8 ICP-MS	RF	Relative Percent Difference (RPD) for Ag in spiked samples exceeded limit. In the absence of HCl, precipitation of Ag may occur at different rates.
	WG367124	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366884	Conductivity @25C	SM2510B	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366997	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367057	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366971	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367218	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366744	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366884	Total Alkalinity	SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L19105***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L19105-03	WG366925	Iron, total	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG366807	Silver, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.8 ICP-MS	RF	Relative Percent Difference (RPD) for Ag in spiked samples exceeded limit. In the absence of HCl, precipitation of Ag may occur at different rates.
	WG367124	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366884	Conductivity @25C	SM2510B	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366997	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366971	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367218	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366744	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366884	Total Alkalinity	SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L19105***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L19105-04	WG366925	Iron, total	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG366807	Silver, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.8 ICP-MS	RF	Relative Percent Difference (RPD) for Ag in spiked samples exceeded limit. In the absence of HCl, precipitation of Ag may occur at different rates.
	WG367124	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366884	Conductivity @25C	SM2510B	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366997	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366971	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367218	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366814	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Sulfate	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366884	Total Alkalinity	SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Quarter 2014 Sampling

ACZ Project ID: L19105
Date Received: 06/26/2014 09:48
Received By: mtb
Date Printed: 6/26/2014

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?	X		

A change was made in the Matrix Line 1 section prior to ACZ custody.

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
NA19902	2.2	13	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Quarter 2014 Sampling

ACZ Project ID:	L19105
Date Received:	06/26/2014 09:48
Received By:	mtb
Date Printed:	6/26/2014

L19105
~~L19105~~ R 6-26-14

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name:	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SPF-2014-GW

PO#: Calico 2nd Quarter 2014 Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	*SPF-2014-GW							
Poison Spring	6/24/14 9:40	Gw	8	X							
Dry Creek Arm	6/23/14 15:20	Sw	8	X							
Sourdough Upper	6/23/14 16:50	Gw	8	X							
Equipment Blank	6/24/14 13:40	GW	8	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	6/25/14 7:00		6-26-14 0940

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L19105 Chain of Custody

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Bottle Order Packing List

Account: SPFWATER/SPF Water Engineering
Bottle Order: BO31482

Bill to Account: Bill to ACZ
Ship Date Requested: 05/07/2014
Request Placed at: 05/05/2014 10:29
Service Requested: UPS SecondDay

Sampling supplies

PACK	Qty	ACZ ID	Type	Description
	4	COC	Chain of Custody	Chain of Custody, 1 for 10 samples.
	2	SEAL	Custody Seal	Custody seals for cooler, two for each cooler.
	1	RETURN	Return Address	Return Address label, one for each cooler.
	272	LABELS	Sample Labels	ACZ supplied labels for sample containers
	4	TRIP CN		
	4	TRIP HG		

ACZ Coolers

PACK	Qty	ACZ ID	Size	Weight	UPS Tracking Number
	1	box	Small	55	1Z8101300275007472

Quote number: SPF-2014-GW
Sample Quantity: 33

Quarterly Analysis of Groundwater and Springs

Client is responsible for necessary field filtering

PACK	Qty	Type	Size	Filter/Raw/Preserve	Instructions
	1	GREEN PC	250 ML	Green pre-cleaned Filtered/Nitiric	Metals (dissolved including ICPMS) - Filter sample with .45 micron filter. Do not overfill as there is Nitric Acid in the bottle.
	1	HG-1631	250 ML	Mercury 1631	Mercury by 1631 - See method specific sampling instructions.
	1	HG-1631 D	250 ML	Mercury 1631 Dissolved	Mercury (dissolved) by 1631 - See method specific sampling instructions.
	1	PURPLE	500 ML	Raw/NaOH	Cyanide - Do not overfill as there is Sodium Hydroxide in the bottle.
	1	RAW	500 ML	Raw	Wet Chemistry (analyses that do not require preservative or filtration) - Completely fill container.
	1	RED PC	250 ML	Red pre-cleaned Raw/Nitric	Metals (total including ICPMS) - Do not overfill as there is Nitric Acid in the bottle.
	1	WHITE	250 ML	Filtered	Wet chemistry (dissolved) - Filter sample with .45 micron filter. Completely fill container.
	1	YELLOW	250 ML	Raw/Sulfuric	For total wet chemistry analyses. Do not overfill as there is Sulfuric Acid in the bottle.

Prepared By/Date: _____

mjj

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 15, 2014

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 2nd Quarter 2
ACZ Project ID: L19106

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 26, 2014. This project has been assigned to ACZ's project number, L19106. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L19106. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 14, 2014. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Max Janicek has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Case Narrative

SPF Water Engineering

July 15, 2014

Project ID: Calico 2nd Quarter 2
ACZ Project ID: L19106

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 4 ground water samples from SPF Water Engineering on June 26, 2014. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L19106. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

Any analyses not performed within EPA recommended holding times have been qualified with an "H" flag.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

Some of the dissolved Cobalt values exceed the corresponding total values for project L19106. In some cases, RPDs between dissolved and total values exceed the standard acceptance limit of 20%. Samples were re-analyzed for verification, and results for both parameters were confirmed. This is a consistent anomaly with these sample types, and discrepancies may be attributed to a matrix or field sampling issue.

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: TS SOUTH DUPLICATE

ACZ Sample ID: ***L19106-03***
Date Sampled: *06/23/14 12:25*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/03/14 9:57	mss2
Cyanide, WAD	SM4500-CN I- distillation								07/03/14 12:16	mss2
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/07/14 10:03	tcd
Total Hot Plate Digestion	M200.2 ICP								07/02/14 11:28	jjc
Total Hot Plate Digestion	M200.2 ICP-MS								07/01/14 12:37	las

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: TS SOUTH DUPLICATE

ACZ Sample ID: ***L19106-03***
Date Sampled: *06/23/14 12:25*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	06/30/14 22:35	jjc
Aluminum, total	M200.7 ICP	1		U		mg/L	0.03	0.2	07/03/14 14:35	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/07/14 19:07	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/02/14 23:33	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0394			mg/L	0.0002	0.001	07/07/14 19:07	msh
Arsenic, total	M200.8 ICP-MS	1	0.0409			mg/L	0.0002	0.001	07/02/14 23:33	msh
Barium, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.003	0.02	06/30/14 22:35	jjc
Barium, total	M200.7 ICP	1	0.003	B		mg/L	0.003	0.02	07/03/14 14:35	jjc
Beryllium, dissolved	M200.8 ICP-MS	5		U		mg/L	0.0003	0.001	07/15/14 0:33	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/02/14 23:33	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/30/14 22:35	jjc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/03/14 14:35	jjc
Boron, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	06/30/14 22:35	jjc
Boron, total	M200.7 ICP	1	0.09			mg/L	0.01	0.05	07/03/14 14:35	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/07/14 19:07	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/02/14 23:33	msh
Calcium, dissolved	M200.7 ICP	1	26.9			mg/L	0.1	0.5	06/30/14 22:35	jjc
Calcium, total	M200.7 ICP	1	26.7			mg/L	0.1	0.5	07/03/14 14:35	jjc
Chromium, dissolved	M200.8 ICP-MS	1	0.0008	B		mg/L	0.0005	0.002	07/07/14 19:07	msh
Chromium, total	M200.8 ICP-MS	1	0.0010	B		mg/L	0.0005	0.002	07/02/14 23:33	msh
Cobalt, dissolved	M200.8 ICP-MS	1	0.00012	B		mg/L	0.00005	0.0003	07/07/14 19:07	msh
Cobalt, total	M200.8 ICP-MS	1	0.00007	B		mg/L	0.00005	0.0003	07/02/14 23:33	msh
Copper, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/07/14 19:07	msh
Copper, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/02/14 23:33	msh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/30/14 22:35	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/14 14:35	jjc
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	06/30/14 22:35	jjc
Iron, total	M200.7 ICP	1		U		mg/L	0.02	0.05	07/03/14 14:35	jjc
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/07/14 19:07	msh
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/02/14 23:33	msh
Lithium, dissolved	M200.7 ICP	1	0.013	B		mg/L	0.008	0.04	06/30/14 22:35	jjc
Lithium, total	M200.7 ICP	1	0.013	B		mg/L	0.008	0.04	07/03/14 14:35	jjc
Magnesium, dissolved	M200.7 ICP	1	15			mg/L	0.2	1	06/30/14 22:35	jjc
Magnesium, total	M200.7 ICP	1	14.9			mg/L	0.2	1	07/03/14 14:35	jjc
Manganese, dissolved	M200.8 ICP-MS	1	0.0015	B		mg/L	0.0005	0.003	07/07/14 19:07	msh
Manganese, total	M200.8 ICP-MS	1	0.0024	B	*	mg/L	0.0005	0.003	07/02/14 23:33	msh
Mercury, dissolved	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	07/01/14 14:38	las
Mercury, total	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	07/01/14 11:10	las
Molybdenum, dissolved	M200.8 ICP-MS	5	0.009	B		mg/L	0.003	0.01	07/15/14 0:33	msh
Molybdenum, total	M200.8 ICP-MS	1	0.0090			mg/L	0.0005	0.003	07/02/14 23:33	msh
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/07/14 19:07	msh
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/02/14 23:33	msh
Potassium, dissolved	M200.7 ICP	1	9			mg/L	0.2	1	06/30/14 22:35	jjc

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: TS SOUTH DUPLICATE

ACZ Sample ID: ***L19106-03***
Date Sampled: *06/23/14 12:25*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	8.8			mg/L	0.2	1	07/03/14 14:35	jjc
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/30/14 22:35	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/14 14:35	jjc
Selenium, dissolved	M200.8 ICP-MS	1	0.0046			mg/L	0.0001	0.0003	07/07/14 19:07	msh
Selenium, total	M200.8 ICP-MS	1	0.0042			mg/L	0.0001	0.0003	07/02/14 23:33	msh
Silver, dissolved	M200.8 ICP-MS	5		U		mg/L	0.0003	0.001	07/15/14 0:33	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/02/14 23:33	msh
Sodium, dissolved	M200.7 ICP	1	42.8			mg/L	0.2	1	06/30/14 22:35	jjc
Sodium, total	M200.7 ICP	1	42.2			mg/L	0.2	1	07/03/14 14:35	jjc
Strontium, dissolved	M200.7 ICP	1	0.150			mg/L	0.005	0.03	06/30/14 22:35	jjc
Strontium, total	M200.7 ICP	1	0.147			mg/L	0.005	0.03	07/03/14 14:35	jjc
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/07/14 19:07	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/02/14 23:33	msh
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/07/14 19:07	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/02/14 23:33	msh
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/30/14 22:35	jjc
Titanium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	07/03/14 14:35	jjc
Uranium, dissolved	M200.8 ICP-MS	1	0.0032			mg/L	0.0001	0.0005	07/07/14 19:07	msh
Uranium, total	M200.8 ICP-MS	1	0.0032			mg/L	0.0001	0.0005	07/02/14 23:33	msh
Vanadium, dissolved	M200.8 ICP-MS	1	0.0419			mg/L	0.0002	0.001	07/07/14 19:07	msh
Vanadium, total	M200.8 ICP-MS	1	0.0449			mg/L	0.0002	0.001	07/02/14 23:33	msh
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/30/14 22:35	jjc
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/14 14:35	jjc

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: TS SOUTH DUPLICATE

ACZ Sample ID: ***L19106-03***
Date Sampled: *06/23/14 12:25*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	133			mg/L	2	20	07/02/14 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	07/02/14 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	07/02/14 0:00	abd
Total Alkalinity		1	135			mg/L	2	20	07/02/14 0:00	abd
Chloride	M300.0 - Ion Chromatography	1	10.6		*	mg/L	0.5	2.5	07/08/14 0:09	jlf
Conductivity @25C	SM2510B	1	454			umhos/cm	1	10	07/02/14 3:53	abd
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/04/14 0:19	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/04/14 1:14	pjb
Fluoride	M300.0 - Ion Chromatography	1	0.63		*	mg/L	0.05	0.25	07/08/14 0:09	jlf
Hardness as CaCO3	SM2340B - Calculation		129			mg/L	0.8	4	07/15/14 13:42	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	1.93			mg/L	0.02	0.1	07/05/14 15:25	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.2	07/02/14 16:08	bsu
pH (lab)	SM4500H+ B									
pH		1	8.3	H		units	0.1	0.1	07/02/14 0:00	abd
pH measured at		1	22			C	0.1	0.1	07/02/14 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B		mg/L	0.01	0.05	07/09/14 0:54	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	300			mg/L	10	20	06/30/14 11:32	nml
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	06/30/14 15:24	eaa
Sulfate	M300.0 - Ion Chromatography	1	43.9		*	mg/L	0.5	2.5	07/08/14 0:09	jlf

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: MERCURY TRIP BLANK

ACZ Sample ID: ***L19106-04***
Date Sampled: *06/23/14 12:50*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Mercury, total	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	07/01/14 11:15	las

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L19106***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366884													
WG366884PBW1	PBW	07/01/14 19:03				U	mg/L		-20	20			
WG366884LCSW3	LCSW	07/01/14 19:22	WC140630-	820.0001		841.6	mg/L	102.6	90	110			
WG366884LCSW6	LCSW	07/01/14 23:36	WC140630-	820.0001		826.8	mg/L	100.8	90	110			
WG366884PBW2	PBW	07/01/14 23:44				U	mg/L		-20	20			
L19101-01DUP	DUP	07/02/14 1:50			U	U	mg/L				0	20	RA
WG366884LCSW9	LCSW	07/02/14 3:26	WC140630-	820.0001		830.4	mg/L	101.3	90	110			
WG366884PBW3	PBW	07/02/14 3:35				U	mg/L		-20	20			
L19111-01DUP	DUP	07/02/14 5:18			432	446.4	mg/L				3.3	20	
WG366884LCSW12	LCSW	07/02/14 7:22	WC140630-	820.0001		830.4	mg/L	101.3	90	110			
WG366884PBW4	PBW	07/02/14 7:31				2.1	mg/L		-20	20			
WG366884LCSW15	LCSW	07/02/14 11:01	WC140630-	820.0001		831.9	mg/L	101.5	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.006	mg/L	100.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.09	0.09			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.0011		1.101	mg/L	110	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.0011	U	1.091	mg/L	109	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.0011	U	1.093	mg/L	109.2	85	115	0.18	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.995	mg/L	99.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.09	0.09			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.066	0.066			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.0011		1.09	mg/L	108.9	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1.0011	U	1.099	mg/L	109.8	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1.0011	U	1.084	mg/L	108.3	70	130	1.37	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.02002		.01968	mg/L	98.3	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0012	0.0012			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.01		.00986	mg/L	98.6	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.01	U	.00908	mg/L	90.8	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.01	U	.00891	mg/L	89.1	70	130	1.89	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.02002		.02004	mg/L	100.1	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0012	0.0012			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00088	0.00088			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.01		.01077	mg/L	107.7	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.01	U	.01099	mg/L	109.9	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.01	U	.01101	mg/L	110.1	70	130	0.18	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.05303	mg/L	106.1	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0006	0.0006			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.0501		.04817	mg/L	96.1	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.0501	.038	.08752	mg/L	98.8	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.0501	.038	.08786	mg/L	99.5	70	130	0.39	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.05141	mg/L	102.8	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0006	0.0006			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00044	0.00044			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.0501		.05148	mg/L	102.8	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.0501	.0055	.05671	mg/L	102.2	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.0501	.0055	.05576	mg/L	100.3	70	130	1.69	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.9683	mg/L	98.4	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.009	0.009			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5		.5041	mg/L	100.8	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5	.005	.5081	mg/L	100.6	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5	.005	.5103	mg/L	101.1	85	115	0.43	20	

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.976	mg/L	98.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.009	0.009			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.0066	0.0066			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5		.5114	mg/L	102.3	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	.5	U	.5147	mg/L	102.9	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	.5	U	.511	mg/L	102.2	70	130	0.72	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367303													
WG367303ICV	ICV	07/10/14 11:18	MS140513-1	.05		.04782	mg/L	95.6	90	110			
WG367303ICB	ICB	07/10/14 11:21				U	mg/L		-0.00015	0.00015			
WG367303LFB	LFB	07/10/14 11:24	MS140625-3	.05005		.04925	mg/L	98.4	85	115			
L19102-02AS	AS	07/10/14 11:46	MS140625-3	.25025	U	.23765	mg/L	95	70	130			
L19102-02ASD	ASD	07/10/14 11:50	MS140625-3	.25025	U	.25295	mg/L	101.1	70	130	6.24	20	
WG367481													
WG367481ICV	ICV	07/15/14 0:16	MS140513-1	.05		.04683	mg/L	93.7	90	110			
WG367481ICB	ICB	07/15/14 0:19				.000052	mg/L		-0.00015	0.00015			
WG367481LFB	LFB	07/15/14 0:23	MS140625-3	.05005		.04749	mg/L	94.9	85	115			
L19187-01AS	AS	07/15/14 0:50	MS140625-3	.05005	U	.04687	mg/L	93.6	70	130			
L19187-01ASD	ASD	07/15/14 1:00	MS140625-3	.05005	U	.04862	mg/L	97.1	70	130	3.67	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.04686	mg/L	93.7	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.00015	0.00015			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00011	0.00011			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.05005		.04737	mg/L	94.6	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.05005	.00792	.05715	mg/L	98.4	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.05005	.00792	.0564	mg/L	96.9	70	130	1.32	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.007	mg/L	100.4	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.12	0.12			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.999		1.044	mg/L	104.5	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	.999	U	1.023	mg/L	102.4	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.999	U	1.019	mg/L	102	85	115	0.39	20	

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.003	mg/L	100.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.12	0.12			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.088	0.088			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.999		1.034	mg/L	103.5	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	.999	U	1.072	mg/L	107.3	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	.999	U	1.029	mg/L	103	70	130	4.09	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.015	mg/L	100.8	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.03	0.03			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5005		.525	mg/L	104.9	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5005	.11	.625	mg/L	102.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5005	.11	.625	mg/L	102.9	85	115	0	20	

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.004	mg/L	100.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.03	0.03			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.022	0.022			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5005		.506	mg/L	101.1	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	.5005	.11	.617	mg/L	101.3	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	.5005	.11	.616	mg/L	101.1	70	130	0.16	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.05057	mg/L	101.1	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.0501		.0493	mg/L	98.4	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.0501	U	.0447	mg/L	89.2	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.0501	U	.04432	mg/L	88.5	70	130	0.85	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.04878	mg/L	97.6	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0003	0.0003			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00022	0.00022			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.0501		.04771	mg/L	95.2	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.0501	U	.04767	mg/L	95.1	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.0501	U	.0479	mg/L	95.6	70	130	0.48	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	100		99.28	mg/L	99.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.3	0.3			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	67.98099		73.58	mg/L	108.2	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	67.98099	26.8	99.64	mg/L	107.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	67.98099	26.8	99.62	mg/L	107.1	85	115	0.02	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	100		99.24	mg/L	99.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.3	0.3			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.22	0.22			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	67.98099		74.57	mg/L	109.7	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	67.98099	1.1	76.22	mg/L	110.5	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	67.98099	1.1	75.38	mg/L	109.3	70	130	1.11	20	

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	19.98		20.3	mg/L	101.6	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-1.5	1.5			
WG367124													
WG367124LFB1	LFB	07/07/14 18:11	WI140610-6	30		31.1	mg/L	103.7	90	110			
L19105-04DUP	DUP	07/07/14 22:58			U	U	mg/L				0	20	RA
L19106-01AS	AS	07/07/14 23:34	WI140610-6	30	10.5	41.5	mg/L	103.3	90	110			
WG367124LFB2	LFB	07/08/14 2:51	WI140610-6	30		31.2	mg/L	104	90	110			

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.04858	mg/L	97.2	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0015	0.0015			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.04588	mg/L	91.7	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	.0008	.04591	mg/L	90.1	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	.0008	.04657	mg/L	91.4	70	130	1.43	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.0491	mg/L	98.2	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0015	0.0015			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.0011	0.0011			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.05005		.04931	mg/L	98.5	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.05005	U	.04864	mg/L	97.2	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.05005	U	.04657	mg/L	93	70	130	4.35	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.0494	mg/L	98.8	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.00015	0.00015			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.05022	mg/L	100.3	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	.0003	.04704	mg/L	93.4	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	.0003	.04731	mg/L	93.9	70	130	0.57	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.04907	mg/L	98.1	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.00015	0.00015			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00011	0.00011			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.05005		.05055	mg/L	101	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.05005	.00124	.05095	mg/L	99.3	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.05005	.00124	.05063	mg/L	98.7	70	130	0.63	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366884													
WG366884LCSW2	LCSW	07/01/14 19:09	PCN44568	1408.8		1433.3	umhos/cm	101.7	90	110			
WG366884LCSW5	LCSW	07/01/14 23:21	PCN44568	1408.8		1422.1	umhos/cm	100.9	90	110			
L19101-01DUP	DUP	07/02/14 1:50			1	1.1	umhos/cm				9.5	20	RA
WG366884LCSW8	LCSW	07/02/14 3:12	PCN44568	1408.8		1403.9	umhos/cm	99.7	90	110			
L19111-01DUP	DUP	07/02/14 5:18			2070	2080	umhos/cm				0.5	20	
WG366884LCSW11	LCSW	07/02/14 7:08	PCN44568	1408.8		1391.7	umhos/cm	98.8	90	110			
WG366884LCSW14	LCSW	07/02/14 10:46	PCN44568	1408.8		1372.4	umhos/cm	97.4	90	110			

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.04718	mg/L	94.4	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0015	0.0015			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05		.04354	mg/L	87.1	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05	U	.04296	mg/L	85.9	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05	U	.04345	mg/L	86.9	70	130	1.13	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.04782	mg/L	95.6	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0015	0.0015			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.0011	0.0011			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.05		.04749	mg/L	95	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.05	U	.04654	mg/L	93.1	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.05	U	.04401	mg/L	88	70	130	5.59	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366995													
WG366995ICV	ICV	07/02/14 22:20	WI140702-5	.3		.289	mg/L	96.3	90	110			
WG366995ICB	ICB	07/02/14 22:21				U	mg/L		-0.003	0.003			
WG366997													
WG366967LRB	LRB	07/02/14 22:57				U	mg/L		-0.003	0.003			
WG366967LFB	LFB	07/02/14 22:58	WI140702-2	.2		.2005	mg/L	100.3	90	110			
L19105-03DUP	DUP	07/02/14 23:12			U	U	mg/L				0	20	RA
L19105-04LFM	LFM	07/02/14 23:14	WI140702-2	.2	U	.2016	mg/L	100.8	90	110			
WG367056													
WG367056ICV	ICV	07/04/14 0:14	WI140702-5	.3		.2924	mg/L	97.5	90	110			
WG367056ICB	ICB	07/04/14 0:15				U	mg/L		-0.003	0.003			
WG367004LRB	LRB	07/04/14 0:16				U	mg/L		-0.003	0.003			
WG367004LFB	LFB	07/04/14 0:17	WI140702-2	.2		.1927	mg/L	96.4	90	110			
L19106-02LFM	LFM	07/04/14 0:19	WI140702-2	.2	U	.1934	mg/L	96.7	90	110			
L19106-03DUP	DUP	07/04/14 0:20			U	U	mg/L				0	20	RA

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367056													
WG367056ICV	ICV	07/04/14 0:14	WI140702-5	.3		.2924	mg/L	97.5	90	110			
WG367056ICB	ICB	07/04/14 0:15				U	mg/L		-0.003	0.003			
WG367057													
WG367029LRB	LRB	07/04/14 1:07				U	mg/L		-0.003	0.003			
WG367029LFB	LFB	07/04/14 1:08	WI140702-4	.2		.18	mg/L	90	90	110			
L19105-01LFM	LFM	07/04/14 1:10	WI140702-4	.2	U	.1625	mg/L	81.3	90	110			M2
L19105-02DUP	DUP	07/04/14 1:11			U	U	mg/L				0	20	RA

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	4.02		4.17	mg/L	103.7	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-0.3	0.3			
WG367124													
WG367124LFB1	LFB	07/07/14 18:11	WI140610-6	1.5		1.54	mg/L	102.7	90	110			
L19105-04DUP	DUP	07/07/14 22:58			U	U	mg/L				0	20	RA
L19106-01AS	AS	07/07/14 23:34	WI140610-6	1.5	.62	2.18	mg/L	104	90	110			
WG367124LFB2	LFB	07/08/14 2:51	WI140610-6	1.5		1.55	mg/L	103.3	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.06	mg/L	103	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.3	0.3			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.001		1.05	mg/L	104.9	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.001	U	1.05	mg/L	104.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.001	U	1.04	mg/L	103.9	85	115	0.96	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.03	mg/L	101.5	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.3	0.3			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.22	0.22			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.001		1.04	mg/L	103.9	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1.001	U	1.05	mg/L	104.9	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1.001	U	1.01	mg/L	100.9	70	130	3.88	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.966	mg/L	98.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.06	0.06			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.0014		1.029	mg/L	102.8	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.0014	U	1.021	mg/L	102	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.0014	U	1.024	mg/L	102.3	85	115	0.29	20	

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.965	mg/L	98.3	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.06	0.06			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.044	0.044			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.0014		1.046	mg/L	104.5	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1.0014	U	1.045	mg/L	104.4	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1.0014	U	1.036	mg/L	103.5	70	130	0.86	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.04985	mg/L	99.7	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.04765	mg/L	95.2	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	U	.04162	mg/L	83.2	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	U	.04194	mg/L	83.8	70	130	0.77	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.04999	mg/L	100	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0003	0.0003			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00022	0.00022			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.05005		.04879	mg/L	97.5	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.05005	.0002	.04911	mg/L	97.7	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.05005	.0002	.04915	mg/L	97.8	70	130	0.08	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.9912	mg/L	99.6	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.024	0.024			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.002		1.005	mg/L	100.3	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.002	.013	.999	mg/L	98.4	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.002	.013	1.009	mg/L	99.4	85	115	1	20	

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.9815	mg/L	99.1	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.024	0.024			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.0176	0.0176			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.002		1.01	mg/L	100.8	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1.002	U	1.016	mg/L	101.4	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1.002	U	1.013	mg/L	101.1	70	130	0.3	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	100		96.44	mg/L	96.4	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.6	0.6			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	50.00131		50.21	mg/L	100.4	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	50.00131	15	64.79	mg/L	99.6	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	50.00131	15	64.82	mg/L	99.6	85	115	0.05	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	100		96.61	mg/L	96.6	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.6	0.6			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.44	0.44			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	50.00131		51.21	mg/L	102.4	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	50.00131	.2	51.32	mg/L	102.2	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	50.00131	.2	50.69	mg/L	101	70	130	1.24	20	

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.05149	mg/L	103	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0015	0.0015			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.0501		.04955	mg/L	98.9	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.0501	.0018	.04832	mg/L	92.9	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.0501	.0018	.0488	mg/L	93.8	70	130	0.99	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.05148	mg/L	103	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0015	0.0015			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.0011	0.0011			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.0501		.04979	mg/L	99.4	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.0501	1.33	1.42	mg/L	179.6	70	130			M3
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.0501	1.33	1.415	mg/L	169.7	70	130	0.35	20	M3

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366407													
WG366407ICV	ICV	06/24/14 15:11	HG140624-4	10		10.2	ng/L	102	79	121			
WG366407ICB	ICB	06/24/14 15:16				U	ng/L		-0.5	0.5			
WG366851													
WG366851CCV1	CCV	07/01/14 13:19	HG140624-4	10		10.2	ng/L	102	76.5	123.4			
WG366851CCB1	CCB	07/01/14 13:24				U	ng/L		-0.5	0.5			
WG366851PQV	PQV	07/01/14 13:48	HG140624-6	.5		.65	ng/L	130	70	130			
WG366851LFB	LFB	07/01/14 13:53	HG140624-5	2		1.87	ng/L	93.5	71	125			
L19106-01MS	MS	07/01/14 14:23	HG140624-5	2	U	1.98	ng/L	99	71	125			
L19106-01MSD	MSD	07/01/14 14:28	HG140624-5	2	U	2	ng/L	100	71	125	1.01	24	
WG366851CCV2	CCV	07/01/14 14:43	HG140624-4	10		10.1	ng/L	101	76.5	123.4			
WG366851CCB2	CCB	07/01/14 14:48				U	ng/L		-0.5	0.5			
WG366851CCV3	CCV	07/01/14 16:35	HG140624-4	10		9.9	ng/L	99	76.5	123.4			
WG366851CCB3	CCB	07/01/14 16:40				U	ng/L		-0.5	0.5			
WG366851CCV4	CCV	07/01/14 17:36	HG140624-4	10		9.95	ng/L	99.5	76.5	123.4			
WG366851CCB4	CCB	07/01/14 17:41				U	ng/L		-0.5	0.5			
WG366851CCV5	CCV	07/01/14 18:11	HG140624-4	10		10.1	ng/L	101	76.5	123.4			
WG366851CCB5	CCB	07/01/14 18:16				U	ng/L		-0.5	0.5			

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ACZ Project ID: ***L19106***

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366407													
WG366407ICV	ICV	06/24/14 15:11	HG140624-4	10		10.2	ng/L	102	79	121			
WG366407ICB	ICB	06/24/14 15:16				U	ng/L		-0.5	0.5			
WG366793													
WG366793CCV1	CCV	07/01/14 9:39	HG140624-4	10		9.66	ng/L	96.6	76.5	123.4			
WG366793CCB1	CCB	07/01/14 9:44				U	ng/L		-0.5	0.5			
WG366793PQV	PQV	07/01/14 9:49	HG140624-6	.5		.59	ng/L	118	70	130			
WG366793LFB	LFB	07/01/14 9:54	HG140624-5	2		1.83	ng/L	91.5	71	125			
L19086-01MS	MS	07/01/14 10:04	HG5XPREP	50	20	29.3	ng/L	93	71	125			
L19086-01MSD	MSD	07/01/14 10:09	HG5XPREP	50	20	29.1	ng/L	91	71	125	0.68	24	
WG366793CCV2	CCV	07/01/14 10:30	HG140624-4	10		9.99	ng/L	99.9	76.5	123.4			
WG366793CCB2	CCB	07/01/14 10:35				U	ng/L		-0.5	0.5			
WG366793CCV3	CCV	07/01/14 11:20	HG140624-4	10		10	ng/L	100	76.5	123.4			
WG366793CCB3	CCB	07/01/14 11:25				U	ng/L		-0.5	0.5			
L19107-01MS	MS	07/01/14 12:24	HG140624-5	2	U	2.08	ng/L	104	71	125			
L19107-01MSD	MSD	07/01/14 12:29	HG140624-5	2	U	2.06	ng/L	103	71	125	0.97	24	
WG366793CCV4	CCV	07/01/14 12:34	HG140624-4	10		10.2	ng/L	102	76.5	123.4			
WG366793CCB4	CCB	07/01/14 12:39				U	ng/L		-0.5	0.5			
WG366793CCV5	CCV	07/01/14 13:19	HG140624-4	10		10.2	ng/L	102	76.5	123.4			
WG366793CCB5	CCB	07/01/14 13:24				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367481													
WG367481ICV	ICV	07/15/14 0:16	MS140513-1	.01998		.01797	mg/L	89.9	90	110			
WG367481ICB	ICB	07/15/14 0:19				U	mg/L		-0.0015	0.0015			
WG367481LFB	LFB	07/15/14 0:23	MS140625-3	.0502		.04726	mg/L	94.1	85	115			
L19187-01AS	AS	07/15/14 0:50	MS140625-3	.0502	.0115	.05883	mg/L	94.3	70	130			
L19187-01ASD	ASD	07/15/14 1:00	MS140625-3	.0502	.0115	.06165	mg/L	99.9	70	130	4.68	20	

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.01998		.01798	mg/L	90	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0015	0.0015			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.0011	0.0011			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.0502		.04559	mg/L	90.8	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.0502	U	.04641	mg/L	92.5	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.0502	U	.04702	mg/L	93.7	70	130	1.31	20	

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.04748	mg/L	95	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0018	0.0018			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05		.04453	mg/L	89.1	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05	U	.04239	mg/L	84.8	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05	U	.04311	mg/L	86.2	70	130	1.68	20	

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ACZ Project ID: ***L19106***

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.04943	mg/L	98.9	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0018	0.0018			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00132	0.00132			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.05		.04846	mg/L	96.9	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.05	.0036	.05109	mg/L	95	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.05	.0036	.04914	mg/L	91.1	70	130	3.89	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367059													
WG367059ICV	ICV	07/05/14 14:41	WI140417-3	2.416		2.4	mg/L	99.3	90	110			
WG367059ICB	ICB	07/05/14 14:42				U	mg/L		-0.06	0.06			
WG367059LFB1	LFB	07/05/14 14:45	WI140215-3	2		1.985	mg/L	99.3	90	110			
L19051-01AS	AS	07/05/14 15:04	WI140215-3	2	.06	2.135	mg/L	103.8	90	110			
L19051-02DUP	DUP	07/05/14 15:06			.58	.593	mg/L				2.2	20	
WG367059LFB2	LFB	07/05/14 15:19	WI140215-3	2		2.059	mg/L	103	90	110			
L19106-02AS	AS	07/05/14 15:22	WI140215-3	2	1.13	3.019	mg/L	94.5	90	110			
L19106-03DUP	DUP	07/05/14 15:26			1.93	1.918	mg/L				0.6	20	

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366944													
WG366944ICV	ICV	07/02/14 12:03	WI131021-1	1.003		1.025	mg/L	102.2	90	110			
WG366944ICB	ICB	07/02/14 12:06				U	mg/L		-0.15	0.15			
WG366971													
WG366971LFB1	LFB	07/02/14 15:11	WI140113-8	1		1.016	mg/L	101.6	90	110			
WG366971LFB2	LFB	07/02/14 16:00	WI140113-8	1		.969	mg/L	96.9	90	110			
L19106-01AS	AS	07/02/14 16:03	WI140113-8	1	U	.985	mg/L	98.5	90	110			
L19106-02DUP	DUP	07/02/14 16:05			U	U	mg/L				0	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366884													
WG366884LCSW1	LCSW	07/01/14 19:07	PCN45265	5.99		6.04	units	100.8	5.89	6.09			
WG366884LCSW4	LCSW	07/01/14 23:19	PCN45265	5.99		6.06	units	101.2	5.89	6.09			
L19101-01DUP	DUP	07/02/14 1:50			6.3	6.12	units				2.9	20	
WG366884LCSW7	LCSW	07/02/14 3:10	PCN45265	5.99		6.06	units	101.2	5.89	6.09			
L19111-01DUP	DUP	07/02/14 5:18			8.2	8.24	units				0.5	20	
WG366884LCSW10	LCSW	07/02/14 7:06	PCN45265	5.99		6.07	units	101.3	5.89	6.09			
WG366884LCSW13	LCSW	07/02/14 10:44	PCN45265	5.99		6.07	units	101.3	5.89	6.09			

SPF Water Engineering

ACZ Project ID: ***L19106***

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367218													
WG367218ICV	ICV	07/08/14 23:45	WI140620-3	.65228		.677	mg/L	103.8	90	110			
WG367218ICB	ICB	07/08/14 23:48				.013	mg/L		-0.03	0.03			
WG367043LRB	LRB	07/08/14 23:49				U	mg/L		-0.03	0.03			
WG367043LFB	LFB	07/08/14 23:50	WI140701-2	.5		.466	mg/L	93.2	90	110			
L19095-03LFM	LFM	07/09/14 0:08	WI140701-2	.5	.03	.502	mg/L	94.4	90	110			
L19095-04DUP	DUP	07/09/14 0:10			.06	.053	mg/L				12.4	20	RA
WG367220													
WG367044LRB	LRB	07/09/14 0:31				U	mg/L		-0.03	0.03			
WG367044LFB	LFB	07/09/14 0:33	WI140701-2	.5		.462	mg/L	92.4	90	110			
L19033-11LFM	LFM	07/09/14 0:51	WI140701-2	.5	.01	.491	mg/L	96.2	90	110			
L19033-13DUP	DUP	07/09/14 0:53			.1	.096	mg/L				4.1	20	

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	20		19.69	mg/L	98.5	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.6	0.6			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	99.99364		102	mg/L	102	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	99.99364	9	111.1	mg/L	102.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	99.99364	9	111.3	mg/L	102.3	85	115	0.18	20	

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	20		19.54	mg/L	97.7	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.6	0.6			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.44	0.44			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	99.99364		102.1	mg/L	102.1	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	99.99364	5.7	108.4	mg/L	102.7	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	99.99364	5.7	107.6	mg/L	101.9	70	130	0.74	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366743													
WG366743PBW	PBW	06/30/14 10:45				U	mg/L		-20	20			
WG366743LCSW	LCSW	06/30/14 10:47	PCN46084	260		254	mg/L	97.7	80	120			
L19136-04DUP	DUP	06/30/14 11:45			1190	1230	mg/L				3.3	10	

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366744													
WG366744PBW	PBW	06/30/14 14:55				U	mg/L		-15	15			
WG366744LCSW	LCSW	06/30/14 14:56	PCN46084	160		144	mg/L	90	80	120			
L19121-03DUP	DUP	06/30/14 15:34			U	U	mg/L				0	10	RA

SPF Water Engineering

ACZ Project ID: ***L19106***

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.02	mg/L	101	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.3	0.3			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.0009		1.05	mg/L	104.9	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.0009	U	1.05	mg/L	104.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.0009	U	1.06	mg/L	105.9	85	115	0.95	20	

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.01	mg/L	100.5	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.3	0.3			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.22	0.22			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.0009		1.06	mg/L	105.9	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1.0009	U	1.07	mg/L	106.9	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1.0009	U	1.06	mg/L	105.9	70	130	0.94	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.05185	mg/L	103.7	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.0493	mg/L	98.5	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	.0046	.0538	mg/L	98.3	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	.0046	.05636	mg/L	103.4	70	130	4.65	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.05135	mg/L	102.7	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0003	0.0003			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00022	0.00022			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.05005		.0489	mg/L	97.7	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.05005	U	.04751	mg/L	94.9	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.05005	U	.04894	mg/L	97.8	70	130	2.97	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367481													
WG367481ICV	ICV	07/15/14 0:16	MS140513-1	.02002		.01997	mg/L	99.8	90	110			
WG367481ICB	ICB	07/15/14 0:19				U	mg/L		-0.00015	0.00015			
WG367481LFB	LFB	07/15/14 0:23	MS140625-3	.01002		.009948	mg/L	99.3	85	115			
L19187-01AS	AS	07/15/14 0:50	MS140625-3	.01002	.00009	.00941	mg/L	93	70	130			
L19187-01ASD	ASD	07/15/14 1:00	MS140625-3	.01002	.00009	.01051	mg/L	104	70	130	11.04	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.02002		.01999	mg/L	99.9	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.00015	0.00015			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00011	0.00011			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.01002		.009565	mg/L	95.5	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.01002	U	.009543	mg/L	95.2	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.01002	U	.009678	mg/L	96.6	70	130	1.4	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	100		98.24	mg/L	98.2	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.6	0.6			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	100.0393		102.3	mg/L	102.3	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	100.0393	42.7	142.8	mg/L	100.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	100.0393	42.7	143.2	mg/L	100.5	85	115	0.28	20	

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	100		97.84	mg/L	97.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.6	0.6			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.44	0.44			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	100.0393		102.1	mg/L	102.1	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	100.0393	108	210.4	mg/L	102.4	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	100.0393	108	211.2	mg/L	103.2	70	130	0.38	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.9738	mg/L	98.7	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.015	0.015			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5005		.5175	mg/L	103.4	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5005	.15	.6609	mg/L	102.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5005	.15	.661	mg/L	102.1	85	115	0.02	20	

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.9695	mg/L	98.5	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.015	0.015			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.011	0.011			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5005		.514	mg/L	102.7	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	.5005	U	.5235	mg/L	104.6	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	.5005	U	.5187	mg/L	103.6	70	130	0.92	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	49.95		51.2	mg/L	102.5	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-1.5	1.5			
WG367124													
WG367124LFB1	LFB	07/07/14 18:11	WI140610-6	30		30.9	mg/L	103	90	110			
L19105-04DUP	DUP	07/07/14 22:58			U	U	mg/L				0	20	RA
L19106-01AS	AS	07/07/14 23:34	WI140610-6	30	44	73.8	mg/L	99.3	90	110			
WG367124LFB2	LFB	07/08/14 2:51	WI140610-6	30		30.8	mg/L	102.7	90	110			

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.05394	mg/L	107.9	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.0502		.05083	mg/L	101.3	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.0502	U	.04755	mg/L	94.7	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.0502	U	.04801	mg/L	95.6	70	130	0.96	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.05344	mg/L	106.9	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0003	0.0003			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00022	0.00022			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.0502		.0504	mg/L	100.4	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.0502	U	.05094	mg/L	101.5	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.0502	U	.0507	mg/L	101	70	130	0.47	20	

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.0501		.04624	mg/L	92.3	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.04558	mg/L	91.1	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	U	.04273	mg/L	85.4	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	U	.04222	mg/L	84.4	70	130	1.2	20	

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.0501		.04872	mg/L	97.2	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0003	0.0003			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00022	0.00022			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.05005		.04837	mg/L	96.6	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.05005	U	.04838	mg/L	96.7	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.05005	U	.04899	mg/L	97.9	70	130	1.25	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2	mg/L	100	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.015	0.015			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1		1.027	mg/L	102.7	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1	U	1.022	mg/L	102.2	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1	U	1.025	mg/L	102.5	85	115	0.29	20	

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.9955	mg/L	99.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.015	0.015			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.011	0.011			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1		1.035	mg/L	103.5	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	1	U	1.041	mg/L	104.1	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	1	U	1.032	mg/L	103.2	70	130	0.87	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.0521	mg/L	104.2	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.04943	mg/L	98.8	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	.0028	.0509	mg/L	96.1	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	.0028	.05116	mg/L	96.6	70	130	0.51	20	

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.05026	mg/L	100.5	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0003	0.0003			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00022	0.00022			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.05005		.04885	mg/L	97.6	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.05005	U	.04911	mg/L	98.1	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.05005	U	.04974	mg/L	99.4	70	130	1.27	20	

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.04879	mg/L	97.6	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0006	0.0006			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.04761	mg/L	95.1	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	.0416	.08924	mg/L	95.2	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	.0416	.08989	mg/L	96.5	70	130	0.73	20	

SPF Water Engineering

ACZ Project ID: ***L19106***

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366984													
WG366984ICV	ICV	07/02/14 22:01	MS140513-1	.05		.04778	mg/L	95.6	90	110			
WG366984ICB	ICB	07/02/14 22:04				U	mg/L		-0.0006	0.0006			
WG366813LRB	LRB	07/02/14 22:07				U	mg/L		-0.00044	0.00044			
WG366813LFB	LFB	07/02/14 22:11	MS140625-3	.05005		.05011	mg/L	100.1	85	115			
L19103-03LFM	LFM	07/02/14 23:14	MS140625-3	.05005	U	.05011	mg/L	100.1	70	130			
L19103-03LFMD	LFMD	07/02/14 23:17	MS140625-3	.05005	U	.04798	mg/L	95.9	70	130	4.34	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.985	mg/L	99.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.03	0.03			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5005		.534	mg/L	106.7	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5005	U	.535	mg/L	106.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5005	U	.536	mg/L	107.1	85	115	0.19	20	

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.944	mg/L	97.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.03	0.03			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.022	0.022			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5005		.532	mg/L	106.3	85	115			
L19105-01LFM	LFM	07/03/14 14:13	II140611-2	.5005	U	.534	mg/L	106.7	70	130			
L19105-01LFMD	LFMD	07/03/14 14:16	II140611-2	.5005	U	.528	mg/L	105.5	70	130	1.13	20	

SPF Water Engineering ACZ Project ID: ***L19106***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L19106-01	WG366984	Manganese, total	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG367124	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366884	Conductivity @25C	SM2510B	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366997	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367057	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366971	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367218	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366744	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Sulfate	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366884	Total Alkalinity	SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L19106-02	WG366984	Manganese, total	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG367124	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367056	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367057	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366971	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367218	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366744	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Sulfate	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L19106***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L19106-03	WG366984	Manganese, total	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG367124	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367056	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367057	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366971	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366744	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Sulfate	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Quarter 2014 Sampling

ACZ Project ID: L19106
Date Received: 06/26/2014 09:47
Received By: mtb
Date Printed: 6/26/2014

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?	X		

A change was made in the Date:Time Line 2 section prior to ACZ custody.

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?	X		
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
NA19901	4	14	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Quarter 2014 Sampling

ACZ Project ID:	L19106
Date Received:	06/26/2014 09:47
Received By:	mtb
Date Printed:	6/26/2014

L19106

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name:	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SPF-2014-GW

PO#: Calico 2nd Quarter 2014 Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	*SPF-2014-GW	per ACZ QA/QC						
Twin Springs South	6/23/14 12:15	GW	8	X							
Twin Spring North	6/23/14 11:25	GW	8	X							
TS South Duplicate	6/23/14 12:25	GW	8	X							
Mercury Trip Blank	6/23/14 12:50	-	1		X						

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	6/25/14 7:00	UPC	6/26/14 0940

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L19106 Chain of Custody

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Bottle Order Packing List

Account: SPFWATER/SPF Water Engineering
Bottle Order: BO31482

Bill to Account: Bill to ACZ
Ship Date Requested: 05/07/2014
Request Placed at: 05/05/2014 10:29
Service Requested: UPS SecondDay

Sampling supplies

PACK	Qty	ACZ ID	Type	Description
	4	COC	Chain of Custody	Chain of Custody, 1 for 10 samples.
	2	SEAL	Custody Seal	Custody seals for cooler, two for each cooler.
	1	RETURN	Return Address	Return Address label, one for each cooler.
	272	LABELS	Sample Labels	ACZ supplied labels for sample containers
	4	TRIP CN		
	4	TRIP HG		

ACZ Coolers

PACK	Qty	ACZ ID	Size	Weight	UPS Tracking Number
	1	box	Small	55	1Z8101300275007472

Quote number: SPF-2014-GW
Quarterly Analysis of Groundwater and Springs

Sample Quantity: 33
Client is responsible for necessary field filtering

PACK	Qty	Type	Size	Filter/Raw/Preserve	Instructions
	1	GREEN PC	250 ML	Green pre-cleaned Filtered/Nitiric	Metals (dissolved including ICPMS) - Filter sample with .45 micron filter. Do not overfill as there is Nitric Acid in the bottle.
	1	HG-1631	250 ML	Mercury 1631	Mercury by 1631 - See method specific sampling instructions.
	1	HG-1631 D	250 ML	Mercury 1631 Dissolved	Mercury (dissolved) by 1631 - See method specific sampling instructions.
	1	PURPLE	500 ML	Raw/NaOH	Cyanide - Do not overfill as there is Sodium Hydroxide in the bottle.
	1	RAW	500 ML	Raw	Wet Chemistry (analyses that do not require preservative or filtration) - Completely fill container.
	1	RED PC	250 ML	Red pre-cleaned Raw/Nitric	Metals (total including ICPMS) - Do not overfill as there is Nitric Acid in the bottle.
	1	WHITE	250 ML	Filtered	Wet chemistry (dissolved) - Filter sample with .45 micron filter. Completely fill container.
	1	YELLOW	250 ML	Raw/Sulfuric	For total wet chemistry analyses. Do not overfill as there is Sulfuric Acid in the bottle.

Prepared By/Date: _____

mjj

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 11, 2014

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 2nd Quarter 2
ACZ Project ID: L19108

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 26, 2014. This project has been assigned to ACZ's project number, L19108. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L19108. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 10, 2014. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Max Janicek has reviewed and approved this report.

SPF Water Engineering

July 11, 2014

Project ID: Calico 2nd Quarter 2
ACZ Project ID: L19108

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 5 ground water samples from SPF Water Engineering on June 26, 2014. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L19108. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

Any analyses not performed within EPA recommended holding times have been qualified with an "H" flag.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

Some of the dissolved Cobalt values exceed the corresponding total values for project L19108. In some cases, RPDs between dissolved and total values exceed the standard acceptance limit of 20%. Samples were re-analyzed for verification, and results for both parameters were confirmed. This is a consistent anomaly with these sample types, and discrepancies may be attributed to a matrix or field sampling issue.

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: NEGRO ROCK CREEK

ACZ Sample ID: ***L19108-03***
Date Sampled: *06/24/14 10:55*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/03/14 11:52	mss2
Cyanide, WAD	SM4500-CN I- distillation								07/03/14 13:24	mss2
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/07/14 10:04	tcd
Total Hot Plate Digestion	M200.2 ICP								07/02/14 13:01	jjc
Total Hot Plate Digestion	M200.2 ICP-MS								07/02/14 10:58	las

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: NEGRO ROCK CREEK

ACZ Sample ID: ***L19108-03***
Date Sampled: *06/24/14 10:55*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	06/30/14 23:00	jjc
Aluminum, total	M200.7 ICP	1		U		mg/L	0.03	0.2	07/03/14 15:05	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/07/14 19:33	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/09/14 18:34	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0258			mg/L	0.0002	0.001	07/07/14 19:33	msh
Arsenic, total	M200.8 ICP-MS	1	0.0268			mg/L	0.0002	0.001	07/09/14 18:34	pmc
Barium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.003	0.02	06/30/14 23:00	jjc
Barium, total	M200.7 ICP	1	0.010	B		mg/L	0.003	0.02	07/03/14 15:05	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/10/14 12:44	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/09/14 18:34	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/30/14 23:00	jjc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/03/14 15:05	jjc
Boron, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	06/30/14 23:00	jjc
Boron, total	M200.7 ICP	1	0.10			mg/L	0.01	0.05	07/03/14 15:05	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/07/14 19:33	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:34	pmc
Calcium, dissolved	M200.7 ICP	1	31.4			mg/L	0.1	0.5	06/30/14 23:00	jjc
Calcium, total	M200.7 ICP	1	31.5			mg/L	0.1	0.5	07/03/14 15:05	jjc
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/07/14 19:33	msh
Chromium, total	M200.8 ICP-MS	1	0.0005	B		mg/L	0.0005	0.002	07/09/14 18:34	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00034			mg/L	0.00005	0.0003	07/07/14 19:33	msh
Cobalt, total	M200.8 ICP-MS	1	0.00013	B		mg/L	0.00005	0.0003	07/09/14 18:34	pmc
Copper, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/07/14 19:33	msh
Copper, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/10/14 19:36	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/30/14 23:00	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/14 15:05	jjc
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	06/30/14 23:00	jjc
Iron, total	M200.7 ICP	1	0.06			mg/L	0.02	0.05	07/03/14 15:05	jjc
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/07/14 19:33	msh
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:34	pmc
Lithium, dissolved	M200.7 ICP	1	0.037	B		mg/L	0.008	0.04	06/30/14 23:00	jjc
Lithium, total	M200.7 ICP	1	0.038	B		mg/L	0.008	0.04	07/03/14 15:05	jjc
Magnesium, dissolved	M200.7 ICP	1	10.1			mg/L	0.2	1	06/30/14 23:00	jjc
Magnesium, total	M200.7 ICP	1	10.1			mg/L	0.2	1	07/03/14 15:05	jjc
Manganese, dissolved	M200.8 ICP-MS	1	0.0487			mg/L	0.0005	0.003	07/07/14 19:33	msh
Manganese, total	M200.8 ICP-MS	1	0.0546			mg/L	0.0005	0.003	07/09/14 18:34	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	5		U	*	ng/L	1	3	07/01/14 18:06	las
Mercury, total	M1631, Atomic Fluorescence	1	0.6			ng/L	0.2	0.5	07/01/14 13:04	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0092			mg/L	0.0005	0.003	07/10/14 12:44	msh
Molybdenum, total	M200.8 ICP-MS	1	0.0093			mg/L	0.0005	0.003	07/09/14 18:34	pmc
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/07/14 19:33	msh
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/09/14 18:34	pmc
Potassium, dissolved	M200.7 ICP	1	8			mg/L	0.2	1	06/30/14 23:00	jjc

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: NEGRO ROCK CREEK

ACZ Sample ID: ***L19108-03***
Date Sampled: *06/24/14 10:55*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	8			mg/L	0.2	1	07/03/14 15:05	jjc
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/30/14 23:00	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/14 15:05	jjc
Selenium, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0003	07/07/14 19:33	msh
Selenium, total	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0003	07/09/14 18:34	pmc
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/10/14 12:44	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/09/14 18:34	pmc
Sodium, dissolved	M200.7 ICP	1	61.6			mg/L	0.2	1	06/30/14 23:00	jjc
Sodium, total	M200.7 ICP	1	61.6			mg/L	0.2	1	07/03/14 15:05	jjc
Strontium, dissolved	M200.7 ICP	1	0.169			mg/L	0.005	0.03	06/30/14 23:00	jjc
Strontium, total	M200.7 ICP	1	0.167			mg/L	0.005	0.03	07/03/14 15:05	jjc
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/07/14 19:33	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:34	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/07/14 19:33	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/09/14 18:34	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/30/14 23:00	jjc
Titanium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	07/03/14 15:05	jjc
Uranium, dissolved	M200.8 ICP-MS	1	0.0021			mg/L	0.0001	0.0005	07/07/14 19:33	msh
Uranium, total	M200.8 ICP-MS	1	0.0024			mg/L	0.0001	0.0005	07/09/14 18:34	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0187			mg/L	0.0002	0.001	07/07/14 19:33	msh
Vanadium, total	M200.8 ICP-MS	1	0.0222			mg/L	0.0002	0.001	07/09/14 18:34	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/30/14 23:00	jjc
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/14 15:05	jjc

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: NEGRO ROCK CREEK

ACZ Sample ID: ***L19108-03***
Date Sampled: *06/24/14 10:55*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	135			mg/L	2	20	07/02/14 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	07/02/14 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	07/02/14 0:00	abd
Total Alkalinity		1	135			mg/L	2	20	07/02/14 0:00	abd
Chloride	M300.0 - Ion Chromatography	1	17.6		*	mg/L	0.5	2.5	07/08/14 2:33	jlf
Conductivity @25C	SM2510B	1	527			umhos/cm	1	10	07/02/14 4:49	abd
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/04/14 0:28	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/04/14 1:22	pjb
Fluoride	M300.0 - Ion Chromatography	1	0.66		*	mg/L	0.05	0.25	07/08/14 2:33	jlf
Hardness as CaCO3	SM2340B - Calculation		120			mg/L	0.8	4	07/11/14 11:59	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.24			mg/L	0.02	0.1	07/05/14 15:33	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.2	07/02/14 16:11	bsu
pH (lab)	SM4500H+ B									
pH		1	8.3	H		units	0.1	0.1	07/02/14 0:00	abd
pH measured at		1	22			C	0.1	0.1	07/02/14 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.07			mg/L	0.01	0.05	07/09/14 1:03	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	360	H	*	mg/L	10	20	07/02/14 10:52	nml
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	06/30/14 15:29	eaa
Sulfate	M300.0 - Ion Chromatography	1	72.1		*	mg/L	0.5	2.5	07/08/14 2:33	jlf

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: TRANSFER BLANK

ACZ Sample ID: ***L19108-04***
Date Sampled: *06/24/14 13:55*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/03/14 12:07	mss2
Cyanide, WAD	SM4500-CN I- distillation								07/03/14 13:33	mss2
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/07/14 10:05	tcd
Total Hot Plate Digestion	M200.2 ICP-MS								07/02/14 11:08	las
Total Hot Plate Digestion	M200.2 ICP								07/02/14 13:12	jjc

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, total	M200.7 ICP	1		U		mg/L	0.03	0.2	07/03/14 15:09	jjc
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/09/14 18:38	pmc
Arsenic, total	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	07/09/14 18:38	pmc
Barium, total	M200.7 ICP	1		U		mg/L	0.003	0.02	07/03/14 15:09	jjc
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/09/14 18:38	pmc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/03/14 15:09	jjc
Boron, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/14 15:09	jjc
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:38	pmc
Calcium, total	M200.7 ICP	1		U		mg/L	0.1	0.5	07/03/14 15:09	jjc
Chromium, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/09/14 18:38	pmc
Cobalt, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/09/14 18:38	pmc
Copper, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/10/14 19:39	pmc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/14 15:09	jjc
Iron, total	M200.7 ICP	1		U		mg/L	0.02	0.05	07/03/14 15:09	jjc
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:38	pmc
Lithium, total	M200.7 ICP	1		U		mg/L	0.008	0.04	07/03/14 15:09	jjc
Magnesium, total	M200.7 ICP	1		U		mg/L	0.2	1	07/03/14 15:09	jjc
Manganese, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/09/14 18:38	pmc
Mercury, total	M1631, Atomic Fluorescence	1	0.2	B		ng/L	0.2	0.5	07/01/14 13:09	las
Molybdenum, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	07/09/14 18:38	pmc
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	07/09/14 18:38	pmc
Potassium, total	M200.7 ICP	1		U		mg/L	0.2	1	07/03/14 15:09	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/03/14 15:09	jjc
Selenium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	07/09/14 18:38	pmc
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/09/14 18:38	pmc
Sodium, total	M200.7 ICP	1		U		mg/L	0.2	1	07/03/14 15:09	jjc
Strontium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	07/03/14 15:09	jjc
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:38	pmc
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/09/14 18:38	pmc
Titanium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	07/03/14 15:09	jjc
Uranium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/09/14 18:38	pmc
Vanadium, total	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0002	0.001	07/09/14 18:38	pmc
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	07/03/14 15:09	jjc

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: TRANSFER BLANK

ACZ Sample ID: ***L19108-04***
Date Sampled: *06/24/14 13:55*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	07/02/14 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	07/02/14 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	07/02/14 0:00	abd
Total Alkalinity		1		U		mg/L	2	20	07/02/14 0:00	abd
Chloride	M300.0 - Ion Chromatography	1		U	*	mg/L	0.5	2.5	07/08/14 3:09	jlf
Conductivity @25C	SM2510B	1	1	B		umhos/cm	1	10	07/02/14 4:56	abd
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/04/14 0:29	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/04/14 1:23	pjb
Fluoride	M300.0 - Ion Chromatography	1		U	*	mg/L	0.05	0.25	07/08/14 3:09	jlf
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U		mg/L	0.02	0.1	07/05/14 15:35	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.2	07/02/14 16:12	bsu
pH (lab)	SM4500H+ B									
pH		1	6.3	H		units	0.1	0.1	07/02/14 0:00	abd
pH measured at		1	22			C	0.1	0.1	07/02/14 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.01	0.05	07/09/14 1:04	pjb
Residue, Filterable (TDS) @180C	SM2540C	1		UH	*	mg/L	10	20	07/02/14 10:54	nml
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	06/30/14 15:31	eaa
Sulfate	M300.0 - Ion Chromatography	1		U		mg/L	0.5	2.5	07/08/14 3:09	jlf

SPF Water Engineering
Project ID: Calico 2nd Quarter 2014 Sa
Sample ID: CYANIDE TRIP BLANK

ACZ Sample ID: ***L19108-05***
Date Sampled: *06/24/14 00:00*
Date Received: *06/26/14*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/03/14 12:21	mss2
Cyanide, WAD	SM4500-CN I- distillation								07/03/14 13:43	mss2

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/04/14 0:30	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/04/14 1:24	pjb

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L19108***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366884													
WG366884PBW1	PBW	07/01/14 19:03				U	mg/L		-20	20			
WG366884LCSW3	LCSW	07/01/14 19:22	WC140630-	820.0001		841.6	mg/L	102.6	90	110			
WG366884LCSW6	LCSW	07/01/14 23:36	WC140630-	820.0001		826.8	mg/L	100.8	90	110			
WG366884PBW2	PBW	07/01/14 23:44				U	mg/L		-20	20			
WG366884LCSW9	LCSW	07/02/14 3:26	WC140630-	820.0001		830.4	mg/L	101.3	90	110			
WG366884PBW3	PBW	07/02/14 3:35				U	mg/L		-20	20			
L19111-01DUP	DUP	07/02/14 5:18			432	446.4	mg/L				3.3	20	
WG366884LCSW12	LCSW	07/02/14 7:22	WC140630-	820.0001		830.4	mg/L	101.3	90	110			
WG366884PBW4	PBW	07/02/14 7:31				2.1	mg/L		-20	20			
WG366884LCSW15	LCSW	07/02/14 11:01	WC140630-	820.0001		831.9	mg/L	101.5	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.006	mg/L	100.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.09	0.09			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.0011		1.101	mg/L	110	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.0011	U	1.091	mg/L	109	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.0011	U	1.093	mg/L	109.2	85	115	0.18	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.995	mg/L	99.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.09	0.09			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.066	0.066			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.0011		1.09	mg/L	108.9	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	1.0011	U	1.105	mg/L	110.4	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	1.0011	U	1.112	mg/L	111.1	70	130	0.63	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.02002		.01968	mg/L	98.3	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0012	0.0012			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.01		.00986	mg/L	98.6	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.01	U	.00908	mg/L	90.8	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.01	U	.00891	mg/L	89.1	70	130	1.89	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.02002		.02018	mg/L	100.8	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0012	0.0012			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00088	0.00088			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.01		.01083	mg/L	108.3	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.01	.0004	.01131	mg/L	109.1	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.01	.0004	.01124	mg/L	108.4	70	130	0.62	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.05303	mg/L	106.1	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0006	0.0006			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.0501		.04817	mg/L	96.1	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.0501	.038	.08752	mg/L	98.8	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.0501	.038	.08786	mg/L	99.5	70	130	0.39	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05318	mg/L	106.4	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0006	0.0006			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00044	0.00044			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.0501		.05519	mg/L	110.2	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.0501	.0268	.07832	mg/L	102.8	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.0501	.0268	.07833	mg/L	102.9	70	130	0.01	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.9683	mg/L	98.4	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.009	0.009			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5		.5041	mg/L	100.8	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5	.005	.5081	mg/L	100.6	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5	.005	.5103	mg/L	101.1	85	115	0.43	20	

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.976	mg/L	98.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.009	0.009			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.0066	0.0066			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5		.5114	mg/L	102.3	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	.5	.023	.5301	mg/L	101.4	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	.5	.023	.5346	mg/L	102.3	70	130	0.85	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367303													
WG367303ICV	ICV	07/10/14 11:18	MS140513-1	.05		.04782	mg/L	95.6	90	110			
WG367303ICB	ICB	07/10/14 11:21				U	mg/L		-0.00015	0.00015			
WG367303LFB	LFB	07/10/14 11:24	MS140625-3	.05005		.04925	mg/L	98.4	85	115			
L19107-01AS	AS	07/10/14 12:25	MS140625-3	.05005	U	.04693	mg/L	93.8	70	130			
L19107-01ASD	ASD	07/10/14 12:28	MS140625-3	.05005	U	.04657	mg/L	93	70	130	0.77	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05115	mg/L	102.3	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.00015	0.00015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00011	0.00011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.05167	mg/L	103.2	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	U	.05111	mg/L	102.1	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	U	.05162	mg/L	103.1	70	130	0.99	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.007	mg/L	100.4	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.12	0.12			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.999		1.044	mg/L	104.5	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	.999	U	1.023	mg/L	102.4	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.999	U	1.019	mg/L	102	85	115	0.39	20	

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.003	mg/L	100.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.12	0.12			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.088	0.088			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.999		1.034	mg/L	103.5	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	.999	U	1.03	mg/L	103.1	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	.999	U	1.046	mg/L	104.7	70	130	1.54	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.015	mg/L	100.8	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.03	0.03			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5005		.525	mg/L	104.9	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5005	.11	.625	mg/L	102.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5005	.11	.625	mg/L	102.9	85	115	0	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.004	mg/L	100.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.03	0.03			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.022	0.022			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5005		.506	mg/L	101.1	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	.5005	.03	.549	mg/L	103.7	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	.5005	.03	.549	mg/L	103.7	70	130	0	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.05057	mg/L	101.1	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.0501		.0493	mg/L	98.4	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.0501	U	.0447	mg/L	89.2	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.0501	U	.04432	mg/L	88.5	70	130	0.85	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.04962	mg/L	99.2	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.0501		.04942	mg/L	98.6	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.0501	U	.04846	mg/L	96.7	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.0501	U	.04787	mg/L	95.5	70	130	1.22	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	100		99.28	mg/L	99.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.3	0.3			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	67.98099		73.58	mg/L	108.2	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	67.98099	26.8	99.64	mg/L	107.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	67.98099	26.8	99.62	mg/L	107.1	85	115	0.02	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	100		99.24	mg/L	99.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.3	0.3			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.22	0.22			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	67.98099		74.57	mg/L	109.7	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	67.98099	48.2	121.2	mg/L	107.4	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	67.98099	48.2	123.2	mg/L	110.3	70	130	1.64	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	19.98		20.3	mg/L	101.6	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-1.5	1.5			
WG367124													
WG367124LFB1	LFB	07/07/14 18:11	WI140610-6	30		31.1	mg/L	103.7	90	110			
L19105-04DUP	DUP	07/07/14 22:58			U	U	mg/L				0	20	RA
L19106-01AS	AS	07/07/14 23:34	WI140610-6	30	10.5	41.5	mg/L	103.3	90	110			
WG367124LFB2	LFB	07/08/14 2:51	WI140610-6	30		31.2	mg/L	104	90	110			
L19147-01DUP	DUP	07/08/14 18:31			2.23	2.22	mg/L				0.4	20	RA
L19147-02AS	AS	07/08/14 19:06	WI140610-6	30	2.15	33.1	mg/L	103.2	90	110			

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.04858	mg/L	97.2	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0015	0.0015			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.04588	mg/L	91.7	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	.0008	.04591	mg/L	90.1	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	.0008	.04657	mg/L	91.4	70	130	1.43	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05067	mg/L	101.3	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0015	0.0015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.0011	0.0011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.04994	mg/L	99.8	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	U	.04846	mg/L	96.8	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	U	.04908	mg/L	98.1	70	130	1.27	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.0494	mg/L	98.8	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.00015	0.00015			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.05022	mg/L	100.3	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	.0003	.04704	mg/L	93.4	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	.0003	.04731	mg/L	93.9	70	130	0.57	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.04989	mg/L	99.8	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.00015	0.00015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00011	0.00011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.05064	mg/L	101.2	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	.00008	.04872	mg/L	97.2	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	.00008	.04874	mg/L	97.2	70	130	0.04	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366884													
WG366884LCSW2	LCSW	07/01/14 19:09	PCN44568	1408.8		1433.3	µmhos/cm	101.7	90	110			
WG366884LCSW5	LCSW	07/01/14 23:21	PCN44568	1408.8		1422.1	µmhos/cm	100.9	90	110			
WG366884LCSW8	LCSW	07/02/14 3:12	PCN44568	1408.8		1403.9	µmhos/cm	99.7	90	110			
L19111-01DUP	DUP	07/02/14 5:18			2070	2080	µmhos/cm				0.5	20	
WG366884LCSW11	LCSW	07/02/14 7:08	PCN44568	1408.8		1391.7	µmhos/cm	98.8	90	110			
WG366884LCSW14	LCSW	07/02/14 10:46	PCN44568	1408.8		1372.4	µmhos/cm	97.4	90	110			

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.04718	mg/L	94.4	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0015	0.0015			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05		.04354	mg/L	87.1	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05	U	.04296	mg/L	85.9	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05	U	.04345	mg/L	86.9	70	130	1.13	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367311													
WG367311ICV	ICV	07/10/14 19:01	MS140513-1	.05		.04899	mg/L	98	90	110			
WG367311ICB	ICB	07/10/14 19:04				U	mg/L		-0.0015	0.0015			
WG366912LRB	LRB	07/10/14 19:06				U	mg/L		-0.0011	0.0011			
WG366912LFB	LFB	07/10/14 19:09	MS140625-3	.05		.04703	mg/L	94.1	85	115			
L19105-03LFM	LFM	07/10/14 19:19	MS140625-3	.05	U	.04547	mg/L	90.9	70	130			
L19105-03LFMD	LFMD	07/10/14 19:21	MS140625-3	.05	U	.045	mg/L	90	70	130	1.04	20	
WG367077LRB	LRB	07/10/14 19:46				.00068	mg/L		-0.0011	0.0011			
WG367077LFB	LFB	07/10/14 19:49	MS140625-3	.05		.04713	mg/L	94.3	85	115			

SPF Water Engineering

ACZ Project ID: ***L19108***

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367056													
WG367056ICV	ICV	07/04/14 0:14	WI140702-5	.3		.2924	mg/L	97.5	90	110			
WG367056ICB	ICB	07/04/14 0:15				U	mg/L		-0.003	0.003			
WG367004LRB	LRB	07/04/14 0:16				U	mg/L		-0.003	0.003			
WG367004LFB	LFB	07/04/14 0:17	WI140702-2	.2		.1927	mg/L	96.4	90	110			
L19106-02LFM	LFM	07/04/14 0:19	WI140702-2	.2	U	.1934	mg/L	96.7	90	110			
L19106-03DUP	DUP	07/04/14 0:20			U	U	mg/L				0	20	RA
L19108-05LFM	LFM	07/04/14 0:31	WI140702-2	.2	U	.1986	mg/L	99.3	90	110			
L19117-01DUP	DUP	07/04/14 0:32			U	U	mg/L				0	20	RA

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367056													
WG367056ICV	ICV	07/04/14 0:14	WI140702-5	.3		.2924	mg/L	97.5	90	110			
WG367056ICB	ICB	07/04/14 0:15				U	mg/L		-0.003	0.003			
WG367057													
WG367029LRB	LRB	07/04/14 1:07				U	mg/L		-0.003	0.003			
WG367029LFB	LFB	07/04/14 1:08	WI140702-4	.2		.18	mg/L	90	90	110			
L19105-01LFM	LFM	07/04/14 1:10	WI140702-4	.2	U	.1625	mg/L	81.3	90	110			M2
L19105-02DUP	DUP	07/04/14 1:11			U	U	mg/L				0	20	RA
L19176-06LFM	LFM	07/04/14 1:30	WI140702-4	.2	U	.1728	mg/L	86.4	90	110			M2
L19176-07DUP	DUP	07/04/14 1:32			U	U	mg/L				0	20	RA

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	4.02		4.17	mg/L	103.7	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-0.3	0.3			
WG367124													
WG367124LFB1	LFB	07/07/14 18:11	WI140610-6	1.5		1.54	mg/L	102.7	90	110			
L19105-04DUP	DUP	07/07/14 22:58			U	U	mg/L				0	20	RA
L19106-01AS	AS	07/07/14 23:34	WI140610-6	1.5	.62	2.18	mg/L	104	90	110			
WG367124LFB2	LFB	07/08/14 2:51	WI140610-6	1.5		1.55	mg/L	103.3	90	110			
L19147-01DUP	DUP	07/08/14 18:31			.37	.37	mg/L				0	20	RA
L19147-02AS	AS	07/08/14 19:06	WI140610-6	1.5	.31	1.84	mg/L	102	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.06	mg/L	103	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.3	0.3			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.001		1.05	mg/L	104.9	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.001	U	1.05	mg/L	104.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.001	U	1.04	mg/L	103.9	85	115	0.96	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.03	mg/L	101.5	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.3	0.3			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.22	0.22			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.001		1.04	mg/L	103.9	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	1.001	U	1.03	mg/L	102.9	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	1.001	U	1.03	mg/L	102.9	70	130	0	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.966	mg/L	98.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.06	0.06			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.0014		1.029	mg/L	102.8	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.0014	U	1.021	mg/L	102	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.0014	U	1.024	mg/L	102.3	85	115	0.29	20	

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.965	mg/L	98.3	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.06	0.06			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.044	0.044			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.0014		1.046	mg/L	104.5	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	1.0014	U	1.021	mg/L	102	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	1.0014	U	1.044	mg/L	104.3	70	130	2.23	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.04985	mg/L	99.7	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.04765	mg/L	95.2	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	U	.04162	mg/L	83.2	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	U	.04194	mg/L	83.8	70	130	0.77	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05152	mg/L	103	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.04887	mg/L	97.6	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	U	.04932	mg/L	98.5	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	U	.04962	mg/L	99.1	70	130	0.61	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.9912	mg/L	99.6	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.024	0.024			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.002		1.005	mg/L	100.3	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.002	.013	.999	mg/L	98.4	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.002	.013	1.009	mg/L	99.4	85	115	1	20	

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.9815	mg/L	99.1	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.024	0.024			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.0176	0.0176			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.002		1.01	mg/L	100.8	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	1.002	.018	1.023	mg/L	100.3	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	1.002	.018	1.037	mg/L	101.7	70	130	1.36	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	100		96.44	mg/L	96.4	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.6	0.6			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	50.00131		50.21	mg/L	100.4	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	50.00131	15	64.79	mg/L	99.6	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	50.00131	15	64.82	mg/L	99.6	85	115	0.05	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	100		96.61	mg/L	96.6	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.6	0.6			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.44	0.44			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	50.00131		51.21	mg/L	102.4	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	50.00131	14.5	65.07	mg/L	101.1	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	50.00131	14.5	65.85	mg/L	102.7	70	130	1.19	20	

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.05149	mg/L	103	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0015	0.0015			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.0501		.04955	mg/L	98.9	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.0501	.0018	.04832	mg/L	92.9	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.0501	.0018	.0488	mg/L	93.8	70	130	0.99	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05216	mg/L	104.3	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0015	0.0015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.0011	0.0011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.0501		.05004	mg/L	99.9	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.0501	U	.04919	mg/L	98.2	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.0501	U	.0497	mg/L	99.2	70	130	1.03	20	

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366407													
WG366407ICV	ICV	06/24/14 15:11	HG140624-4	10		10.2	ng/L	102	79	121			
WG366407ICB	ICB	06/24/14 15:16				U	ng/L		-0.5	0.5			
WG366851													
WG366851CCV1	CCV	07/01/14 13:19	HG140624-4	10		10.2	ng/L	102	76.5	123.4			
WG366851CCB1	CCB	07/01/14 13:24				U	ng/L		-0.5	0.5			
WG366851PQV	PQV	07/01/14 13:48	HG140624-6	.5		.65	ng/L	130	70	130			
WG366851LFB	LFB	07/01/14 13:53	HG140624-5	2		1.87	ng/L	93.5	71	125			
WG366851CCV2	CCV	07/01/14 14:43	HG140624-4	10		10.1	ng/L	101	76.5	123.4			
WG366851CCB2	CCB	07/01/14 14:48				U	ng/L		-0.5	0.5			
WG366851CCV3	CCV	07/01/14 16:35	HG140624-4	10		9.9	ng/L	99	76.5	123.4			
WG366851CCB3	CCB	07/01/14 16:40				U	ng/L		-0.5	0.5			
WG366851CCV4	CCV	07/01/14 17:36	HG140624-4	10		9.95	ng/L	99.5	76.5	123.4			
WG366851CCB4	CCB	07/01/14 17:41				U	ng/L		-0.5	0.5			
L19108-01MS	MS	07/01/14 17:51	HG5XPREP	50	U	9.4	ng/L	94	71	125			
L19108-01MSD	MSD	07/01/14 17:56	HG5XPREP	50	U	9.5	ng/L	95	71	125	1.06	24	
WG366851CCV5	CCV	07/01/14 18:11	HG140624-4	10		10.1	ng/L	101	76.5	123.4			
WG366851CCB5	CCB	07/01/14 18:16				U	ng/L		-0.5	0.5			

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ACZ Project ID: ***L19108***

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366407													
WG366407ICV	ICV	06/24/14 15:11	HG140624-4	10		10.2	ng/L	102	79	121			
WG366407ICB	ICB	06/24/14 15:16				U	ng/L		-0.5	0.5			
WG366793													
WG366793CCV1	CCV	07/01/14 9:39	HG140624-4	10		9.66	ng/L	96.6	76.5	123.4			
WG366793CCB1	CCB	07/01/14 9:44				U	ng/L		-0.5	0.5			
WG366793PQV	PQV	07/01/14 9:49	HG140624-6	.5		.59	ng/L	118	70	130			
WG366793LFB	LFB	07/01/14 9:54	HG140624-5	2		1.83	ng/L	91.5	71	125			
WG366793CCV2	CCV	07/01/14 10:30	HG140624-4	10		9.99	ng/L	99.9	76.5	123.4			
WG366793CCB2	CCB	07/01/14 10:35				U	ng/L		-0.5	0.5			
WG366793CCV3	CCV	07/01/14 11:20	HG140624-4	10		10	ng/L	100	76.5	123.4			
WG366793CCB3	CCB	07/01/14 11:25				U	ng/L		-0.5	0.5			
L19107-01MS	MS	07/01/14 12:24	HG140624-5	2	U	2.08	ng/L	104	71	125			
L19107-01MSD	MSD	07/01/14 12:29	HG140624-5	2	U	2.06	ng/L	103	71	125	0.97	24	
WG366793CCV4	CCV	07/01/14 12:34	HG140624-4	10		10.2	ng/L	102	76.5	123.4			
WG366793CCB4	CCB	07/01/14 12:39				U	ng/L		-0.5	0.5			
WG366793CCV5	CCV	07/01/14 13:19	HG140624-4	10		10.2	ng/L	102	76.5	123.4			
WG366793CCB5	CCB	07/01/14 13:24				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367303													
WG367303ICV	ICV	07/10/14 11:18	MS140513-1	.01998		.01802	mg/L	90.2	90	110			
WG367303ICB	ICB	07/10/14 11:21				U	mg/L		-0.0015	0.0015			
WG367303LFB	LFB	07/10/14 11:24	MS140625-3	.0502		.04708	mg/L	93.8	85	115			
L19107-01AS	AS	07/10/14 12:25	MS140625-3	.0502	.0196	.07132	mg/L	103	70	130			
L19107-01ASD	ASD	07/10/14 12:28	MS140625-3	.0502	.0196	.07263	mg/L	105.6	70	130	1.82	20	

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.01998		.01835	mg/L	91.8	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0015	0.0015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.0011	0.0011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.0502		.04825	mg/L	96.1	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.0502	.0033	.05198	mg/L	97	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.0502	.0033	.05236	mg/L	97.7	70	130	0.73	20	

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.04748	mg/L	95	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0018	0.0018			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05		.04453	mg/L	89.1	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05	U	.04239	mg/L	84.8	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05	U	.04311	mg/L	86.2	70	130	1.68	20	

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ACZ Project ID: ***L19108***

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05168	mg/L	103.4	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0018	0.0018			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00132	0.00132			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05		.04999	mg/L	100	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05	U	.04781	mg/L	95.6	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05	U	.04731	mg/L	94.6	70	130	1.05	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367059													
WG367059ICV	ICV	07/05/14 14:41	WI140417-3	2.416		2.4	mg/L	99.3	90	110			
WG367059ICB	ICB	07/05/14 14:42				U	mg/L		-0.06	0.06			
WG367059LFB1	LFB	07/05/14 14:45	WI140215-3	2		1.985	mg/L	99.3	90	110			
WG367059LFB2	LFB	07/05/14 15:19	WI140215-3	2		2.059	mg/L	103	90	110			
L19106-02AS	AS	07/05/14 15:22	WI140215-3	2	1.13	3.019	mg/L	94.5	90	110			
L19106-03DUP	DUP	07/05/14 15:26			1.93	1.918	mg/L				0.6	20	

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366944													
WG366944ICV	ICV	07/02/14 12:03	WI131021-1	1.003		1.025	mg/L	102.2	90	110			
WG366944ICB	ICB	07/02/14 12:06				U	mg/L		-0.15	0.15			
WG366971													
WG366971LFB1	LFB	07/02/14 15:11	WI140113-8	1		1.016	mg/L	101.6	90	110			
WG366971LFB2	LFB	07/02/14 16:00	WI140113-8	1		.969	mg/L	96.9	90	110			
L19106-01AS	AS	07/02/14 16:03	WI140113-8	1	U	.985	mg/L	98.5	90	110			
L19106-02DUP	DUP	07/02/14 16:05			U	U	mg/L				0	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366884													
WG366884LCSW1	LCSW	07/01/14 19:07	PCN45265	5.99		6.04	units	100.8	5.89	6.09			
WG366884LCSW4	LCSW	07/01/14 23:19	PCN45265	5.99		6.06	units	101.2	5.89	6.09			
WG366884LCSW7	LCSW	07/02/14 3:10	PCN45265	5.99		6.06	units	101.2	5.89	6.09			
L19111-01DUP	DUP	07/02/14 5:18			8.2	8.24	units				0.5	20	
WG366884LCSW10	LCSW	07/02/14 7:06	PCN45265	5.99		6.07	units	101.3	5.89	6.09			
WG366884LCSW13	LCSW	07/02/14 10:44	PCN45265	5.99		6.07	units	101.3	5.89	6.09			

SPF Water Engineering

ACZ Project ID: ***L19108***

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367218													
WG367218ICV	ICV	07/08/14 23:45	WI140620-3	.65228		.677	mg/L	103.8	90	110			
WG367218ICB	ICB	07/08/14 23:48				.013	mg/L		-0.03	0.03			
WG367220													
WG367044LRB	LRB	07/09/14 0:31				U	mg/L		-0.03	0.03			
WG367044LFB	LFB	07/09/14 0:33	WI140701-2	.5		.462	mg/L	92.4	90	110			
L19033-11LFM	LFM	07/09/14 0:51	WI140701-2	.5	.01	.491	mg/L	96.2	90	110			
L19033-13DUP	DUP	07/09/14 0:53			.1	.096	mg/L				4.1	20	

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	20		19.69	mg/L	98.5	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.6	0.6			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	99.99364		102	mg/L	102	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	99.99364	9	111.1	mg/L	102.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	99.99364	9	111.3	mg/L	102.3	85	115	0.18	20	

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	20		19.54	mg/L	97.7	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.6	0.6			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.44	0.44			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	99.99364		102.1	mg/L	102.1	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	99.99364	4.1	106.4	mg/L	102.3	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	99.99364	4.1	107.7	mg/L	103.6	70	130	1.21	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366932													
WG366932PBW	PBW	07/02/14 10:25				U	mg/L		-20	20			
WG366932LCSW	LCSW	07/02/14 10:26	PCN46081	260		260	mg/L	100	80	120			
L19108-01DUP	DUP	07/02/14 10:48			370	372	mg/L				0.5	10	
L19122-02DUP	DUP	07/02/14 11:09			U	U	mg/L				0	10	RA

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366744													
WG366744PBW	PBW	06/30/14 14:55				U	mg/L		-15	15			
WG366744LCSW	LCSW	06/30/14 14:56	PCN46084	160		144	mg/L	90	80	120			
L19121-03DUP	DUP	06/30/14 15:34			U	U	mg/L				0	10	RA

SPF Water Engineering

ACZ Project ID: ***L19108***

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2.02	mg/L	101	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.3	0.3			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1.0009		1.05	mg/L	104.9	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1.0009	U	1.05	mg/L	104.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1.0009	U	1.06	mg/L	105.9	85	115	0.95	20	

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		2.01	mg/L	100.5	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.3	0.3			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.22	0.22			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1.0009		1.06	mg/L	105.9	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	1.0009	U	1.05	mg/L	104.9	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	1.0009	U	1.06	mg/L	105.9	70	130	0.95	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.05185	mg/L	103.7	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.0493	mg/L	98.5	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	.0046	.0538	mg/L	98.3	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	.0046	.05636	mg/L	103.4	70	130	4.65	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05149	mg/L	103	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.05207	mg/L	104	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	.0011	.04974	mg/L	97.2	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	.0011	.04952	mg/L	96.7	70	130	0.44	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367303													
WG367303ICV	ICV	07/10/14 11:18	MS140513-1	.02002		.01964	mg/L	98.1	90	110			
WG367303ICB	ICB	07/10/14 11:21				U	mg/L		-0.00015	0.00015			
WG367303LFB	LFB	07/10/14 11:24	MS140625-3	.01002		.009691	mg/L	96.7	85	115			
L19107-01AS	AS	07/10/14 12:25	MS140625-3	.01002	U	.009192	mg/L	91.7	70	130			
L19107-01ASD	ASD	07/10/14 12:28	MS140625-3	.01002	U	.009334	mg/L	93.2	70	130	1.53	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.02002		.01977	mg/L	98.8	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.00015	0.00015			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00011	0.00011			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.01002		.009615	mg/L	96	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.01002	U	.009348	mg/L	93.3	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.01002	U	.009246	mg/L	92.3	70	130	1.1	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	100		98.24	mg/L	98.2	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.6	0.6			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	100.0393		102.3	mg/L	102.3	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	100.0393	42.7	142.8	mg/L	100.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	100.0393	42.7	143.2	mg/L	100.5	85	115	0.28	20	

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	100		97.84	mg/L	97.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.6	0.6			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.44	0.44			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	100.0393		102.1	mg/L	102.1	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	100.0393	18.1	120.7	mg/L	102.6	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	100.0393	18.1	122	mg/L	103.9	70	130	1.07	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.9738	mg/L	98.7	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.015	0.015			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5005		.5175	mg/L	103.4	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5005	.15	.6609	mg/L	102.1	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5005	.15	.661	mg/L	102.1	85	115	0.02	20	

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.9695	mg/L	98.5	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.015	0.015			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.011	0.011			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5005		.514	mg/L	102.7	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	.5005	.241	.753	mg/L	102.3	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	.5005	.241	.762	mg/L	104.1	70	130	1.19	20	

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ACZ Project ID: ***L19108***

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG360290													
WG360290ICV	ICV	03/06/14 13:49	WI140226-1	49.95		51.2	mg/L	102.5	90	110			
WG360290ICB	ICB	03/06/14 14:07				U	mg/L		-1.5	1.5			
WG367124													
WG367124LFB1	LFB	07/07/14 18:11	WI140610-6	30		30.9	mg/L	103	90	110			
L19105-04DUP	DUP	07/07/14 22:58			U	U	mg/L				0	20	RA
L19106-01AS	AS	07/07/14 23:34	WI140610-6	30	44	73.8	mg/L	99.3	90	110			
WG367124LFB2	LFB	07/08/14 2:51	WI140610-6	30		30.8	mg/L	102.7	90	110			
L19147-01DUP	DUP	07/08/14 18:31			23	22.9	mg/L				0.4	20	
L19147-02AS	AS	07/08/14 19:06	WI140610-6	30	14.9	45.8	mg/L	103	90	110			

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.05394	mg/L	107.9	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.0502		.05083	mg/L	101.3	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.0502	U	.04755	mg/L	94.7	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.0502	U	.04801	mg/L	95.6	70	130	0.96	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05459	mg/L	109.2	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.0502		.05019	mg/L	100	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.0502	U	.05127	mg/L	102.1	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.0502	U	.05136	mg/L	102.3	70	130	0.18	20	

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.0501		.04624	mg/L	92.3	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.04558	mg/L	91.1	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	U	.04273	mg/L	85.4	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	U	.04222	mg/L	84.4	70	130	1.2	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.0501		.04959	mg/L	99	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.05509	mg/L	110.1	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	U	.04974	mg/L	99.4	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	U	.05242	mg/L	104.7	70	130	5.25	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		2	mg/L	100	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.015	0.015			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	1		1.027	mg/L	102.7	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	1	U	1.022	mg/L	102.2	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	1	U	1.025	mg/L	102.5	85	115	0.29	20	

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.9955	mg/L	99.8	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.015	0.015			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.011	0.011			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	1		1.035	mg/L	103.5	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	1	U	1.025	mg/L	102.5	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	1	U	1.037	mg/L	103.7	70	130	1.16	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.0521	mg/L	104.2	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0003	0.0003			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.04943	mg/L	98.8	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	.0028	.0509	mg/L	96.1	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	.0028	.05116	mg/L	96.6	70	130	0.51	20	

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05136	mg/L	102.7	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0003	0.0003			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00022	0.00022			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.04828	mg/L	96.5	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	.0025	.05283	mg/L	100.6	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	.0025	.05285	mg/L	100.6	70	130	0.04	20	

SPF Water Engineering

ACZ Project ID: ***L19108***

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367129													
WG367129ICV	ICV	07/07/14 17:57	MS140513-1	.05		.04879	mg/L	97.6	90	110			
WG367129ICB	ICB	07/07/14 18:00				U	mg/L		-0.0006	0.0006			
WG367129LFB	LFB	07/07/14 18:03	MS140625-3	.05005		.04761	mg/L	95.1	85	115			
L19106-01AS	AS	07/07/14 18:58	MS140625-3	.05005	.0416	.08924	mg/L	95.2	70	130			
L19106-01ASD	ASD	07/07/14 19:01	MS140625-3	.05005	.0416	.08989	mg/L	96.5	70	130	0.73	20	

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG367205													
WG367205ICV	ICV	07/09/14 17:48	MS140513-1	.05		.05107	mg/L	102.1	90	110			
WG367205ICB	ICB	07/09/14 17:51				U	mg/L		-0.0006	0.0006			
WG366912LRB	LRB	07/09/14 17:55				U	mg/L		-0.00044	0.00044			
WG366912LFB	LFB	07/09/14 17:58	MS140625-3	.05005		.05141	mg/L	102.7	85	115			
L19105-03LFM	LFM	07/09/14 18:11	MS140625-3	.05005	.0308	.08198	mg/L	102.3	70	130			
L19105-03LFMD	LFMD	07/09/14 18:14	MS140625-3	.05005	.0308	.08372	mg/L	105.7	70	130	2.1	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366751													
WG366751ICV	ICV	06/30/14 21:14	II140512-2	2		1.985	mg/L	99.3	95	105			
WG366751ICB	ICB	06/30/14 21:20				U	mg/L		-0.03	0.03			
WG366751LFB	LFB	06/30/14 21:33	II140611-2	.5005		.534	mg/L	106.7	85	115			
L19106-01AS	AS	06/30/14 22:26	II140611-2	.5005	U	.535	mg/L	106.9	85	115			
L19106-01ASD	ASD	06/30/14 22:29	II140611-2	.5005	U	.536	mg/L	107.1	85	115	0.19	20	

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG366988													
WG366988ICV	ICV	07/03/14 13:33	II140624-2	2		1.944	mg/L	97.2	95	105			
WG366988ICB	ICB	07/03/14 13:39				U	mg/L		-0.03	0.03			
WG366919LRB	LRB	07/03/14 13:51				U	mg/L		-0.022	0.022			
WG366919LFB	LFB	07/03/14 13:54	II140611-2	.5005		.532	mg/L	106.3	85	115			
L19107-02LFM	LFM	07/03/14 14:44	II140611-2	.5005	U	.521	mg/L	104.1	70	130			
L19107-02LFMD	LFMD	07/03/14 14:47	II140611-2	.5005	U	.529	mg/L	105.7	70	130	1.52	20	

SPF Water Engineering ACZ Project ID: ***L19108***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L19108-01	WG366851	Mercury, dissolved	M1631, Atomic Fluorescence	D1	Sample required dilution due to matrix.
	WG367124	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367056	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367057	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366971	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366932	Residue, Filterable (TDS) @180C	SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
	WG366744	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Sulfate	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L19108-02	WG366851	Mercury, dissolved	M1631, Atomic Fluorescence	D1	Sample required dilution due to matrix.
	WG367124	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367056	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367057	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366971	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366932	Residue, Filterable (TDS) @180C	SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366744	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Sulfate	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L19108***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L19108-03	WG366851	Mercury, dissolved	M1631, Atomic Fluorescence	D1	Sample required dilution due to matrix.
	WG367124	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367056	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367057	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366971	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366932	Residue, Filterable (TDS) @180C	SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366744	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Sulfate	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L19108-04	WG367124	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367056	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367057	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367124	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366971	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366932	Residue, Filterable (TDS) @180C	SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG366744	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L19108-05	WG367056	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG367057	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Quarter 2014 Sampling

ACZ Project ID: L19108
Date Received: 06/26/2014 09:50
Received By: mtb
Date Printed: 6/27/2014

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?	X		

A change was made in the # of Containers Line 4 section prior to ACZ custody.

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
NA19904	2.4	13	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 2nd Quarter 2014 Sampling

ACZ Project ID:	L19108
Date Received:	06/26/2014 09:50
Received By:	mtb
Date Printed:	6/27/2014

L19108

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name:	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SPF-2014-GW

PO#: Calico 2nd Quarter 2014 Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	*SPF-2014-GW	per ACZ QA QC						
Deposit Stock Tank	6/24/14 16:15	GW	8	X							
Sagebrush Spring	6/24/14 12:10	GW	8	X							
Negro Rock Creek	6/24/14 10:55	GW	8	X							
Transfer Blank	6/24/14 13:55		6	X**							
Cyanide Trip Blank	NA		1		X						

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed

** note that Transfer Blank excludes diss. metals and diss. Mercury bottles/sample.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe SPF	6/25/14 7:00	[illegible]	6.26.14 0950

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L19108 Chain of Custody

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Bottle Order Packing List

Account: SPFWATER/SPF Water Engineering
Bottle Order: BO31482

Bill to Account: Bill to ACZ
Ship Date Requested: 05/07/2014
Request Placed at: 05/05/2014 10:29
Service Requested: UPS SecondDay

Sampling supplies

PACK	Qty	ACZ ID	Type	Description
	4	COC	Chain of Custody	Chain of Custody, 1 for 10 samples.
	2	SEAL	Custody Seal	Custody seals for cooler, two for each cooler.
	1	RETURN	Return Address	Return Address label, one for each cooler.
	272	LABELS	Sample Labels	ACZ supplied labels for sample containers
	4	TRIP CN		
	4	TRIP HG		

ACZ Coolers

PACK	Qty	ACZ ID	Size	Weight	UPS Tracking Number
	1	box	Small	55	1Z8101300275007472

Quote number: SPF-2014-GW
Sample Quantity: 33

Quarterly Analysis of Groundwater and Springs

Client is responsible for necessary field filtering

PACK	Qty	Type	Size	Filter/Raw/Preserve	Instructions
	1	GREEN PC	250 ML	Green pre-cleaned Filtered/Nitiric	Metals (dissolved including ICPMS) - Filter sample with .45 micron filter. Do not overfill as there is Nitric Acid in the bottle.
	1	HG-1631	250 ML	Mercury 1631	Mercury by 1631 - See method specific sampling instructions.
	1	HG-1631 D	250 ML	Mercury 1631 Dissolved	Mercury (dissolved) by 1631 - See method specific sampling instructions.
	1	PURPLE	500 ML	Raw/NaOH	Cyanide - Do not overfill as there is Sodium Hydroxide in the bottle.
	1	RAW	500 ML	Raw	Wet Chemistry (analyses that do not require preservative or filtration) - Completely fill container.
	1	RED PC	250 ML	Red pre-cleaned Raw/Nitric	Metals (total including ICPMS) - Do not overfill as there is Nitric Acid in the bottle.
	1	WHITE	250 ML	Filtered	Wet chemistry (dissolved) - Filter sample with .45 micron filter. Completely fill container.
	1	YELLOW	250 ML	Raw/Sulfuric	For total wet chemistry analyses. Do not overfill as there is Sulfuric Acid in the bottle.

Prepared By/Date: _____

mjj

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

December 17, 2013

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 4th Quarter sampling
ACZ Project ID: L15734

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on November 25, 2013. This project has been assigned to ACZ's project number, L15734. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L15734. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after January 16, 2014. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Max Janicek has reviewed and approved this report.

SPF Water Engineering

December 17, 2013

Project ID: Calico 4th Quarter sampling
ACZ Project ID: L15734

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 2 ground water samples from SPF Water Engineering on November 25, 2013. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L15734. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

Any analyses not performed within EPA recommended holding times have been qualified with an "H" flag.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

The dissolved Cobalt values exceed the corresponding total values for project L15734. The samples were re-analyzed for verification, and results for both parameters were confirmed. This is a consistent anomaly with these sample types, and discrepancies may be attributed to a matrix or field sampling issue.

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L15734-01***
Date Sampled: *11/20/13 11:00*
Date Received: *11/25/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								12/03/13 18:21	mpb
Cyanide, WAD	SM4500-CN I- distillation								11/26/13 16:51	mpb
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/06/13 11:54	bsu
Total Hot Plate Digestion	M200.2 ICP-MS								12/16/13 9:28	scp
Total Hot Plate Digestion	M200.2 ICP								12/02/13 19:02	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L15734-01***
Date Sampled: *11/20/13 11:00*
Date Received: *11/25/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/03/13 1:00	aeb
Aluminum, total	M200.7 ICP	1	0.89			mg/L	0.03	0.2	12/03/13 16:50	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/05/13 2:21	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/06/13 20:45	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0100			mg/L	0.0002	0.001	12/05/13 2:21	msh
Arsenic, total	M200.8 ICP-MS	1	0.0102			mg/L	0.0002	0.001	12/06/13 20:45	pmc
Barium, dissolved	M200.7 ICP	1	0.019	B		mg/L	0.003	0.02	12/03/13 1:00	aeb
Barium, total	M200.7 ICP	1	0.030			mg/L	0.003	0.02	12/03/13 16:50	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/05/13 2:21	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/06/13 20:45	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/03/13 1:00	aeb
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/03/13 16:50	jjc
Boron, dissolved	M200.7 ICP	1	0.18			mg/L	0.01	0.05	12/03/13 1:00	aeb
Boron, total	M200.7 ICP	1	0.16			mg/L	0.01	0.05	12/03/13 16:50	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/13 2:21	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/06/13 20:45	pmc
Calcium, dissolved	M200.7 ICP	1	19.1			mg/L	0.2	1	12/03/13 1:00	aeb
Calcium, total	M200.7 ICP	1	19.6			mg/L	0.2	1	12/03/13 16:50	jjc
Chromium, dissolved	M200.8 ICP-MS	1	0.0009	B		mg/L	0.0005	0.002	12/05/13 2:21	msh
Chromium, total	M200.8 ICP-MS	1	0.0016	B		mg/L	0.0005	0.002	12/06/13 20:45	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00049			mg/L	0.00005	0.0003	12/11/13 5:16	pmc
Cobalt, total	M200.8 ICP-MS	1	0.00036			mg/L	0.00005	0.0003	12/13/13 21:44	pmc
Copper, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/05/13 2:21	msh
Copper, total	M200.8 ICP-MS	1	0.0009	B		mg/L	0.0005	0.003	12/06/13 20:45	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 1:00	aeb
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 16:50	jjc
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	12/03/13 1:00	aeb
Iron, total	M200.7 ICP	1	0.75			mg/L	0.02	0.05	12/03/13 16:50	jjc
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/13 2:21	msh
Lead, total	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	12/06/13 20:45	pmc
Lithium, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.02	0.1	12/03/13 1:00	aeb
Lithium, total	M200.7 ICP	1	0.03	B		mg/L	0.02	0.1	12/03/13 16:50	jjc
Magnesium, dissolved	M200.7 ICP	1	5.3			mg/L	0.2	1	12/03/13 1:00	aeb
Magnesium, total	M200.7 ICP	1	5.6			mg/L	0.2	1	12/03/13 16:50	jjc
Manganese, dissolved	M200.8 ICP-MS	1	0.0066			mg/L	0.0005	0.003	12/05/13 2:21	msh
Manganese, total	M200.8 ICP-MS	1	0.0242		*	mg/L	0.0005	0.003	12/06/13 20:45	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	1	0.6			ng/L	0.2	0.5	11/27/13 13:55	las
Mercury, total	M1631, Atomic Fluorescence	2	13.2			ng/L	0.4	1	12/03/13 13:52	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0065			mg/L	0.0005	0.003	12/05/13 2:21	msh
Molybdenum, total	M200.8 ICP-MS	1	0.0067			mg/L	0.0005	0.003	12/06/13 20:45	pmc
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	12/05/13 2:21	msh
Nickel, total	M200.8 ICP-MS	1	0.0008	B		mg/L	0.0006	0.003	12/06/13 20:45	pmc
Potassium, dissolved	M200.7 ICP	1	4.2			mg/L	0.3	2	12/03/13 1:00	aeb

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L15734-01***
Date Sampled: *11/20/13 11:00*
Date Received: *11/25/13*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	4.3			mg/L	0.3	2	12/03/13 16:50	jjc
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 1:00	aeb
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 16:50	jjc
Selenium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0003	12/05/13 2:21	msh
Selenium, total	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0003	12/06/13 20:45	pmc
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/10/13 17:22	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/06/13 20:45	pmc
Sodium, dissolved	M200.7 ICP	1	46.6			mg/L	0.3	2	12/03/13 1:00	aeb
Sodium, total	M200.7 ICP	1	45.7			mg/L	0.3	2	12/03/13 16:50	jjc
Strontium, dissolved	M200.7 ICP	1	0.09			mg/L	0.01	0.05	12/03/13 1:00	aeb
Strontium, total	M200.7 ICP	1	0.09			mg/L	0.01	0.05	12/03/13 16:50	jjc
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/13 2:21	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/06/13 20:45	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	12/05/13 2:21	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	12/06/13 20:45	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/03/13 1:00	aeb
Titanium, total	M200.7 ICP	1	0.037			mg/L	0.005	0.03	12/03/13 16:50	jjc
Uranium, dissolved	M200.8 ICP-MS	1	0.0026			mg/L	0.0001	0.0005	12/05/13 2:21	msh
Uranium, total	M200.8 ICP-MS	1	0.0025			mg/L	0.0001	0.0005	12/06/13 20:45	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0082			mg/L	0.0002	0.001	12/05/13 2:21	msh
Vanadium, total	M200.8 ICP-MS	1	0.0103			mg/L	0.0002	0.001	12/06/13 20:45	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/03/13 1:00	aeb
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	12/03/13 16:50	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: LESLIE GULCH

ACZ Sample ID: ***L15734-01***
Date Sampled: *11/20/13 11:00*
Date Received: *11/25/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	105			mg/L	2	20	12/04/13 0:00	abm
Carbonate as CaCO3		1	9	B		mg/L	2	20	12/04/13 0:00	abm
Hydroxide as CaCO3		1		U		mg/L	2	20	12/04/13 0:00	abm
Total Alkalinity		1	114			mg/L	2	20	12/04/13 0:00	abm
Chloride	M300.0 - Ion Chromatography	1	13.8		*	mg/L	0.5	2.5	12/09/13 17:09	tcd
Conductivity @25C	SM2510B	1	349			umhos/cm	1	10	12/04/13 4:33	abm
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/04/13 18:18	bsu
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	11/26/13 17:42	mpb
Fluoride	M300.0 - Ion Chromatography	1	2.60		*	mg/L	0.1	0.5	12/09/13 17:09	tcd
Hardness as CaCO3	SM2340B - Calculation		70			mg/L	1	7	12/17/13 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.41			mg/L	0.02	0.1	12/06/13 0:38	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	12/06/13 15:26	bsu
pH (lab)	SM4500H+ B									
pH		1	8.6	H		units	0.1	0.1	12/04/13 0:00	abm
pH measured at		1	21			C	0.1	0.1	12/04/13 0:00	abm
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.03	B	*	mg/L	0.01	0.05	12/07/13 12:17	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	230			mg/L	10	20	11/26/13 15:28	khw
Residue, Non-Filterable (TSS) @105C	SM2540D	1	8	B	*	mg/L	5	20	11/26/13 14:22	id
Sulfate	M300.0 - Ion Chromatography	1	31.9			mg/L	0.5	2.5	12/09/13 17:09	tcd

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: OWYHEE DS

ACZ Sample ID: ***L15734-02***
Date Sampled: *11/20/13 15:10*
Date Received: *11/25/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								12/03/13 18:40	mpb
Cyanide, WAD	SM4500-CN I- distillation								11/26/13 17:00	mpb
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/06/13 12:15	bsu
Total Hot Plate Digestion	M200.2 ICP-MS								12/16/13 9:43	scp
Total Hot Plate Digestion	M200.2 ICP								12/02/13 19:14	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: OWYHEE DS

ACZ Sample ID: ***L15734-02***
Date Sampled: *11/20/13 15:10*
Date Received: *11/25/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/03/13 1:03	aeb
Aluminum, total	M200.7 ICP	1	0.37			mg/L	0.03	0.2	12/03/13 16:53	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/05/13 2:24	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/06/13 20:49	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0059			mg/L	0.0002	0.001	12/05/13 2:24	msh
Arsenic, total	M200.8 ICP-MS	1	0.0059			mg/L	0.0002	0.001	12/06/13 20:49	pmc
Barium, dissolved	M200.7 ICP	1	0.015	B		mg/L	0.003	0.02	12/03/13 1:03	aeb
Barium, total	M200.7 ICP	1	0.019	B		mg/L	0.003	0.02	12/03/13 16:53	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/05/13 2:24	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/06/13 20:49	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/03/13 1:03	aeb
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/03/13 16:53	jjc
Boron, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	12/03/13 1:03	aeb
Boron, total	M200.7 ICP	1	0.10			mg/L	0.01	0.05	12/03/13 16:53	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/13 2:24	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/06/13 20:49	pmc
Calcium, dissolved	M200.7 ICP	1	20.7			mg/L	0.2	1	12/03/13 1:03	aeb
Calcium, total	M200.7 ICP	1	21.2			mg/L	0.2	1	12/03/13 16:53	jjc
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	12/05/13 2:24	msh
Chromium, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	12/06/13 20:49	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00076			mg/L	0.00005	0.0003	12/11/13 5:25	pmc
Cobalt, total	M200.8 ICP-MS	1	0.00015	B		mg/L	0.00005	0.0003	12/13/13 21:46	pmc
Copper, dissolved	M200.8 ICP-MS	1	0.0005	B		mg/L	0.0005	0.003	12/05/13 2:24	msh
Copper, total	M200.8 ICP-MS	1	0.0016	B		mg/L	0.0005	0.003	12/06/13 20:49	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 1:03	aeb
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 16:53	jjc
Iron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.02	0.05	12/03/13 1:03	aeb
Iron, total	M200.7 ICP	1	0.30			mg/L	0.02	0.05	12/03/13 16:53	jjc
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/13 2:24	msh
Lead, total	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	12/06/13 20:49	pmc
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/03/13 1:03	aeb
Lithium, total	M200.7 ICP	1		U		mg/L	0.02	0.1	12/03/13 16:53	jjc
Magnesium, dissolved	M200.7 ICP	1	5.5			mg/L	0.2	1	12/03/13 1:03	aeb
Magnesium, total	M200.7 ICP	1	5.7			mg/L	0.2	1	12/03/13 16:53	jjc
Manganese, dissolved	M200.8 ICP-MS	1	0.0064			mg/L	0.0005	0.003	12/05/13 2:24	msh
Manganese, total	M200.8 ICP-MS	1	0.0100		*	mg/L	0.0005	0.003	12/09/13 19:58	pmc
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0036			mg/L	0.0005	0.003	12/05/13 2:24	msh
Molybdenum, total	M200.8 ICP-MS	1	0.0037			mg/L	0.0005	0.003	12/06/13 20:49	pmc
Nickel, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0006	0.003	12/05/13 2:24	msh
Nickel, total	M200.8 ICP-MS	1	0.0008	B		mg/L	0.0006	0.003	12/06/13 20:49	pmc
Potassium, dissolved	M200.7 ICP	1	3.5			mg/L	0.3	2	12/03/13 1:03	aeb
Potassium, total	M200.7 ICP	1	3.7			mg/L	0.3	2	12/03/13 16:53	jjc
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 1:03	aeb

** Please refer to Qualifier Reports for details.*

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: OWYHEE DS

ACZ Sample ID: ***L15734-02***
Date Sampled: *11/20/13 15:10*
Date Received: *11/25/13*
Sample Matrix: *Ground Water*

Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 16:53	jjc
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	12/05/13 2:24	msh
Selenium, total	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	12/06/13 20:49	pmc
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/10/13 17:25	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/06/13 20:49	pmc
Sodium, dissolved	M200.7 ICP	1	28.6			mg/L	0.3	2	12/03/13 1:03	aeb
Sodium, total	M200.7 ICP	1	28.6			mg/L	0.3	2	12/03/13 16:53	jjc
Strontium, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	12/03/13 1:03	aeb
Strontium, total	M200.7 ICP	1	0.10			mg/L	0.01	0.05	12/03/13 16:53	jjc
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/13 2:24	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/06/13 20:49	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	12/05/13 2:24	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	12/06/13 20:49	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/03/13 1:03	aeb
Titanium, total	M200.7 ICP	1	0.014	B		mg/L	0.005	0.03	12/03/13 16:53	jjc
Uranium, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0005	12/05/13 2:24	msh
Uranium, total	M200.8 ICP-MS	1	0.0015			mg/L	0.0001	0.0005	12/06/13 20:49	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0043			mg/L	0.0002	0.001	12/05/13 2:24	msh
Vanadium, total	M200.8 ICP-MS	1	0.0052			mg/L	0.0002	0.001	12/06/13 20:49	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/03/13 1:03	aeb
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	12/03/13 16:53	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: OWYHEE DS

ACZ Sample ID: ***L15734-02***
Date Sampled: *11/20/13 15:10*
Date Received: *11/25/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	90			mg/L	2	20	12/04/13 0:00	abm
Carbonate as CaCO3		1	9	B		mg/L	2	20	12/04/13 0:00	abm
Hydroxide as CaCO3		1		U		mg/L	2	20	12/04/13 0:00	abm
Total Alkalinity		1	100			mg/L	2	20	12/04/13 0:00	abm
Chloride	M300.0 - Ion Chromatography	1	8.56		*	mg/L	0.5	2.5	12/09/13 17:27	tcd
Conductivity @25C	SM2510B	1	277			umhos/cm	1	10	12/04/13 4:41	abm
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/04/13 18:19	bsu
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	11/26/13 17:43	mpb
Fluoride	M300.0 - Ion Chromatography	1	1.20		*	mg/L	0.1	0.5	12/09/13 17:27	tcd
Hardness as CaCO3	SM2340B - Calculation		74			mg/L	1	7	12/17/13 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.11			mg/L	0.02	0.1	12/06/13 0:39	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	12/06/13 15:27	bsu
pH (lab)	SM4500H+ B									
pH		1	8.6	H		units	0.1	0.1	12/04/13 0:00	abm
pH measured at		1	21			C	0.1	0.1	12/04/13 0:00	abm
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B	*	mg/L	0.01	0.05	12/07/13 12:19	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	180			mg/L	10	20	11/26/13 16:58	khw
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	11/26/13 14:25	id
Sulfate	M300.0 - Ion Chromatography	1	23.3			mg/L	0.5	2.5	12/09/13 17:27	tcd

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4)	EPA SW-846. Test Methods for Evaluating Solid Waste.
(5)	Standard Methods for the Examination of Water and Wastewater.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5)	If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L15734***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355781													
WG355781PBW1	PBW	12/03/13 15:00				6.8	mg/L		-20	20			
WG355781LCSW2	LCSW	12/03/13 15:13	WC131126-	820.0001		744	mg/L	90.7	90	110			
WG355781LCSW5	LCSW	12/03/13 19:53	WC131126-	820.0001		763.3	mg/L	93.1	90	110			
WG355781PBW2	PBW	12/03/13 20:02				2.6	mg/L		-20	20			
WG355781LCSW8	LCSW	12/03/13 22:55	WC131126-	820.0001		750.3	mg/L	91.5	90	110			
WG355781PBW3	PBW	12/03/13 23:05				2.7	mg/L		-20	20			
WG355781LCSW11	LCSW	12/04/13 2:21	WC131126-	820.0001		766.8	mg/L	93.5	90	110			
WG355781PBW4	PBW	12/04/13 2:29				2.5	mg/L		-20	20			
L15818-11DUP	DUP	12/04/13 6:07			856	869.1	mg/L				1.5	20	
WG355781LCSW14	LCSW	12/04/13 6:20	WC131126-	820.0001		783.5	mg/L	95.5	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	2		1.97	mg/L	98.5	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.09	0.09			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	1.0011		1.021	mg/L	102	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	1.0011	U	1.054	mg/L	105.3	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	1.0011	U	1.058	mg/L	105.7	85	115	0.38	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	1.0011	.05	1.107	mg/L	105.6	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	1.0011	.05	1.105	mg/L	105.4	85	115	0.18	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	2		2.002	mg/L	100.1	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.09	0.09			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.066	0.066			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	1.0011		1.028	mg/L	102.7	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	1.0011	.36	1.536	mg/L	117.5	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	1.0011	.36	1.536	mg/L	117.5	70	130	0	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.02		.02062	mg/L	103.1	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0012	0.0012			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.01		.01036	mg/L	103.6	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.01	U	.0105	mg/L	105	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.01	U	.01046	mg/L	104.6	70	130	0.38	20	

SPF Water Engineering

ACZ Project ID: ***L15734***

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.02		.02033	mg/L	101.7	90	110			
WG356064ICB	ICB	12/06/13 20:23				.00047	mg/L		-0.0012	0.0012			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00088	0.00088			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.01		.01124	mg/L	112.4	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.01	U	.01122	mg/L	112.2	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.01	U	.01115	mg/L	111.5	70	130	0.63	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.05449	mg/L	109	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0006	0.0006			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.05005		.05074	mg/L	101.4	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.05005	.0059	.06128	mg/L	110.6	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.05005	.0059	.0617	mg/L	111.5	70	130	0.68	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05226	mg/L	104.5	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0006	0.0006			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00044	0.00044			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.05181	mg/L	103.5	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	.0013	.05588	mg/L	109.1	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	.0013	.0551	mg/L	107.5	70	130	1.41	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	2		1.963	mg/L	98.2	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.009	0.009			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	.5		.4988	mg/L	99.8	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	.5	.036	.5317	mg/L	99.1	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	.5	.036	.5361	mg/L	100	85	115	0.82	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	.5	U	.5009	mg/L	100.2	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	.5	U	.4973	mg/L	99.5	85	115	0.72	20	

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	2		1.974	mg/L	98.7	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.009	0.009			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.0066	0.0066			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	.5		.4804	mg/L	96.1	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	.5	.078	.5722	mg/L	98.8	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	.5	.078	.571	mg/L	98.6	70	130	0.21	20	

SPF Water Engineering

ACZ Project ID: ***L15734***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.04924	mg/L	98.5	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.00015	0.00015			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.0501		.04447	mg/L	88.8	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.0501	U	.04952	mg/L	98.8	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.0501	U	.04943	mg/L	98.7	70	130	0.18	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.04662	mg/L	93.2	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.00015	0.00015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00011	0.00011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.0501		.04783	mg/L	95.5	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.0501	.00542	.05579	mg/L	100.5	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.0501	.00542	.05486	mg/L	98.7	70	130	1.68	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	2		2.008	mg/L	100.4	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.12	0.12			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	1		1.048	mg/L	104.8	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	1	U	1.035	mg/L	103.5	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	1	U	1.035	mg/L	103.5	85	115	0	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	1	U	1.026	mg/L	102.6	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	1	U	1.035	mg/L	103.5	85	115	0.87	20	

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	2		1.997	mg/L	99.9	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.12	0.12			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.088	0.088			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	1		1.045	mg/L	104.5	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	1	U	1.075	mg/L	107.5	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	1	U	1.034	mg/L	103.4	70	130	3.89	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	2		1.994	mg/L	99.7	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.03	0.03			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	.5005		.504	mg/L	100.7	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	.5005	.24	.737	mg/L	99.3	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	.5005	.24	.74	mg/L	99.9	85	115	0.41	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	.5005	.02	.529	mg/L	101.7	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	.5005	.02	.525	mg/L	100.9	85	115	0.76	20	

SPF Water Engineering

ACZ Project ID: ***L15734***

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	2		2.004	mg/L	100.2	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.03	0.03			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.022	0.022			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	.5005		.49	mg/L	97.9	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	.5005	.03	.526	mg/L	99.1	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	.5005	.03	.521	mg/L	98.1	70	130	0.96	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.04868	mg/L	97.4	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0003	0.0003			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.0501		.04856	mg/L	96.9	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.0501	U	.0498	mg/L	99.4	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.0501	U	.05016	mg/L	100.1	70	130	0.72	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.04953	mg/L	99.1	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.0501		.05045	mg/L	100.7	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.0501	.0038	.05205	mg/L	96.3	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.0501	.0038	.05128	mg/L	94.8	70	130	1.49	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	100		98.86	mg/L	98.9	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.6	0.6			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	68.00225		69.57	mg/L	102.3	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	68.00225	91.8	158.9	mg/L	98.7	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	68.00225	91.8	158.9	mg/L	98.7	85	115	0	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	68.00225	6.4	76.6	mg/L	103.2	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	68.00225	6.4	76.75	mg/L	103.5	85	115	0.2	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	100		99.4	mg/L	99.4	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.6	0.6			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.44	0.44			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	68.00225		68.71	mg/L	101	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	68.00225	62.6	132.9	mg/L	103.4	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	68.00225	62.6	131.6	mg/L	101.5	70	130	0.98	20	

SPF Water Engineering

ACZ Project ID: ***L15734***

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	19.98		19.7	mg/L	98.6	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-1.5	1.5			
WG356091													
L15749-01DUP	DUP	12/09/13 18:57			67.5	69.1	mg/L				2.3	20	RA
L15749-02AS	AS	12/09/13 19:32	WI131011-1	600	107	721	mg/L	102.3	90	110			
WG356091LFB2	LFB	12/09/13 20:26	WI131011-1	30		30.3	mg/L	101	90	110			
WG356091LFB1	LFB	12/10/13 16:26	WI131011-1	30		30.2	mg/L	100.7	90	110			

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.04972	mg/L	99.4	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0015	0.0015			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.05005		.04851	mg/L	96.9	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.05005	U	.04809	mg/L	96.1	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.05005	U	.04834	mg/L	96.6	70	130	0.52	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.0494	mg/L	98.8	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0015	0.0015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.0011	0.0011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.04947	mg/L	98.8	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	U	.04824	mg/L	96.4	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	U	.04753	mg/L	95	70	130	1.48	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356226													
WG356226ICV	ICV	12/11/13 4:53	MS131202-2	.05		.04963	mg/L	99.3	90	110			
WG356226ICB	ICB	12/11/13 4:56				U	mg/L		-0.00015	0.00015			
WG356226LFB	LFB	12/11/13 5:00	MS131118-2	.05005		.05167	mg/L	103.2	85	115			
L15734-01AS	AS	12/11/13 5:19	MS131118-2	.05005	.00049	.05178	mg/L	102.5	70	130			
L15734-01ASD	ASD	12/11/13 5:22	MS131118-2	.05005	.00049	.0523	mg/L	103.5	70	130	1	20	

SPF Water Engineering

ACZ Project ID: ***L15734***

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356436													
WG356436ICV	ICV	12/13/13 21:19	MS131202-2	.05		.04942	mg/L	98.8	90	110			
WG356436ICB	ICB	12/13/13 21:21				U	mg/L		-0.00015	0.00015			
WG355846LRB	LRB	12/13/13 21:23				U	mg/L		-0.00011	0.00011			
WG355846LFB	LFB	12/13/13 21:24	MS131118-2	.05005		.05085	mg/L	101.6	85	115			
WG355922LRB	LRB	12/13/13 21:37				U	mg/L		-0.00011	0.00011			
WG355922LFB	LFB	12/13/13 21:43	MS131118-2	.05005		.05096	mg/L	101.8	85	115			
L15749-02LFM	LFM	12/13/13 21:50	MS131118-2	.05005	.2452	.2826	mg/L	74.7	70	130			
L15749-02LFMD	LFMD	12/13/13 21:52	MS131118-2	.05005	.2452	.2986	mg/L	106.7	70	130	5.51	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355781													
WG355781LCSW1	LCSW	12/03/13 15:02	PCN42442	1408.8		1438.6	umhos/cm	102.1	90	110			
WG355781LCSW4	LCSW	12/03/13 19:42	PCN42442	1408.8		1415	umhos/cm	100.4	90	110			
WG355781LCSW7	LCSW	12/03/13 22:44	PCN42442	1408.8		1411	umhos/cm	100.2	90	110			
WG355781LCSW10	LCSW	12/04/13 2:09	PCN42442	1408.8		1394.6	umhos/cm	99	90	110			
L15818-11DUP	DUP	12/04/13 6:07			3720	3710	umhos/cm				0.3	20	
WG355781LCSW13	LCSW	12/04/13 6:08	PCN42442	1408.8		1381.2	umhos/cm	98	90	110			

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.05045	mg/L	100.9	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0015	0.0015			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.05005		.04821	mg/L	96.3	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.05005	.0005	.04818	mg/L	95.3	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.05005	.0005	.04851	mg/L	95.9	70	130	0.68	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.04944	mg/L	98.9	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0015	0.0015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.0011	0.0011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.04906	mg/L	98	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	.0035	.04902	mg/L	90.9	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	.0035	.04835	mg/L	89.6	70	130	1.38	20	

SPF Water Engineering

ACZ Project ID: ***L15734***

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355888													
WG355888ICV	ICV	12/04/13 17:12	WI131202-6	.3		.2922	mg/L	97.4	90	110			
WG355888ICB	ICB	12/04/13 17:13				U	mg/L		-0.003	0.003			
WG355891													
WG355802LRB	LRB	12/04/13 17:57				U	mg/L		-0.003	0.003			
WG355802LFB	LFB	12/04/13 17:58	WI131202-2	.2		.187	mg/L	93.5	90	110			
L15734-01DUP	DUP	12/04/13 18:19			U	U	mg/L				0	20	RA
L15734-02LFM	LFM	12/04/13 18:20	WI131202-2	.2	U	.1859	mg/L	93	90	110			

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355532													
WG355532ICV	ICV	11/26/13 13:36	WI131115-6	.3		.2952	mg/L	98.4	90	110			
WG355532ICB	ICB	11/26/13 13:37				U	mg/L		-0.003	0.003			
WG355556													
WG355526LRB	LRB	11/26/13 17:18				U	mg/L		-0.003	0.003			
WG355526LFB	LFB	11/26/13 17:19	WI131115-4	.2		.2005	mg/L	100.3	90	110			
L15700-01DUP	DUP	11/26/13 17:33			U	U	mg/L				0	20	RA
L15700-02LFM	LFM	11/26/13 17:34	WI131115-4	.2	U	.1794	mg/L	89.7	90	110			

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	4.004		4.21	mg/L	105.1	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-0.3	0.3			
WG356091													
L15749-01DUP	DUP	12/09/13 18:57			U	U	mg/L				0	20	RA
L15749-02AS	AS	12/09/13 19:32	WI131011-1	30	U	34.5	mg/L	115	90	110			M1
WG356091LFB2	LFB	12/09/13 20:26	WI131011-1	1.5		1.52	mg/L	101.3	90	110			
WG356091LFB1	LFB	12/10/13 16:26	WI131011-1	1.5		1.53	mg/L	102	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	2		2.01	mg/L	100.5	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.3	0.3			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	1.001		1.05	mg/L	104.9	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	1.001	U	1.07	mg/L	106.9	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	1.001	U	1.05	mg/L	104.9	85	115	1.89	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	1.001	U	1.02	mg/L	101.9	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	1.001	U	1.03	mg/L	102.9	85	115	0.98	20	

SPF Water Engineering

ACZ Project ID: ***L15734***

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	2		1.98	mg/L	99	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.3	0.3			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.22	0.22			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	1.001		.98	mg/L	97.9	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	1.001	U	.99	mg/L	98.9	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	1.001	U	.99	mg/L	98.9	70	130	0	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	2		1.986	mg/L	99.3	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.06	0.06			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	1.0014		1.018	mg/L	101.7	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	1.0014	U	1.065	mg/L	104.4	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	1.0014	U	1.044	mg/L	102.3	85	115	1.99	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	1.0014	.06	1.07	mg/L	100.9	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	1.0014	.06	1.072	mg/L	101.1	85	115	0.19	20	

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	2		1.994	mg/L	99.7	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.06	0.06			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.044	0.044			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	1.0014		.989	mg/L	98.8	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	1.0014	.38	1.395	mg/L	101.4	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	1.0014	.38	1.391	mg/L	101	70	130	0.29	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.0532	mg/L	106.4	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0003	0.0003			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.05005		.05061	mg/L	101.1	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.05005	U	.05147	mg/L	102.8	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.05005	U	.05186	mg/L	103.6	70	130	0.75	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05096	mg/L	101.9	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.04945	mg/L	98.8	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	U	.04973	mg/L	99.4	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	U	.0501	mg/L	100.1	70	130	0.74	20	

SPF Water Engineering

ACZ Project ID: ***L15734***

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	2		1.936	mg/L	96.8	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.06	0.06			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	1		.96	mg/L	96	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	1	.08	1.047	mg/L	96.7	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	1	.08	1.047	mg/L	96.7	85	115	0	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	1	U	.961	mg/L	96.1	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	1	U	.959	mg/L	95.9	85	115	0.21	20	

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	2		1.942	mg/L	97.1	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.06	0.06			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.044	0.044			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	1		.935	mg/L	93.5	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	1	U	.979	mg/L	97.9	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	1	U	.974	mg/L	97.4	70	130	0.51	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	100		97.49	mg/L	97.5	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.6	0.6			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	49.99695		48.93	mg/L	97.9	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	49.99695	48.4	96.95	mg/L	97.1	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	49.99695	48.4	96.82	mg/L	96.8	85	115	0.13	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	49.99695	.4	49.74	mg/L	98.7	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	49.99695	.4	49.86	mg/L	98.9	85	115	0.24	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	100		97.46	mg/L	97.5	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.6	0.6			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.44	0.44			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	49.99695		48.47	mg/L	96.9	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	49.99695	24.7	74.54	mg/L	99.7	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	49.99695	24.7	74.21	mg/L	99	70	130	0.44	20	

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.05285	mg/L	105.7	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0015	0.0015			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.05005		.05233	mg/L	104.6	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.05005	.0064	.05808	mg/L	103.3	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.05005	.0064	.05759	mg/L	102.3	70	130	0.85	20	

SPF Water Engineering

ACZ Project ID: ***L15734***

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05061	mg/L	101.2	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0015	0.0015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.0011	0.0011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.05054	mg/L	101	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	1000	1000	mg/L	0	70	130			M3
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	1000	1000	mg/L	0	70	130	0	20	M3
WG356143													
WG356143ICV	ICV	12/09/13 19:51	MS131202-2	.05		.0509	mg/L	101.8	90	110			
WG356143ICB	ICB	12/09/13 19:53				U	mg/L		-0.0015	0.0015			
WG355922LRB	LRB	12/09/13 19:55				U	mg/L		-0.0011	0.0011			
WG355922LFB	LFB	12/09/13 19:56	MS131118-2	.05005		.05029	mg/L	100.5	85	115			
L15749-02LFM	LFM	12/09/13 20:02	MS131118-2	.05005	90	91.5	mg/L	2997	70	130			M3
L15749-02LFMD	LFMD	12/09/13 20:04	MS131118-2	.05005	90	92.5	mg/L	4995	70	130	1.09	20	M3

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355492													
WG355492ICV	ICV	11/26/13 13:42	HG131010-4	10		10.5	ng/L	105	79	121			
WG355492ICB	ICB	11/26/13 13:47				U	ng/L		-0.5	0.5			
WG355569													
WG355569CCV1	CCV	11/27/13 12:03	HG131010-4	10		9.47	ng/L	94.7	76.5	123.4			
WG355569CCB1	CCB	11/27/13 12:08				U	ng/L		-0.5	0.5			
WG355569PQV	PQV	11/27/13 12:14	HG131010-6	.5		.36	ng/L	72	70	130			
WG355569LFB	LFB	11/27/13 12:19	HG131010-5	2		1.68	ng/L	84	71	125			
WG355569CCV2	CCV	11/27/13 13:14	HG131010-4	10		9.49	ng/L	94.9	76.5	123.4			
WG355569CCB2	CCB	11/27/13 13:19				U	ng/L		-0.5	0.5			
L15734-01MS	MS	11/27/13 14:00	HG131010-5	2	.6	2.5	ng/L	95	71	125			
L15734-01MSD	MSD	11/27/13 14:05	HG131010-5	2	.6	2.62	ng/L	101	71	125	4.69	24	
WG355569CCV3	CCV	11/27/13 14:10	HG131010-4	10		9.56	ng/L	95.6	76.5	123.4			
WG355569CCB3	CCB	11/27/13 14:15				U	ng/L		-0.5	0.5			

SPF Water Engineering

ACZ Project ID: ***L15734***

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355492													
WG355492ICV	ICV	11/26/13 13:42	HG131010-4	10		10.5	ng/L	105	79	121			
WG355492ICB	ICB	11/26/13 13:47				U	ng/L		-0.5	0.5			
WG355755													
WG355755CCV1	CCV	12/03/13 13:06	HG131010-4	10		8.79	ng/L	87.9	76.5	123.4			
WG355755CCB1	CCB	12/03/13 13:11				U	ng/L		-0.5	0.5			
WG355755PQV	PQV	12/03/13 13:16	HG131010-6	.5		.36	ng/L	72	70	130			
WG355755LFB	LFB	12/03/13 13:21	HG131010-5	2		1.58	ng/L	79	71	125			
L15721-01MS	MS	12/03/13 13:36	HG131010-5	2	1.9	3.57	ng/L	83.5	71	125			
L15721-01MSD	MSD	12/03/13 13:42	HG131010-5	2	1.9	3.73	ng/L	91.5	71	125	4.38	24	
WG355755CCV2	CCV	12/03/13 14:12	HG131010-4	10		9.16	ng/L	91.6	76.5	123.4			
WG355755CCB2	CCB	12/03/13 14:17				U	ng/L		-0.5	0.5			
WG355755CCV3	CCV	12/03/13 15:02	HG131010-4	10		8.9	ng/L	89	76.5	123.4			
WG355755CCB3	CCB	12/03/13 15:08				U	ng/L		-0.5	0.5			
WG355755CCV4	CCV	12/03/13 15:48	HG131010-4	10		9.39	ng/L	93.9	76.5	123.4			
WG355755CCB4	CCB	12/03/13 15:53				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.02006		.01913	mg/L	95.4	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0015	0.0015			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.05		.04807	mg/L	96.1	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.05	.0036	.05226	mg/L	97.3	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.05	.0036	.0519	mg/L	96.6	70	130	0.69	20	

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.02006		.01948	mg/L	97.1	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0015	0.0015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.0011	0.0011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05		.05096	mg/L	101.9	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05	U	.05019	mg/L	100.4	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05	U	.05014	mg/L	100.3	70	130	0.1	20	

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.05087	mg/L	101.7	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0018	0.0018			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.05005		.04895	mg/L	97.8	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.05005	.0006	.04832	mg/L	95.3	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.05005	.0006	.04847	mg/L	95.6	70	130	0.31	20	

SPF Water Engineering

ACZ Project ID: ***L15734***

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.04906	mg/L	98.1	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0018	0.0018			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00132	0.00132			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.04882	mg/L	97.5	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	.2792	.3295	mg/L	100.5	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	.2792	.3256	mg/L	92.7	70	130	1.19	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355989													
WG355989ICV	ICV	12/05/13 18:42	WI131015-1	2.416		2.425	mg/L	100.4	90	110			
WG355989ICB	ICB	12/05/13 18:43				U	mg/L		-0.06	0.06			
WG356002													
WG356002LFB1	LFB	12/06/13 0:32	WI130816-3	2		2.042	mg/L	102.1	90	110			
L15644-02DUP	DUP	12/06/13 0:37			.32	.313	mg/L				2.2	20	
WG356002LFB2	LFB	12/06/13 1:06	WI130816-3	2		2.008	mg/L	100.4	90	110			
L15639-01AS	AS	12/06/13 1:19	WI130816-3	10	7	16.89	mg/L	98.9	90	110			

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356035													
WG356035ICV	ICV	12/06/13 13:45	WI131021-1	1.003		1.021	mg/L	101.8	90	110			
WG356035ICB	ICB	12/06/13 13:48				U	mg/L		-0.15	0.15			
WG356046													
WG356046LFB	LFB	12/06/13 15:17	WI121218-3	1		1.016	mg/L	101.6	90	110			
L15630-01AS	AS	12/06/13 15:20	WI121218-3	1	U	1.011	mg/L	101.1	90	110			
L15631-01DUP	DUP	12/06/13 15:22			U	U	mg/L				0	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355781													
WG355781LCSW3	LCSW	12/03/13 15:17	PCN41777	6		6.03	units	100.5	5.9	6.1			
WG355781LCSW6	LCSW	12/03/13 19:57	PCN41777	6		6.05	units	100.8	5.9	6.1			
WG355781LCSW9	LCSW	12/03/13 22:59	PCN41777	6		6.05	units	100.8	5.9	6.1			
WG355781LCSW12	LCSW	12/04/13 2:24	PCN41777	6		6.06	units	101	5.9	6.1			
L15818-11DUP	DUP	12/04/13 6:07			8.2	8.19	units				0.1	20	
WG355781LCSW15	LCSW	12/04/13 6:24	PCN41777	6		6.06	units	101	5.9	6.1			

SPF Water Engineering

ACZ Project ID: ***L15734***

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356080													
WG356080ICV	ICV	12/07/13 12:07	WI131104-3	.65228		.692	mg/L	106.1	90	110			
WG356080ICB	ICB	12/07/13 12:10				U	mg/L		-0.03	0.03			
WG356022LRB	LRB	12/07/13 12:11				U	mg/L		-0.03	0.03			
WG356022LFB	LFB	12/07/13 12:12	WI131206-2	.5		.488	mg/L	97.6	90	110			
L15734-01LFM	LFM	12/07/13 12:18	WI131206-2	.5	.03	.516	mg/L	97.2	90	110			
L15734-02DUP	DUP	12/07/13 12:20			.02	.02	mg/L				0	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	20		19.64	mg/L	98.2	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.9	0.9			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	99.94539		99.5	mg/L	99.6	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	99.94539	8	109.8	mg/L	101.9	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	99.94539	8	109.7	mg/L	101.8	85	115	0.09	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	99.94539	.6	101.8	mg/L	101.3	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	99.94539	.6	101.7	mg/L	101.2	85	115	0.1	20	

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	20		19.86	mg/L	99.3	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.9	0.9			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.66	0.66			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	99.94539		97.72	mg/L	97.8	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	99.94539	1.8	102.5	mg/L	100.8	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	99.94539	1.8	101.7	mg/L	100	70	130	0.78	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355538													
WG355538PBW	PBW	11/26/13 15:00				U	mg/L		-20	20			
WG355538LCSW	LCSW	11/26/13 15:01	PCN44256	260		252	mg/L	96.9	80	120			
L15734-01DUP	DUP	11/26/13 15:29			230	232	mg/L				0.9	10	
WG355550													
WG355550PBW	PBW	11/26/13 16:30				U	mg/L		-20	20			
WG355550LCSW	LCSW	11/26/13 16:31	PCN44256	260		254	mg/L	97.7	80	120			
L15734-02DUP	DUP	11/26/13 16:59			180	180	mg/L				0	10	

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355534													
WG355534PBW	PBW	11/26/13 13:28				U	mg/L		-15	15			
WG355534LCSW	LCSW	11/26/13 13:30	PCN44254	160		150	mg/L	93.8	80	120			
L15734-02DUP	DUP	11/26/13 14:28			U	5	mg/L				200	10	RA

SPF Water Engineering

ACZ Project ID: ***L15734***

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	2		2	mg/L	100	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.3	0.3			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	1.0009		1.04	mg/L	103.9	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	1.0009	U	1.05	mg/L	104.9	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	1.0009	U	1.05	mg/L	104.9	85	115	0	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	1.0009	U	1.05	mg/L	104.9	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	1.0009	U	1.05	mg/L	104.9	85	115	0	20	

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	2		2	mg/L	100	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.3	0.3			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.22	0.22			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	1.0009		1.03	mg/L	102.9	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	1.0009	U	1.05	mg/L	104.9	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	1.0009	U	1.06	mg/L	105.9	70	130	0.95	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.0524	mg/L	104.8	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0003	0.0003			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.05005		.04974	mg/L	99.4	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.05005	.0003	.05673	mg/L	112.7	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.05005	.0003	.05632	mg/L	111.9	70	130	0.73	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05126	mg/L	102.5	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.04983	mg/L	99.6	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	.0001	.05583	mg/L	111.3	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	.0001	.05564	mg/L	111	70	130	0.34	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355931													
WG355931ICV	ICV	12/10/13 16:52	MS131202-2	.02002		.01849	mg/L	92.4	90	110			
WG355931ICB	ICB	12/10/13 16:55				U	mg/L		-0.00015	0.00015			
WG355931LFB	LFB	12/10/13 16:58	MS131118-2	.01001		.008911	mg/L	89	85	115			
L15643-02AS	AS	12/10/13 17:09	MS131118-2	.5005	U	.4279	mg/L	85.5	70	130			
L15643-02ASD	ASD	12/10/13 17:12	MS131118-2	.5005	U	.3681	mg/L	73.5	70	130	15.03	20	

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ACZ Project ID: ***L15734***

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.02002		.01945	mg/L	97.2	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.00015	0.00015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00011	0.00011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.01001		.009143	mg/L	91.3	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.01001	U	.008134	mg/L	81.3	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.01001	U	.008324	mg/L	83.2	70	130	2.31	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	100		99.07	mg/L	99.1	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.9	0.9			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	100.0204		99.28	mg/L	99.3	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	100.0204	86.1	183.3	mg/L	97.2	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	100.0204	86.1	184.1	mg/L	98	85	115	0.44	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	100.0204	23.4	123.4	mg/L	100	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	100.0204	23.4	123.4	mg/L	100	85	115	0	20	

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	100		99.81	mg/L	99.8	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.9	0.9			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.66	0.66			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	100.0204		97.36	mg/L	97.3	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	100.0204	15.8	116.1	mg/L	100.3	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	100.0204	15.8	114.7	mg/L	98.9	70	130	1.21	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	2		1.995	mg/L	99.8	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.03	0.03			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	.5		.492	mg/L	98.4	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	.5	.73	1.203	mg/L	94.6	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	.5	.73	1.202	mg/L	94.4	85	115	0.08	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	.5	.05	.546	mg/L	99.2	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	.5	.05	.545	mg/L	99	85	115	0.18	20	

SPF Water Engineering

ACZ Project ID: ***L15734***

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	2		2.011	mg/L	100.6	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.03	0.03			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.022	0.022			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	.5		.479	mg/L	95.8	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	.5	.23	.723	mg/L	98.6	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	.5	.23	.716	mg/L	97.2	70	130	0.97	20	

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	49.95		49.8	mg/L	99.7	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-1.5	1.5			
WG356091													
L15749-01DUP	DUP	12/09/13 18:57			911	938	mg/L				2.9	20	
L15749-02AS	AS	12/09/13 19:32	WI131011-1	600	1200	1810	mg/L	101.7	90	110			
WG356091LFB2	LFB	12/09/13 20:26	WI131011-1	30		30	mg/L	100	90	110			
WG356091LFB1	LFB	12/10/13 16:26	WI131011-1	30		30.2	mg/L	100.7	90	110			

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.05267	mg/L	105.3	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0003	0.0003			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.05005		.05045	mg/L	100.8	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.05005	U	.05174	mg/L	103.4	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.05005	U	.05208	mg/L	104.1	70	130	0.65	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05245	mg/L	104.9	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.05074	mg/L	101.4	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	.0003	.05192	mg/L	103.1	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	.0003	.05308	mg/L	105.5	70	130	2.21	20	

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05015		.05039	mg/L	100.5	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0003	0.0003			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.05005		.0466	mg/L	93.1	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.05005	U	.04749	mg/L	94.9	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.05005	U	.04689	mg/L	93.7	70	130	1.27	20	

SPF Water Engineering

ACZ Project ID: ***L15734***

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05015		.05255	mg/L	104.8	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.05081	mg/L	101.5	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	U	.05013	mg/L	100.2	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	U	.05059	mg/L	101.1	70	130	0.91	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	2		1.9328	mg/L	96.6	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.015	0.015			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	.999		.9937	mg/L	99.5	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	.999	.006	.9997	mg/L	99.5	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	.999	.006	.9965	mg/L	99.1	85	115	0.32	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	.999	U	.9951	mg/L	99.6	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	.999	U	.9967	mg/L	99.8	85	115	0.16	20	

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	2		1.95	mg/L	97.5	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.015	0.015			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.011	0.011			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	.999		.9749	mg/L	97.6	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	.999	.017	1.014	mg/L	99.8	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	.999	.017	1.006	mg/L	99	70	130	0.79	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.05118	mg/L	102.4	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0003	0.0003			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.05		.04986	mg/L	99.7	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.05	.0016	.05308	mg/L	103	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.05	.0016	.05335	mg/L	103.5	70	130	0.51	20	

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05195	mg/L	103.9	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05		.05115	mg/L	102.3	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05	.004	.05634	mg/L	104.7	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05	.004	.05799	mg/L	108	70	130	2.89	20	

SPF Water Engineering

ACZ Project ID: ***L15734***

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355892													
WG355892ICV	ICV	12/05/13 1:23	MS131018-2	.05		.04858	mg/L	97.2	90	110			
WG355892ICB	ICB	12/05/13 1:26				U	mg/L		-0.0006	0.0006			
WG355892LFB	LFB	12/05/13 1:30	MS131118-2	.0501		.04919	mg/L	98.2	85	115			
L15734-02AS	AS	12/05/13 2:28	MS131118-2	.0501	.0043	.05433	mg/L	99.9	70	130			
L15734-02ASD	ASD	12/05/13 2:31	MS131118-2	.0501	.0043	.05441	mg/L	100	70	130	0.15	20	

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.0489	mg/L	97.8	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0006	0.0006			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00044	0.00044			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.0501		.05061	mg/L	101	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.0501	.0017	.05334	mg/L	103.1	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.0501	.0017	.05217	mg/L	100.7	70	130	2.22	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355676													
WG355676ICV	ICV	12/02/13 23:58	II131113-1	2		1.957	mg/L	97.9	95	105			
WG355676ICB	ICB	12/03/13 0:04				U	mg/L		-0.03	0.03			
WG355676LFB	LFB	12/03/13 0:16	II131119-3	.5		.499	mg/L	99.8	85	115			
L15634-01AS	AS	12/03/13 0:29	II131119-3	.5	U	.508	mg/L	101.6	85	115			
L15634-01ASD	ASD	12/03/13 0:32	II131119-3	.5	U	.509	mg/L	101.8	85	115	0.2	20	
L15744-02AS	AS	12/03/13 1:12	II131119-3	.5	U	.511	mg/L	102.2	85	115			
L15744-02ASD	ASD	12/03/13 1:15	II131119-3	.5	U	.514	mg/L	102.8	85	115	0.59	20	

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355771													
WG355771ICV	ICV	12/03/13 15:12	II131111-1	2		1.98	mg/L	99	95	105			
WG355771ICB	ICB	12/03/13 15:18				U	mg/L		-0.03	0.03			
WG355689LRB	LRB	12/03/13 15:31				U	mg/L		-0.022	0.022			
WG355689LFB	LFB	12/03/13 15:34	II131119-3	.5		.507	mg/L	101.4	85	115			
L15716-01LFM	LFM	12/03/13 16:25	II131119-3	.5	U	.512	mg/L	102.4	70	130			
L15716-01LFMD	LFMD	12/03/13 16:28	II131119-3	.5	U	.507	mg/L	101.4	70	130	0.98	20	

SPF Water Engineering ACZ Project ID: ***L15734***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L15734-01	WG356064	Manganese, total	M200.8 ICP-MS	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
			M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG356091	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355891	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355556	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356091	Fluoride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356046	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356080	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355534	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L15734-02	WG356143	Manganese, total	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG356091	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355891	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355556	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356091	Fluoride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356046	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356080	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355534	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

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2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 4th Quarter sampling

ACZ Project ID: L15734
Date Received: 11/25/2013 09:58
Received By: mtb
Date Printed: 11/25/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?		X	

```
L15734-02 : A mercury 1631 total and dissolved container not
received and the associated analysis could not be run.
```

16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
3897	5.2	13	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc. L15734

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name:	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SPF-2014-GW

PO#: Calico 4th Quarter Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	SPF-2014-GW
Leslie Gulch	11/20/13 11:00		8	X
Owyhee DS	11/20/13 15:10		8	X

No. HG-11631 containers LEO 11.25.13

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	11/20/13 6:00	LEO	11.25.13 9:08

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L15734 Chain of Custody

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Bottle Order Packing List

Account: SPFWATER/SPF Water Engineering
Bottle Order: BO30665
Internal Note: Pre-paid return shipping
Pre-paid return shipping
Preserved - Please ensure the Clean Room gets a copy of BO - Include UPS 3 Day Return

Bill to Account: Bill to Client
Ship Date Requested: 11/13/2013
Request Placed at: 11/11/2013 10:43

Sampling supplies

PACK	Qty	ACZ ID	Type	Description
	4	COC	Chain of Custody	Chain of Custody, 1 for 10 samples.
	2	SEAL	Custody Seal	Custody seals for cooler, two for each cooler.
	1	RETURN	Return Address	Return Address label, one for each cooler.
	250	LABELS	Sample Labels	ACZ supplied labels for sample containers
	1	TRIP CN		
	1	TRIP HG		

Quote number: SPF-2014-GW
Quarterly Analysis of Groundwater and Springs

Sample Quantity: 31
Client is responsible for necessary field filtering

PACK	Qty	Type	Size	Filter/Raw/Preserve	Instructions
	1	GREEN PC	250 ML	Green pre-cleaned Filtered/Nitiric	Metals (dissolved including ICPMS) - Filter sample with .45 micron filter. Do not overfill as there is Nitric Acid in the bottle.
	1	HG-1631	250 ML	Mercury 1631	Mercury by 1631 - See method specific sampling instructions.
	1	HG-1631 D	250 ML	Mercury 1631 Dissolved	Mercury (dissolved) by 1631 - See method specific sampling instructions.
	1	PURPLE	500 ML	Raw/NaOH	Cyanide - Do not overfill as there is Sodium Hydroxide in the bottle.
	1	RAW	500 ML	Raw	Wet Chemistry (analyses that do not require preservative or filtration) - Completely fill container.
	1	RED PC	250 ML	Red pre-cleaned Raw/Nitric	Metals (total including ICPMS) - Do not overfill as there is Nitric Acid in the bottle.
	1	WHITE	250 ML	Filtered	Wet chemistry (dissolved) - Filter sample with .45 micron filter. Completely fill container.
	1	YELLOW	250 ML	Raw/Sulfuric	For total wet chemistry analyses. Do not overfill as there is Sulfuric Acid in the bottle.

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Analytical Quote

Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

11/11/2013

Quote Number: SPF-2014-GW

Matrix: Ground Water Quarterly Analysis of Groundwater and Springs

Parameter	Method	Detection Limit	Cost/Sample
Inorganic Prep			
Cyanide, total	M335.4 - Manual Distillation		$0.00
Cyanide, WAD	SM4500-CN I- distillation		$0.00
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digesti		$0.00
Total Hot Plate Digestion	M200.2 ICP-MS		$9.60
Total Hot Plate Digestion	M200.2 ICP		$9.60
Metals Analysis			
Aluminum, dissolved	M200.7 ICP	0.03 mg/L	$0.00
Aluminum, total	M200.7 ICP	0.03 mg/L	$0.00
Antimony, dissolved	M200.8 ICP-MS	0.0004 mg/L	$0.00
Antimony, total	M200.8 ICP-MS	0.0004 mg/L	$0.00
Arsenic, dissolved	M200.8 ICP-MS	0.0002 mg/L	$0.00
Arsenic, total	M200.8 ICP-MS	0.0002 mg/L	$0.00
Barium, dissolved	M200.7 ICP	0.003 mg/L	$0.00
Barium, total	M200.7 ICP	0.003 mg/L	$0.00
Beryllium, dissolved	M200.8 ICP-MS	0.00005 mg/L	$0.00
Beryllium, total	M200.8 ICP-MS	0.00005 mg/L	$0.00
Bismuth, dissolved	M200.7 ICP	0.04 mg/L	$0.00
Bismuth, total	M200.7 ICP	0.04 mg/L	$0.00
Boron, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Boron, total	M200.7 ICP	0.01 mg/L	$0.00
Cadmium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Cadmium, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Calcium, dissolved	M200.7 ICP	0.2 mg/L	$0.00
Calcium, total	M200.7 ICP	0.2 mg/L	$0.00
Chromium, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Chromium, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Cobalt, dissolved	M200.8 ICP-MS	0.00005 mg/L	$0.00
Cobalt, total	M200.8 ICP-MS	0.00005 mg/L	$0.00
Copper, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Copper, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Gallium, dissolved	M200.7 ICP	0.1 mg/L	$0.00
Gallium, total	M200.7 ICP	0.1 mg/L	$0.00
Iron, dissolved	M200.7 ICP	0.02 mg/L	$0.00
Iron, total	M200.7 ICP	0.02 mg/L	$0.00

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SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Lead, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Lead, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Lithium, dissolved	M200.7 ICP	0.02 mg/L	$0.00
Lithium, total	M200.7 ICP	0.02 mg/L	$0.00
Magnesium, dissolved	M200.7 ICP	0.2 mg/L	$0.00
Magnesium, total	M200.7 ICP	0.2 mg/L	$0.00
Manganese, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Manganese, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Mercury, dissolved	M1631, Atomic Fluorescence	0.2 ng/L	$40.00
Mercury, total	M1631, Atomic Fluorescence	0.2 ng/L	$40.00
Molybdenum, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Molybdenum, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Nickel, dissolved	M200.8 ICP-MS	0.0006 mg/L	$0.00
Nickel, total	M200.8 ICP-MS	0.0006 mg/L	$0.00
Potassium, dissolved	M200.7 ICP	0.3 mg/L	$0.00
Potassium, total	M200.7 ICP	0.3 mg/L	$0.00
Scandium, dissolved	M200.7 ICP	0.1 mg/L	$0.00
Scandium, total	M200.7 ICP	0.1 mg/L	$0.00
Selenium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Selenium, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Silver, dissolved	M200.8 ICP-MS	0.00005 mg/L	$0.00
Silver, total	M200.8 ICP-MS	0.00005 mg/L	$0.00
Sodium, dissolved	M200.7 ICP	0.3 mg/L	$0.00
Sodium, total	M200.7 ICP	0.3 mg/L	$0.00
Strontium, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Strontium, total	M200.7 ICP	0.01 mg/L	$0.00
Thallium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Thallium, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Tin, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Tin, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Titanium, dissolved	M200.7 ICP	0.005 mg/L	$0.00
Titanium, total	M200.7 ICP	0.005 mg/L	$0.00
Uranium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$13.60
Uranium, total	M200.8 ICP-MS	0.0001 mg/L	$13.60
Vanadium, dissolved	M200.8 ICP-MS	0.0002 mg/L	$0.00
Vanadium, total	M200.8 ICP-MS	0.0002 mg/L	$0.00
Zinc, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Zinc, total	M200.7 ICP	0.01 mg/L	$0.00
Misc.			
Electronic Data Deliverable			$0.00
Quality Control Summary			$0.00
Setup charge for ICP, dissolved			$95.00

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Boise, ID 83706

Setup charge for ICP, total			$95.00
Setup Charge for ICPMS - dissolved			$95.00
Setup for ICPMS Totals Analysis			$95.00
Wet Chemistry			
Alkalinity as CaCO3	SM2320B - Titration	2 mg/L	$8.80
Chloride	M300.0 - Ion Chromatography	0.5 mg/L	$10.40
Conductivity @25C	SM2510B	1 umhos/cm	$6.40
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.003 mg/L	$28.80
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillat	0.003 mg/L	$28.80
Fluoride	M300.0 - Ion Chromatography	0.1 mg/L	$10.40
Hardness as CaCO3	SM2340B - Calculation	Calculation	$0.00
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.02 mg/L	$8.80
Nitrogen, ammonia	M350.1 - Automated Phenate	0.05 mg/L	$8.80
pH (lab)	SM4500H+ B	0.1 C	$6.40
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	0.01 mg/L	$17.60
Residue, Filterable (TDS) @180C	SM2540C	10 mg/L	$8.84
Residue, Non-Filterable (TSS) @105C	SM2540D	5 mg/L	$8.80
Sulfate	M300.0 - Ion Chromatography	0.5 mg/L	$10.40
		Cost/Sample:	**$669.64**

Cient is field filtering. This quote is based on a Standard Turnaround Time (TAT) of approximately 14 days for water matrices (10 working days). TAT may vary with seasonal heavy workload. Please contact your PM if rush TAT is required. Rush TAT needs to be pre-approved prior to sample shipment to assure that due dates can be met. Pricing includes standard reporting formats and standard ACZ EDDs. All projects received are subject to a $125.00 Minimum Charge. Please note that method detection limits are estimates and may be elevated depending on sample matrix that require dilution. Pricing includes coolers, bottles pre-preserved as needed, labels, COCs and ice-packs shipped to your site or office via UPS ground. Return shipping is the responsibility of the client. Please allow ample time for your bottles to arrive.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

December 12, 2013

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 4th Quarter sampling
ACZ Project ID: L15772

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on November 27, 2013. This project has been assigned to ACZ's project number, L15772. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L15772. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after January 11, 2014. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Max Janicek has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: NEGRO ROCK CREEK

ACZ Sample ID: ***L15772-02***
Date Sampled: *11/21/13 14:55*
Date Received: *11/27/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								12/04/13 11:55	mla
Cyanide, WAD	SM4500-CN I- distillation								12/03/13 15:07	mpb
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/06/13 15:19	bsu
Total Hot Plate Digestion	M200.2 ICP-MS								12/05/13 15:40	las
Total Hot Plate Digestion	M200.2 ICP								12/03/13 12:48	aeb

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: NEGRO ROCK CREEK

ACZ Sample ID: ***L15772-02***
Date Sampled: *11/21/13 14:55*
Date Received: *11/27/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/03/13 14:26	aeb
Aluminum, total	M200.7 ICP	1	0.04	B		mg/L	0.03	0.2	12/03/13 21:08	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/05/13 5:07	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/06/13 21:14	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0231			mg/L	0.0002	0.001	12/05/13 5:07	msh
Arsenic, total	M200.8 ICP-MS	1	0.0237			mg/L	0.0002	0.001	12/06/13 21:14	pmc
Barium, dissolved	M200.7 ICP	1	0.020			mg/L	0.003	0.02	12/03/13 14:26	aeb
Barium, total	M200.7 ICP	1	0.022			mg/L	0.003	0.02	12/03/13 21:08	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/05/13 5:07	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/06/13 21:14	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/03/13 14:26	aeb
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/03/13 21:08	aeb
Boron, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	12/03/13 14:26	aeb
Boron, total	M200.7 ICP	1	0.12			mg/L	0.01	0.05	12/03/13 21:08	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/13 5:07	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/06/13 21:14	pmc
Calcium, dissolved	M200.7 ICP	1	36.7			mg/L	0.2	1	12/03/13 14:26	aeb
Calcium, total	M200.7 ICP	1	36.9			mg/L	0.2	1	12/03/13 21:08	aeb
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	12/05/13 5:07	msh
Chromium, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	12/06/13 21:14	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00011	B		mg/L	0.00005	0.0003	12/05/13 5:07	msh
Cobalt, total	M200.8 ICP-MS	1	0.00012	B		mg/L	0.00005	0.0003	12/06/13 21:14	pmc
Copper, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/05/13 5:07	msh
Copper, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/06/13 21:14	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 14:26	aeb
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 21:08	aeb
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	12/03/13 14:26	aeb
Iron, total	M200.7 ICP	1	0.04	B		mg/L	0.02	0.05	12/03/13 21:08	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/13 5:07	msh
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/06/13 21:14	pmc
Lithium, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.02	0.1	12/03/13 14:26	aeb
Lithium, total	M200.7 ICP	1	0.04	B		mg/L	0.02	0.1	12/03/13 21:08	aeb
Magnesium, dissolved	M200.7 ICP	1	12			mg/L	0.2	1	12/03/13 14:26	aeb
Magnesium, total	M200.7 ICP	1	12.1			mg/L	0.2	1	12/03/13 21:08	aeb
Manganese, dissolved	M200.8 ICP-MS	1	0.0241			mg/L	0.0005	0.003	12/05/13 5:07	msh
Manganese, total	M200.8 ICP-MS	1	0.0322		*	mg/L	0.0005	0.003	12/06/13 21:14	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	1	0.2	B		ng/L	0.2	0.5	12/06/13 11:28	las
Mercury, total	M1631, Atomic Fluorescence	1	0.3	B		ng/L	0.2	0.5	12/03/13 14:42	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0072			mg/L	0.0005	0.003	12/05/13 5:07	msh
Molybdenum, total	M200.8 ICP-MS	1	0.0077			mg/L	0.0005	0.003	12/06/13 21:14	pmc
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	12/05/13 5:07	msh
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	12/06/13 21:14	pmc
Potassium, dissolved	M200.7 ICP	1	8.2			mg/L	0.3	2	12/03/13 14:26	aeb

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: NEGRO ROCK CREEK

ACZ Sample ID: ***L15772-02***
Date Sampled: *11/21/13 14:55*
Date Received: *11/27/13*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	8.1			mg/L	0.3	2	12/03/13 21:08	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 14:26	aeb
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/13 21:08	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0003	12/05/13 5:07	msh
Selenium, total	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0003	12/06/13 21:14	pmc
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/10/13 18:26	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/06/13 21:14	pmc
Sodium, dissolved	M200.7 ICP	1	65.3			mg/L	0.3	2	12/03/13 14:26	aeb
Sodium, total	M200.7 ICP	1	65.6			mg/L	0.3	2	12/03/13 21:08	aeb
Strontium, dissolved	M200.7 ICP	1	0.20		*	mg/L	0.01	0.05	12/03/13 14:26	aeb
Strontium, total	M200.7 ICP	1	0.20			mg/L	0.01	0.05	12/03/13 21:08	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/13 5:07	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/06/13 21:14	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	12/05/13 5:07	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	12/06/13 21:14	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/03/13 14:26	aeb
Titanium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	12/03/13 21:08	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0031			mg/L	0.0001	0.0005	12/05/13 5:07	msh
Uranium, total	M200.8 ICP-MS	1	0.0032			mg/L	0.0001	0.0005	12/06/13 21:14	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0178			mg/L	0.0002	0.001	12/05/13 5:07	msh
Vanadium, total	M200.8 ICP-MS	1	0.0193			mg/L	0.0002	0.001	12/06/13 21:14	pmc
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	12/03/13 14:26	aeb
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	12/03/13 21:08	aeb

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: NEGRO ROCK CREEK

ACZ Sample ID: ***L15772-02***
Date Sampled: *11/21/13 14:55*
Date Received: *11/27/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	165			mg/L	2	20	12/04/13 0:00	khw
Carbonate as CaCO3		1		U		mg/L	2	20	12/04/13 0:00	khw
Hydroxide as CaCO3		1		U		mg/L	2	20	12/04/13 0:00	khw
Total Alkalinity		1	165			mg/L	2	20	12/04/13 0:00	khw
Chloride	M300.0 - Ion Chromatography	1	20.6		*	mg/L	0.5	2.5	12/10/13 0:37	tcd
Conductivity @25C	SM2510B	1	575			umhos/cm	1	10	12/04/13 22:37	khw
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/04/13 19:09	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/04/13 17:27	bsu
Fluoride	M300.0 - Ion Chromatography	1	0.57		*	mg/L	0.1	0.5	12/10/13 0:37	tcd
Hardness as CaCO3	SM2340B - Calculation		141			mg/L	1	7	12/12/13 9:02	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.39		*	mg/L	0.02	0.1	12/06/13 23:44	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	12/06/13 15:48	bsu
pH (lab)	SM4500H+ B									
pH		1	8.2	H		units	0.1	0.1	12/04/13 0:00	khw
pH measured at		1	21			C	0.1	0.1	12/04/13 0:00	khw
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.06			mg/L	0.01	0.05	12/07/13 12:42	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	400			mg/L	10	20	11/27/13 12:38	mss3
Residue, Non-Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	11/27/13 14:33	mss3
Sulfate	M300.0 - Ion Chromatography	1	89.1			mg/L	0.5	2.5	12/10/13 0:37	tcd

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4)	EPA SW-846. Test Methods for Evaluating Solid Waste.
(5)	Standard Methods for the Examination of Water and Wastewater.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5)	If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L15772***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355870													
WG355870PBW1	PBW	12/04/13 15:50				U	mg/L		-20	20			
WG355870LCSW2	LCSW	12/04/13 16:04	WC131126-	820.0001		743	mg/L	90.6	90	110			
WG355870LCSW5	LCSW	12/04/13 21:04	WC131126-	820.0001		772.2	mg/L	94.2	90	110			
WG355870PBW2	PBW	12/04/13 21:12				U	mg/L		-20	20			
L15772-02DUP	DUP	12/04/13 22:46			165	165.1	mg/L				0.1	20	
WG355870LCSW8	LCSW	12/05/13 0:26	WC131126-	820.0001		764.8	mg/L	93.3	90	110			
WG355870PBW3	PBW	12/05/13 0:35				2.1	mg/L		-20	20			
WG355870LCSW11	LCSW	12/05/13 3:32	WC131126-	820.0001		773.9	mg/L	94.4	90	110			
WG355870PBW4	PBW	12/05/13 3:40				2.2	mg/L		-20	20			
WG355870LCSW14	LCSW	12/05/13 6:40	WC131126-	820.0001		777.4	mg/L	94.8	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	2		2.01	mg/L	100.5	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.09	0.09			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	1.0011		1.073	mg/L	107.2	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	1.0011	.04	1.107	mg/L	106.6	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	1.0011	.04	1.104	mg/L	106.3	85	115	0.27	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	2		1.98	mg/L	99	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.09	0.09			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.066	0.066			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	1.0011		1.018	mg/L	101.7	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	1.0011	U	1.038	mg/L	103.7	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	1.0011	U	1.035	mg/L	103.4	70	130	0.29	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.02		.02091	mg/L	104.6	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0012	0.0012			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.01		.01038	mg/L	103.8	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.01	U	.01063	mg/L	106.3	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.01	U	.01078	mg/L	107.8	70	130	1.4	20	

SPF Water Engineering

ACZ Project ID: ***L15772***

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.02		.02033	mg/L	101.7	90	110			
WG356064ICB	ICB	12/06/13 20:23				.00047	mg/L		-0.0012	0.0012			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00088	0.00088			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.01		.01124	mg/L	112.4	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.01	U	.01122	mg/L	112.2	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.01	U	.01115	mg/L	111.5	70	130	0.63	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.05239	mg/L	104.8	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0006	0.0006			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05005		.04954	mg/L	99	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05005	.0315	.08596	mg/L	108.8	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05005	.0315	.08691	mg/L	110.7	70	130	1.1	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05226	mg/L	104.5	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0006	0.0006			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00044	0.00044			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.05181	mg/L	103.5	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	.0013	.05588	mg/L	109.1	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	.0013	.0551	mg/L	107.5	70	130	1.41	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	2		1.96	mg/L	98	95	105			
WG355744ICB	ICB	12/03/13 13:07				.0032	mg/L		-0.009	0.009			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	.5		.4986	mg/L	99.7	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	.5	.066	.5643	mg/L	99.7	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	.5	.066	.565	mg/L	99.8	85	115	0.12	20	

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	2		1.9805	mg/L	99	95	105			
WG355798ICB	ICB	12/03/13 19:39				.0041	mg/L		-0.009	0.009			
WG355724LRB	LRB	12/03/13 19:52				.0032	mg/L		-0.0066	0.0066			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	.5		.4768	mg/L	95.4	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	.5	.047	.527	mg/L	96	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	.5	.047	.528	mg/L	96.2	70	130	0.19	20	

SPF Water Engineering

ACZ Project ID: ***L15772***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.04872	mg/L	97.4	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.00015	0.00015			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.0501		.04558	mg/L	91	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.0501	U	.05035	mg/L	100.5	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.0501	U	.05038	mg/L	100.6	70	130	0.06	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.04662	mg/L	93.2	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.00015	0.00015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00011	0.00011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.0501		.04783	mg/L	95.5	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.0501	.00542	.05579	mg/L	100.5	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.0501	.00542	.05486	mg/L	98.7	70	130	1.68	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	2		2.018	mg/L	100.9	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.12	0.12			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	1		1.042	mg/L	104.2	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	1	U	1.059	mg/L	105.9	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	1	U	1.093	mg/L	109.3	85	115	3.16	20	

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	2		2.009	mg/L	100.5	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.12	0.12			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.088	0.088			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	1		1.056	mg/L	105.6	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	1	U	1.049	mg/L	104.9	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	1	U	1.025	mg/L	102.5	70	130	2.31	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	2		2.024	mg/L	101.2	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.03	0.03			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	.5005		.523	mg/L	104.5	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	.5005	.02	.546	mg/L	105.1	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	.5005	.02	.553	mg/L	106.5	85	115	1.27	20	

SPF Water Engineering

ACZ Project ID: ***L15772***

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	2		2.012	mg/L	100.6	95	105			
WG355798ICB	ICB	12/03/13 19:39				.013	mg/L		-0.03	0.03			
WG355724LRB	LRB	12/03/13 19:52				.011	mg/L		-0.022	0.022			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	.5005		.486	mg/L	97.1	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	.5005	.08	.547	mg/L	93.3	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	.5005	.08	.557	mg/L	95.3	70	130	1.81	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.04989	mg/L	99.8	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0003	0.0003			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.0501		.04941	mg/L	98.6	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.0501	U	.0488	mg/L	97.4	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.0501	U	.04951	mg/L	98.8	70	130	1.44	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.04953	mg/L	99.1	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.0501		.05045	mg/L	100.7	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.0501	.0038	.05205	mg/L	96.3	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.0501	.0038	.05128	mg/L	94.8	70	130	1.49	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	100		98.46	mg/L	98.5	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.6	0.6			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	68.00225		70.49	mg/L	103.7	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	68.00225	213	274.5	mg/L	90.4	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	68.00225	213	273.9	mg/L	89.6	85	115	0.22	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	100		99.33	mg/L	99.3	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.6	0.6			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.44	0.44			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	68.00225		67.6	mg/L	99.4	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	68.00225	42.6	111.1	mg/L	100.7	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	68.00225	42.6	111.9	mg/L	101.9	70	130	0.72	20	

SPF Water Engineering

ACZ Project ID: ***L15772***

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	19.98		19.7	mg/L	98.6	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-1.5	1.5			
WG356091													
WG356091LFB2	LFB	12/09/13 20:26	WI131011-1	30		30.3	mg/L	101	90	110			
L15750-03DUP	DUP	12/09/13 21:02			U	U	mg/L				0	20	RA
L15763-03AS	AS	12/09/13 22:14	WI131011-1	60	39	99.7	mg/L	101.2	90	110			
WG356091LFB1	LFB	12/10/13 16:26	WI131011-1	30		30.2	mg/L	100.7	90	110			

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.04867	mg/L	97.3	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0015	0.0015			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05005		.04784	mg/L	95.6	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05005	.0007	.04774	mg/L	94	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05005	.0007	.04897	mg/L	96.4	70	130	2.54	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.0494	mg/L	98.8	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0015	0.0015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.0011	0.0011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.04947	mg/L	98.8	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	U	.04824	mg/L	96.4	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	U	.04753	mg/L	95	70	130	1.48	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.05129	mg/L	102.6	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.00015	0.00015			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05005		.05321	mg/L	106.3	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05005	.00013	.04865	mg/L	96.9	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05005	.00013	.04893	mg/L	97.5	70	130	0.57	20	

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.04925	mg/L	98.5	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.00015	0.00015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00011	0.00011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.05074	mg/L	101.4	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	.2394	.2817	mg/L	84.5	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	.2394	.2783	mg/L	77.7	70	130	1.21	20	

SPF Water Engineering

ACZ Project ID: ***L15772***

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355870													
WG355870LCSW1	LCSW	12/04/13 15:52	PCN42442	1408.8		1421.2	umhos/cm	100.9	90	110			
WG355870LCSW4	LCSW	12/04/13 20:52	PCN42442	1408.8		1404.8	umhos/cm	99.7	90	110			
L15772-02DUP	DUP	12/04/13 22:46			575	578	umhos/cm				0.5	20	
WG355870LCSW7	LCSW	12/05/13 0:12	PCN42442	1408.8		1392.6	umhos/cm	98.9	90	110			
WG355870LCSW10	LCSW	12/05/13 3:20	PCN42442	1408.8		1382.3	umhos/cm	98.1	90	110			
WG355870LCSW13	LCSW	12/05/13 6:28	PCN42442	1408.8		1375.2	umhos/cm	97.6	90	110			

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.04935	mg/L	98.7	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0015	0.0015			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05005		.04762	mg/L	95.1	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05005	U	.04785	mg/L	95.6	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05005	U	.0488	mg/L	97.5	70	130	1.97	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.04944	mg/L	98.9	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0015	0.0015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.0011	0.0011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.04906	mg/L	98	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	.0035	.04902	mg/L	90.9	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	.0035	.04835	mg/L	89.6	70	130	1.38	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355888													
WG355888ICV	ICV	12/04/13 17:12	WI131202-6	.3		.2922	mg/L	97.4	90	110			
WG355888ICB	ICB	12/04/13 17:13				U	mg/L		-0.003	0.003			
WG355900													
WG355836LRB	LRB	12/04/13 18:57				U	mg/L		-0.003	0.003			
WG355836LFB	LFB	12/04/13 18:58	WI131202-2	.2		.1849	mg/L	92.5	90	110			
L15768-01DUP	DUP	12/04/13 19:00			U	U	mg/L				0	20	RA
L15770-01LFM	LFM	12/04/13 19:01	WI131202-2	.2	U	.1813	mg/L	90.7	90	110			

SPF Water Engineering

ACZ Project ID: ***L15772***

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355888													
WG355888ICV	ICV	12/04/13 17:12	WI131202-6	.3		.2922	mg/L	97.4	90	110			
WG355888ICB	ICB	12/04/13 17:13				U	mg/L		-0.003	0.003			
WG355780LRB	LRB	12/04/13 17:14				U	mg/L		-0.003	0.003			
WG355780LFB	LFB	12/04/13 17:15	WI131202-4	.2		.1964	mg/L	98.2	90	110			
L15728-01DUP	DUP	12/04/13 17:16			U	U	mg/L				0	20	RA
L15728-02LFM	LFM	12/04/13 17:18	WI131202-4	.2	U	.1877	mg/L	93.9	90	110			
L15772-02DUP	DUP	12/04/13 17:28			U	U	mg/L				0	20	RA
L15799-01LFM	LFM	12/04/13 17:30	WI131202-4	.2	U	.1888	mg/L	94.4	90	110			

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	4.004		4.21	mg/L	105.1	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-0.3	0.3			
WG356091													
WG356091LFB2	LFB	12/09/13 20:26	WI131011-1	1.5		1.52	mg/L	101.3	90	110			
L15750-03DUP	DUP	12/09/13 21:02			13.5	13.6	mg/L				0.7	20	RA
L15763-03AS	AS	12/09/13 22:14	WI131011-1	3	.54	3.74	mg/L	106.7	90	110			
WG356091LFB1	LFB	12/10/13 16:26	WI131011-1	1.5		1.53	mg/L	102	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	2		1.98	mg/L	99	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.3	0.3			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	1.001		1.07	mg/L	106.9	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	1.001	U	1.07	mg/L	106.9	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	1.001	U	1.06	mg/L	105.9	85	115	0.94	20	

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	2		2.01	mg/L	100.5	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.3	0.3			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.22	0.22			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	1.001		1.01	mg/L	100.9	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	1.001	U	1.02	mg/L	101.9	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	1.001	U	1.01	mg/L	100.9	70	130	0.99	20	

SPF Water Engineering

ACZ Project ID: ***L15772***

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	2		2.022	mg/L	101.1	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.06	0.06			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	1.0014		1.035	mg/L	103.4	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	1.0014	2.03	2.971	mg/L	94	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	1.0014	2.03	2.974	mg/L	94.3	85	115	0.1	20	

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	2		1.995	mg/L	99.8	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.06	0.06			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.044	0.044			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	1.0014		.975	mg/L	97.4	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	1.0014	U	.982	mg/L	98.1	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	1.0014	U	.988	mg/L	98.7	70	130	0.61	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.05332	mg/L	106.6	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0003	0.0003			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05005		.05157	mg/L	103	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05005	U	.05053	mg/L	101	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05005	U	.05177	mg/L	103.4	70	130	2.42	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05096	mg/L	101.9	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.04945	mg/L	98.8	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	U	.04973	mg/L	99.4	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	U	.0501	mg/L	100.1	70	130	0.74	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	2		1.955	mg/L	97.8	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.06	0.06			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	1		.984	mg/L	98.4	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	1	.09	1.073	mg/L	98.3	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	1	.09	1.071	mg/L	98.1	85	115	0.19	20	

SPF Water Engineering

ACZ Project ID: ***L15772***

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	2		1.94	mg/L	97	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.06	0.06			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.044	0.044			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	1		.953	mg/L	95.3	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	1	.04	.998	mg/L	95.8	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	1	.04	.993	mg/L	95.3	70	130	0.5	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	100		97.01	mg/L	97	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.6	0.6			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	49.99695		49.71	mg/L	99.4	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	49.99695	15.6	64.49	mg/L	97.8	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	49.99695	15.6	64.7	mg/L	98.2	85	115	0.33	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	100		97.65	mg/L	97.7	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.6	0.6			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.44	0.44			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	49.99695		47.45	mg/L	94.9	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	49.99695	10.3	58.11	mg/L	95.6	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	49.99695	10.3	58.29	mg/L	96	70	130	0.31	20	

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.05309	mg/L	106.2	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0015	0.0015			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05005		.05325	mg/L	106.4	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05005	.0059	.05596	mg/L	100	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05005	.0059	.05251	mg/L	93.1	70	130	6.36	20	

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ACZ Project ID: ***L15772***

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05061	mg/L	101.2	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0015	0.0015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.0011	0.0011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.05054	mg/L	101	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	1000	1000	mg/L	0	70	130			M3
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	1000	1000	mg/L	0	70	130	0	20	M3
WG356143													
WG356143ICV	ICV	12/09/13 19:51	MS131202-2	.05		.0509	mg/L	101.8	90	110			
WG356143ICB	ICB	12/09/13 19:53				U	mg/L		-0.0015	0.0015			
WG355922LRB	LRB	12/09/13 19:55				U	mg/L		-0.0011	0.0011			
WG355922LFB	LFB	12/09/13 19:56	MS131118-2	.05005		.05029	mg/L	100.5	85	115			
L15749-02LFM	LFM	12/09/13 20:02	MS131118-2	.05005	90	91.5	mg/L	2997	70	130			M3
L15749-02LFMD	LFMD	12/09/13 20:04	MS131118-2	.05005	90	92.5	mg/L	4995	70	130	1.09	20	M3

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356009													
WG356009ICV	ICV	12/06/13 10:12	HG131206-4	10		10.3	ng/L	103	79	121			
WG356009ICB	ICB	12/06/13 10:17				U	ng/L		-0.5	0.5			
WG356009PQV	PQV	12/06/13 10:22	HG131206-5	.5		.58	ng/L	116	70	130			
WG356009LFB	LFB	12/06/13 10:28	HG131206-6	2		1.95	ng/L	97.5	71	125			
L15770-03MS	MS	12/06/13 10:48	HG131206-6	2	U	2.02	ng/L	101	71	125			
L15770-03MSD	MSD	12/06/13 10:53	HG131206-6	2	U	2.06	ng/L	103	71	125	1.96	24	
WG356009CCV1	CCV	12/06/13 11:13	HG131206-4	10		11.4	ng/L	114	76.5	123.4			
WG356009CCB1	CCB	12/06/13 11:18				U	ng/L		-0.5	0.5			
WG356009CCV2	CCV	12/06/13 12:04	HG131206-4	10		10.1	ng/L	101	76.5	123.4			
WG356009CCB2	CCB	12/06/13 12:09				U	ng/L		-0.5	0.5			
WG356009CCV3	CCV	12/06/13 12:54	HG131206-4	10		10.3	ng/L	103	76.5	123.4			
WG356009CCB3	CCB	12/06/13 12:59				U	ng/L		-0.5	0.5			

SPF Water Engineering

ACZ Project ID: ***L15772***

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355492													
WG355492ICV	ICV	11/26/13 13:42	HG131010-4	10		10.5	ng/L	105	79	121			
WG355492ICB	ICB	11/26/13 13:47				U	ng/L		-0.5	0.5			
WG355755													
WG355755CCV1	CCV	12/03/13 13:06	HG131010-4	10		8.79	ng/L	87.9	76.5	123.4			
WG355755CCB1	CCB	12/03/13 13:11				U	ng/L		-0.5	0.5			
WG355755PQV	PQV	12/03/13 13:16	HG131010-6	.5		.36	ng/L	72	70	130			
WG355755LFB	LFB	12/03/13 13:21	HG131010-5	2		1.58	ng/L	79	71	125			
WG355755CCV2	CCV	12/03/13 14:12	HG131010-4	10		9.16	ng/L	91.6	76.5	123.4			
WG355755CCB2	CCB	12/03/13 14:17				U	ng/L		-0.5	0.5			
WG355755CCV3	CCV	12/03/13 15:02	HG131010-4	10		8.9	ng/L	89	76.5	123.4			
WG355755CCB3	CCB	12/03/13 15:08				U	ng/L		-0.5	0.5			
L15826-02MS	MS	12/03/13 15:38	HG131010-5	2	U	2.05	ng/L	102.5	71	125			
L15826-02MSD	MSD	12/03/13 15:43	HG131010-5	2	U	1.92	ng/L	96	71	125	6.55	24	
WG355755CCV4	CCV	12/03/13 15:48	HG131010-4	10		9.39	ng/L	93.9	76.5	123.4			
WG355755CCB4	CCB	12/03/13 15:53				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.02006		.0193	mg/L	96.2	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0015	0.0015			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05		.04778	mg/L	95.6	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05	.0044	.05164	mg/L	94.5	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05	.0044	.05232	mg/L	95.8	70	130	1.31	20	

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.02006		.01948	mg/L	97.1	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0015	0.0015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.0011	0.0011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05		.05096	mg/L	101.9	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05	U	.05019	mg/L	100.4	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05	U	.05014	mg/L	100.3	70	130	0.1	20	

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.04956	mg/L	99.1	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0018	0.0018			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05005		.04775	mg/L	95.4	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05005	U	.0471	mg/L	94.1	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05005	U	.04826	mg/L	96.4	70	130	2.43	20	

SPF Water Engineering

ACZ Project ID: ***L15772***

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.04906	mg/L	98.1	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0018	0.0018			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00132	0.00132			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.04882	mg/L	97.5	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	.2792	.3295	mg/L	100.5	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	.2792	.3256	mg/L	92.7	70	130	1.19	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356065													
WG356065ICV	ICV	12/06/13 19:12	WI131015-1	2.416		2.407	mg/L	99.6	90	110			
WG356065ICB	ICB	12/06/13 19:14				U	mg/L		-0.06	0.06			
WG356069													
WG356069LFB1	LFB	12/06/13 23:01	WI130816-3	2		2.057	mg/L	102.9	90	110			
WG356069LFB2	LFB	12/06/13 23:36	WI130816-3	2		2.06	mg/L	103	90	110			
L15771-03AS	AS	12/06/13 23:38	WI130816-3	2	1.79	3.76	mg/L	98.5	90	110			
L15772-01DUP	DUP	12/06/13 23:41			U	U	mg/L				0	20	RA

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356035													
WG356035ICV	ICV	12/06/13 13:45	WI131021-1	1.003		1.021	mg/L	101.8	90	110			
WG356035ICB	ICB	12/06/13 13:48				U	mg/L		-0.15	0.15			
WG356046													
WG356046LFB	LFB	12/06/13 15:17	WI121218-3	1		1.016	mg/L	101.6	90	110			
L15745-07AS	AS	12/06/13 15:35	WI121218-3	1	U	1.011	mg/L	101.1	90	110			
L15760-01DUP	DUP	12/06/13 15:37			.16	.147	mg/L				8.5	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355870													
WG355870LCSW3	LCSW	12/04/13 16:07	PCN41777	6		6.03	units	100.5	5.9	6.1			
WG355870LCSW6	LCSW	12/04/13 21:07	PCN41777	6		6.05	units	100.8	5.9	6.1			
L15772-02DUP	DUP	12/04/13 22:46			8.2	8.23	units				0.4	20	
WG355870LCSW9	LCSW	12/05/13 0:30	PCN41777	6		6.05	units	100.8	5.9	6.1			
WG355870LCSW12	LCSW	12/05/13 3:35	PCN41777	6		6.05	units	100.8	5.9	6.1			
WG355870LCSW15	LCSW	12/05/13 6:43	PCN41777	6		6.05	units	100.8	5.9	6.1			

SPF Water Engineering

ACZ Project ID: ***L15772***

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356080													
WG356080ICV	ICV	12/07/13 12:07	WI131104-3	.65228		.692	mg/L	106.1	90	110			
WG356080ICB	ICB	12/07/13 12:10				U	mg/L		-0.03	0.03			
WG356022LRB	LRB	12/07/13 12:11				U	mg/L		-0.03	0.03			
WG356022LFB	LFB	12/07/13 12:12	WI131206-2	.5		.488	mg/L	97.6	90	110			
L15760-01LFM	LFM	12/07/13 12:55	WI131206-2	.5	1.03	1.54	mg/L	102	90	110			
L15761-01DUP	DUP	12/07/13 12:57			4.7	4.66	mg/L				0.9	20	

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	20		19.67	mg/L	98.4	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.9	0.9			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	99.94539		100.6	mg/L	100.7	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	99.94539	3.4	105.2	mg/L	101.9	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	99.94539	3.4	104.8	mg/L	101.5	85	115	0.38	20	

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	20		19.79	mg/L	99	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.9	0.9			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.66	0.66			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	99.94539		96.67	mg/L	96.7	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	99.94539	6	104.2	mg/L	98.3	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	99.94539	6	104.7	mg/L	98.8	70	130	0.48	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355603													
WG355603PBW	PBW	11/27/13 12:10				U	mg/L		-20	20			
WG355603LCSW	LCSW	11/27/13 12:11	PCN44256	260		250	mg/L	96.2	80	120			
L15772-02DUP	DUP	11/27/13 12:39			400	410	mg/L				2.5	10	

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355609													
WG355609PBW	PBW	11/27/13 14:10				U	mg/L		-15	15			
WG355609LCSW	LCSW	11/27/13 14:11	PCN44256	160		147	mg/L	91.9	80	120			
L15772-02DUP	DUP	11/27/13 14:34			U	U	mg/L				0	10	RA

SPF Water Engineering

ACZ Project ID: ***L15772***

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	2		2	mg/L	100	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.3	0.3			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	1.0009		1.07	mg/L	106.9	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	1.0009	U	1.07	mg/L	106.9	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	1.0009	U	1.07	mg/L	106.9	85	115	0	20	

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	2		2.02	mg/L	101	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.3	0.3			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.22	0.22			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	1.0009		1.04	mg/L	103.9	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	1.0009	U	1.04	mg/L	103.9	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	1.0009	U	1.04	mg/L	103.9	70	130	0	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.05234	mg/L	104.7	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0003	0.0003			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05005		.04977	mg/L	99.4	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05005	.0046	.05946	mg/L	109.6	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05005	.0046	.06057	mg/L	111.8	70	130	1.85	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05126	mg/L	102.5	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.04983	mg/L	99.6	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	.0001	.05583	mg/L	111.3	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	.0001	.05564	mg/L	111	70	130	0.34	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355931													
WG355931ICV	ICV	12/10/13 16:52	MS131202-2	.02002		.01849	mg/L	92.4	90	110			
WG355931ICB	ICB	12/10/13 16:55				U	mg/L		-0.00015	0.00015			
WG355931LFB	LFB	12/10/13 16:58	MS131118-2	.01001		.008911	mg/L	89	85	115			
L15772-02AS	AS	12/10/13 18:30	MS131118-2	.01001	U	.008195	mg/L	81.9	70	130			
L15772-02ASD	ASD	12/10/13 18:33	MS131118-2	.01001	U	.008368	mg/L	83.6	70	130	2.09	20	

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ACZ Project ID: ***L15772***

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.02002		.01945	mg/L	97.2	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.00015	0.00015			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00011	0.00011			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.01001		.009143	mg/L	91.3	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.01001	U	.008134	mg/L	81.3	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.01001	U	.008324	mg/L	83.2	70	130	2.31	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	100		98.47	mg/L	98.5	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.9	0.9			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	100.0204		100.9	mg/L	100.9	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	100.0204	38.3	138.4	mg/L	100.1	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	100.0204	38.3	137.5	mg/L	99.2	85	115	0.65	20	

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	100		99.74	mg/L	99.7	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.9	0.9			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.66	0.66			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	100.0204		97.03	mg/L	97	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	100.0204	24.1	123.4	mg/L	99.3	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	100.0204	24.1	124.2	mg/L	100.1	70	130	0.65	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	2		2.017	mg/L	100.9	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.03	0.03			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	.5		.508	mg/L	101.6	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	.5	2.84	3.229	mg/L	77.8	85	115			M3
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	.5	2.84	3.216	mg/L	75.2	85	115	0.4	20	M3

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	2		1.999	mg/L	100	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.03	0.03			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.022	0.022			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	.5		.476	mg/L	95.2	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	.5	.23	.707	mg/L	95.4	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	.5	.23	.711	mg/L	96.2	70	130	0.56	20	

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ACZ Project ID: ***L15772***

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	49.95		49.8	mg/L	99.7	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-1.5	1.5			
WG356091													
WG356091LFB2	LFB	12/09/13 20:26	WI131011-1	30		30	mg/L	100	90	110			
L15750-03DUP	DUP	12/09/13 21:02			1300	1300	mg/L				0	20	
L15763-03AS	AS	12/09/13 22:14	WI131011-1	60	81.4	142	mg/L	101	90	110			
WG356091LFB1	LFB	12/10/13 16:26	WI131011-1	30		30.2	mg/L	100.7	90	110			

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.05259	mg/L	105.2	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0003	0.0003			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05005		.05166	mg/L	103.2	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05005	U	.05129	mg/L	102.5	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05005	U	.0522	mg/L	104.3	70	130	1.76	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05245	mg/L	104.9	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.05074	mg/L	101.4	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	.0003	.05192	mg/L	103.1	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	.0003	.05308	mg/L	105.5	70	130	2.21	20	

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05015		.05079	mg/L	101.3	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0003	0.0003			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05005		.04656	mg/L	93	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05005	U	.04602	mg/L	91.9	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05005	U	.04671	mg/L	93.3	70	130	1.49	20	

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05015		.05255	mg/L	104.8	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05005		.05081	mg/L	101.5	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05005	U	.05013	mg/L	100.2	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05005	U	.05059	mg/L	101.1	70	130	0.91	20	

SPF Water Engineering

ACZ Project ID: ***L15772***

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	2		1.9772	mg/L	98.9	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.015	0.015			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	.999		1.031	mg/L	103.2	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	.999	.008	1.025	mg/L	101.8	85	115			
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	.999	.008	1.027	mg/L	102	85	115	0.19	20	

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	2		1.9452	mg/L	97.3	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.015	0.015			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.011	0.011			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	.999		.9884	mg/L	98.9	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	.999	U	.9995	mg/L	100.1	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	.999	U	.9921	mg/L	99.3	70	130	0.74	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.05199	mg/L	104	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0003	0.0003			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.05		.05044	mg/L	100.9	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.05	.0024	.05356	mg/L	102.3	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.05	.0024	.05462	mg/L	104.4	70	130	1.96	20	

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.05195	mg/L	103.9	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0003	0.0003			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00022	0.00022			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.05		.05115	mg/L	102.3	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.05	.004	.05634	mg/L	104.7	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.05	.004	.05799	mg/L	108	70	130	2.89	20	

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355894													
WG355894ICV	ICV	12/05/13 3:39	MS131018-2	.05		.04767	mg/L	95.3	90	110			
WG355894ICB	ICB	12/05/13 3:42				U	mg/L		-0.0006	0.0006			
WG355894LFB	LFB	12/05/13 3:46	MS131118-2	.0501		.0486	mg/L	97	85	115			
L15771-02AS	AS	12/05/13 4:47	MS131118-2	.0501	.0102	.05896	mg/L	97.3	70	130			
L15771-02ASD	ASD	12/05/13 4:50	MS131118-2	.0501	.0102	.06024	mg/L	99.9	70	130	2.15	20	

SPF Water Engineering

ACZ Project ID: ***L15772***

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356064													
WG356064ICV	ICV	12/06/13 20:20	MS131202-2	.05		.0489	mg/L	97.8	90	110			
WG356064ICB	ICB	12/06/13 20:23				U	mg/L		-0.0006	0.0006			
WG355922LRB	LRB	12/06/13 20:26				U	mg/L		-0.00044	0.00044			
WG355922LFB	LFB	12/06/13 20:29	MS131118-2	.0501		.05061	mg/L	101	85	115			
L15749-02LFM	LFM	12/06/13 21:05	MS131118-2	.0501	.0017	.05334	mg/L	103.1	70	130			
L15749-02LFMD	LFMD	12/06/13 21:08	MS131118-2	.0501	.0017	.05217	mg/L	100.7	70	130	2.22	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355744													
WG355744ICV	ICV	12/03/13 13:01	II131113-1	2		1.978	mg/L	98.9	95	105			
WG355744ICB	ICB	12/03/13 13:07				U	mg/L		-0.03	0.03			
WG355744LFB	LFB	12/03/13 13:20	II131119-3	.5		.515	mg/L	103	85	115			
L15767-02AS	AS	12/03/13 14:14	II131119-3	.5	2.28	2.692	mg/L	82.4	85	115			M3
L15767-02ASD	ASD	12/03/13 14:17	II131119-3	.5	2.28	2.693	mg/L	82.6	85	115	0.04	20	M3

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355798													
WG355798ICV	ICV	12/03/13 19:33	II131111-1	2		1.929	mg/L	96.5	95	105			
WG355798ICB	ICB	12/03/13 19:39				U	mg/L		-0.03	0.03			
WG355724LRB	LRB	12/03/13 19:52				U	mg/L		-0.022	0.022			
WG355724LFB	LFB	12/03/13 19:55	II131119-3	.5		.487	mg/L	97.4	85	115			
L15771-03LFM	LFM	12/03/13 20:52	II131119-3	.5	U	.487	mg/L	97.4	70	130			
L15771-03LFMD	LFMD	12/03/13 20:55	II131119-3	.5	U	.491	mg/L	98.2	70	130	0.82	20	

SPF Water Engineering ACZ Project ID: ***L15772***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L15772-01	WG356143	Manganese, total	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG355755	Mercury, total	M1631, Atomic Fluorescence	DF	Sample required dilution due to high sediment.
	WG355744	Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Zinc, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG356091	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355900	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355888	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356091	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356069	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356046	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355609	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

SPF Water Engineering ACZ Project ID: ***L15772***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L15772-02	WG356064	Manganese, total	M200.8 ICP-MS	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
			M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG355744	Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Zinc, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG356091	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355900	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355888	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356091	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356069	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356046	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355609	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 4th Quarter sampling

ACZ Project ID: L15772
Date Received: 11/27/2013 10:23
Received By: mtb
Date Printed: 11/27/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
4096	5.6	13	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc. L15772

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name:	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SPF-2014-GW

PO#: Calico 4th Quarter Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	*SPF-2014-GW							
Poison Spring	11/21/13 13:40		8	X							
Negro Rock Creek	11/21/13 14:55		8	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	11/22/13 6:00		11.27.13 10:28

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L15772 Chain of Custody

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Quote

Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

11/11/2013

Quote Number: SPF-2014-GW

Matrix: Ground Water Quarterly Analysis of Groundwater and Springs

Parameter	Method	Detection Limit	Cost/Sample
Inorganic Prep			
Cyanide, total	M335.4 - Manual Distillation		$0.00
Cyanide, WAD	SM4500-CN I- distillation		$0.00
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digesti		$0.00
Total Hot Plate Digestion	M200.2 ICP-MS		$9.60
Total Hot Plate Digestion	M200.2 ICP		$9.60
Metals Analysis			
Aluminum, dissolved	M200.7 ICP	0.03 mg/L	$0.00
Aluminum, total	M200.7 ICP	0.03 mg/L	$0.00
Antimony, dissolved	M200.8 ICP-MS	0.0004 mg/L	$0.00
Antimony, total	M200.8 ICP-MS	0.0004 mg/L	$0.00
Arsenic, dissolved	M200.8 ICP-MS	0.0002 mg/L	$0.00
Arsenic, total	M200.8 ICP-MS	0.0002 mg/L	$0.00
Barium, dissolved	M200.7 ICP	0.003 mg/L	$0.00
Barium, total	M200.7 ICP	0.003 mg/L	$0.00
Beryllium, dissolved	M200.8 ICP-MS	0.00005 mg/L	$0.00
Beryllium, total	M200.8 ICP-MS	0.00005 mg/L	$0.00
Bismuth, dissolved	M200.7 ICP	0.04 mg/L	$0.00
Bismuth, total	M200.7 ICP	0.04 mg/L	$0.00
Boron, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Boron, total	M200.7 ICP	0.01 mg/L	$0.00
Cadmium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Cadmium, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Calcium, dissolved	M200.7 ICP	0.2 mg/L	$0.00
Calcium, total	M200.7 ICP	0.2 mg/L	$0.00
Chromium, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Chromium, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Cobalt, dissolved	M200.8 ICP-MS	0.00005 mg/L	$0.00
Cobalt, total	M200.8 ICP-MS	0.00005 mg/L	$0.00
Copper, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Copper, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Gallium, dissolved	M200.7 ICP	0.1 mg/L	$0.00
Gallium, total	M200.7 ICP	0.1 mg/L	$0.00
Iron, dissolved	M200.7 ICP	0.02 mg/L	$0.00
Iron, total	M200.7 ICP	0.02 mg/L	$0.00

Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Lead, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Lead, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Lithium, dissolved	M200.7 ICP	0.02 mg/L	$0.00
Lithium, total	M200.7 ICP	0.02 mg/L	$0.00
Magnesium, dissolved	M200.7 ICP	0.2 mg/L	$0.00
Magnesium, total	M200.7 ICP	0.2 mg/L	$0.00
Manganese, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Manganese, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Mercury, dissolved	M1631, Atomic Fluorescence	0.2 ng/L	$40.00
Mercury, total	M1631, Atomic Fluorescence	0.2 ng/L	$40.00
Molybdenum, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Molybdenum, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Nickel, dissolved	M200.8 ICP-MS	0.0006 mg/L	$0.00
Nickel, total	M200.8 ICP-MS	0.0006 mg/L	$0.00
Potassium, dissolved	M200.7 ICP	0.3 mg/L	$0.00
Potassium, total	M200.7 ICP	0.3 mg/L	$0.00
Scandium, dissolved	M200.7 ICP	0.1 mg/L	$0.00
Scandium, total	M200.7 ICP	0.1 mg/L	$0.00
Selenium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Selenium, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Silver, dissolved	M200.8 ICP-MS	0.00005 mg/L	$0.00
Silver, total	M200.8 ICP-MS	0.00005 mg/L	$0.00
Sodium, dissolved	M200.7 ICP	0.3 mg/L	$0.00
Sodium, total	M200.7 ICP	0.3 mg/L	$0.00
Strontium, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Strontium, total	M200.7 ICP	0.01 mg/L	$0.00
Thallium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Thallium, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Tin, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Tin, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Titanium, dissolved	M200.7 ICP	0.005 mg/L	$0.00
Titanium, total	M200.7 ICP	0.005 mg/L	$0.00
Uranium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$13.60
Uranium, total	M200.8 ICP-MS	0.0001 mg/L	$13.60
Vanadium, dissolved	M200.8 ICP-MS	0.0002 mg/L	$0.00
Vanadium, total	M200.8 ICP-MS	0.0002 mg/L	$0.00
Zinc, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Zinc, total	M200.7 ICP	0.01 mg/L	$0.00
Misc.			
Electronic Data Deliverable			$0.00
Quality Control Summary			$0.00
Setup charge for ICP, dissolved			$95.00

REPAD.09.06.05.01 S/ m D/ ## P/

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Quote

Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

11/11/2013

Setup charge for ICP, total			$95.00
Setup Charge for ICPMS - dissolved			$95.00
Setup for ICPMS Totals Analysis			$95.00
Wet Chemistry			
Alkalinity as CaCO3	SM2320B - Titration	2 mg/L	$8.80
Chloride	M300.0 - Ion Chromatography	0.5 mg/L	$10.40
Conductivity @25C	SM2510B	1 umhos/cm	$6.40
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.003 mg/L	$28.80
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillat	0.003 mg/L	$28.80
Fluoride	M300.0 - Ion Chromatography	0.1 mg/L	$10.40
Hardness as CaCO3	SM2340B - Calculation	Calculation	$0.00
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.02 mg/L	$8.80
Nitrogen, ammonia	M350.1 - Automated Phenate	0.05 mg/L	$8.80
pH (lab)	SM4500H+ B	0.1 C	$6.40
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	0.01 mg/L	$17.60
Residue, Filterable (TDS) @180C	SM2540C	10 mg/L	$8.84
Residue, Non-Filterable (TSS) @105C	SM2540D	5 mg/L	$8.80
Sulfate	M300.0 - Ion Chromatography	0.5 mg/L	$10.40
		Cost/Sample:	**$669.64**

Cient is field filtering. This quote is based on a Standard Turnaround Time (TAT) of approximately 14 days for water matrices (10 working days). TAT may vary with seasonal heavy workload. Please contact your PM if rush TAT is required. Rush TAT needs to be pre-approved prior to sample shipment to assure that due dates can be met. Pricing includes standard reporting formats and standard ACZ EDDs. All projects received are subject to a $125.00 Minimum Charge. Please note that method detection limits are estimates and may be elevated depending on sample matrix that require dilution. Pricing includes coolers, bottles pre-preserved as needed, labels, COCs and ice-packs shipped to your site or office via UPS ground. Return shipping is the responsibility of the client. Please allow ample time for your bottles to arrive.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

December 18, 2013

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 4th Quarter sampling
ACZ Project ID: L15821

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 02, 2013. This project has been assigned to ACZ's project number, L15821. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L15821. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after January 17, 2014. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Max Janicek has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Case Narrative

SPF Water Engineering

December 18, 2013

Project ID: Calico 4th Quarter sampling
ACZ Project ID: L15821

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 5 ground water samples from SPF Water Engineering on December 2, 2013. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L15821. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

Any analyses not performed within EPA recommended holding times have been qualified with an "H" flag.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

Some of the dissolved metals values exceed the corresponding total values for project L15821. This is a consistent anomaly with these sample types, and discrepancies may be attributed to a matrix or field sampling issue. In some cases, for RPDs that exceed the standard acceptance limit of 20%, analytes are measured at a value below the PQL or MDL; quantities with this qualifier (B) are considered estimated.

Additionally, the Alkalinity results for L15821 have been qualified with the H1 flag on the extended qualifier report. The chemist noted that these samples were analyzed as quickly as possible after the Thanksgiving holiday, but the EPA recommended hold time was still not met.

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: SAGEBRUSH DUPLICATE

ACZ Sample ID: ***L15821-02***
Date Sampled: *11/22/13 09:55*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								12/04/13 13:31	mla
Cyanide, WAD	SM4500-CN I- distillation								12/05/13 15:12	tcd
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/12/13 14:43	bsu
Total Hot Plate Digestion	M200.2 ICP								12/11/13 11:32	jjc
Total Hot Plate Digestion	M200.2 ICP-MS								12/12/13 10:10	pmc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: SAGEBRUSH DUPLICATE

ACZ Sample ID: ***L15821-02***
Date Sampled: *11/22/13 09:55*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/04/13 23:04	jjc
Aluminum, total	M200.7 ICP	1		U		mg/L	0.03	0.2	12/11/13 21:05	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/12/13 5:40	pmc
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/14/13 0:53	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0072			mg/L	0.0002	0.001	12/12/13 5:40	pmc
Arsenic, total	M200.8 ICP-MS	1	0.0077			mg/L	0.0002	0.001	12/14/13 0:53	pmc
Barium, dissolved	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	12/04/13 23:04	jjc
Barium, total	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	12/11/13 21:05	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/12/13 5:40	pmc
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/14/13 0:53	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/04/13 23:04	jjc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/12/13 16:51	jjc
Boron, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	12/04/13 23:04	jjc
Boron, total	M200.7 ICP	1	0.06			mg/L	0.01	0.05	12/11/13 21:05	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/12/13 5:40	pmc
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/14/13 0:53	pmc
Calcium, dissolved	M200.7 ICP	1	46.6			mg/L	0.2	1	12/04/13 23:04	jjc
Calcium, total	M200.7 ICP	1	45.9			mg/L	0.2	1	12/11/13 21:05	jjc
Chromium, dissolved	M200.8 ICP-MS	1	0.0011	B		mg/L	0.0005	0.002	12/12/13 5:40	pmc
Chromium, total	M200.8 ICP-MS	1	0.0011	B		mg/L	0.0005	0.002	12/14/13 0:53	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00015	B		mg/L	0.00005	0.0003	12/12/13 5:40	pmc
Cobalt, total	M200.8 ICP-MS	1	0.00009	B		mg/L	0.00005	0.0003	12/14/13 0:53	pmc
Copper, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/12/13 5:40	pmc
Copper, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/14/13 0:53	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/04/13 23:04	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/11/13 21:05	jjc
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	12/04/13 23:04	jjc
Iron, total	M200.7 ICP	1		U		mg/L	0.02	0.05	12/11/13 21:05	jjc
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/12/13 5:40	pmc
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/14/13 0:53	pmc
Lithium, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.02	0.1	12/04/13 23:04	jjc
Lithium, total	M200.7 ICP	1		U		mg/L	0.02	0.1	12/11/13 21:05	jjc
Magnesium, dissolved	M200.7 ICP	1	10.1			mg/L	0.2	1	12/04/13 23:04	jjc
Magnesium, total	M200.7 ICP	1	9.9			mg/L	0.2	1	12/11/13 21:05	jjc
Manganese, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/12/13 5:40	pmc
Manganese, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/14/13 0:53	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	12/06/13 11:54	las
Mercury, total	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	12/10/13 13:15	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0018	B		mg/L	0.0005	0.003	12/12/13 5:40	pmc
Molybdenum, total	M200.8 ICP-MS	1	0.0019	B		mg/L	0.0005	0.003	12/14/13 0:53	pmc
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	12/12/13 5:40	pmc
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	12/14/13 0:53	pmc
Potassium, dissolved	M200.7 ICP	1	5			mg/L	0.3	2	12/04/13 23:04	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: SAGEBRUSH DUPLICATE

ACZ Sample ID: ***L15821-02***
Date Sampled: *11/22/13 09:55*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	5			mg/L	0.3	2	12/11/13 21:05	jjc
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/04/13 23:04	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/11/13 21:05	jjc
Selenium, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0003	12/12/13 5:40	pmc
Selenium, total	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0003	12/14/13 0:53	pmc
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/12/13 5:40	pmc
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/14/13 0:53	pmc
Sodium, dissolved	M200.7 ICP	1	20.4			mg/L	0.3	2	12/04/13 23:04	jjc
Sodium, total	M200.7 ICP	1	20			mg/L	0.3	2	12/11/13 21:05	jjc
Strontium, dissolved	M200.7 ICP	1	0.21		*	mg/L	0.01	0.05	12/04/13 23:04	jjc
Strontium, total	M200.7 ICP	1	0.20			mg/L	0.01	0.05	12/11/13 21:05	jjc
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/12/13 5:40	pmc
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/14/13 0:53	pmc
Tin, dissolved	M200.8 ICP-MS	1	0.0001	B	*	mg/L	0.0001	0.0005	12/12/13 5:40	pmc
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	12/14/13 0:53	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/04/13 23:04	jjc
Titanium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	12/11/13 21:05	jjc
Uranium, dissolved	M200.8 ICP-MS	1	0.0038			mg/L	0.0001	0.0005	12/12/13 5:40	pmc
Uranium, total	M200.8 ICP-MS	1	0.0039			mg/L	0.0001	0.0005	12/14/13 0:53	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0202			mg/L	0.0002	0.001	12/12/13 5:40	pmc
Vanadium, total	M200.8 ICP-MS	1	0.0209			mg/L	0.0002	0.001	12/14/13 0:53	pmc
Zinc, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	12/04/13 23:04	jjc
Zinc, total	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	12/11/13 21:05	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: SAGEBRUSH DUPLICATE

ACZ Sample ID: ***L15821-02***
Date Sampled: *11/22/13 09:55*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	158	H	*	mg/L	2	20	12/07/13 0:00	khw
Carbonate as CaCO3		1		UH	*	mg/L	2	20	12/07/13 0:00	khw
Hydroxide as CaCO3		1		UH	*	mg/L	2	20	12/07/13 0:00	khw
Total Alkalinity		1	158	H	*	mg/L	2	20	12/07/13 0:00	khw
Chloride	M300.0 - Ion Chromatography	1	10.6		*	mg/L	0.5	2.5	12/13/13 15:25	tcd
Conductivity @25C	SM2510B	1	385		*	umhos/cm	1	10	12/07/13 22:40	khw
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/04/13 19:19	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/06/13 23:38	pjb
Fluoride	M300.0 - Ion Chromatography	1	0.36	B	*	mg/L	0.1	0.5	12/13/13 15:25	tcd
Hardness as CaCO3	SM2340B - Calculation		158			mg/L	1	7	12/18/13 14:39	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	3.08		*	mg/L	0.02	0.1	12/12/13 23:14	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	12/12/13 14:38	tcd
pH (lab)	SM4500H+ B									
pH		1	8.2	H	*	units	0.1	0.1	12/07/13 0:00	khw
pH measured at		1	21		*	C	0.1	0.1	12/07/13 0:00	khw
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.01	B	*	mg/L	0.01	0.05	12/12/13 23:47	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	270	H	*	mg/L	10	20	12/10/13 12:43	dcw
Residue, Non-Filterable (TSS) @105C	SM2540D	1		UH	*	mg/L	5	20	12/09/13 15:40	id
Sulfate	M300.0 - Ion Chromatography	1	18.0		*	mg/L	0.5	2.5	12/13/13 15:25	tcd

Arizona license number: AZ0102

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: EQUIPMENT BLANK

ACZ Sample ID: ***L15821-03***
Date Sampled: *11/22/13 09:35*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								12/04/13 13:40	mla
Cyanide, WAD	SM4500-CN I- distillation								12/05/13 15:12	tcd
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/12/13 15:00	bsu
Total Hot Plate Digestion	M200.2 ICP-MS								12/12/13 10:20	pmc
Total Hot Plate Digestion	M200.2 ICP								12/11/13 11:44	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: EQUIPMENT BLANK

ACZ Sample ID: ***L15821-03***
Date Sampled: *11/22/13 09:35*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/04/13 23:07	jjc
Aluminum, total	M200.7 ICP	1		U		mg/L	0.03	0.2	12/11/13 21:08	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/12/13 5:49	pmc
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/14/13 0:56	pmc
Arsenic, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	12/12/13 5:49	pmc
Arsenic, total	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0002	0.001	12/14/13 0:56	pmc
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	12/04/13 23:07	jjc
Barium, total	M200.7 ICP	1		U		mg/L	0.003	0.02	12/11/13 21:08	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/12/13 5:49	pmc
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/14/13 0:56	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/04/13 23:07	jjc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/12/13 16:54	jjc
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/04/13 23:07	jjc
Boron, total	M200.7 ICP	1		U		mg/L	0.01	0.05	12/11/13 21:08	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/12/13 5:49	pmc
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/14/13 0:56	pmc
Calcium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	12/04/13 23:07	jjc
Calcium, total	M200.7 ICP	1		U		mg/L	0.2	1	12/11/13 21:08	jjc
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	12/12/13 5:49	pmc
Chromium, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	12/14/13 0:56	pmc
Cobalt, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/12/13 5:49	pmc
Cobalt, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/14/13 0:56	pmc
Copper, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/12/13 5:49	pmc
Copper, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/14/13 0:56	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/04/13 23:07	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/11/13 21:08	jjc
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	12/04/13 23:07	jjc
Iron, total	M200.7 ICP	1		U		mg/L	0.02	0.05	12/11/13 21:08	jjc
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/12/13 5:49	pmc
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/14/13 0:56	pmc
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/04/13 23:07	jjc
Lithium, total	M200.7 ICP	1		U		mg/L	0.02	0.1	12/11/13 21:08	jjc
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	12/04/13 23:07	jjc
Magnesium, total	M200.7 ICP	1		U		mg/L	0.2	1	12/11/13 21:08	jjc
Manganese, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/12/13 5:49	pmc
Manganese, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/14/13 0:56	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	12/06/13 11:59	las
Mercury, total	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	12/10/13 13:20	las
Molybdenum, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/12/13 5:49	pmc
Molybdenum, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/14/13 0:56	pmc
Nickel, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	12/12/13 5:49	pmc
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	12/14/13 0:56	pmc
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.3	2	12/04/13 23:07	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: EQUIPMENT BLANK

ACZ Sample ID: ***L15821-03***
Date Sampled: *11/22/13 09:35*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	U		mg/L	0.3	2	12/11/13 21:08	jjc
Scandium, dissolved	M200.7 ICP	1	U	*	mg/L	0.1	0.5	12/04/13 23:07	jjc
Scandium, total	M200.7 ICP	1	U	*	mg/L	0.1	0.5	12/11/13 21:08	jjc
Selenium, dissolved	M200.8 ICP-MS	1	U		mg/L	0.0001	0.0003	12/12/13 5:49	pmc
Selenium, total	M200.8 ICP-MS	1	U		mg/L	0.0001	0.0003	12/14/13 0:56	pmc
Silver, dissolved	M200.8 ICP-MS	1	U		mg/L	0.00005	0.0003	12/12/13 5:49	pmc
Silver, total	M200.8 ICP-MS	1	U		mg/L	0.00005	0.0003	12/14/13 0:56	pmc
Sodium, dissolved	M200.7 ICP	1	U		mg/L	0.3	2	12/04/13 23:07	jjc
Sodium, total	M200.7 ICP	1	U		mg/L	0.3	2	12/11/13 21:08	jjc
Strontium, dissolved	M200.7 ICP	1	U	*	mg/L	0.01	0.05	12/04/13 23:07	jjc
Strontium, total	M200.7 ICP	1	U		mg/L	0.01	0.05	12/11/13 21:08	jjc
Thallium, dissolved	M200.8 ICP-MS	1	U		mg/L	0.0001	0.0005	12/12/13 5:49	pmc
Thallium, total	M200.8 ICP-MS	1	U		mg/L	0.0001	0.0005	12/14/13 0:56	pmc
Tin, dissolved	M200.8 ICP-MS	1	U	*	mg/L	0.0001	0.0005	12/12/13 5:49	pmc
Tin, total	M200.8 ICP-MS	1	U	*	mg/L	0.0001	0.0005	12/14/13 0:56	pmc
Titanium, dissolved	M200.7 ICP	1	U		mg/L	0.005	0.03	12/04/13 23:07	jjc
Titanium, total	M200.7 ICP	1	U		mg/L	0.005	0.03	12/11/13 21:08	jjc
Uranium, dissolved	M200.8 ICP-MS	1	U		mg/L	0.0001	0.0005	12/12/13 5:49	pmc
Uranium, total	M200.8 ICP-MS	1	U		mg/L	0.0001	0.0005	12/14/13 0:56	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	U		mg/L	0.0002	0.001	12/12/13 5:49	pmc
Vanadium, total	M200.8 ICP-MS	1	U		mg/L	0.0002	0.001	12/14/13 0:56	pmc
Zinc, dissolved	M200.7 ICP	1	U		mg/L	0.01	0.05	12/04/13 23:07	jjc
Zinc, total	M200.7 ICP	1	U		mg/L	0.01	0.05	12/11/13 21:08	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: EQUIPMENT BLANK

ACZ Sample ID: ***L15821-03***
Date Sampled: *11/22/13 09:35*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		UH	*	mg/L	2	20	12/07/13 0:00	khw
Carbonate as CaCO3		1		UH	*	mg/L	2	20	12/07/13 0:00	khw
Hydroxide as CaCO3		1		UH	*	mg/L	2	20	12/07/13 0:00	khw
Total Alkalinity		1		UH	*	mg/L	2	20	12/07/13 0:00	khw
Chloride	M300.0 - Ion Chromatography	1		U	*	mg/L	0.5	2.5	12/13/13 15:43	tcd
Conductivity @25C	SM2510B	1	1	B	*	umhos/cm	1	10	12/07/13 22:45	khw
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/04/13 19:20	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/06/13 23:39	pjb
Fluoride	M300.0 - Ion Chromatography	1		U	*	mg/L	0.1	0.5	12/13/13 15:43	tcd
Hardness as CaCO3	SM2340B - Calculation			U		mg/L	1	7	12/18/13 14:39	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	12/12/13 23:17	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	12/12/13 14:39	tcd
pH (lab)	SM4500H+ B									
pH		1	6.2	H	*	units	0.1	0.1	12/07/13 0:00	khw
pH measured at		1	21		*	C	0.1	0.1	12/07/13 0:00	khw
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.01	0.05	12/12/13 23:48	pjb
Residue, Filterable (TDS) @180C	SM2540C	1		UH	*	mg/L	10	20	12/10/13 12:47	dcw
Residue, Non-Filterable (TSS) @105C	SM2540D	1		UH	*	mg/L	5	20	12/09/13 15:43	id
Sulfate	M300.0 - Ion Chromatography	1		U	*	mg/L	0.5	2.5	12/13/13 15:43	tcd

Arizona license number: AZ0102

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: TRANSFER BLANK

ACZ Sample ID: ***L15821-04***
Date Sampled: *11/22/13 09:45*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								12/04/13 13:50	mla
Cyanide, WAD	SM4500-CN I- distillation								12/05/13 15:12	tcd
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/12/13 15:18	bsu
Total Hot Plate Digestion	M200.2 ICP-MS								12/12/13 10:29	pmc
Total Hot Plate Digestion	M200.2 ICP								12/11/13 11:56	jjc

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, total	M200.7 ICP	1		U		mg/L	0.03	0.2	12/11/13 21:17	jjc
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/14/13 0:59	pmc
Arsenic, total	M200.8 ICP-MS	1	0.0007	B		mg/L	0.0002	0.001	12/14/13 0:59	pmc
Barium, total	M200.7 ICP	1		U		mg/L	0.003	0.02	12/11/13 21:17	jjc
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/14/13 0:59	pmc
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/12/13 17:03	jjc
Boron, total	M200.7 ICP	1		U		mg/L	0.01	0.05	12/11/13 21:17	jjc
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/14/13 0:59	pmc
Calcium, total	M200.7 ICP	1		U		mg/L	0.2	1	12/11/13 21:17	jjc
Chromium, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	12/14/13 0:59	pmc
Cobalt, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/14/13 0:59	pmc
Copper, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/14/13 0:59	pmc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/11/13 21:17	jjc
Iron, total	M200.7 ICP	1		U		mg/L	0.02	0.05	12/11/13 21:17	jjc
Lead, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/14/13 0:59	pmc
Lithium, total	M200.7 ICP	1		U		mg/L	0.02	0.1	12/11/13 21:17	jjc
Magnesium, total	M200.7 ICP	1		U		mg/L	0.2	1	12/11/13 21:17	jjc
Manganese, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/14/13 0:59	pmc
Mercury, total	M1631, Atomic Fluorescence	1		U		ng/L	0.2	0.5	12/10/13 13:25	las
Molybdenum, total	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	12/14/13 0:59	pmc
Nickel, total	M200.8 ICP-MS	1		U		mg/L	0.0006	0.003	12/14/13 0:59	pmc
Potassium, total	M200.7 ICP	1		U		mg/L	0.3	2	12/11/13 21:17	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/11/13 21:17	jjc
Selenium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	12/14/13 0:59	pmc
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/14/13 0:59	pmc
Sodium, total	M200.7 ICP	1		U		mg/L	0.3	2	12/11/13 21:17	jjc
Strontium, total	M200.7 ICP	1		U		mg/L	0.01	0.05	12/11/13 21:17	jjc
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/14/13 0:59	pmc
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	12/14/13 0:59	pmc
Titanium, total	M200.7 ICP	1		U		mg/L	0.005	0.03	12/11/13 21:17	jjc
Uranium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/14/13 0:59	pmc
Vanadium, total	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	12/14/13 0:59	pmc
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	12/11/13 21:17	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: TRANSFER BLANK

ACZ Sample ID: ***L15821-04***
Date Sampled: *11/22/13 09:45*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		UH	*	mg/L	2	20	12/07/13 0:00	khw
Carbonate as CaCO3		1		UH	*	mg/L	2	20	12/07/13 0:00	khw
Hydroxide as CaCO3		1		UH	*	mg/L	2	20	12/07/13 0:00	khw
Total Alkalinity		1		UH	*	mg/L	2	20	12/07/13 0:00	khw
Chloride	M300.0 - Ion Chromatography	1		U	*	mg/L	0.5	2.5	12/13/13 16:19	tcd
Conductivity @25C	SM2510B	1		U	*	umhos/cm	1	10	12/07/13 22:51	khw
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/04/13 19:21	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/06/13 23:40	pjb
Fluoride	M300.0 - Ion Chromatography	1		U	*	mg/L	0.1	0.5	12/13/13 16:19	tcd
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	12/12/13 23:18	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	12/12/13 14:40	tcd
pH (lab)	SM4500H+ B									
pH		1	6	H	*	units	0.1	0.1	12/07/13 0:00	khw
pH measured at		1	21		*	C	0.1	0.1	12/07/13 0:00	khw
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.01	0.05	12/12/13 23:51	pjb
Residue, Filterable (TDS) @180C	SM2540C	1		UH	*	mg/L	10	20	12/07/13 13:50	id
Residue, Non-Filterable (TSS) @105C	SM2540D	1		UH	*	mg/L	5	20	12/09/13 15:46	id
Sulfate	M300.0 - Ion Chromatography	1		U	*	mg/L	0.5	2.5	12/13/13 16:19	tcd

Arizona license number: AZ0102

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: TB111313-1

ACZ Sample ID: ***L15821-05***
Date Sampled: *11/22/13 00:00*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								12/04/13 14:00	mla
Cyanide, WAD	SM4500-CN I- distillation								12/05/13 15:13	tcd

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/04/13 19:22	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/06/13 23:42	pjb

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4)	EPA SW-846. Test Methods for Evaluating Solid Waste.
(5)	Standard Methods for the Examination of Water and Wastewater.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5)	If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L15821***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356078													
WG356078PBW1	PBW	12/07/13 15:04				6.9	mg/L		-20	20			
WG356078LCSW2	LCSW	12/07/13 15:17	WC131126-	820.0001		777.5	mg/L	94.8	90	110			
WG356078LCSW5	LCSW	12/07/13 18:20	WC131126-	820.0001		797.9	mg/L	97.3	90	110			
WG356078PBW2	PBW	12/07/13 18:28				3.1	mg/L		-20	20			
WG356078LCSW8	LCSW	12/07/13 21:31	WC131126-	820.0001		787.5	mg/L	96	90	110			
WG356078PBW3	PBW	12/07/13 21:39				2.3	mg/L		-20	20			
L15822-01DUP	DUP	12/07/13 23:08			47	47	mg/L				0	20	
WG356078LCSW11	LCSW	12/08/13 1:00	WC131126-	820.0001		794.3	mg/L	96.9	90	110			
WG356078PBW4	PBW	12/08/13 1:09				2.5	mg/L		-20	20			
WG356078LCSW14	LCSW	12/08/13 4:26	WC131126-	820.0001		813.1	mg/L	99.2	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	2		1.977	mg/L	98.9	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.09	0.09			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	1.0011		1.075	mg/L	107.4	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	1.0011	.05	1.114	mg/L	106.3	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	1.0011	.05	1.111	mg/L	106	85	115	0.27	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.983	mg/L	99.2	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.09	0.09			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.066	0.066			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	1.0011		1.045	mg/L	104.4	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	1.0011	U	1.06	mg/L	105.9	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	1.0011	U	1.039	mg/L	103.8	70	130	2	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.02		.02066	mg/L	103.3	90	110			
WG356310ICB	ICB	12/12/13 5:11				.00053	mg/L		-0.0012	0.0012			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.01		.01061	mg/L	106.1	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.01	.0007	.01083	mg/L	101.3	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.01	.0007	.011	mg/L	103	70	130	1.56	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.02		.02048	mg/L	102.4	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0012	0.0012			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00088	0.00088			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.01		.01138	mg/L	113.8	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.01	.0006	.01174	mg/L	111.4	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.01	.0006	.01175	mg/L	111.5	70	130	0.09	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.0535	mg/L	107	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0006	0.0006			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05005		.05022	mg/L	100.3	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05005	.0394	.09256	mg/L	106.2	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05005	.0394	.09388	mg/L	108.9	70	130	1.42	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.05173	mg/L	103.5	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0006	0.0006			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00044	0.00044			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05005		.05208	mg/L	104.1	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05005	.0275	.07907	mg/L	103	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05005	.0275	.07949	mg/L	103.9	70	130	0.53	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	2		1.957	mg/L	97.9	95	105			
WG355874ICB	ICB	12/04/13 21:25				.0039	mg/L		-0.009	0.009			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	.5		.5	mg/L	100	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	.5	.022	.5341	mg/L	102.4	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	.5	.022	.532	mg/L	102	85	115	0.39	20	

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.9665	mg/L	98.3	95	105			
WG356298ICB	ICB	12/11/13 20:28				.003	mg/L		-0.009	0.009			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.0066	0.0066			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	.5		.5008	mg/L	100.2	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	.5	.03	.5282	mg/L	99.6	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	.5	.03	.5232	mg/L	98.6	70	130	0.95	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.0499	mg/L	99.8	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.00015	0.00015			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.0501		.05305	mg/L	105.9	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.0501	U	.05156	mg/L	102.9	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.0501	U	.0506	mg/L	101	70	130	1.88	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.04627	mg/L	92.5	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.00015	0.00015			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00011	0.00011			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.0501		.04822	mg/L	96.2	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.0501	U	.04577	mg/L	91.4	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.0501	U	.04679	mg/L	93.4	70	130	2.2	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	2		2.008	mg/L	100.4	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.12	0.12			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	1		1.075	mg/L	107.5	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	1	U	1.111	mg/L	111.1	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	1	U	1.099	mg/L	109.9	85	115	1.09	20	

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356349													
WG356349ICV	ICV	12/12/13 16:08	II131111-1	2		2	mg/L	100	95	105			
WG356349ICB	ICB	12/12/13 16:14				U	mg/L		-0.12	0.12			
WG356232LRB	LRB	12/12/13 16:26				U	mg/L		-0.088	0.088			
WG356232LFB	LFB	12/12/13 16:30	II131209-3	1		1.07	mg/L	107	85	115			
L15820-02LFM	LFM	12/12/13 16:39	II131209-3	1	U	1.109	mg/L	110.9	70	130			
L15820-02LFMD	LFMD	12/12/13 16:42	II131209-3	1	U	1.077	mg/L	107.7	70	130	2.93	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	2		2.019	mg/L	101	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.03	0.03			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	.5005		.526	mg/L	105.1	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	.5005	.37	.899	mg/L	105.7	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	.5005	.37	.887	mg/L	103.3	85	115	1.34	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.997	mg/L	99.9	95	105			
WG356298ICB	ICB	12/11/13 20:28				.011	mg/L		-0.03	0.03			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.022	0.022			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	.5005		.509	mg/L	101.7	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	.5005	.08	.586	mg/L	101.1	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	.5005	.08	.582	mg/L	100.3	70	130	0.68	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.05087	mg/L	101.7	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0003	0.0003			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.0501		.05237	mg/L	104.5	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.0501	U	.05303	mg/L	105.8	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.0501	U	.05348	mg/L	106.7	70	130	0.84	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.04928	mg/L	98.6	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0003	0.0003			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00022	0.00022			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.0501		.05085	mg/L	101.5	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.0501	U	.05074	mg/L	101.3	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.0501	U	.0508	mg/L	101.4	70	130	0.12	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	100		98.42	mg/L	98.4	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.6	0.6			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	68.00225		71.15	mg/L	104.6	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	68.00225	51.7	121.4	mg/L	102.5	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	68.00225	51.7	121.9	mg/L	103.2	85	115	0.41	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	100		98.37	mg/L	98.4	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.6	0.6			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.44	0.44			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	68.00225		69.75	mg/L	102.6	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	68.00225	39	110.8	mg/L	105.6	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	68.00225	39	108.1	mg/L	101.6	70	130	2.47	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	19.98		19.7	mg/L	98.6	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-1.5	1.5			
WG356398													
WG356398LFB1	LFB	12/13/13 11:15	WI131011-1	30		32.1	mg/L	107	90	110			
L15737-01DUP	DUP	12/13/13 11:50			38.4	38.3	mg/L				0.3	20	
L15737-02AS	AS	12/13/13 12:26	WI131011-1	30	14.6	46.5	mg/L	106.3	90	110			
L15821-03DUP	DUP	12/13/13 16:01			U	U	mg/L				0	20	RA
L15821-04AS	AS	12/13/13 16:37	WI131011-1	30	U	32.8	mg/L	109.3	90	110			
WG356398LFB2	LFB	12/13/13 19:54	WI131011-1	30		32.1	mg/L	107	90	110			

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.05002	mg/L	100	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0015	0.0015			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05005		.05131	mg/L	102.5	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05005	.0008	.04931	mg/L	96.9	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05005	.0008	.05001	mg/L	98.3	70	130	1.41	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.0489	mg/L	97.8	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0015	0.0015			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.0011	0.0011			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05005		.05037	mg/L	100.6	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05005	.001	.05044	mg/L	98.8	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05005	.001	.05001	mg/L	97.9	70	130	0.86	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.0503	mg/L	100.6	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.00015	0.00015			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05005		.05251	mg/L	104.9	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05005	.00012	.05116	mg/L	102	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05005	.00012	.05138	mg/L	102.4	70	130	0.43	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.04892	mg/L	97.8	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.00015	0.00015			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00011	0.00011			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05005		.05114	mg/L	102.2	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05005	.00031	.05044	mg/L	100.2	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05005	.00031	.04966	mg/L	98.6	70	130	1.56	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356078													
WG356078LCSW1	LCSW	12/07/13 15:05	PCN42442	1408.8		1436.6	µmhos/cm	102	90	110			
WG356078LCSW4	LCSW	12/07/13 18:08	PCN42442	1408.8		1412	µmhos/cm	100.2	90	110			
WG356078LCSW7	LCSW	12/07/13 21:19	PCN42442	1408.8		1398.6	µmhos/cm	99.3	90	110			
L15822-01DUP	DUP	12/07/13 23:08			1970	1959	µmhos/cm				0.6	20	
WG356078LCSW10	LCSW	12/08/13 0:48	PCN42442	1408.8		1384.2	µmhos/cm	98.3	90	110			
WG356078LCSW13	LCSW	12/08/13 4:13	PCN42442	1408.8		1377.1	µmhos/cm	97.7	90	110			

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.04971	mg/L	99.4	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0015	0.0015			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05005		.05085	mg/L	101.6	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05005	U	.04783	mg/L	95.6	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05005	U	.04807	mg/L	96	70	130	0.5	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.04892	mg/L	97.8	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0015	0.0015			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.0011	0.0011			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05005		.05122	mg/L	102.3	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05005	.005	.05465	mg/L	99.2	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05005	.005	.05389	mg/L	97.7	70	130	1.4	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355888													
WG355888ICV	ICV	12/04/13 17:12	WI131202-6	.3		.2922	mg/L	97.4	90	110			
WG355888ICB	ICB	12/04/13 17:13				U	mg/L		-0.003	0.003			
WG355900													
WG355836LRB	LRB	12/04/13 18:57				U	mg/L		-0.003	0.003			
WG355836LFB	LFB	12/04/13 18:58	WI131202-2	.2		.1849	mg/L	92.5	90	110			
L15818-01DUP	DUP	12/04/13 19:12			U	U	mg/L				0	20	RA
L15818-03LFM	LFM	12/04/13 19:14	WI131202-2	.2	U	.1801	mg/L	90.1	90	110			

SPF Water Engineering

ACZ Project ID: ***L15821***

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356068													
WG356068ICV	ICV	12/06/13 22:49	WI131202-6	.3		.2925	mg/L	97.5	90	110			
WG356068ICB	ICB	12/06/13 22:50				U	mg/L		-0.003	0.003			
WG356070													
WG355973LRB	LRB	12/06/13 23:26				U	mg/L		-0.003	0.003			
WG355973LFB	LFB	12/06/13 23:26	WI131202-4	.2		.1879	mg/L	94	90	110			
L15731-01DUP	DUP	12/06/13 23:28			U	U	mg/L				0	20	RA
L15731-02LFM	LFM	12/06/13 23:30	WI131202-4	.2	U	.1711	mg/L	85.6	90	110			M2
L15821-04DUP	DUP	12/06/13 23:41			U	U	mg/L				0	20	RA
L15821-05LFM	LFM	12/06/13 23:42	WI131202-4	.2	U	.1881	mg/L	94.1	90	110			

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	4.004		4.21	mg/L	105.1	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-0.3	0.3			
WG356398													
WG356398LFB1	LFB	12/13/13 11:15	WI131011-1	1.5		1.62	mg/L	108	90	110			
L15737-01DUP	DUP	12/13/13 11:50			1.43	1.41	mg/L				1.4	20	
L15737-02AS	AS	12/13/13 12:26	WI131011-1	1.5	2.65	4.18	mg/L	102	90	110			
L15821-03DUP	DUP	12/13/13 16:01			U	U	mg/L				0	20	RA
L15821-04AS	AS	12/13/13 16:37	WI131011-1	1.5	U	1.66	mg/L	110.7	90	110			M1
WG356398LFB2	LFB	12/13/13 19:54	WI131011-1	1.5		1.61	mg/L	107.3	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	2		2.01	mg/L	100.5	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.3	0.3			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	1.001		1.05	mg/L	104.9	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	1.001	U	1.08	mg/L	107.9	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	1.001	U	1.11	mg/L	110.9	85	115	2.74	20	

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.97	mg/L	98.5	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.3	0.3			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.22	0.22			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	1.001		1.04	mg/L	103.9	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	1.001	U	1.04	mg/L	103.9	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	1.001	U	1.01	mg/L	100.9	70	130	2.93	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	2		2.012	mg/L	100.6	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.06	0.06			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	1.0014		1.039	mg/L	103.8	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	1.0014	.06	1.085	mg/L	102.4	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	1.0014	.06	1.073	mg/L	101.2	85	115	1.11	20	

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.987	mg/L	99.4	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.06	0.06			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.044	0.044			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	1.0014		1.055	mg/L	105.4	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	1.0014	.07	1.041	mg/L	97	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	1.0014	.07	1.019	mg/L	94.8	70	130	2.14	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.0512	mg/L	102.4	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0003	0.0003			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05005		.05199	mg/L	103.9	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05005	U	.05156	mg/L	103	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05005	U	.05206	mg/L	104	70	130	0.97	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.05071	mg/L	101.4	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0003	0.0003			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00022	0.00022			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05005		.05092	mg/L	101.7	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05005	.0004	.05135	mg/L	101.8	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05005	.0004	.05094	mg/L	101	70	130	0.8	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	2		1.943	mg/L	97.2	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.06	0.06			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	1		.98	mg/L	98	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	1	.07	1.078	mg/L	100.8	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	1	.07	1.073	mg/L	100.3	85	115	0.46	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.933	mg/L	96.7	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.06	0.06			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.044	0.044			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	1		.97	mg/L	97	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	1	.04	1.017	mg/L	97.7	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	1	.04	1.009	mg/L	96.9	70	130	0.79	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	100		96.99	mg/L	97	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.6	0.6			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	49.99695		50.11	mg/L	100.2	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	49.99695	50.9	100.2	mg/L	98.6	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	49.99695	50.9	100.2	mg/L	98.6	85	115	0	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	100		96.73	mg/L	96.7	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.6	0.6			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.44	0.44			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	49.99695		49.28	mg/L	98.6	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	49.99695	7.1	56.76	mg/L	99.3	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	49.99695	7.1	55.64	mg/L	97.1	70	130	1.99	20	

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.0518	mg/L	103.6	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0015	0.0015			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05005		.05248	mg/L	104.9	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05005	U	.05127	mg/L	102.4	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05005	U	.05152	mg/L	102.9	70	130	0.49	20	

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.05007	mg/L	100.1	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0015	0.0015			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.0011	0.0011			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05005		.05081	mg/L	101.5	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05005	.0114	.06173	mg/L	100.6	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05005	.0114	.06117	mg/L	99.4	70	130	0.91	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356009													
WG356009ICV	ICV	12/06/13 10:12	HG131206-4	10		10.3	ng/L	103	79	121			
WG356009ICB	ICB	12/06/13 10:17				U	ng/L		-0.5	0.5			
WG356009PQV	PQV	12/06/13 10:22	HG131206-5	.5		.58	ng/L	116	70	130			
WG356009LFB	LFB	12/06/13 10:28	HG131206-6	2		1.95	ng/L	97.5	71	125			
WG356009CCV1	CCV	12/06/13 11:13	HG131206-4	10		11.4	ng/L	114	76.5	123.4			
WG356009CCB1	CCB	12/06/13 11:18				U	ng/L		-0.5	0.5			
WG356009CCV2	CCV	12/06/13 12:04	HG131206-4	10		10.1	ng/L	101	76.5	123.4			
WG356009CCB2	CCB	12/06/13 12:09				U	ng/L		-0.5	0.5			
L15823-02MS	MS	12/06/13 12:34	HG131206-6	2	U	2.1	ng/L	105	71	125			
L15823-02MSD	MSD	12/06/13 12:39	HG131206-6	2	U	2.18	ng/L	109	71	125	3.74	24	
WG356009CCV3	CCV	12/06/13 12:54	HG131206-4	10		10.3	ng/L	103	76.5	123.4			
WG356009CCB3	CCB	12/06/13 12:59				U	ng/L		-0.5	0.5			

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356009													
WG356009ICV	ICV	12/06/13 10:12	HG131206-4	10		10.3	ng/L	103	79	121			
WG356009ICB	ICB	12/06/13 10:17				U	ng/L		-0.5	0.5			
WG356150													
WG356150CCV1	CCV	12/10/13 11:39	HG131206-4	10		11.2	ng/L	112	76.5	123.4			
WG356150CCB1	CCB	12/10/13 11:45				U	ng/L		-0.5	0.5			
WG356150PQV	PQV	12/10/13 11:50	HG131206-5	.5		.51	ng/L	102	70	130			
WG356150LFB	LFB	12/10/13 11:55	HG131206-6	2		1.95	ng/L	97.5	71	125			
L15822-01MS	MS	12/10/13 13:35	HG5XPREP	50	4	14.5	ng/L	105	71	125			
L15822-01MSD	MSD	12/10/13 13:40	HG5XPREP	50	4	14.6	ng/L	106	71	125	0.69	24	
WG356150CCV2	CCV	12/10/13 13:45	HG131206-4	10		11.5	ng/L	115	76.5	123.4			
WG356150CCB2	CCB	12/10/13 13:51				U	ng/L		-0.5	0.5			
WG356150CCV3	CCV	12/10/13 14:36	HG131206-4	10		11	ng/L	110	76.5	123.4			
WG356150CCB3	CCB	12/10/13 14:41				U	ng/L		-0.5	0.5			
WG356150CCV4	CCV	12/10/13 15:17	HG131206-4	10		11	ng/L	110	76.5	123.4			
WG356150CCB4	CCB	12/10/13 15:22				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.02006		.01948	mg/L	97.1	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0015	0.0015			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05		.05026	mg/L	100.5	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05	.0039	.05475	mg/L	101.7	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05	.0039	.05507	mg/L	102.3	70	130	0.58	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.02006		.01886	mg/L	94	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0015	0.0015			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.0011	0.0011			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05		.05088	mg/L	101.8	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05	.003	.05479	mg/L	103.6	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05	.003	.05403	mg/L	102.1	70	130	1.4	20	

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.05014	mg/L	100.3	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0018	0.0018			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05005		.05069	mg/L	101.3	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05005	U	.04728	mg/L	94.5	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05005	U	.04743	mg/L	94.8	70	130	0.32	20	

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.04891	mg/L	97.8	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0018	0.0018			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00132	0.00132			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05005		.04961	mg/L	99.1	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05005	U	.04859	mg/L	97.1	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05005	U	.04813	mg/L	96.2	70	130	0.95	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356380													
WG356380ICV	ICV	12/12/13 18:32	WI131015-1	2.416		2.422	mg/L	100.2	90	110			
WG356380ICB	ICB	12/12/13 18:33				U	mg/L		-0.06	0.06			
WG356389													
WG356389LFB1	LFB	12/12/13 23:03	WI130816-3	2		2.046	mg/L	102.3	90	110			
L15778-01AS	AS	12/12/13 23:05	WI130816-3	2	.81	2.834	mg/L	101.2	90	110			
L15778-02DUP	DUP	12/12/13 23:08			.83	.809	mg/L				2.6	20	
WG356389LFB2	LFB	12/12/13 23:37	WI130816-3	2		1.982	mg/L	99.1	90	110			

SPF Water Engineering

ACZ Project ID: ***L15821***

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356333													
WG356333ICV	ICV	12/12/13 12:20	WI131021-1	1.003		.974	mg/L	97.1	90	110			
WG356333ICB	ICB	12/12/13 12:23				U	mg/L		-0.15	0.15			
WG356350													
WG356350LFB1	LFB	12/12/13 13:58	WI121218-3	1		.982	mg/L	98.2	90	110			
WG356350LFB2	LFB	12/12/13 14:29	WI121218-3	1		1.008	mg/L	100.8	90	110			
L15820-02AS	AS	12/12/13 14:31	WI121218-3	1	U	1.003	mg/L	100.3	90	110			
L15820-03DUP	DUP	12/12/13 14:34			U	U	mg/L				0	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356078													
WG356078LCSW3	LCSW	12/07/13 15:20	PCN41777	6		6.03	units	100.5	5.9	6.1			
WG356078LCSW6	LCSW	12/07/13 18:23	PCN41777	6		6.05	units	100.8	5.9	6.1			
WG356078LCSW9	LCSW	12/07/13 21:34	PCN41777	6		6.05	units	100.8	5.9	6.1			
L15822-01DUP	DUP	12/07/13 23:08			6.7	6.77	units				1	20	
WG356078LCSW12	LCSW	12/08/13 1:04	PCN41777	6		6.05	units	100.8	5.9	6.1			
WG356078LCSW15	LCSW	12/08/13 4:29	PCN41777	6		6.06	units	101	5.9	6.1			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356387													
WG356387ICV	ICV	12/12/13 22:33	WI131104-3	.65228		.671	mg/L	102.9	90	110			
WG356387ICB	ICB	12/12/13 22:36				U	mg/L		-0.03	0.03			
WG356390													
WG356321LRB	LRB	12/12/13 23:24				U	mg/L		-0.03	0.03			
WG356321LFB	LFB	12/12/13 23:25	WI131206-2	.5		.491	mg/L	98.2	90	110			
L15820-03LFM	LFM	12/12/13 23:43	WI131206-2	.5	.02	.524	mg/L	100.8	90	110			
L15821-01DUP	DUP	12/12/13 23:46			.02	.015	mg/L				28.6	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	20		19.64	mg/L	98.2	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.9	0.9			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	99.94539		102.7	mg/L	102.8	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	99.94539	16.3	120	mg/L	103.8	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	99.94539	16.3	120.3	mg/L	104.1	85	115	0.25	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	20		19.75	mg/L	98.8	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.9	0.9			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.66	0.66			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	99.94539		98.98	mg/L	99	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	99.94539	6	106.3	mg/L	100.4	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	99.94539	6	105	mg/L	99.1	70	130	1.23	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356084													
WG356084PBW	PBW	12/07/13 13:13				U	mg/L		-20	20			
WG356084LCSW	LCSW	12/07/13 13:15	PCN44260	260		248	mg/L	95.4	80	120			
L15847-06DUP	DUP	12/07/13 14:13			150	152	mg/L				1.3	10	
WG356178													
WG356178PBW	PBW	12/10/13 12:00				U	mg/L		-20	20			
WG356178LCSW	LCSW	12/10/13 12:03	PCN44259	260		260	mg/L	100	80	120			
L15669-05DUP	DUP	12/10/13 12:11			29200	29000	mg/L				0.7	10	

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356134													
WG356134PBW	PBW	12/09/13 15:33				U	mg/L		-15	15			
WG356134LCSW	LCSW	12/09/13 15:35	PCN44259	160		156	mg/L	97.5	80	120			
L15826-01DUP	DUP	12/09/13 16:04			U	U	mg/L				0	10	RA

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	2		2.01	mg/L	100.5	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.3	0.3			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	1.0009		1.07	mg/L	106.9	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	1.0009	U	1.07	mg/L	106.9	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	1.0009	U	1.11	mg/L	110.9	85	115	3.67	20	

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		2	mg/L	100	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.3	0.3			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.22	0.22			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	1.0009		1.06	mg/L	105.9	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	1.0009	U	1.06	mg/L	105.9	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	1.0009	U	1.05	mg/L	104.9	70	130	0.95	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.0514	mg/L	102.8	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0003	0.0003			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05005		.05282	mg/L	105.5	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05005	.0028	.05978	mg/L	113.8	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05005	.0028	.06016	mg/L	114.6	70	130	0.63	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.05106	mg/L	102.1	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0003	0.0003			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00022	0.00022			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05005		.0523	mg/L	104.5	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05005	.0019	.05296	mg/L	102	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05005	.0019	.05271	mg/L	101.5	70	130	0.47	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.02002		.01987	mg/L	99.3	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.00015	0.00015			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.01001		.009618	mg/L	96.1	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.01001	U	.009139	mg/L	91.3	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.01001	U	.009245	mg/L	92.4	70	130	1.15	20	

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.02002		.01936	mg/L	96.7	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.00015	0.00015			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00011	0.00011			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.01001		.009648	mg/L	96.4	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.01001	U	.009378	mg/L	93.7	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.01001	U	.009334	mg/L	93.2	70	130	0.47	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	100		98.9	mg/L	98.9	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.9	0.9			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	100.0204		102.4	mg/L	102.4	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	100.0204	83.2	183	mg/L	99.8	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	100.0204	83.2	183.1	mg/L	99.9	85	115	0.05	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	100		98.59	mg/L	98.6	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.9	0.9			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.66	0.66			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	100.0204		98.68	mg/L	98.7	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	100.0204	25.7	126.1	mg/L	100.4	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	100.0204	25.7	124.4	mg/L	98.7	70	130	1.36	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	2		2.003	mg/L	100.2	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.03	0.03			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	.5		.511	mg/L	102.2	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	.5	2.03	2.44	mg/L	82	85	115			M3
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	.5	2.03	2.439	mg/L	81.8	85	115	0.04	20	M3

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.989	mg/L	99.5	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.03	0.03			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.022	0.022			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	.5		.489	mg/L	97.8	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	.5	.2	.696	mg/L	99.2	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	.5	.2	.685	mg/L	97	70	130	1.59	20	

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	49.95		49.8	mg/L	99.7	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-1.5	1.5			
WG356398													
WG356398LFB1	LFB	12/13/13 11:15	WI131011-1	30		31.9	mg/L	106.3	90	110			
L15737-01DUP	DUP	12/13/13 11:50			10.2	10.2	mg/L				0	20	
L15821-03DUP	DUP	12/13/13 16:01			U	U	mg/L				0	20	RA
L15821-04AS	AS	12/13/13 16:37	WI131011-1	30	U	32.7	mg/L	109	90	110			
WG356398LFB2	LFB	12/13/13 19:54	WI131011-1	30		31.8	mg/L	106	90	110			
L15737-02AS	AS	12/16/13 18:32	WI131011-1	60	84.6	145	mg/L	100.7	90	110			

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ACZ Project ID: ***L15821***

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.05247	mg/L	104.9	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0003	0.0003			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05005		.05422	mg/L	108.3	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05005	U	.05404	mg/L	108	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05005	U	.05399	mg/L	107.9	70	130	0.09	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.05207	mg/L	104.1	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0003	0.0003			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00022	0.00022			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05005		.05049	mg/L	100.9	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05005	U	.05155	mg/L	103	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05005	U	.05101	mg/L	101.9	70	130	1.05	20	

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05015		.05309	mg/L	105.9	90	110			
WG356310ICB	ICB	12/12/13 5:11				.0002	mg/L		-0.0003	0.0003			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05005		.04925	mg/L	98.4	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05005	U	.04992	mg/L	99.7	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05005	U	.04897	mg/L	97.8	70	130	1.92	20	

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05015		.0508	mg/L	101.3	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0003	0.0003			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00022	0.00022			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05005		.04893	mg/L	97.8	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05005	U	.04815	mg/L	96.2	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05005	U	.04875	mg/L	97.4	70	130	1.24	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	2		1.9692	mg/L	98.5	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.015	0.015			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	.999		1.026	mg/L	102.7	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	.999	U	1.06	mg/L	106.1	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	.999	U	1.056	mg/L	105.7	85	115	0.38	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.9315	mg/L	96.6	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.015	0.015			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.011	0.011			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	.999		1.004	mg/L	100.5	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	.999	U	1.011	mg/L	101.2	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	.999	U	.996	mg/L	99.7	70	130	1.49	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.0521	mg/L	104.2	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0003	0.0003			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.05		.05371	mg/L	107.4	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.05	.0018	.05542	mg/L	107.2	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.05	.0018	.05547	mg/L	107.3	70	130	0.09	20	

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.0509	mg/L	101.8	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0003	0.0003			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00022	0.00022			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.05		.05228	mg/L	104.6	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.05	.0031	.05723	mg/L	108.3	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.05	.0031	.05692	mg/L	107.6	70	130	0.54	20	

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356310													
WG356310ICV	ICV	12/12/13 5:07	MS131202-2	.05		.04956	mg/L	99.1	90	110			
WG356310ICB	ICB	12/12/13 5:11				U	mg/L		-0.0006	0.0006			
WG356310LFB	LFB	12/12/13 5:14	MS131118-2	.0501		.05273	mg/L	105.2	85	115			
L15820-02AS	AS	12/12/13 5:27	MS131118-2	.0501	.0182	.06954	mg/L	102.5	70	130			
L15820-02ASD	ASD	12/12/13 5:30	MS131118-2	.0501	.0182	.07041	mg/L	104.2	70	130	1.24	20	

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356438													
WG356438ICV	ICV	12/14/13 0:05	MS131202-2	.05		.04892	mg/L	97.8	90	110			
WG356438ICB	ICB	12/14/13 0:08				U	mg/L		-0.0006	0.0006			
WG356260LRB	LRB	12/14/13 0:11				U	mg/L		-0.00044	0.00044			
WG356260LFB	LFB	12/14/13 0:14	MS131118-2	.0501		.05254	mg/L	104.9	85	115			
L15820-03LFM	LFM	12/14/13 0:37	MS131118-2	.0501	.0166	.06929	mg/L	105.2	70	130			
L15820-03LFMD	LFMD	12/14/13 0:46	MS131118-2	.0501	.0166	.0684	mg/L	103.4	70	130	1.29	20	

SPF Water Engineering

ACZ Project ID: ***L15821***

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355874													
WG355874ICV	ICV	12/04/13 21:19	II131113-1	2		1.917	mg/L	95.9	95	105			
WG355874ICB	ICB	12/04/13 21:25				U	mg/L		-0.03	0.03			
WG355874LFB	LFB	12/04/13 21:38	II131119-3	.5		.509	mg/L	101.8	85	115			
L15778-01AS	AS	12/04/13 22:35	II131119-3	.5	.07	.533	mg/L	94.6	85	115			
L15778-01ASD	ASD	12/04/13 22:39	II131119-3	.5	.07	.531	mg/L	94.2	85	115	0.38	20	

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.934	mg/L	96.7	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.03	0.03			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.022	0.022			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	.5		.506	mg/L	101.2	85	115			
L15820-02LFM	LFM	12/11/13 20:52	II131209-3	.5	U	.502	mg/L	100.4	70	130			
L15820-02LFMD	LFMD	12/11/13 20:55	II131209-3	.5	U	.494	mg/L	98.8	70	130	1.61	20	

SPF Water Engineering ACZ Project ID: ***L15821***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L15821-01	WG355874	Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG356078	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG356398	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
	WG356078	Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG355900	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356070	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356398	Fluoride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
	WG356078	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG356389	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	Q6	Sample was received above recommended temperature.
	WG356350	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG356390	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356178	Residue, Filterable (TDS) @180C	SM2540C	H3	Sample was received and analyzed past holding time.
			SM2540C	Q6	Sample was received above recommended temperature.
	WG356134	Residue, Non-Filterable (TSS) @105C	SM2540D	H3	Sample was received and analyzed past holding time.
			SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356398	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
	WG356078	Total Alkalinity	SM2320B - Titration	H1	Sample prep or analysis performed past holding time. See case narrative.
			SM2320B - Titration	Q6	Sample was received above recommended temperature.

SPF Water Engineering ACZ Project ID: ***L15821***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L15821-02	WG355874	Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG356078	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG356398	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
	WG356078	Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG355900	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356070	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356398	Fluoride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
	WG356078	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG356389	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	Q6	Sample was received above recommended temperature.
	WG356350	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG356390	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356178	Residue, Filterable (TDS) @180C	SM2540C	H3	Sample was received and analyzed past holding time.
			SM2540C	Q6	Sample was received above recommended temperature.
	WG356134	Residue, Non-Filterable (TSS) @105C	SM2540D	H3	Sample was received and analyzed past holding time.
			SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356398	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
	WG356078	Total Alkalinity	SM2320B - Titration	H1	Sample prep or analysis performed past holding time. See case narrative.
			SM2320B - Titration	Q6	Sample was received above recommended temperature.

SPF Water Engineering ACZ Project ID: ***L15821***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L15821-03	WG355874	Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG356078	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG356398	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG355900	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356070	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356398	Fluoride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG356389	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	Q6	Sample was received above recommended temperature.
	WG356350	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG356390	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356178	Residue, Filterable (TDS) @180C	SM2540C	H3	Sample was received and analyzed past holding time.
			SM2540C	Q6	Sample was received above recommended temperature.
	WG356134	Residue, Non-Filterable (TSS) @105C	SM2540D	H3	Sample was received and analyzed past holding time.
			SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356398	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	Total Alkalinity	SM2320B - Titration	H1	Sample prep or analysis performed past holding time. See case narrative.
			SM2320B - Titration	Q6	Sample was received above recommended temperature.

SPF Water Engineering ACZ Project ID: ***L15821***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L15821-04	WG356078	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG356398	Chloride	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
	WG355900	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356070	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356398	Fluoride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG356389	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	Q6	Sample was received above recommended temperature.
	WG356350	Nitrogen, ammonia	M350.1 - Automated Phenate	Q6	Sample was received above recommended temperature.
			M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG356390	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356084	Residue, Filterable (TDS) @180C	SM2540C	H3	Sample was received and analyzed past holding time.
			SM2540C	Q6	Sample was received above recommended temperature.
	WG356134	Residue, Non-Filterable (TSS) @105C	SM2540D	H3	Sample was received and analyzed past holding time.
			SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356398	Sulfate	M300.0 - Ion Chromatography	Q6	Sample was received above recommended temperature.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	Total Alkalinity	SM2320B - Titration	H1	Sample prep or analysis performed past holding time. See case narrative.
			SM2320B - Titration	Q6	Sample was received above recommended temperature.
L15821-05	WG355900	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356070	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 4th Quarter sampling

ACZ Project ID: L15821
Date Received: 12/02/2013 10:09
Received By: mtb
Date Printed: 12/2/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?		X	

The sample matrix was entered per the requested quotation.

7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?		X	

L15821-01 : Mercury containers were single bagged.

L15821-02 : Mercury containers were single bagged.

L15821-03 : Mercury containers were single bagged.

L15821-04 : Mercury container was single bagged.

16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?		X	

Some parameters were received past hold time.

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
2732	7.9	14	Yes

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 4th Quarter sampling

ACZ Project ID:	L15821
Date Received:	12/02/2013 10:09
Received By:	mtb
Date Printed:	12/2/2013

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s) but was thawed by receipt at ACZ.

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc. C15821

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name:	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SPF-2014-GW

PO#: Calico 4th Quarter Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	*SPF-2014-GW	**SPF-2014-GW
Sagebrush Spring	11/22/13 9:25		8	X	
Sagebrush Duplicate	11/22/13 9:55		8	X	
Equipment Blank	11/22/13 9:35		8	X	
Transfer Blank	11/22/13 9:45		6		X

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed

**Process as detailed in SPF-2014-GW except no Green dot bottles (i.e.: no dissolved metals and no dissolved low level mercury)

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	11/23/13		
		12/2-2/13 10:09	

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

L15821 Chain of Custody

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Bottle Order Packing List

Account: SPFWATER/SPF Water Engineering
Bottle Order: BO30665
Internal Note: Pre-paid return shipping
Pre-paid return shipping
Preserved - Please ensure the Clean Room gets a copy of BO - Include UPS 3 Day Return

Bill to Account: Bill to Client
Ship Date Requested: 11/13/2013
Request Placed at: 11/11/2013 10:43

Sampling supplies

PACK	Qty	ACZ ID	Type	Description
	4	COC	Chain of Custody	Chain of Custody, 1 for 10 samples.
	2	SEAL	Custody Seal	Custody seals for cooler, two for each cooler.
	1	RETURN	Return Address	Return Address label, one for each cooler.
	250	LABELS	Sample Labels	ACZ supplied labels for sample containers
	1	TRIP CN		
	1	TRIP HG		

Quote number: SPF-2014-GW
Sample Quantity: 31

Quarterly Analysis of Groundwater and Springs

Client is responsible for necessary field filtering

PACK	Qty	Type	Size	Filter/Raw/Preserve	Instructions
	1	GREEN PC	250 ML	Green pre-cleaned Filtered/Nitiric	Metals (dissolved including ICPMS) - Filter sample with .45 micron filter. Do not overfill as there is Nitric Acid in the bottle.
	1	HG-1631	250 ML	Mercury 1631	Mercury by 1631 - See method specific sampling instructions.
	1	HG-1631 D	250 ML	Mercury 1631 Dissolved	Mercury (dissolved) by 1631 - See method specific sampling instructions.
	1	PURPLE	500 ML	Raw/NaOH	Cyanide - Do not overfill as there is Sodium Hydroxide in the bottle.
	1	RAW	500 ML	Raw	Wet Chemistry (analyses that do not require preservative or filtration) - Completely fill container.
	1	RED PC	250 ML	Red pre-cleaned Raw/Nitric	Metals (total including ICPMS) - Do not overfill as there is Nitric Acid in the bottle.
	1	WHITE	250 ML	Filtered	Wet chemistry (dissolved) - Filter sample with .45 micron filter. Completely fill container.
	1	YELLOW	250 ML	Raw/Sulfuric	For total wet chemistry analyses. Do not overfill as there is Sulfuric Acid in the bottle.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Quote

Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

11/11/2013

Quote Number: SPF-2014-GW

Matrix: Ground Water Quarterly Analysis of Groundwater and Springs

Parameter	Method	Detection Limit	Cost/Sample
Inorganic Prep			
Cyanide, total	M335.4 - Manual Distillation		$0.00
Cyanide, WAD	SM4500-CN I- distillation		$0.00
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digesti		$0.00
Total Hot Plate Digestion	M200.2 ICP-MS		$9.60
Total Hot Plate Digestion	M200.2 ICP		$9.60
Metals Analysis			
Aluminum, dissolved	M200.7 ICP	0.03 mg/L	$0.00
Aluminum, total	M200.7 ICP	0.03 mg/L	$0.00
Antimony, dissolved	M200.8 ICP-MS	0.0004 mg/L	$0.00
Antimony, total	M200.8 ICP-MS	0.0004 mg/L	$0.00
Arsenic, dissolved	M200.8 ICP-MS	0.0002 mg/L	$0.00
Arsenic, total	M200.8 ICP-MS	0.0002 mg/L	$0.00
Barium, dissolved	M200.7 ICP	0.003 mg/L	$0.00
Barium, total	M200.7 ICP	0.003 mg/L	$0.00
Beryllium, dissolved	M200.8 ICP-MS	0.00005 mg/L	$0.00
Beryllium, total	M200.8 ICP-MS	0.00005 mg/L	$0.00
Bismuth, dissolved	M200.7 ICP	0.04 mg/L	$0.00
Bismuth, total	M200.7 ICP	0.04 mg/L	$0.00
Boron, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Boron, total	M200.7 ICP	0.01 mg/L	$0.00
Cadmium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Cadmium, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Calcium, dissolved	M200.7 ICP	0.2 mg/L	$0.00
Calcium, total	M200.7 ICP	0.2 mg/L	$0.00
Chromium, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Chromium, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Cobalt, dissolved	M200.8 ICP-MS	0.00005 mg/L	$0.00
Cobalt, total	M200.8 ICP-MS	0.00005 mg/L	$0.00
Copper, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Copper, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Gallium, dissolved	M200.7 ICP	0.1 mg/L	$0.00
Gallium, total	M200.7 ICP	0.1 mg/L	$0.00
Iron, dissolved	M200.7 ICP	0.02 mg/L	$0.00
Iron, total	M200.7 ICP	0.02 mg/L	$0.00

Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Lead, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Lead, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Lithium, dissolved	M200.7 ICP	0.02 mg/L	$0.00
Lithium, total	M200.7 ICP	0.02 mg/L	$0.00
Magnesium, dissolved	M200.7 ICP	0.2 mg/L	$0.00
Magnesium, total	M200.7 ICP	0.2 mg/L	$0.00
Manganese, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Manganese, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Mercury, dissolved	M1631, Atomic Fluorescence	0.2 ng/L	$40.00
Mercury, total	M1631, Atomic Fluorescence	0.2 ng/L	$40.00
Molybdenum, dissolved	M200.8 ICP-MS	0.0005 mg/L	$0.00
Molybdenum, total	M200.8 ICP-MS	0.0005 mg/L	$0.00
Nickel, dissolved	M200.8 ICP-MS	0.0006 mg/L	$0.00
Nickel, total	M200.8 ICP-MS	0.0006 mg/L	$0.00
Potassium, dissolved	M200.7 ICP	0.3 mg/L	$0.00
Potassium, total	M200.7 ICP	0.3 mg/L	$0.00
Scandium, dissolved	M200.7 ICP	0.1 mg/L	$0.00
Scandium, total	M200.7 ICP	0.1 mg/L	$0.00
Selenium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Selenium, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Silver, dissolved	M200.8 ICP-MS	0.00005 mg/L	$0.00
Silver, total	M200.8 ICP-MS	0.00005 mg/L	$0.00
Sodium, dissolved	M200.7 ICP	0.3 mg/L	$0.00
Sodium, total	M200.7 ICP	0.3 mg/L	$0.00
Strontium, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Strontium, total	M200.7 ICP	0.01 mg/L	$0.00
Thallium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Thallium, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Tin, dissolved	M200.8 ICP-MS	0.0001 mg/L	$0.00
Tin, total	M200.8 ICP-MS	0.0001 mg/L	$0.00
Titanium, dissolved	M200.7 ICP	0.005 mg/L	$0.00
Titanium, total	M200.7 ICP	0.005 mg/L	$0.00
Uranium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$13.60
Uranium, total	M200.8 ICP-MS	0.0001 mg/L	$13.60
Vanadium, dissolved	M200.8 ICP-MS	0.0002 mg/L	$0.00
Vanadium, total	M200.8 ICP-MS	0.0002 mg/L	$0.00
Zinc, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Zinc, total	M200.7 ICP	0.01 mg/L	$0.00
Misc.			
Electronic Data Deliverable			$0.00
Quality Control Summary			$0.00
Setup charge for ICP, dissolved			$95.00

REPAD.09.06.05.01 S/ m D/ ## P/

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Quote

Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

11/11/2013

Setup charge for ICP, total			$95.00
Setup Charge for ICPMS - dissolved			$95.00
Setup for ICPMS Totals Analysis			$95.00
Wet Chemistry			
Alkalinity as CaCO3	SM2320B - Titration	2 mg/L	$8.80
Chloride	M300.0 - Ion Chromatography	0.5 mg/L	$10.40
Conductivity @25C	SM2510B	1 umhos/cm	$6.40
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.003 mg/L	$28.80
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillat	0.003 mg/L	$28.80
Fluoride	M300.0 - Ion Chromatography	0.1 mg/L	$10.40
Hardness as CaCO3	SM2340B - Calculation	Calculation	$0.00
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.02 mg/L	$8.80
Nitrogen, ammonia	M350.1 - Automated Phenate	0.05 mg/L	$8.80
pH (lab)	SM4500H+ B	0.1 C	$6.40
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	0.01 mg/L	$17.60
Residue, Filterable (TDS) @180C	SM2540C	10 mg/L	$8.84
Residue, Non-Filterable (TSS) @105C	SM2540D	5 mg/L	$8.80
Sulfate	M300.0 - Ion Chromatography	0.5 mg/L	$10.40
		Cost/Sample:	**$669.64**

Cient is field filtering. This quote is based on a Standard Turnaround Time (TAT) of approximately 14 days for water matrices (10 working days). TAT may vary with seasonal heavy workload. Please contact your PM if rush TAT is required. Rush TAT needs to be pre-approved prior to sample shipment to assure that due dates can be met. Pricing includes standard reporting formats and standard ACZ EDDs. All projects received are subject to a $125.00 Minimum Charge. Please note that method detection limits are estimates and may be elevated depending on sample matrix that require dilution. Pricing includes coolers, bottles pre-preserved as needed, labels, COCs and ice-packs shipped to your site or office via UPS ground. Return shipping is the responsibility of the client. Please allow ample time for your bottles to arrive.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

December 19, 2013

Report to:
Erik Boe
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Bill to:
Crystal Jensen
SPF Water Engineering
300 E. Mallard Drive, Suite 350
Boise, ID 83706

Project ID: Calico 4th Quarter sampling
ACZ Project ID: L15825

Erik Boe:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 02, 2013. This project has been assigned to ACZ's project number, L15825. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L15825. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after January 18, 2014. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Max Janicek has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Case Narrative

SPF Water Engineering

December 19, 2013

Project ID: Calico 4th Quarter sampling
ACZ Project ID: L15825

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 3 ground water samples from SPF Water Engineering on December 2, 2013. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L15825. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

Any analyses not performed within EPA recommended holding times have been qualified with an "H" flag.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

Some of the dissolved metals values exceed the corresponding total values for project L15825. This is a consistent anomaly with these sample types, and discrepancies may be attributed to a matrix or field sampling issue. In some cases, for RPDs that exceed the standard acceptance limit of 20%, analytes are measured at a value below the PQL or MDL; quantities with this qualifier (B) are considered estimated.

Additionally, the Alkalinity results for L15825 have been qualified with the H1 flag on the extended qualifier report. The chemist noted that these samples were analyzed as quickly as possible after the Thanksgiving holiday, but the EPA recommended hold time was still not met.

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L15825-03***
Date Sampled: *11/23/13 15:50*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								12/05/13 13:34	tcd
Cyanide, WAD	SM4500-CN I- distillation								12/06/13 11:54	jlf
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/12/13 15:52	mpb
Total Hot Plate Digestion	M200.2 ICP-MS								12/16/13 9:57	scp
Total Hot Plate Digestion	M200.2 ICP								12/11/13 13:28	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L15825-03***
Date Sampled: *11/23/13 15:50*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.05	B		mg/L	0.03	0.2	12/05/13 0:30	jjc
Aluminum, total	M200.7 ICP	1	1.24			mg/L	0.03	0.2	12/11/13 21:42	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/12/13 21:44	msh
Antimony, total	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/17/13 0:07	pmc
Arsenic, dissolved	M200.8 ICP-MS	1	0.0072			mg/L	0.0002	0.001	12/12/13 21:44	msh
Arsenic, total	M200.8 ICP-MS	1	0.0076			mg/L	0.0002	0.001	12/17/13 0:07	pmc
Barium, dissolved	M200.7 ICP	1	0.020			mg/L	0.003	0.02	12/05/13 0:30	jjc
Barium, total	M200.7 ICP	1	0.028			mg/L	0.003	0.02	12/11/13 21:42	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/16/13 23:56	msh
Beryllium, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/17/13 0:07	pmc
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/05/13 10:34	aeb
Bismuth, total	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/12/13 17:28	jjc
Boron, dissolved	M200.7 ICP	1	0.13			mg/L	0.01	0.05	12/05/13 0:30	jjc
Boron, total	M200.7 ICP	1	0.12			mg/L	0.01	0.05	12/11/13 21:42	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/12/13 21:44	msh
Cadmium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/17/13 0:07	pmc
Calcium, dissolved	M200.7 ICP	1	23.4			mg/L	0.2	1	12/05/13 0:30	jjc
Calcium, total	M200.7 ICP	1	23.7			mg/L	0.2	1	12/11/13 21:42	jjc
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	12/16/13 23:56	msh
Chromium, total	M200.8 ICP-MS	1	0.0009	B		mg/L	0.0005	0.002	12/17/13 0:07	pmc
Cobalt, dissolved	M200.8 ICP-MS	1	0.00026	B		mg/L	0.00005	0.0003	12/16/13 23:56	msh
Cobalt, total	M200.8 ICP-MS	1	0.00057			mg/L	0.00005	0.0003	12/17/13 0:07	pmc
Copper, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0005	0.003	12/12/13 21:44	msh
Copper, total	M200.8 ICP-MS	1	0.0017	B		mg/L	0.0005	0.003	12/17/13 0:07	pmc
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/05/13 0:30	jjc
Gallium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/11/13 21:42	jjc
Iron, dissolved	M200.7 ICP	1	0.04	B	*	mg/L	0.02	0.05	12/05/13 0:30	jjc
Iron, total	M200.7 ICP	1	1.16			mg/L	0.02	0.05	12/11/13 21:42	jjc
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/12/13 21:44	msh
Lead, total	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	12/17/13 0:07	pmc
Lithium, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.02	0.1	12/05/13 0:30	jjc
Lithium, total	M200.7 ICP	1		U		mg/L	0.02	0.1	12/11/13 21:42	jjc
Magnesium, dissolved	M200.7 ICP	1	6.4			mg/L	0.2	1	12/05/13 0:30	jjc
Magnesium, total	M200.7 ICP	1	6.8			mg/L	0.2	1	12/11/13 21:42	jjc
Manganese, dissolved	M200.8 ICP-MS	1	0.0081			mg/L	0.0005	0.003	12/16/13 23:56	msh
Manganese, total	M200.8 ICP-MS	1	0.0334			mg/L	0.0005	0.003	12/17/13 0:07	pmc
Mercury, dissolved	M1631, Atomic Fluorescence	1	1.3			ng/L	0.2	0.5	12/11/13 12:21	las
Mercury, total	M1631, Atomic Fluorescence	2	4.6			ng/L	0.4	1	12/03/13 15:23	las
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0045			mg/L	0.0005	0.003	12/12/13 21:44	msh
Molybdenum, total	M200.8 ICP-MS	1	0.0049			mg/L	0.0005	0.003	12/17/13 0:07	pmc
Nickel, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0006	0.003	12/12/13 21:44	msh
Nickel, total	M200.8 ICP-MS	1	0.0016	B		mg/L	0.0006	0.003	12/17/13 0:07	pmc
Potassium, dissolved	M200.7 ICP	1	3.9			mg/L	0.3	2	12/05/13 0:30	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L15825-03***
Date Sampled: *11/23/13 15:50*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Potassium, total	M200.7 ICP	1	4.1			mg/L	0.3	2	12/11/13 21:42	jjc
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/05/13 0:30	jjc
Scandium, total	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/11/13 21:42	jjc
Selenium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0003	12/12/13 21:44	msh
Selenium, total	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0003	12/17/13 0:07	pmc
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/12/13 21:44	msh
Silver, total	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/17/13 0:07	pmc
Sodium, dissolved	M200.7 ICP	1	37.5			mg/L	0.3	2	12/05/13 0:30	jjc
Sodium, total	M200.7 ICP	1	37.2			mg/L	0.3	2	12/11/13 21:42	jjc
Strontium, dissolved	M200.7 ICP	1	0.12		*	mg/L	0.01	0.05	12/05/13 0:30	jjc
Strontium, total	M200.7 ICP	1	0.12			mg/L	0.01	0.05	12/11/13 21:42	jjc
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/12/13 21:44	msh
Thallium, total	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/17/13 0:07	pmc
Tin, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	12/12/13 21:44	msh
Tin, total	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	12/17/13 0:07	pmc
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/05/13 0:30	jjc
Titanium, total	M200.7 ICP	1	0.078			mg/L	0.005	0.03	12/11/13 21:42	jjc
Uranium, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0005	12/12/13 21:44	msh
Uranium, total	M200.8 ICP-MS	1	0.0020			mg/L	0.0001	0.0005	12/17/13 0:07	pmc
Vanadium, dissolved	M200.8 ICP-MS	1	0.0051			mg/L	0.0002	0.001	12/16/13 23:56	msh
Vanadium, total	M200.8 ICP-MS	1	0.0076			mg/L	0.0002	0.001	12/17/13 0:07	pmc
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/05/13 0:30	jjc
Zinc, total	M200.7 ICP	1		U		mg/L	0.01	0.05	12/11/13 21:42	jjc

SPF Water Engineering
Project ID: Calico 4th Quarter sampling
Sample ID: DRY CREEK ARM

ACZ Sample ID: ***L15825-03***
Date Sampled: *11/23/13 15:50*
Date Received: *12/02/13*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	110	H		mg/L	2	20	12/08/13 0:00	khw
Carbonate as CaCO3		1		UH		mg/L	2	20	12/08/13 0:00	khw
Hydroxide as CaCO3		1		UH		mg/L	2	20	12/08/13 0:00	khw
Total Alkalinity		1	110	H	*	mg/L	2	20	12/08/13 0:00	khw
Chloride	M300.0 - Ion Chromatography	1	10.3			mg/L	0.5	2.5	12/13/13 20:12	tcd
Conductivity @25C	SM2510B	1	326			umhos/cm	1	10	12/08/13 0:19	khw
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/06/13 23:12	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/07/13 1:39	pjb
Fluoride	M300.0 - Ion Chromatography	1	1.44			mg/L	0.1	0.5	12/13/13 20:12	tcd
Hardness as CaCO3	SM2340B - Calculation		85			mg/L	1	7	12/19/13 11:12	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.13		*	mg/L	0.02	0.1	12/12/13 23:34	pjb
Nitrogen, ammonia	M350.1 - Automated Phenate	1		U	*	mg/L	0.05	0.5	12/12/13 15:28	tcd
pH (lab)	SM4500H+ B									
pH		1	8.3	H		units	0.1	0.1	12/08/13 0:00	khw
pH measured at		1	21			C	0.1	0.1	12/08/13 0:00	khw
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.10		*	mg/L	0.01	0.05	12/13/13 0:17	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	190	H	*	mg/L	10	20	12/03/13 16:48	dcw
Residue, Non-Filterable (TSS) @105C	SM2540D	1	17	BH	*	mg/L	5	20	12/09/13 15:59	id
Sulfate	M300.0 - Ion Chromatography	1	39.8			mg/L	0.5	2.5	12/13/13 20:12	tcd

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

SPF Water Engineering

ACZ Project ID: ***L15825***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356078													
WG356078PBW1	PBW	12/07/13 15:04				6.9	mg/L		-20	20			
WG356078LCSW2	LCSW	12/07/13 15:17	WC131126-	820.0001		777.5	mg/L	94.8	90	110			
WG356078LCSW5	LCSW	12/07/13 18:20	WC131126-	820.0001		797.9	mg/L	97.3	90	110			
WG356078PBW2	PBW	12/07/13 18:28				3.1	mg/L		-20	20			
WG356078LCSW8	LCSW	12/07/13 21:31	WC131126-	820.0001		787.5	mg/L	96	90	110			
WG356078PBW3	PBW	12/07/13 21:39				2.3	mg/L		-20	20			
L15826-02DUP	DUP	12/08/13 0:47			164	165.6	mg/L				1	20	
WG356078LCSW11	LCSW	12/08/13 1:00	WC131126-	820.0001		794.3	mg/L	96.9	90	110			
WG356078PBW4	PBW	12/08/13 1:09				2.5	mg/L		-20	20			
WG356078LCSW14	LCSW	12/08/13 4:26	WC131126-	820.0001		813.1	mg/L	99.2	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	2		1.976	mg/L	98.8	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.09	0.09			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	1.0011		1.081	mg/L	108	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	1.0011	U	1.102	mg/L	110.1	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	1.0011	U	1.1	mg/L	109.9	85	115	0.18	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.983	mg/L	99.2	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.09	0.09			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.066	0.066			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	1.0011		1.045	mg/L	104.4	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	1.0011	U	1.055	mg/L	105.4	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	1.0011	U	1.063	mg/L	106.2	70	130	0.76	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.02		.0212	mg/L	106	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.0012	0.0012			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.01		.01024	mg/L	102.4	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.01	U	.00932	mg/L	93.2	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.01	U	.00957	mg/L	95.7	70	130	2.65	20	

SPF Water Engineering

ACZ Project ID: ***L15825***

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.02		.02061	mg/L	103.1	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0012	0.0012			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00088	0.00088			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.01		.01099	mg/L	109.9	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.01	U	.01138	mg/L	113.8	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.01	U	.01114	mg/L	111.4	70	130	2.13	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.05		.05235	mg/L	104.7	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.0006	0.0006			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.05005		.04873	mg/L	97.4	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.05005	.0072	.06216	mg/L	109.8	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.05005	.0072	.06087	mg/L	107.2	70	130	2.1	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.0538	mg/L	107.6	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0006	0.0006			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00044	0.00044			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05005		.05072	mg/L	101.3	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05005	.0006	.05178	mg/L	102.3	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05005	.0006	.05189	mg/L	102.5	70	130	0.21	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	2		1.946	mg/L	97.3	95	105			
WG355879ICB	ICB	12/04/13 23:36				.0054	mg/L		-0.009	0.009			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	.5		.5042	mg/L	100.8	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	.5	.073	.564	mg/L	98.2	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	.5	.073	.5693	mg/L	99.3	85	115	0.94	20	

Barium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.9665	mg/L	98.3	95	105			
WG356298ICB	ICB	12/11/13 20:28				.003	mg/L		-0.009	0.009			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.0066	0.0066			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	.5		.5008	mg/L	100.2	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	.5	.067	.5702	mg/L	100.6	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	.5	.067	.5698	mg/L	100.6	70	130	0.07	20	

SPF Water Engineering

ACZ Project ID: ***L15825***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356429													
WG356429ICV	ICV	12/16/13 23:32	MS131202-2	.05		.04846	mg/L	96.9	90	110			
WG356429ICB	ICB	12/16/13 23:35				U	mg/L		-0.00015	0.00015			
WG356429LFB	LFB	12/16/13 23:39	MS131216-2	.05005		.04896	mg/L	97.8	85	115			
L15825-03AS	AS	12/16/13 23:59	MS131216-2	.05005	U	.04892	mg/L	97.7	70	130			
L15825-03ASD	ASD	12/17/13 0:03	MS131216-2	.05005	U	.04974	mg/L	99.4	70	130	1.66	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.04704	mg/L	94.1	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.00015	0.00015			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00011	0.00011			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.0501		.04662	mg/L	93.1	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.0501	U	.04772	mg/L	95.2	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.0501	U	.0468	mg/L	93.4	70	130	1.95	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355919													
WG355919ICV	ICV	12/05/13 9:28	II131113-1	2		1.983	mg/L	99.2	95	105			
WG355919ICB	ICB	12/05/13 9:34				U	mg/L		-0.12	0.12			
WG355919LFB	LFB	12/05/13 9:47	II131119-3	1		1.014	mg/L	101.4	85	115			
L15822-01AS	AS	12/05/13 9:59	II131119-3	1	U	1.078	mg/L	107.8	85	115			
L15822-01ASD	ASD	12/05/13 10:03	II131119-3	1	U	1.047	mg/L	104.7	85	115	2.92	20	
L15825-03AS	AS	12/05/13 10:38	II131119-3	1	U	.98	mg/L	98	85	115			
L15825-03ASD	ASD	12/05/13 10:41	II131119-3	1	U	1.044	mg/L	104.4	85	115	6.32	20	

Bismuth, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356349													
WG356349ICV	ICV	12/12/13 16:08	II131111-1	2		2	mg/L	100	95	105			
WG356349ICB	ICB	12/12/13 16:14				U	mg/L		-0.12	0.12			
WG356232LRB	LRB	12/12/13 16:26				U	mg/L		-0.088	0.088			
WG356232LFB	LFB	12/12/13 16:30	II131209-3	1		1.07	mg/L	107	85	115			
L15825-01LFM	LFM	12/12/13 17:19	II131209-3	1	U	1.124	mg/L	112.4	70	130			
L15825-01LFMD	LFMD	12/12/13 17:22	II131209-3	1	U	1.111	mg/L	111.1	70	130	1.16	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	2		2.013	mg/L	100.7	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.03	0.03			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	.5005		.522	mg/L	104.3	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	.5005	.64	1.146	mg/L	101.1	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	.5005	.64	1.142	mg/L	100.3	85	115	0.35	20	

SPF Water Engineering

ACZ Project ID: ***L15825***

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.997	mg/L	99.9	95	105			
WG356298ICB	ICB	12/11/13 20:28				.011	mg/L		-0.03	0.03			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.022	0.022			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	.5005		.509	mg/L	101.7	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	.5005	.12	.629	mg/L	101.7	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	.5005	.12	.63	mg/L	101.9	70	130	0.16	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.05		.04943	mg/L	98.9	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.0003	0.0003			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.0501		.04751	mg/L	94.8	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.0501	U	.05079	mg/L	101.4	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.0501	U	.05082	mg/L	101.4	70	130	0.06	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.05145	mg/L	102.9	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0003	0.0003			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00022	0.00022			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.0501		.0516	mg/L	103	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.0501	U	.05133	mg/L	102.5	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.0501	U	.05037	mg/L	100.5	70	130	1.89	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	100		97.86	mg/L	97.9	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.6	0.6			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	68.00225		71.01	mg/L	104.4	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	68.00225	152	216.6	mg/L	95	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	68.00225	152	216.9	mg/L	95.4	85	115	0.14	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	100		98.37	mg/L	98.4	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.6	0.6			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.44	0.44			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	68.00225		69.75	mg/L	102.6	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	68.00225	32	103.2	mg/L	104.7	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	68.00225	32	103.8	mg/L	105.6	70	130	0.58	20	

SPF Water Engineering

ACZ Project ID: ***L15825***

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	19.98		19.7	mg/L	98.6	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-1.5	1.5			
WG356398													
WG356398LFB1	LFB	12/13/13 11:15	WI131011-1	30		32.1	mg/L	107	90	110			
L15821-03DUP	DUP	12/13/13 16:01			U	U	mg/L				0	20	RA
L15821-04AS	AS	12/13/13 16:37	WI131011-1	30	U	32.8	mg/L	109.3	90	110			
WG356398LFB2	LFB	12/13/13 19:54	WI131011-1	30		32.1	mg/L	107	90	110			
L15825-03DUP	DUP	12/13/13 20:30			10.3	10.3	mg/L				0	20	
L15826-01AS	AS	12/13/13 21:42	WI131011-1	30	8.72	41.1	mg/L	107.9	90	110			

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356429													
WG356429ICV	ICV	12/16/13 23:32	MS131202-2	.05		.04768	mg/L	95.4	90	110			
WG356429ICB	ICB	12/16/13 23:35				U	mg/L		-0.0015	0.0015			
WG356429LFB	LFB	12/16/13 23:39	MS131216-2	.05005		.04929	mg/L	98.5	85	115			
L15825-03AS	AS	12/16/13 23:59	MS131216-2	.05005	U	.04731	mg/L	94.5	70	130			
L15825-03ASD	ASD	12/17/13 0:03	MS131216-2	.05005	U	.04844	mg/L	96.8	70	130	2.36	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.05034	mg/L	100.7	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0015	0.0015			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.0011	0.0011			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05005		.05045	mg/L	100.8	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05005	U	.04896	mg/L	97.8	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05005	U	.04865	mg/L	97.2	70	130	0.64	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356429													
WG356429ICV	ICV	12/16/13 23:32	MS131202-2	.05		.04938	mg/L	98.8	90	110			
WG356429ICB	ICB	12/16/13 23:35				U	mg/L		-0.00015	0.00015			
WG356429LFB	LFB	12/16/13 23:39	MS131216-2	.05005		.05123	mg/L	102.4	85	115			
L15825-03AS	AS	12/16/13 23:59	MS131216-2	.05005	.00026	.04999	mg/L	99.4	70	130			
L15825-03ASD	ASD	12/17/13 0:03	MS131216-2	.05005	.00026	.05044	mg/L	100.3	70	130	0.9	20	

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ACZ Project ID: ***L15825***

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.04871	mg/L	97.4	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.00015	0.00015			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00011	0.00011			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05005		.05064	mg/L	101.2	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05005	.00019	.05036	mg/L	100.2	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05005	.00019	.04972	mg/L	99	70	130	1.28	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356078													
WG356078LCSW1	LCSW	12/07/13 15:05	PCN42442	1408.8		1436.6	µmhos/cm	102	90	110			
WG356078LCSW4	LCSW	12/07/13 18:08	PCN42442	1408.8		1412	µmhos/cm	100.2	90	110			
WG356078LCSW7	LCSW	12/07/13 21:19	PCN42442	1408.8		1398.6	µmhos/cm	99.3	90	110			
L15826-02DUP	DUP	12/08/13 0:47			445	443	µmhos/cm				0.5	20	
WG356078LCSW10	LCSW	12/08/13 0:48	PCN42442	1408.8		1384.2	µmhos/cm	98.3	90	110			
WG356078LCSW13	LCSW	12/08/13 4:13	PCN42442	1408.8		1377.1	µmhos/cm	97.7	90	110			

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.05		.04987	mg/L	99.7	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.0015	0.0015			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.05005		.04815	mg/L	96.2	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.05005	.0006	.04858	mg/L	95.9	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.05005	.0006	.04809	mg/L	94.9	70	130	1.01	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.05115	mg/L	102.3	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0015	0.0015			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.0011	0.0011			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05005		.05128	mg/L	102.5	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05005	.0085	.05604	mg/L	95	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05005	.0085	.0557	mg/L	94.3	70	130	0.61	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356068													
WG356068ICV	ICV	12/06/13 22:49	WI131202-6	.3		.2925	mg/L	97.5	90	110			
WG356068ICB	ICB	12/06/13 22:50				U	mg/L		-0.003	0.003			
WG355962LRB	LRB	12/06/13 22:50				U	mg/L		-0.003	0.003			
WG355962LFB	LFB	12/06/13 22:51	WI131202-2	.2		.1817	mg/L	90.9	90	110			
L15823-03DUP	DUP	12/06/13 23:05			U	U	mg/L				0	20	RA
L15824-01LFM	LFM	12/06/13 23:07	WI131202-2	.2	U	.1825	mg/L	91.3	90	110			

SPF Water Engineering

ACZ Project ID: ***L15825***

Cyanide, WAD SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356072													
WG356072ICV	ICV	12/07/13 1:13	WI131202-6	.3		.2972	mg/L	99.1	90	110			
WG356072ICB	ICB	12/07/13 1:14				U	mg/L		-0.003	0.003			
WG356008LRB	LRB	12/07/13 1:15				U	mg/L		-0.003	0.003			
WG356008LFB	LFB	12/07/13 1:16	WI131202-4	.2		.2011	mg/L	100.6	90	110			
L15820-01DUP	DUP	12/07/13 1:30			U	U	mg/L				0	20	RA
L15820-02LFM	LFM	12/07/13 1:31	WI131202-4	.2	U	.1912	mg/L	95.6	90	110			

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	4.004		4.21	mg/L	105.1	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-0.3	0.3			
WG356398													
WG356398LFB1	LFB	12/13/13 11:15	WI131011-1	1.5		1.62	mg/L	108	90	110			
L15821-03DUP	DUP	12/13/13 16:01			U	U	mg/L				0	20	RA
L15821-04AS	AS	12/13/13 16:37	WI131011-1	1.5	U	1.66	mg/L	110.7	90	110			M1
WG356398LFB2	LFB	12/13/13 19:54	WI131011-1	1.5		1.61	mg/L	107.3	90	110			
L15825-03DUP	DUP	12/13/13 20:30			1.44	1.45	mg/L				0.7	20	
L15826-01AS	AS	12/13/13 21:42	WI131011-1	1.5	.6	2.25	mg/L	110	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	2		1.94	mg/L	97	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.3	0.3			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	1.001		1.03	mg/L	102.9	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	1.001	U	1.08	mg/L	107.9	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	1.001	U	1.08	mg/L	107.9	85	115	0	20	

Gallium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.97	mg/L	98.5	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.3	0.3			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.22	0.22			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	1.001		1.04	mg/L	103.9	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	1.001	U	1.03	mg/L	102.9	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	1.001	U	1.05	mg/L	104.9	70	130	1.92	20	

SPF Water Engineering

ACZ Project ID: ***L15825***

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	2		1.998	mg/L	99.9	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.06	0.06			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	1.0014		1.055	mg/L	105.4	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	1.0014	146	140.2	mg/L	-579.2	85	115			M3
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	1.0014	146	140.8	mg/L	-519.3	85	115	0.43	20	M3

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.987	mg/L	99.4	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.06	0.06			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.044	0.044			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	1.0014		1.055	mg/L	105.4	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	1.0014	U	1.041	mg/L	104	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	1.0014	U	1.032	mg/L	103.1	70	130	0.87	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.05		.05223	mg/L	104.5	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.0003	0.0003			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.05005		.04812	mg/L	96.1	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.05005	U	.0507	mg/L	101.3	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.05005	U	.0515	mg/L	102.9	70	130	1.57	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.05165	mg/L	103.3	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0003	0.0003			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00022	0.00022			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05005		.05032	mg/L	100.5	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05005	.0002	.05077	mg/L	101	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05005	.0002	.05029	mg/L	100.1	70	130	0.95	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	2		1.934	mg/L	96.7	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.06	0.06			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	1		.989	mg/L	98.9	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	1	.69	1.649	mg/L	95.9	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	1	.69	1.66	mg/L	97	85	115	0.66	20	

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ACZ Project ID: ***L15825***

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.933	mg/L	96.7	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.06	0.06			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.044	0.044			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	1		.97	mg/L	97	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	1	U	1	mg/L	100	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	1	U	1	mg/L	100	70	130	0	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	100		96.56	mg/L	96.6	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.6	0.6			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	49.99695		50.04	mg/L	100.1	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	49.99695	7.7	57.48	mg/L	99.6	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	49.99695	7.7	57.39	mg/L	99.4	85	115	0.16	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	100		96.73	mg/L	96.7	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.6	0.6			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.44	0.44			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	49.99695		49.28	mg/L	98.6	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	49.99695	8.4	58.18	mg/L	99.6	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	49.99695	8.4	58.08	mg/L	99.4	70	130	0.17	20	

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356429													
WG356429ICV	ICV	12/16/13 23:32	MS131202-2	.05		.05194	mg/L	103.9	90	110			
WG356429ICB	ICB	12/16/13 23:35				.00065	mg/L		-0.0015	0.0015			
WG356429LFB	LFB	12/16/13 23:39	MS131216-2	.1002		.09952	mg/L	99.3	85	115			
L15825-03AS	AS	12/16/13 23:59	MS131216-2	.1002	.0081	.103	mg/L	94.7	70	130			
L15825-03ASD	ASD	12/17/13 0:03	MS131216-2	.1002	.0081	.105	mg/L	96.7	70	130	1.92	20	

Manganese, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.05168	mg/L	103.4	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0015	0.0015			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.0011	0.0011			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05005		.05133	mg/L	102.6	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05005	.0125	.06306	mg/L	101	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05005	.0125	.06218	mg/L	99.3	70	130	1.41	20	

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ACZ Project ID: ***L15825***

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356009													
WG356009ICV	ICV	12/06/13 10:12	HG131206-4	10		10.3	ng/L	103	79	121			
WG356009ICB	ICB	12/06/13 10:17				U	ng/L		-0.5	0.5			
WG356245													
WG356245CCV1	CCV	12/11/13 11:36	HG131206-4	10		8.95	ng/L	89.5	76.5	123.4			
WG356245CCB1	CCB	12/11/13 11:41				U	ng/L		-0.5	0.5			
WG356245PQV	PQV	12/11/13 11:46	HG131206-5	.5		.48	ng/L	96	70	130			
WG356245LFB	LFB	12/11/13 11:51	HG131206-6	2		1.96	ng/L	98	71	125			
L15825-01MS	MS	12/11/13 12:06	HG131206-6	2	U	2.23	ng/L	111.5	71	125			
L15825-01MSD	MSD	12/11/13 12:11	HG131206-6	2	U	2.12	ng/L	106	71	125	5.06	24	
WG356245CCV2	CCV	12/11/13 12:42	HG131206-4	10		9.41	ng/L	94.1	76.5	123.4			
WG356245CCB2	CCB	12/11/13 12:47				U	ng/L		-0.5	0.5			

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355492													
WG355492ICV	ICV	11/26/13 13:42	HG131010-4	10		10.5	ng/L	105	79	121			
WG355492ICB	ICB	11/26/13 13:47				U	ng/L		-0.5	0.5			
WG355755													
WG355755CCV1	CCV	12/03/13 13:06	HG131010-4	10		8.79	ng/L	87.9	76.5	123.4			
WG355755CCB1	CCB	12/03/13 13:11				U	ng/L		-0.5	0.5			
WG355755PQV	PQV	12/03/13 13:16	HG131010-6	.5		.36	ng/L	72	70	130			
WG355755LFB	LFB	12/03/13 13:21	HG131010-5	2		1.58	ng/L	79	71	125			
WG355755CCV2	CCV	12/03/13 14:12	HG131010-4	10		9.16	ng/L	91.6	76.5	123.4			
WG355755CCB2	CCB	12/03/13 14:17				U	ng/L		-0.5	0.5			
WG355755CCV3	CCV	12/03/13 15:02	HG131010-4	10		8.9	ng/L	89	76.5	123.4			
WG355755CCB3	CCB	12/03/13 15:08				U	ng/L		-0.5	0.5			
L15826-02MS	MS	12/03/13 15:38	HG131010-5	2	U	2.05	ng/L	102.5	71	125			
L15826-02MSD	MSD	12/03/13 15:43	HG131010-5	2	U	1.92	ng/L	96	71	125	6.55	24	
WG355755CCV4	CCV	12/03/13 15:48	HG131010-4	10		9.39	ng/L	93.9	76.5	123.4			
WG355755CCB4	CCB	12/03/13 15:53				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.02006		.01913	mg/L	95.4	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.0015	0.0015			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.05		.04681	mg/L	93.6	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.05	.0045	.05663	mg/L	104.3	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.05	.0045	.05606	mg/L	103.1	70	130	1.01	20	

SPF Water Engineering

ACZ Project ID: ***L15825***

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.02006		.01932	mg/L	96.3	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0015	0.0015			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.0011	0.0011			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05		.05032	mg/L	100.6	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05	.0013	.05307	mg/L	103.5	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05	.0013	.05298	mg/L	103.4	70	130	0.17	20	

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.05		.04982	mg/L	99.6	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.0018	0.0018			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.05005		.04853	mg/L	97	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.05005	.0006	.04777	mg/L	94.2	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.05005	.0006	.04709	mg/L	92.9	70	130	1.43	20	

Nickel, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.0505	mg/L	101	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0018	0.0018			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00132	0.00132			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05005		.04981	mg/L	99.5	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05005	.0021	.04865	mg/L	93	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05005	.0021	.04816	mg/L	92	70	130	1.01	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356380													
WG356380ICV	ICV	12/12/13 18:32	WI131015-1	2.416		2.422	mg/L	100.2	90	110			
WG356380ICB	ICB	12/12/13 18:33				U	mg/L		-0.06	0.06			
WG356389													
WG356389LFB1	LFB	12/12/13 23:03	WI130816-3	2		2.046	mg/L	102.3	90	110			
L15822-02AS	AS	12/12/13 23:22	WI130816-3	2	U	1.922	mg/L	96.1	90	110			
L15823-01DUP	DUP	12/12/13 23:24			U	U	mg/L				0	20	RA
WG356389LFB2	LFB	12/12/13 23:37	WI130816-3	2		1.982	mg/L	99.1	90	110			

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ACZ Project ID: ***L15825***

Nitrogen, ammonia M350.1 - Automated Phenate

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356333													
WG356333ICV	ICV	12/12/13 12:20	WI131021-1	1.003		.974	mg/L	97.1	90	110			
WG356333ICB	ICB	12/12/13 12:23				U	mg/L		-0.15	0.15			
WG356360													
WG356360LFB1	LFB	12/12/13 15:15	WI121218-3	1		1.006	mg/L	100.6	90	110			
L15822-01AS	AS	12/12/13 15:17	WI121218-3	1	.71	1.65	mg/L	94	90	110			
L15822-02DUP	DUP	12/12/13 15:19			U	U	mg/L				0	20	RA
WG356360LFB2	LFB	12/12/13 15:46	WI121218-3	1		1.017	mg/L	101.7	90	110			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356078													
WG356078LCSW3	LCSW	12/07/13 15:20	PCN41777	6		6.03	units	100.5	5.9	6.1			
WG356078LCSW6	LCSW	12/07/13 18:23	PCN41777	6		6.05	units	100.8	5.9	6.1			
WG356078LCSW9	LCSW	12/07/13 21:34	PCN41777	6		6.05	units	100.8	5.9	6.1			
L15826-02DUP	DUP	12/08/13 0:47			8.2	8.23	units				0.4	20	
WG356078LCSW12	LCSW	12/08/13 1:04	PCN41777	6		6.05	units	100.8	5.9	6.1			
WG356078LCSW15	LCSW	12/08/13 4:29	PCN41777	6		6.06	units	101	5.9	6.1			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356387													
WG356387ICV	ICV	12/12/13 22:33	WI131104-3	.65228		.671	mg/L	102.9	90	110			
WG356387ICB	ICB	12/12/13 22:36				U	mg/L		-0.03	0.03			
WG356391													
WG356364LRB	LRB	12/13/13 0:09				U	mg/L		-0.03	0.03			
WG356364LFB	LFB	12/13/13 0:10	WI131206-2	.5		.508	mg/L	101.6	90	110			
L15824-01LFM	LFM	12/13/13 0:12	WI131206-2	.5	.03	.538	mg/L	101.6	90	110			
L15825-01DUP	DUP	12/13/13 0:14			.03	.026	mg/L				14.3	20	RA
WG356391ICV	ICV	12/14/13 13:07	WI131104-3	.65228		.669	mg/L	102.6	90	110			
WG356391ICB	ICB	12/14/13 13:09				U	mg/L		-0.03	0.03			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	20		19.57	mg/L	97.9	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.9	0.9			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	99.94539		101.4	mg/L	101.5	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	99.94539	5.7	108	mg/L	102.4	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	99.94539	5.7	108.4	mg/L	102.8	85	115	0.37	20	

SPF Water Engineering

ACZ Project ID: ***L15825***

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	20		19.75	mg/L	98.8	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.9	0.9			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.66	0.66			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	99.94539		98.98	mg/L	99	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	99.94539	4.2	104.7	mg/L	100.6	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	99.94539	4.2	104.5	mg/L	100.4	70	130	0.19	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355807													
WG355807PBW	PBW	12/03/13 16:30				U	mg/L		-20	20			
WG355807LCSW	LCSW	12/03/13 16:31	PCN44257	260		232	mg/L	89.2	80	120			
L15825-03DUP	DUP	12/03/13 16:49			190	188	mg/L				1.1	10	

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356049													
WG356049PBW	PBW	12/06/13 15:07				U	mg/L		-15	15			
WG356049LCSW	LCSW	12/06/13 15:09	PCN44260	160		149	mg/L	93.1	80	120			
L15845-03DUP	DUP	12/06/13 15:38			309	319	mg/L				3.2	10	
WG356134													
WG356134PBW	PBW	12/09/13 15:33				U	mg/L		-15	15			
WG356134LCSW	LCSW	12/09/13 15:35	PCN44259	160		156	mg/L	97.5	80	120			
L15826-01DUP	DUP	12/09/13 16:04			U	U	mg/L				0	10	RA

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	2		1.99	mg/L	99.5	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.3	0.3			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	1.0009		1.08	mg/L	107.9	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	1.0009	U	1.06	mg/L	105.9	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	1.0009	U	1.07	mg/L	106.9	85	115	0.94	20	

Scandium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		2	mg/L	100	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.3	0.3			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.22	0.22			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	1.0009		1.06	mg/L	105.9	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	1.0009	U	1.07	mg/L	106.9	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	1.0009	U	1.06	mg/L	105.9	70	130	0.94	20	

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ACZ Project ID: ***L15825***

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.05		.05222	mg/L	104.4	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.0003	0.0003			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.05005		.05033	mg/L	100.6	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.05005	.0008	.05773	mg/L	113.7	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.05005	.0008	.05694	mg/L	112.2	70	130	1.38	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.05208	mg/L	104.2	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0003	0.0003			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00022	0.00022			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05005		.05159	mg/L	103.1	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05005	.0004	.05103	mg/L	101.2	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05005	.0004	.05062	mg/L	100.3	70	130	0.81	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.02002		.02056	mg/L	102.7	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.00015	0.00015			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.01001		.009074	mg/L	90.6	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.01001	U	.007763	mg/L	77.6	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.01001	U	.007239	mg/L	72.3	70	130	6.99	20	

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.02002		.02056	mg/L	102.7	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.00015	0.00015			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00011	0.00011			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.01001		.009932	mg/L	99.2	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.01001	U	.009523	mg/L	95.1	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.01001	U	.009342	mg/L	93.3	70	130	1.92	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	100		98.33	mg/L	98.3	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.9	0.9			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	100.0204		101.8	mg/L	101.8	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	100.0204	283	374.4	mg/L	91.4	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	100.0204	283	375.5	mg/L	92.5	85	115	0.29	20	

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ACZ Project ID: ***L15825***

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	100		98.59	mg/L	98.6	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.9	0.9			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.66	0.66			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	100.0204		98.68	mg/L	98.7	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	100.0204	38	138.4	mg/L	100.4	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	100.0204	38	138.9	mg/L	100.9	70	130	0.36	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	2		1.996	mg/L	99.8	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.03	0.03			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	.5		.507	mg/L	101.4	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	.5	3.47	3.827	mg/L	71.4	85	115			M3
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	.5	3.47	3.844	mg/L	74.8	85	115	0.44	20	M3

Strontium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.989	mg/L	99.5	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.03	0.03			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.022	0.022			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	.5		.489	mg/L	97.8	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	.5	.23	.722	mg/L	98.4	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	.5	.23	.726	mg/L	99.2	70	130	0.55	20	

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG354166													
WG354166ICV	ICV	10/31/13 17:04	WI131018-1	49.95		49.8	mg/L	99.7	90	110			
WG354166ICB	ICB	10/31/13 17:21				U	mg/L		-1.5	1.5			
WG356398													
WG356398LFB1	LFB	12/13/13 11:15	WI131011-1	30		31.9	mg/L	106.3	90	110			
L15821-03DUP	DUP	12/13/13 16:01			U	U	mg/L				0	20	RA
L15821-04AS	AS	12/13/13 16:37	WI131011-1	30	U	32.7	mg/L	109	90	110			
WG356398LFB2	LFB	12/13/13 19:54	WI131011-1	30		31.8	mg/L	106	90	110			
L15825-03DUP	DUP	12/13/13 20:30			39.8	39.9	mg/L				0.3	20	
L15826-01AS	AS	12/13/13 21:42	WI131011-1	30	43.7	75.2	mg/L	105	90	110			

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ACZ Project ID: ***L15825***

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.05		.05257	mg/L	105.1	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.0003	0.0003			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.05005		.04963	mg/L	99.2	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.05005	U	.05338	mg/L	106.7	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.05005	U	.05376	mg/L	107.4	70	130	0.71	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.05395	mg/L	107.9	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0003	0.0003			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00022	0.00022			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05005		.05158	mg/L	103.1	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05005	U	.05214	mg/L	104.2	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05005	U	.05141	mg/L	102.7	70	130	1.41	20	

Tin, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.05015		.05337	mg/L	106.4	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.0003	0.0003			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.05005		.04553	mg/L	91	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.05005	U	.05284	mg/L	105.6	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.05005	U	.04659	mg/L	93.1	70	130	12.57	20	

Tin, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05015		.05263	mg/L	104.9	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0003	0.0003			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00022	0.00022			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05005		.05269	mg/L	105.3	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05005	.0002	.04817	mg/L	95.8	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05005	.0002	.04872	mg/L	96.9	70	130	1.14	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	2		1.9572	mg/L	97.9	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.015	0.015			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	.999		1.037	mg/L	103.8	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	.999	.01	1.028	mg/L	101.9	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	.999	.01	1.035	mg/L	102.6	85	115	0.68	20	

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ACZ Project ID: ***L15825***

Titanium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.9315	mg/L	96.6	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.015	0.015			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.011	0.011			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	.999		1.004	mg/L	100.5	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	.999	U	1.015	mg/L	101.6	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	.999	U	1.019	mg/L	102	70	130	0.39	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356370													
WG356370ICV	ICV	12/12/13 21:20	MS131202-2	.05		.05122	mg/L	102.4	90	110			
WG356370ICB	ICB	12/12/13 21:24				U	mg/L		-0.0003	0.0003			
WG356370LFB	LFB	12/12/13 21:27	MS131118-2	.05		.04838	mg/L	96.8	85	115			
L15825-03AS	AS	12/12/13 21:47	MS131118-2	.05	.0018	.05441	mg/L	105.2	70	130			
L15825-03ASD	ASD	12/12/13 21:51	MS131118-2	.05	.0018	.05513	mg/L	106.7	70	130	1.31	20	

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.05275	mg/L	105.5	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0003	0.0003			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00022	0.00022			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.05		.05172	mg/L	103.4	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.05	.0005	.0542	mg/L	107.4	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.05	.0005	.05391	mg/L	106.8	70	130	0.54	20	

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356429													
WG356429ICV	ICV	12/16/13 23:32	MS131202-2	.05		.04839	mg/L	96.8	90	110			
WG356429ICB	ICB	12/16/13 23:35				U	mg/L		-0.0006	0.0006			
WG356429LFB	LFB	12/16/13 23:39	MS131216-2	.05005		.05178	mg/L	103.5	85	115			
L15825-03AS	AS	12/16/13 23:59	MS131216-2	.05005	.0051	.05652	mg/L	102.7	70	130			
L15825-03ASD	ASD	12/17/13 0:03	MS131216-2	.05005	.0051	.05781	mg/L	105.3	70	130	2.26	20	

Vanadium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356512													
WG356512ICV	ICV	12/16/13 23:48	MS131202-2	.05		.05009	mg/L	100.2	90	110			
WG356512ICB	ICB	12/16/13 23:51				U	mg/L		-0.0006	0.0006			
WG356453LRB	LRB	12/16/13 23:54				U	mg/L		-0.00044	0.00044			
WG356453LFB	LFB	12/16/13 23:57	MS131118-2	.0501		.05237	mg/L	104.5	85	115			
L15832-01LFM	LFM	12/17/13 0:13	MS131118-2	.0501	.0002	.05227	mg/L	103.9	70	130			
L15832-01LFMD	LFMD	12/17/13 0:16	MS131118-2	.0501	.0002	.05216	mg/L	103.7	70	130	0.21	20	

SPF Water Engineering

ACZ Project ID: ***L15825***

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG355879													
WG355879ICV	ICV	12/04/13 23:30	II131113-1	2		1.912	mg/L	95.6	95	105			
WG355879ICB	ICB	12/04/13 23:36				U	mg/L		-0.03	0.03			
WG355879LFB	LFB	12/04/13 23:49	II131119-3	.5		.506	mg/L	101.2	85	115			
L15822-01AS	AS	12/04/13 23:55	II131119-3	.5	.48	.949	mg/L	95.8	85	115			
L15822-01ASD	ASD	12/04/13 23:58	II131119-3	.5	.48	.95	mg/L	96	85	115	0.11	20	

Zinc, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356298													
WG356298ICV	ICV	12/11/13 20:22	II131111-1	2		1.934	mg/L	96.7	95	105			
WG356298ICB	ICB	12/11/13 20:28				U	mg/L		-0.03	0.03			
WG356232LRB	LRB	12/11/13 20:40				U	mg/L		-0.022	0.022			
WG356232LFB	LFB	12/11/13 20:43	II131209-3	.5		.506	mg/L	101.2	85	115			
L15825-01LFM	LFM	12/11/13 21:33	II131209-3	.5	.13	.627	mg/L	101.4	70	130			
L15825-01LFMD	LFMD	12/11/13 21:36	II131209-3	.5	.13	.635	mg/L	103	70	130	1.27	20	

SPF Water Engineering ACZ Project ID: ***L15825***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L15825-01	WG355879	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG356398	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356068	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356072	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356398	Fluoride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356389	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356360	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356391	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355807	Residue, Filterable (TDS) @180C	SM2540C	H3	Sample was received and analyzed past holding time.
	WG356049	Residue, Non-Filterable (TSS) @105C	SM2540D	H3	Sample was received and analyzed past holding time.
	WG356398	Sulfate	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	Total Alkalinity	SM2320B - Titration	H1	Sample prep or analysis performed past holding time. See case narrative.

SPF Water Engineering ACZ Project ID: ***L15825***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L15825-02	WG355879	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG356398	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356068	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356072	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356398	Fluoride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356389	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356360	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356391	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355807	Residue, Filterable (TDS) @180C	SM2540C	H3	Sample was received and analyzed past holding time.
	WG356134	Residue, Non-Filterable (TSS) @105C	SM2540D	H3	Sample was received and analyzed past holding time.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356398	Sulfate	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	Total Alkalinity	SM2320B - Titration	H1	Sample prep or analysis performed past holding time. See case narrative.

Inorganic Extended Qualifier Report

SPF Water Engineering ACZ Project ID: ***L15825***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L15825-03	WG355879	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG356068	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356072	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356389	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356360	Nitrogen, ammonia	M350.1 - Automated Phenate	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356391	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG355807	Residue, Filterable (TDS) @180C	SM2540C	H3	Sample was received and analyzed past holding time.
	WG356134	Residue, Non-Filterable (TSS) @105C	SM2540D	H3	Sample was received and analyzed past holding time.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG356078	Total Alkalinity	SM2320B - Titration	H1	Sample prep or analysis performed past holding time. See case narrative.

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Bismuth, total	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Gallium, total	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Scandium, total	M200.7 ICP
Tin, dissolved	M200.8 ICP-MS
Tin, total	M200.8 ICP-MS

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 4th Quarter sampling

ACZ Project ID: L15825
Date Received: 12/02/2013 10:05
Received By: mtb
Date Printed: 12/2/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?		X	

The sample matrix was entered per the requested quotation.

7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits?	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?		X	

L15825-01 : Mercury containers were single bagged.

L15825-02 : Mercury containers were single bagged.

L15825-03 : Mercury containers were single bagged.

16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?		X	

Some parameters were received past hold time.

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
2292	5.1	13	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s) but was thawed by receipt at ACZ.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

SPF Water Engineering
Calico 4th Quarter sampling

ACZ Project ID:	L15825
Date Received:	12/02/2013 10:05
Received By:	mtb
Date Printed:	12/2/2013

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

C15825

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Erik Boe	Address: 300 E. Mallard Dr., Ste 350
Company: SPF Water Engineering	Boise, ID 83706
E-mail: eboe@spfwater.com	Telephone: 208-383-4140

Copy of Report to:

Name:	E-mail: SAME
Company:	Telephone:

Invoice to:

Name: SAME	Address: SAME
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Erik Boe **Sampler's site Information** **State:** ID **Zip code** 83706 **Time Zone** MTN

Check box if observe Daylight Savings Time [X]

PROJECT INFORMATION

Quote #: SPF-2014-GW

PO#: Calico 4th Quarter Sampling

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	*SPF-2014-GW							
Upper Sourdough Spring	11/23/13 10:25		8	X							
Lower Sourdough Spring	11/23/13 11:35		8	X							
Dry Creek Arm	11/23/13 15:50		8	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

*See attached list for parameters to be analyzed

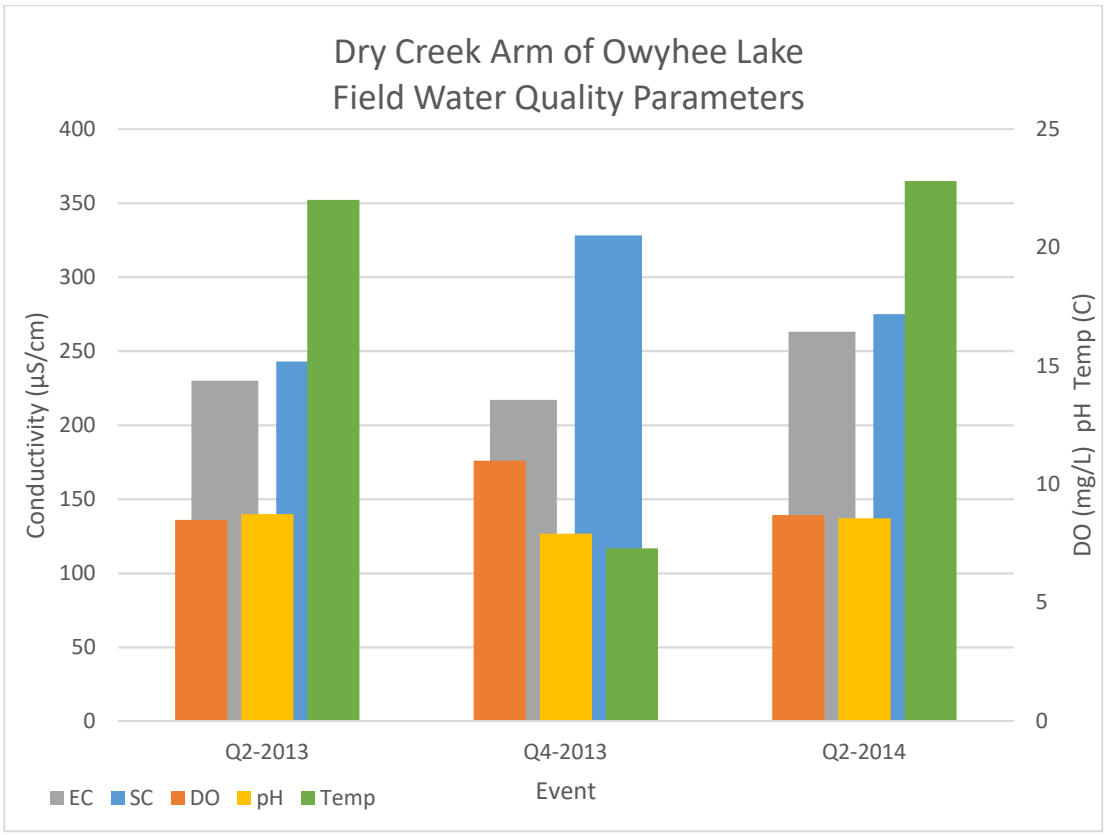
Please refer to ACZ's terms & conditions located on the reverse side of this COC.

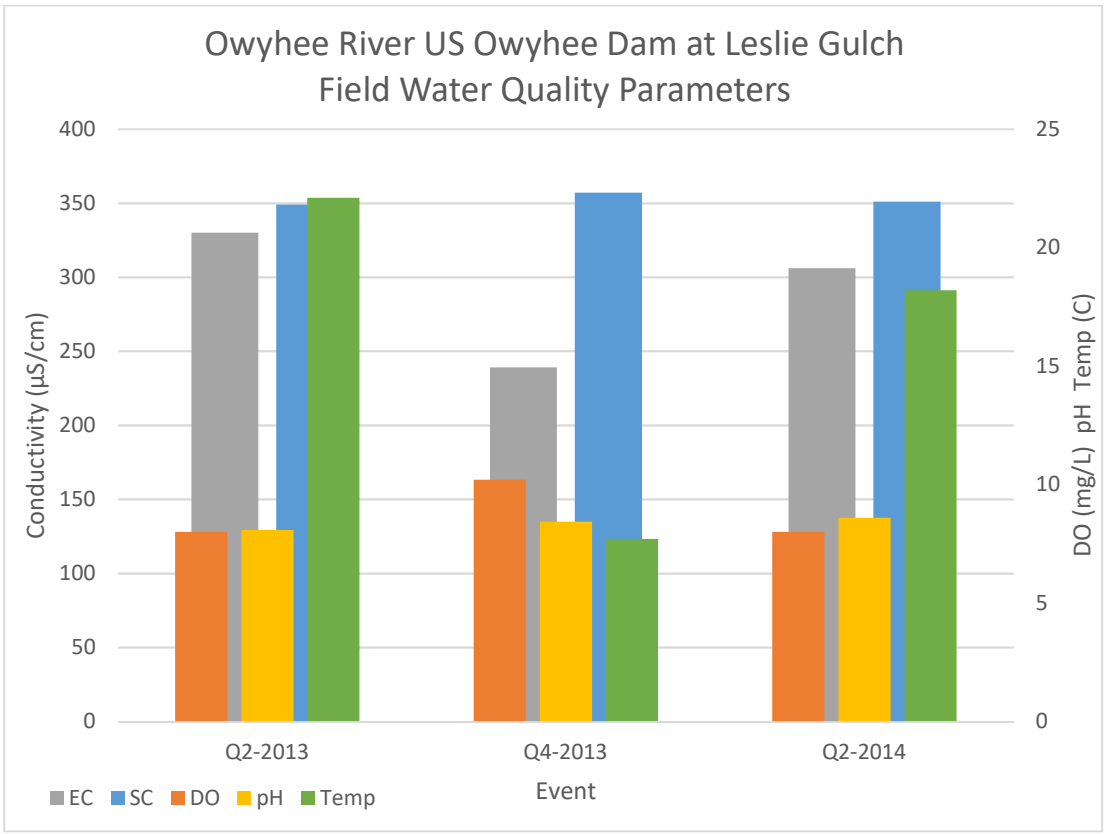
RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Erik Boe	11/25/13 8:00		
		12-2-13 10:05	

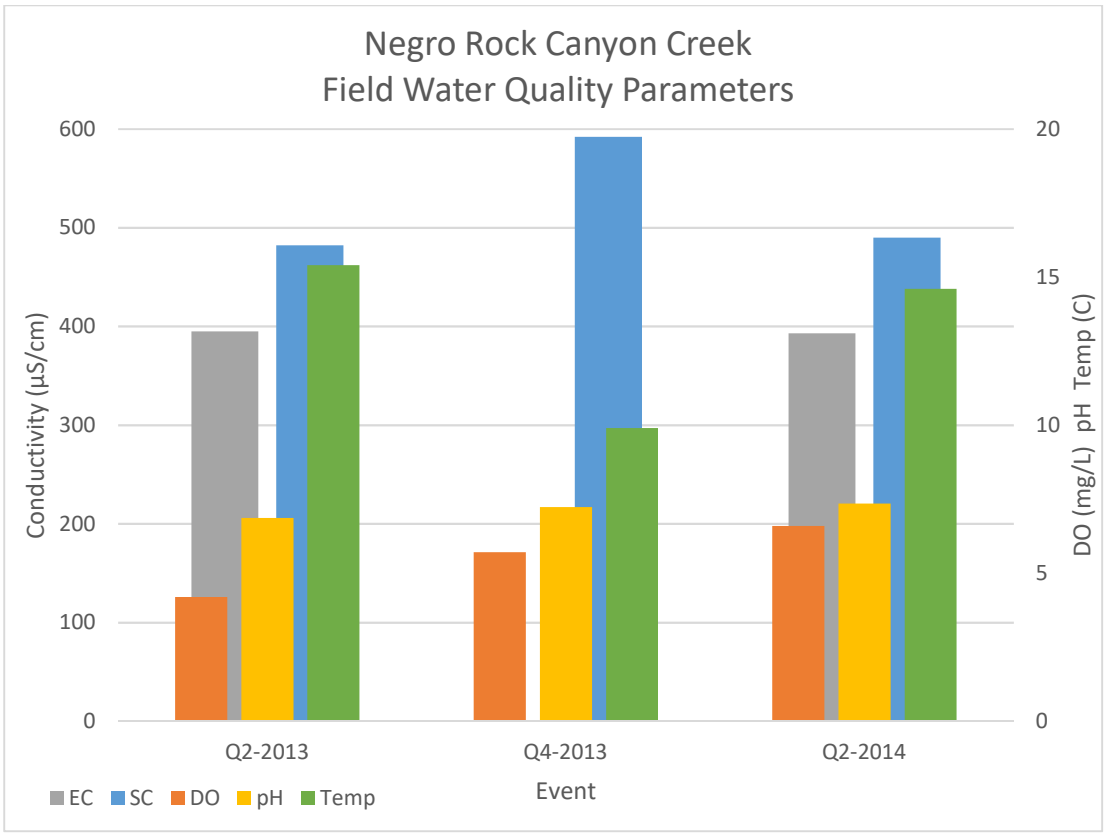
FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

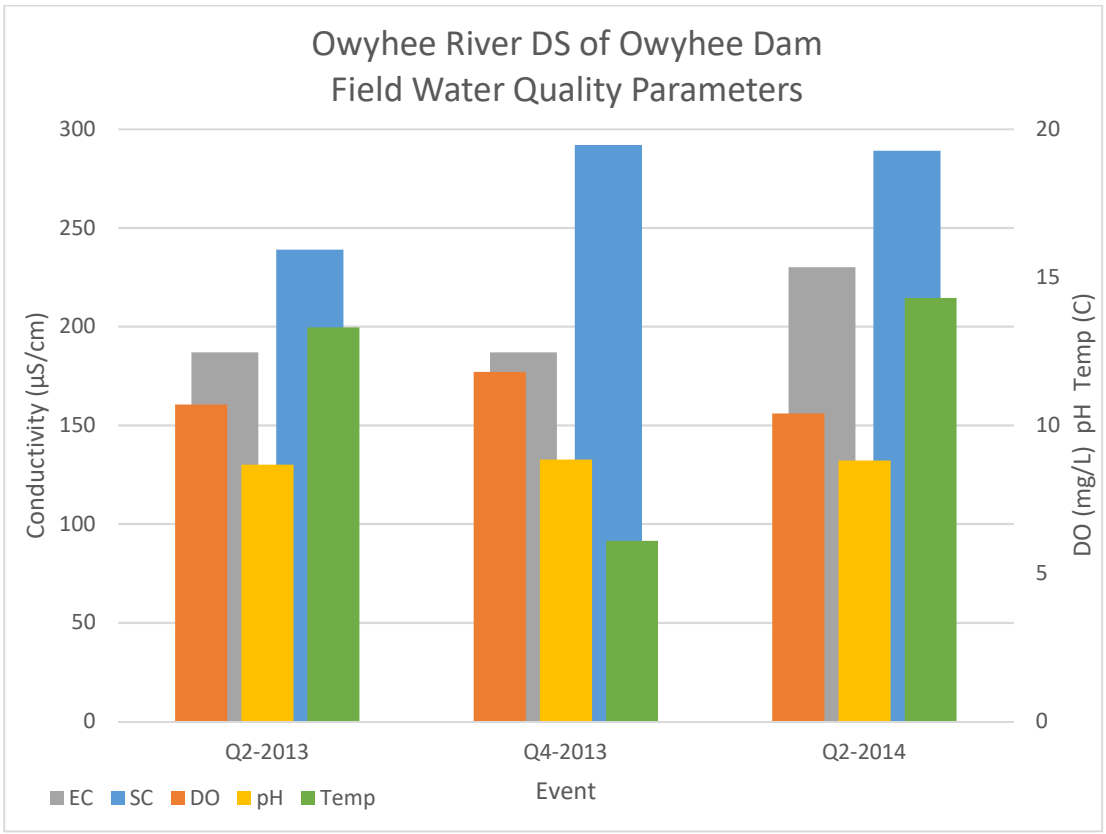
C15825 Chain of Custody

Appendix D: Field Water Quality Data Charts


Dry Creek Arm of Owyhee Lake
Field Water Quality Parameters
Conductivity (µS/cm)
DO (mg/L) pH Temp (C)
400
350
300
250
200
150
100
50
0
25
20
15
10
5
0
Q2-2013
Q4-2013
Q2-2014
Event
EC
SC
DO
pH
Temp


Owyhee River US Owyhee Dam at Leslie Gulch
Field Water Quality Parameters
Conductivity (µS/cm)
DO (mg/L) pH Temp (C)
400
350
300
250
200
150
100
50
0
25
20
15
10
5
0
Q2-2013
Q4-2013
Q2-2014
Event
EC
SC
DO
pH
Temp


Negro Rock Canyon Creek
Field Water Quality Parameters
Conductivity (µS/cm)
DO (mg/L) pH Temp (C)
600
500
400
300
200
100
0
20
15
10
5
0
Q2-2013
Q4-2013
Q2-2014
Event
EC
SC
DO
pH
Temp


Owyhee River DS of Owyhee Dam
Field Water Quality Parameters
Conductivity (µS/cm)
DO (mg/L) pH Temp (C)
300
250
200
150
100
50
0
20
15
10
5
0
Q2-2013
Q4-2013
Q2-2014
Event
EC
SC
DO
pH
Temp

Appendix E: Laboratory Water Quality Results

		DRY CREEK ARM																		
PARAMETER	UNITS	Q2-2013 Result	Q4-2013 Result	Q2-2014 Result	MDL[1]	RL	Q2-13[2]	Q4-13[2]	Q2-14[2]	n	Min	Max	Range	Mean	Median	St. Dev.	Q2-13 RPD[3]	Q4-13 RPD[3]	Q2-14 RPD[3]
Aluminum, dissolved	mg/L	0.0800	0.0500	0.1700	0.03000	0.15	0.0800	0.0500	0.1700	3	0.0500	0.1700	0.1200	0.1000	0.0800	0.0624	0%	46%	72%
Aluminum, total	mg/L	0.6400	1.2400	1.7300	0.03000	0.15	0.6400	1.2400	1.7300	3	0.6400	1.7300	1.0900	1.2033	1.2400	0.5459	64%	0%	33%
Antimony, dissolved	mg/L	<0.0004	<0.0004	0.0004	0.00040	0.0020	0.0003	0.0003	0.0004	3	0.0003	0.0004	0.0001	0.0003	0.0003	0.0001	0%	0%	34%
Antimony, total	mg/L	<0.0004	<0.0004	<0.0004	0.00040	0.0020	0.0003	0.0003	0.0003	3	0.0003	0.0003	0.0000	0.0003	0.0003	0.0000	0%	0%	0%
Arsenic, dissolved	mg/L	0.0057	0.0072	0.0063	0.00020	0.0010	0.0057	0.0072	0.0063	3	0.0057	0.0072	0.0015	0.0064	0.0063	0.0008	10%	13%	0%
Arsenic, total	mg/L	0.0057	0.0076	0.0064	0.00020	0.0010	0.0057	0.0076	0.0064	3	0.0057	0.0076	0.0019	0.0066	0.0064	0.0010	12%	17%	0%
Barium, dissolved	mg/L	0.0110	0.0200	0.0140	0.00300	0.015	0.0110	0.0200	0.0140	3	0.0110	0.0200	0.0090	0.0150	0.0140	0.0046	24%	35%	0%
Barium, total	mg/L	0.0190	0.0280	0.0210	0.00300	0.015	0.0190	0.0280	0.0210	3	0.0190	0.0280	0.0090	0.0227	0.0210	0.0047	10%	29%	0%
Beryllium, dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Beryllium, total	mg/L	<0.00005	<0.00005	0.0001	0.00005	0.00025	0.0000	0.0000	0.0001	3	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0%	0%	66%
Bismuth, dissolved	mg/L	<0.04	<0.04	<0.04	0.04000	0.20	0.0283	0.0283	0.0283	3	0.0283	0.0283	0.0000	0.0283	0.0283	0.0000	0%	0%	0%
Bismuth, total	mg/L	<0.04	<0.04	<0.04	0.04000	0.20	0.0283	0.0283	0.0283	3	0.0283	0.0283	0.0000	0.0283	0.0283	0.0000	0%	0%	0%
Boron, dissolved	mg/L	0.0800	0.1300	0.1100	0.01000	0.05	0.0800	0.1300	0.1100	3	0.0800	0.1300	0.0500	0.1067	0.1100	0.0252	32%	17%	0%
Boron, total	mg/L	0.0900	0.1200	0.0900	0.01000	0.05	0.0900	0.1200	0.0900	3	0.0900	0.1200	0.0300	0.1000	0.0900	0.0173	0%	29%	0%
Cadmium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Cadmium, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Calcium, dissolved	mg/L	20.0000	23.4000	20.1000	0.10000	0.5	20.0000	23.4000	20.1000	3	20.0000	23.4000	3.4000	21.1667	20.1000	1.9348	0%	15%	0%
Calcium, total	mg/L	19.8000	23.7000	20.7000	0.10000	0.5	19.8000	23.7000	20.7000	3	19.8000	23.7000	3.9000	21.4000	20.7000	2.0421	4%	14%	0%
Chromium, dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.00050	0.0025	0.0004	0.0004	0.0004	3	0.0004	0.0004	0.0000	0.0004	0.0004	0.0000	0%	0%	0%
Chromium, total	mg/L	0.0006	0.0009	0.0014	0.00050	0.0025	0.0006	0.0009	0.0014	3	0.0006	0.0014	0.0008	0.0010	0.0009	0.0004	40%	0%	43%
Cobalt, dissolved	mg/L	0.0004	0.0003	0.0011	0.00005	0.00025	0.0004	0.0003	0.0011	3	0.0003	0.0011	0.0009	0.0006	0.0004	0.0005	0%	40%	97%
Cobalt, total	mg/L	0.0003	0.0006	0.0005	0.00005	0.00025	0.0003	0.0006	0.0005	3	0.0003	0.0006	0.0003	0.0005	0.0005	0.0001	46%	17%	0%
Copper, dissolved	mg/L	0.0128	0.0006	0.0008	0.00050	0.0025	0.0128	0.0006	0.0008	3	0.0006	0.0128	0.0122	0.0047	0.0008	0.0070	176%	29%	0%
Copper, total	mg/L	0.0021	0.0017	0.0020	0.00050	0.0025	0.0021	0.0017	0.0020	3	0.0017	0.0021	0.0004	0.0019	0.0020	0.0002	5%	16%	0%
Gallium, dissolved	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Gallium, total	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Iron, dissolved	mg/L	0.0700	0.0400	0.1700	0.02000	0.10	0.0700	0.0400	0.1700	3	0.0400	0.1700	0.1300	0.0933	0.0700	0.0681	0%	55%	83%
Iron, total	mg/L	0.5900	1.1600	1.4500	0.02000	0.10	0.5900	1.1600	1.4500	3	0.5900	1.4500	0.8600	1.0667	1.1600	0.4375	65%	0%	22%
Lead, dissolved	mg/L	0.0006	<0.0001	0.0002	0.00010	0.0005	0.0006	0.0001	0.0002	3	0.0001	0.0006	0.0005	0.0003	0.0002	0.0003	100%	96%	0%
Lead, total	mg/L	0.0002	0.0003	0.0004	0.00010	0.0005	0.0002	0.0003	0.0004	3	0.0002	0.0004	0.0002	0.0003	0.0003	0.0001	40%	0%	29%
Lithium, dissolved	mg/L	<0.02	0.0200	0.0160	0.00800	0.04	0.0141	0.0200	0.0160	3	0.0141	0.0200	0.0059	0.0167	0.0160	0.0030	12%	22%	0%
Lithium, total	mg/L	<0.02	<0.02	0.0180	0.00800	0.04	0.0141	0.0141	0.0180	3	0.0141	0.0180	0.0039	0.0154	0.0141	0.0022	0%	0%	24%
Magnesium, dissolved	mg/L	5.3000	6.4000	5.3000	0.20000	1.0	5.3000	6.4000	5.3000	3	5.3000	6.4000	1.1000	5.6667	5.3000	0.6351	0%	19%	0%
Magnesium, total	mg/L	5.3000	6.8000	5.8000	0.20000	1.0	5.3000	6.8000	5.8000	3	5.3000	6.8000	1.5000	5.9667	5.8000	0.7638	9%	16%	0%
Manganese, dissolved	mg/L	0.0031	0.0081	0.0093	0.00050	0.0025	0.0031	0.0081	0.0093	3	0.0031	0.0093	0.0062	0.0068	0.0081	0.0033	89%	0%	14%
Manganese, total	mg/L	0.0163	0.0334	0.0308	0.00050	0.0025	0.0163	0.0334	0.0308	3	0.0163	0.0334	0.0171	0.0268	0.0308	0.0092	62%	8%	0%
Mercury, dissolved	ng/L	0.7000	1.3000	2.4000	0.20000	1.0	0.7000	1.3000	2.4000	3	0.7000	2.4000	1.7000	1.4667	1.3000	0.8622	60%	0%	59%
Mercury, total	ng/L	4.0000	4.6000	5.1000	0.40000	2.0	4.0000	4.6000	5.1000	3	4.0000	5.1000	1.1000	4.5667	4.6000	0.5508	14%	0%	10%
Molybdenum, dissolved	mg/L	0.0035	0.0045	0.0045	0.00050	0.0025	0.0035	0.0045	0.0045	3	0.0035	0.0045	0.0010	0.0042	0.0045	0.0006	25%	0%	0%
Molybdenum, total	mg/L	0.0036	0.0049	0.0043	0.00050	0.0025	0.0036	0.0049	0.0043	3	0.0036	0.0049	0.0013	0.0043	0.0043	0.0007	18%	13%	0%
Nickel, dissolved	mg/L	0.0007	0.0006	0.0009	0.00060	0.0030	0.0007	0.0006	0.0009	3	0.0006	0.0009	0.0003	0.0007	0.0007	0.0002	0%	15%	25%
Nickel, total	mg/L	0.0011	0.0016	0.0016	0.00060	0.0030	0.0011	0.0016	0.0016	3	0.0011	0.0016	0.0005	0.0014	0.0016	0.0003	37%	0%	0%
Potassium, dissolved	mg/L	3.5000	3.9000	3.7000	0.20000	1.0	3.5000	3.9000	3.7000	3	3.5000	3.9000	0.4000	3.7000	3.7000	0.2000	6%	5%	0%
Potassium, total	mg/L	3.5000	4.1000	3.8000	0.20000	1.0	3.5000	4.1000	3.8000	3	3.5000	4.1000	0.6000	3.8000	3.8000	0.3000	8%	8%	0%
Scandium, dissolved	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Scandium, total	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Selenium, dissolved	mg/L	0.0003	0.0008	0.0004	0.00010	0.0005	0.0003	0.0008	0.0004	3	0.0003	0.0008	0.0005	0.0005	0.0004	0.0003	29%	67%	0%
Selenium, total	mg/L	0.0003	0.0007	0.0004	0.00010	0.0005	0.0003	0.0007	0.0004	3	0.0003	0.0007	0.0004	0.0005	0.0004	0.0002	29%	55%	0%
Silver, dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Silver, total	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Sodium, dissolved	mg/L	26.9000	37.5000	31.4000	0.20000	1	26.9000	37.5000	31.4000	3	26.9000	37.5000	10.6000	31.9333	31.4000	5.3201	15%	18%	0%
Sodium, total	mg/L	26.3000	37.2000	31.8000	0.20000	1	26.3000	37.2000	31.8000	3	26.3000	37.2000	10.9000	31.7667	31.8000	5.4501	19%	16%	0%
Strontium, dissolved	mg/L	0.1000	0.1200	0.0930	0.00500	0.03	0.1000	0.1200	0.0930	3	0.0930	0.1200	0.0270	0.1043	0.1000	0.0140	0%	18%	7%
Strontium, total	mg/L	0.1000	0.1200	0.0950	0.00500	0.03	0.1000	0.1200	0.0950	3	0.0950	0.1200	0.0250	0.1050	0.1000	0.0132	0%	18%	5%
Thallium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Thallium, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Tin, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Tin, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Titanium, dissolved	mg/L	<0.005	<0.005	0.0070	0.00500	0.025	0.0035	0.0035	0.0070	3	0.0035	0.0070	0.0035	0.0047	0.0035	0.0020	0%	0%	66%
Titanium, total	mg/L	0.0330	0.0780	0.0840	0.00500	0.025	0.0330	0.0780	0.0840	3	0.0330	0.0840	0.0510	0.0650	0.0780	0.0279	81%	0%	7%
Uranium, dissolved	mg/L	0.0014	0.0018	0.0016	0.00010	0.0005	0.0014	0.0018	0.0016	3	0.0014	0.0018	0.0004	0.0016	0.0016	0.0002	13%	12%	0%
Uranium, total	mg/L	0.0014	0.0020	0.0015	0.00010	0.0005	0.0014	0.0020	0.0015	3	0.0014	0.0020	0.0006	0.0016	0.0015	0.0003	7%	29%	0%
Vanadium, dissolved	mg/L	0.0051	0.0051	0.0067	0.00020	0.0010	0.0051	0.0051	0.0067	3	0.0051	0.0067	0.0016	0.0056	0.0051	0.0009	0%	0%	27%
Vanadium, total	mg/L	0.0069	0.0076	0.0087	0.00020	0.0010	0.0069	0.0076	0.0087	3	0.0069	0.0087	0.0018	0.0077	0.0076	0.0009	10%	0%	13%
Zinc, dissolved	mg/L	<0.01	<0.01	<0.01	0.01000	0.05	0.0071	0.0071	0.0071	3	0.0071	0.0071	0.0000	0.0071	0.0071	0.0000	0%	0%	0%
Zinc, total	mg/L	<0.01	<0.01	<0.01	0.01000	0.05	0.0071	0.0071	0.0071	3	0.0071	0.0071	0.0000	0.0071	0.0071	0.0000	0%	0%	0%
Hardness as CaCO3	mg/L	72.0000	85.0000	72.0000	0.80000	4	72.0000	85.0000	72.0000	3	72.0000	85.0000	13.0000	76.3333	72.0000	7.5056	0%	17%	0%
Nitrogen, ammonia	mg/L	<0.05	<0.05	<0.05	0.05000	0.25	0.0354	0.0354	0.0354	3	0.0354	0.0354	0.0000	0.0354	0.0354	0.0000	0%	0%	0%
Phosphorus, total	mg/L	0.0400	0.1000	0.0300	0.01000	0.05	0.0400	0.1000	0.0300	3	0.0300	0.1000	0.0700	0.0567	0.0400	0.0379	0%	86%	29%
Bicarbonate as CaCO3	mg/L	86.0000	110.0000	89.0000	2.00000	10	86.0000	110.0000	89.0000	3	86.0000	110.0000	24.0000	95.0000	89.0000	13.0767	3%	21%	0%
Carbonate as CaCO3	mg/L	5.0000	<2	4.0000	2.00000	10	5.0000	1.4142	4.0000	3	1.4142	5.0000	3.5858	3.4714	4.0000	1.8504	22%	96%	0%
Chloride	mg/L	8.6600	10.3000	9.4000	0.50000	2.5	8.6600	10.3000	9.4000	3	8.6600	10.3000	1.6400	9.4533	9.4000	0.8213	8%	9%	0%
Conductivity @25C	umhos/cm	261.0000	326.0000	287.0000	1.00000	5	261.0000	326.0000	287.0000	3	261.0000	326.0000	65.0000	291.3333	287.0000	32.7159	9%	13%	0%
Cyanide, total	mg/L	<0.003	<0.003	<0.003	0.00300	0.015	0.0021	0.0021	0.0021	3	0.0021	0.0021	0.0000	0.0021	0.0021	0.0000	0%	0%	0%
Cyanide, WAD	mg/L	<0.003	<0.003	<0.003	0.00300	0.015	0.0021	0.0021	0.0021	3	0.0021	0.0021	0.0000	0.0021	0.0021	0.0000	0%	0%	0%
Fluoride	mg/L	1.2100	1.4400	1.4200	0.05000	0.25	1.2100	1.4400	1.4200	3	1.2100	1.4400	0.2300	1.3567	1.4200	0.1274	16%	1%	0%
Hydroxide as CaCO3	mg/L	<2	<2	<2	2.00000	10	1.4142	1.4142	1.4142	3	1.4142	1.4142	0.0000	1.4142	1.4142	0.0000	0%	0%	0%
Nitrate as N, dissolved	mg/L	<0.02	<ND>	<ND>	0.02000	0.10	0.0141	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrate/Nitrite as N, dissolved	mg/L	<0.02	<ND>	<ND>	0.02000	0.10	0.0141	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrate/Nitrite as N	<ND>	<ND>	0.1300	<0.02	0.02000	0.10	<ND>	0.1300	0.0141	2	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrite as N, dissolved	mg/L	<0.01	<ND>	<ND>	0.01000	0.05	0.0071	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
pH	units	8.4000	8.3000	8.5000	0.10000	0.5	8.4000	8.3000	8.5000	3	8.3000	8.5000	0.2000	8.4000	8.4000	0.1000	0%	1%	1%
pH measured at	C	22.0000	21.0000	22.0000	0.10000	0.5	22.0000	21.0000	22.0000	3	21.0000	22.0000	1.0000	21.6667	22.0000	0.5774	0%	5%	0%
Residue, Filterable (TDS) @180C	mg/L	160.0000	190.0000	180.0000	10.00000	50	160.0000	190.0000	180.0000	3	160.0000	190.0000	30.0000	176.6667	180.0000	15.2753	12%	5%	0%
Residue, Non-Filterable (TSS) @105C	mg/L	5.0000	17.0000	9.0000	5.00000	25	5.0000	17.0000	9.0000	3	5.0000	17.0000	12.0000	10.3333	9.0000	6.1101	57%	62%	0%
Sulfate	mg/L	24.2000	39.8000	29.4000	0.50000	2.5	24.2000	39.8000	29.4000	3	24.2000	39.8000	15.6000	31.1333	29.4000	7.9431	19%	30%	0%
Total Alkalinity	mg/L	91.0000	110.0000	92.0000	2.00000	10	91.0000	110.0000	92.0000	3	91.0000	110.0000	19.0000	97.6667	92.0000	10.6927	1%	18%	0%

[1] If the MDL varies by sampling event, then the minimum value is reported here

[2] Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[3] Quarterly RPD compares quarterly results with the annual median value, red values are greater than or equal to 20% and the corresponding quarterly value is greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
LD = Limited Data (n < 3, i.e. two or more results are below MDL; or missing data)
RPD = Relative Percent Difference
n = number of samples

		LESLIE GULCH																	
PARAMETER	UNITS	Q2-2013 Result	Q4-2013 Result	Q2-2014 Result	MDL[1]	RL	Q2-13[2]	Q4-13[2]	Q2-14[2]	n	Min	Max	Range	Mean	Median	St. Dev.	Q2-13 RPD[3]	Q4-13 RPD[3]	Q2-14 RPD[3]
Aluminum, dissolved	mg/L	<0.03	<0.03	<0.03	0.03000	0.15	0.0212	0.0212	0.0212	3	0.0212	0.0212	0.0000	0.0212	0.0212	0.0000	0%	0%	0%
Aluminum, total	mg/L	1.3400	0.8900	1.4200	0.03000	0.15	1.3400	0.8900	1.4200	3	0.8900	1.4200	0.5300	1.2167	1.3400	0.2857	0%	40%	6%
Antimony, dissolved	mg/L	<0.0004	<0.0004	<0.0004	0.00040	0.0020	0.0003	0.0003	0.0003	3	0.0003	0.0003	0.0000	0.0003	0.0003	0.0000	0%	0%	0%
Antimony, total	mg/L	<0.0004	<0.0004	<0.0004	0.00040	0.0020	0.0003	0.0003	0.0003	3	0.0003	0.0003	0.0000	0.0003	0.0003	0.0000	0%	0%	0%
Arsenic, dissolved	mg/L	0.0111	0.0100	0.0110	0.00020	0.0010	0.0111	0.0100	0.0110	3	0.0100	0.0111	0.0011	0.0107	0.0110	0.0006	1%	10%	0%
Arsenic, total	mg/L	0.0114	0.0102	0.0108	0.00020	0.0010	0.0114	0.0102	0.0108	3	0.0102	0.0114	0.0012	0.0108	0.0108	0.0006	5%	6%	0%
Barium, dissolved	mg/L	0.0280	0.0190	0.0240	0.00300	0.015	0.0280	0.0190	0.0240	3	0.0190	0.0280	0.0090	0.0237	0.0240	0.0045	15%	23%	0%
Barium, total	mg/L	0.0420	0.0300	0.0400	0.00300	0.015	0.0420	0.0300	0.0400	3	0.0300	0.0420	0.0120	0.0373	0.0400	0.0064	5%	29%	0%
Beryllium, dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Beryllium, total	mg/L	0.0001	<0.00005	0.0001	0.00005	0.00025	0.0001	0.0000	0.0001	3	0.0000	0.0001	0.0001	0.0001	0.0001	0.0000	40%	52%	0%
Bismuth, dissolved	mg/L	<0.04	<0.04	<0.04	0.04000	0.20	0.0283	0.0283	0.0283	3	0.0283	0.0283	0.0000	0.0283	0.0283	0.0000	0%	0%	0%
Bismuth, total	mg/L	<0.04	<0.04	<0.04	0.04000	0.20	0.0283	0.0283	0.0283	3	0.0283	0.0283	0.0000	0.0283	0.0283	0.0000	0%	0%	0%
Boron, dissolved	mg/L	0.1700	0.1800	0.1700	0.01000	0.05	0.1700	0.1800	0.1700	3	0.1700	0.1800	0.0100	0.1733	0.1700	0.0058	0%	6%	0%
Boron, total	mg/L	0.1700	0.1600	0.1700	0.01000	0.05	0.1700	0.1600	0.1700	3	0.1600	0.1700	0.0100	0.1667	0.1700	0.0058	0%	6%	0%
Cadmium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Cadmium, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Calcium, dissolved	mg/L	21.5000	19.1000	22.4000	0.10000	0.5	21.5000	19.1000	22.4000	3	19.1000	22.4000	3.3000	21.0000	21.5000	1.7059	0%	12%	4%
Calcium, total	mg/L	21.4000	19.6000	22.0000	0.10000	0.5	21.4000	19.6000	22.0000	3	19.6000	22.0000	2.4000	21.0000	21.4000	1.2490	0%	9%	3%
Chromium, dissolved	mg/L	<0.0005	0.0009	0.0008	0.00050	0.0025	0.0004	0.0009	0.0008	3	0.0004	0.0009	0.0005	0.0007	0.0008	0.0003	77%	12%	0%
Chromium, total	mg/L	0.0013	0.0016	0.0017	0.00050	0.0025	0.0013	0.0016	0.0017	3	0.0013	0.0017	0.0004	0.0015	0.0016	0.0002	21%	0%	6%
Cobalt, dissolved	mg/L	0.0022	0.0005	0.0006	0.00005	0.00025	0.0022	0.0005	0.0006	3	0.0005	0.0022	0.0017	0.0011	0.0006	0.0009	119%	12%	0%
Cobalt, total	mg/L	0.0005	0.0004	0.0006	0.00005	0.00025	0.0005	0.0004	0.0006	3	0.0004	0.0006	0.0002	0.0005	0.0005	0.0001	0%	40%	4%
Copper, dissolved	mg/L	0.0006	<0.0005	0.0006	0.00050	0.0025	0.0006	0.0004	0.0006	3	0.0004	0.0006	0.0002	0.0005	0.0006	0.0001	0%	52%	0%
Copper, total	mg/L	0.0021	0.0009	0.0021	0.00050	0.0025	0.0021	0.0009	0.0021	3	0.0009	0.0021	0.0012	0.0017	0.0021	0.0007	0%	80%	0%
Gallium, dissolved	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Gallium, total	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Iron, dissolved	mg/L	<0.02	<0.02	0.0200	0.02000	0.10	0.0141	0.0141	0.0200	3	0.0141	0.0200	0.0059	0.0161	0.0141	0.0034	0%	0%	34%
Iron, total	mg/L	1.1500	0.7500	1.2200	0.02000	0.10	1.1500	0.7500	1.2200	3	0.7500	1.2200	0.4700	1.0400	1.1500	0.2536	0%	42%	6%
Lead, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Lead, total	mg/L	0.0006	0.0003	0.0005	0.00010	0.0005	0.0006	0.0003	0.0005	3	0.0003	0.0006	0.0003	0.0005	0.0005	0.0002	18%	50%	0%
Lithium, dissolved	mg/L	0.0200	0.0200	0.0230	0.00800	0.04	0.0200	0.0200	0.0230	3	0.0200	0.0230	0.0030	0.0210	0.0200	0.0017	0%	0%	14%
Lithium, total	mg/L	0.0300	0.0300	0.0270	0.00800	0.04	0.0300	0.0300	0.0270	3	0.0270	0.0300	0.0030	0.0290	0.0300	0.0017	0%	0%	11%
Magnesium, dissolved	mg/L	6.2000	5.3000	6.5000	0.20000	1.0	6.2000	5.3000	6.5000	3	5.3000	6.5000	1.2000	6.0000	6.2000	0.6245	0%	16%	5%
Magnesium, total	mg/L	6.3000	5.6000	6.8000	0.20000	1.0	6.3000	5.6000	6.8000	3	5.6000	6.8000	1.2000	6.2333	6.3000	0.6028	0%	12%	8%
Manganese, dissolved	mg/L	0.0184	0.0066	0.0068	0.00050	0.0025	0.0184	0.0066	0.0068	3	0.0066	0.0184	0.0118	0.0106	0.0068	0.0068	92%	3%	0%
Manganese, total	mg/L	0.0662	0.0242	0.0357	0.00050	0.0025	0.0662	0.0242	0.0357	3	0.0242	0.0662	0.0420	0.0420	0.0357	0.0217	60%	38%	0%
Mercury, dissolved	ng/L	1.4000	0.6000	1.2000	0.20000	1.0	1.4000	0.6000	1.2000	3	0.6000	1.4000	0.8000	1.0667	1.2000	0.4163	15%	67%	0%
Mercury, total	ng/L	23.0000	13.2000	19.9000	0.40000	2.0	23.0000	13.2000	19.9000	3	13.2000	23.0000	9.8000	18.7000	19.9000	5.0090	14%	40%	0%
Molybdenum, dissolved	mg/L	0.0066	0.0065	0.0067	0.00050	0.0025	0.0066	0.0065	0.0067	3	0.0065	0.0067	0.0002	0.0066	0.0066	0.0001	0%	2%	2%
Molybdenum, total	mg/L	0.0066	0.0067	0.0064	0.00050	0.0025	0.0066	0.0067	0.0064	3	0.0064	0.0067	0.0003	0.0066	0.0066	0.0002	0%	2%	3%
Nickel, dissolved	mg/L	0.0007	<0.0006	<0.0006	0.00060	0.0030	0.0007	0.0004	0.0004	3	0.0004	0.0007	0.0003	0.0005	0.0004	0.0002	49%	0%	0%
Nickel, total	mg/L	0.0014	0.0008	0.0014	0.00060	0.0030	0.0014	0.0008	0.0014	3	0.0008	0.0014	0.0006	0.0012	0.0014	0.0003	0%	55%	0%
Potassium, dissolved	mg/L	4.9000	4.2000	4.6000	0.20000	1.0	4.9000	4.2000	4.6000	3	4.2000	4.9000	0.7000	4.5667	4.6000	0.3512	6%	9%	0%
Potassium, total	mg/L	5.0000	4.3000	4.9000	0.20000	1.0	5.0000	4.3000	4.9000	3	4.3000	5.0000	0.7000	4.7333	4.9000	0.3786	2%	13%	0%
Scandium, dissolved	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Scandium, total	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Selenium, dissolved	mg/L	0.0005	0.0005	0.0005	0.00010	0.0005	0.0005	0.0005	0.0005	3	0.0005	0.0005	0.0000	0.0005	0.0005	0.0000	0%	0%	0%
Selenium, total	mg/L	0.0006	0.0005	0.0005	0.00010	0.0005	0.0006	0.0005	0.0005	3	0.0005	0.0006	0.0001	0.0005	0.0005	0.0001	18%	0%	0%
Silver, dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Silver, total	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Sodium, dissolved	mg/L	49.0000	46.6000	47.5000	0.20000	1	49.0000	46.6000	47.5000	3	46.6000	49.0000	2.4000	47.7000	47.5000	1.2124	3%	2%	0%
Sodium, total	mg/L	47.8000	45.7000	47.3000	0.20000	1	47.8000	45.7000	47.3000	3	45.7000	47.8000	2.1000	46.9333	47.3000	1.0970	1%	3%	0%
Strontium, dissolved	mg/L	0.1100	0.0900	0.1130	0.00500	0.03	0.1100	0.0900	0.1130	3	0.0900	0.1130	0.0230	0.1043	0.1100	0.0125	0%	20%	3%
Strontium, total	mg/L	0.1100	0.0900	0.1130	0.00500	0.03	0.1100	0.0900	0.1130	3	0.0900	0.1130	0.0230	0.1043	0.1100	0.0125	0%	20%	3%
Thallium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Thallium, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Tin, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Tin, total	mg/L	0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	34%	0%	0%
Titanium, dissolved	mg/L	<0.005	<0.005	<0.005	0.00500	0.025	0.0035	0.0035	0.0035	3	0.0035	0.0035	0.0000	0.0035	0.0035	0.0000	0%	0%	0%
Titanium, total	mg/L	0.0470	0.0370	0.0610	0.00500	0.025	0.0470	0.0370	0.0610	3	0.0370	0.0610	0.0240	0.0483	0.0470	0.0121	0%	24%	26%
Uranium, dissolved	mg/L	0.0027	0.0026	0.0026	0.00010	0.0005	0.0027	0.0026	0.0026	3	0.0026	0.0027	0.0001	0.0026	0.0026	0.0001	4%	0%	0%
Uranium, total	mg/L	0.0028	0.0025	0.0027	0.00010	0.0005	0.0028	0.0025	0.0027	3	0.0025	0.0028	0.0003	0.0027	0.0027	0.0002	4%	8%	0%
Vanadium, dissolved	mg/L	0.0100	0.0082	0.0103	0.00020	0.0010	0.0100	0.0082	0.0103	3	0.0082	0.0103	0.0021	0.0095	0.0100	0.0011	0%	20%	3%
Vanadium, total	mg/L	0.0129	0.0103	0.0121	0.00020	0.0010	0.0129	0.0103	0.0121	3	0.0103	0.0129	0.0026	0.0118	0.0121	0.0013	6%	16%	0%
Zinc, dissolved	mg/L	<0.01	<0.01	<0.01	0.01000	0.05	0.0071	0.0071	0.0071	3	0.0071	0.0071	0.0000	0.0071	0.0071	0.0000	0%	0%	0%
Zinc, total	mg/L	0.0100	<0.01	<0.01	0.01000	0.05	0.0100	0.0071	0.0071	3	0.0071	0.0100	0.0029	0.0080	0.0071	0.0017	34%	0%	0%
Hardness as CaCO3	mg/L	79.0000	70.0000	83.0000	0.80000	4	79.0000	70.0000	83.0000	3	70.0000	83.0000	13.0000	77.3333	79.0000	6.6583	0%	12%	5%
Nitrogen, ammonia	mg/L	0.1200	<0.05	<0.05	0.05000	0.25	0.1200	0.0354	0.0354	3	0.0354	0.1200	0.0846	0.0636	0.0354	0.0489	109%	0%	0%
Phosphorus, total	mg/L	0.0800	0.0300	0.0500	0.01000	0.05	0.0800	0.0300	0.0500	3	0.0300	0.0800	0.0500	0.0533	0.0500	0.0252	46%	50%	0%
Bicarbonate as CaCO3	mg/L	139.0000	105.0000	98.0000	2.00000	10	139.0000	105.0000	98.0000	3	98.0000	139.0000	41.0000	114.0000	105.0000	21.9317	28%	0%	7%
Carbonate as CaCO3	mg/L	4.0000	9.0000	8.0000	2.00000	10	4.0000	9.0000	8.0000	3	4.0000	9.0000	5.0000	7.0000	8.0000	2.6458	67%	12%	0%
Chloride	mg/L	14.4000	13.8000	13.7000	0.50000	2.5	14.4000	13.8000	13.7000	3	13.7000	14.4000	0.7000	13.9667	13.8000	0.3786	4%	0%	1%
Conductivity @25C	umhos/cm	373.0000	349.0000	365.0000	1.00000	5	373.0000	349.0000	365.0000	3	349.0000	373.0000	24.0000	362.3333	365.0000	12.2202	2%	4%	0%
Cyanide, total	mg/L	<0.003	<0.003	<0.003	0.00300	0.015	0.0021	0.0021	0.0021	3	0.0021	0.0021	0.0000	0.0021	0.0021	0.0000	0%	0%	0%
Cyanide, WAD	mg/L	<0.003	<0.003	<0.003	0.00300	0.015	0.0021	0.0021	0.0021	3	0.0021	0.0021	0.0000	0.0021	0.0021	0.0000	0%	0%	0%
Fluoride	mg/L	2.3000	2.6000	2.2100	0.05000	0.25	2.3000	2.6000	2.2100	3	2.2100	2.6000	0.3900	2.3700	2.3000	0.2042	0%	12%	4%
Hydroxide as CaCO3	mg/L	<2	<2	<2	2.00000	10	1.4142	1.4142	1.4142	3	1.4142	1.4142	0.0000	1.4142	1.4142	0.0000	0%	0%	0%
Nitrate as N, dissolved	mg/L	0.1700	<ND>	<ND>	0.02000	0.10	0.1700	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrate/Nitrite as N, dissolved	mg/L	0.1700	<ND>	<ND>	0.02000	0.10	0.1700	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrate/Nitrite as N	<ND>	<ND>	0.4100	0.2000	0.02000	0.10	<ND>	0.4100	0.2000	2	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrite as N, dissolved	mg/L	<0.01	<ND>	<ND>	0.01000	0.05	0.0071	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
pH	units	8.3000	8.6000	8.6000	0.10000	0.5	8.3000	8.6000	8.6000	3	8.3000	8.6000	0.3000	8.5000	8.6000	0.1732	4%	0%	0%
pH measured at	C	22.0000	21.0000	21.0000	0.10000	0.5	22.0000	21.0000	21.0000	3	21.0000	22.0000	1.0000	21.3333	21.0000	0.5774	5%	0%	0%
Residue, Filterable (TDS) @180C	mg/L	230.0000	230.0000	200.0000	10.00000	50	230.0000	230.0000	200.0000	3	200.0000	230.0000	30.0000	220.0000	230.0000	17.3205	0%	0%	14%
Residue, Non-Filterable (TSS) @105C	mg/L	26.0000	8.0000	34.0000	5.00000	25	26.0000	8.0000	34.0000	3	8.0000	34.0000	26.0000	22.6667	26.0000	13.3167	0%	106%	27%
Sulfate	mg/L	38.3000	31.9000	33.1000	0.50000	2.5	38.3000	31.9000	33.1000	3	31.9000	38.3000	6.4000	34.4333	33.1000	3.4020	15%	4%	0%
Total Alkalinity	mg/L	143.0000	114.0000	106.0000	2.00000	10	143.0000	114.0000	106.0000	3	106.0000	143.0000	37.0000	121.0000	114.0000	19.4679	23%	0%	7%

[1] If the MDL varies by sampling event, then the minimum value is reported here

[2] Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[3] Quarterly RPD compares quarterly results with the annual median value, red values are greater than or equal to 20% and the corresponding quarterly value is greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
LD = Limited Data (n < 3, i.e. two or more results are below MDL; or missing data)
RPD = Relative Percent Difference
n = number of samples

		NEGRO ROCK CREEK																	
PARAMETER	UNITS	Q2-2013 Result	Q4-2013 Result	Q2-2014 Result	MDL[1]	RL	Q2-13[2]	Q4-13[2]	Q2-14[2]	n	Min	Max	Range	Mean	Median	St. Dev.	Q2-13 RPD[3]	Q4-13 RPD[3]	Q2-14 RPD[3]
Aluminum, dissolved	mg/L	<0.03	<0.03	<0.03	0.03000	0.15	0.0212	0.0212	0.0212	3	0.0212	0.0212	0.0000	0.0212	0.0212	0.0000	0%	0%	0%
Aluminum, total	mg/L	<0.03	0.0400	<0.03	0.03000	0.15	0.0212	0.0400	0.0212	3	0.0212	0.0400	0.0188	0.0275	0.0212	0.0108	0%	61%	0%
Antimony, dissolved	mg/L	<0.0004	<0.0004	<0.0004	0.00040	0.0020	0.0003	0.0003	0.0003	3	0.0003	0.0003	0.0000	0.0003	0.0003	0.0000	0%	0%	0%
Antimony, total	mg/L	<0.0004	<0.0004	<0.0004	0.00040	0.0020	0.0003	0.0003	0.0003	3	0.0003	0.0003	0.0000	0.0003	0.0003	0.0000	0%	0%	0%
Arsenic, dissolved	mg/L	0.0246	0.0231	0.0258	0.00020	0.0010	0.0246	0.0231	0.0258	3	0.0231	0.0258	0.0027	0.0245	0.0246	0.0014	0%	6%	5%
Arsenic, total	mg/L	0.0243	0.0237	0.0268	0.00020	0.0010	0.0243	0.0237	0.0268	3	0.0237	0.0268	0.0031	0.0249	0.0243	0.0016	0%	3%	10%
Barium, dissolved	mg/L	0.0110	0.0200	0.0090	0.00300	0.015	0.0110	0.0200	0.0090	3	0.0090	0.0200	0.0110	0.0133	0.0110	0.0059	0%	58%	20%
Barium, total	mg/L	0.0160	0.0220	0.0100	0.00300	0.015	0.0160	0.0220	0.0100	3	0.0100	0.0220	0.0120	0.0160	0.0160	0.0060	0%	32%	46%
Beryllium, dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Beryllium, total	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Bismuth, dissolved	mg/L	<0.04	<0.04	<0.04	0.04000	0.20	0.0283	0.0283	0.0283	3	0.0283	0.0283	0.0000	0.0283	0.0283	0.0000	0%	0%	0%
Bismuth, total	mg/L	<0.04	<0.04	<0.04	0.04000	0.20	0.0283	0.0283	0.0283	3	0.0283	0.0283	0.0000	0.0283	0.0283	0.0000	0%	0%	0%
Boron, dissolved	mg/L	0.1100	0.1200	0.1200	0.01000	0.05	0.1100	0.1200	0.1200	3	0.1100	0.1200	0.0100	0.1167	0.1200	0.0058	9%	0%	0%
Boron, total	mg/L	0.1200	0.1200	0.1000	0.01000	0.05	0.1200	0.1200	0.1000	3	0.1000	0.1200	0.0200	0.1133	0.1200	0.0115	0%	0%	18%
Cadmium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Cadmium, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Calcium, dissolved	mg/L	31.2000	36.7000	31.4000	0.10000	0.5	31.2000	36.7000	31.4000	3	31.2000	36.7000	5.5000	33.1000	31.4000	3.1193	1%	16%	0%
Calcium, total	mg/L	30.9000	36.9000	31.5000	0.10000	0.5	30.9000	36.9000	31.5000	3	30.9000	36.9000	6.0000	33.1000	31.5000	3.3045	2%	16%	0%
Chromium, dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.00050	0.0025	0.0004	0.0004	0.0004	3	0.0004	0.0004	0.0000	0.0004	0.0004	0.0000	0%	0%	0%
Chromium, total	mg/L	<0.0005	<0.0005	0.0005	0.00050	0.0025	0.0004	0.0004	0.0005	3	0.0004	0.0005	0.0001	0.0004	0.0004	0.0001	0%	0%	34%
Cobalt, dissolved	mg/L	0.0003	0.0001	0.0003	0.00005	0.00025	0.0003	0.0001	0.0003	3	0.0001	0.0003	0.0002	0.0002	0.0003	0.0001	0%	87%	19%
Cobalt, total	mg/L	0.0001	0.0001	0.0001	0.00005	0.00025	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	53%	0%	8%
Copper, dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.00050	0.0025	0.0004	0.0004	0.0004	3	0.0004	0.0004	0.0000	0.0004	0.0004	0.0000	0%	0%	0%
Copper, total	mg/L	<0.0005	<0.0005	<0.0005	0.00050	0.0025	0.0004	0.0004	0.0004	3	0.0004	0.0004	0.0000	0.0004	0.0004	0.0000	0%	0%	0%
Gallium, dissolved	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Gallium, total	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Iron, dissolved	mg/L	<0.02	<0.02	<0.02	0.02000	0.10	0.0141	0.0141	0.0141	3	0.0141	0.0141	0.0000	0.0141	0.0141	0.0000	0%	0%	0%
Iron, total	mg/L	0.0300	0.0400	0.0600	0.02000	0.10	0.0300	0.0400	0.0600	3	0.0300	0.0600	0.0300	0.0433	0.0400	0.0153	29%	0%	40%
Lead, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Lead, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Lithium, dissolved	mg/L	0.0400	0.0400	0.0370	0.00800	0.04	0.0400	0.0400	0.0370	3	0.0370	0.0400	0.0030	0.0390	0.0400	0.0017	0%	0%	8%
Lithium, total	mg/L	0.0400	0.0400	0.0380	0.00800	0.04	0.0400	0.0400	0.0380	3	0.0380	0.0400	0.0020	0.0393	0.0400	0.0012	0%	0%	5%
Magnesium, dissolved	mg/L	10.1000	12.0000	10.1000	0.20000	1.0	10.1000	12.0000	10.1000	3	10.1000	12.0000	1.9000	10.7333	10.1000	1.0970	0%	17%	0%
Magnesium, total	mg/L	10.0000	12.1000	10.1000	0.20000	1.0	10.0000	12.1000	10.1000	3	10.0000	12.1000	2.1000	10.7333	10.1000	1.1846	1%	18%	0%
Manganese, dissolved	mg/L	0.0109	0.0241	0.0487	0.00050	0.0025	0.0109	0.0241	0.0487	3	0.0109	0.0487	0.0378	0.0279	0.0241	0.0192	75%	0%	68%
Manganese, total	mg/L	0.0125	0.0322	0.0546	0.00050	0.0025	0.0125	0.0322	0.0546	3	0.0125	0.0546	0.0421	0.0331	0.0322	0.0211	88%	0%	52%
Mercury, dissolved	ng/L	0.6000	0.2000	<1	0.20000	1.0	0.6000	0.2000	0.7071	3	0.2000	0.7071	0.5071	0.5024	0.6000	0.2673	0%	100%	16%
Mercury, total	ng/L	0.7000	0.3000	0.6000	0.20000	1.0	0.7000	0.3000	0.6000	3	0.3000	0.7000	0.4000	0.5333	0.6000	0.2082	15%	67%	0%
Molybdenum, dissolved	mg/L	0.0094	0.0072	0.0092	0.00050	0.0025	0.0094	0.0072	0.0092	3	0.0072	0.0094	0.0022	0.0086	0.0092	0.0012	2%	24%	0%
Molybdenum, total	mg/L	0.0095	0.0077	0.0093	0.00050	0.0025	0.0095	0.0077	0.0093	3	0.0077	0.0095	0.0018	0.0088	0.0093	0.0010	2%	19%	0%
Nickel, dissolved	mg/L	<0.0006	<0.0006	<0.0006	0.00060	0.0030	0.0004	0.0004	0.0004	3	0.0004	0.0004	0.0000	0.0004	0.0004	0.0000	0%	0%	0%
Nickel, total	mg/L	<0.0006	<0.0006	<0.0006	0.00060	0.0030	0.0004	0.0004	0.0004	3	0.0004	0.0004	0.0000	0.0004	0.0004	0.0000	0%	0%	0%
Potassium, dissolved	mg/L	8.0000	8.2000	8.0000	0.20000	1.0	8.0000	8.2000	8.0000	3	8.0000	8.2000	0.2000	8.0667	8.0000	0.1155	0%	2%	0%
Potassium, total	mg/L	7.8000	8.1000	8.0000	0.20000	1.0	7.8000	8.1000	8.0000	3	7.8000	8.1000	0.3000	7.9667	8.0000	0.1528	3%	1%	0%
Scandium, dissolved	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Scandium, total	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Selenium, dissolved	mg/L	0.0007	0.0009	0.0009	0.00010	0.0005	0.0007	0.0009	0.0009	3	0.0007	0.0009	0.0002	0.0008	0.0009	0.0001	25%	0%	0%
Selenium, total	mg/L	0.0008	0.0009	0.0009	0.00010	0.0005	0.0008	0.0009	0.0009	3	0.0008	0.0009	0.0001	0.0009	0.0009	0.0001	12%	0%	0%
Silver, dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Silver, total	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Sodium, dissolved	mg/L	62.8000	65.3000	61.6000	0.20000	1	62.8000	65.3000	61.6000	3	61.6000	65.3000	3.7000	63.2333	62.8000	1.8877	0%	4%	2%
Sodium, total	mg/L	61.5000	65.6000	61.6000	0.20000	1	61.5000	65.6000	61.6000	3	61.5000	65.6000	4.1000	62.9000	61.6000	2.3388	0%	6%	0%
Strontium, dissolved	mg/L	0.1700	0.2000	0.1690	0.00500	0.03	0.1700	0.2000	0.1690	3	0.1690	0.2000	0.0310	0.1797	0.1700	0.0176	0%	16%	1%
Strontium, total	mg/L	0.1700	0.2000	0.1670	0.00500	0.03	0.1700	0.2000	0.1670	3	0.1670	0.2000	0.0330	0.1790	0.1700	0.0182	0%	16%	2%
Thallium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Thallium, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Tin, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Tin, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Titanium, dissolved	mg/L	<0.005	<0.005	<0.005	0.00500	0.025	0.0035	0.0035	0.0035	3	0.0035	0.0035	0.0000	0.0035	0.0035	0.0000	0%	0%	0%
Titanium, total	mg/L	<0.005	<0.005	<0.005	0.00500	0.025	0.0035	0.0035	0.0035	3	0.0035	0.0035	0.0000	0.0035	0.0035	0.0000	0%	0%	0%
Uranium, dissolved	mg/L	0.0022	0.0031	0.0021	0.00010	0.0005	0.0022	0.0031	0.0021	3	0.0021	0.0031	0.0010	0.0025	0.0022	0.0006	0%	34%	5%
Uranium, total	mg/L	0.0023	0.0032	0.0024	0.00010	0.0005	0.0023	0.0032	0.0024	3	0.0023	0.0032	0.0009	0.0026	0.0024	0.0005	4%	29%	0%
Vanadium, dissolved	mg/L	0.0198	0.0178	0.0187	0.00020	0.0010	0.0198	0.0178	0.0187	3	0.0178	0.0198	0.0020	0.0188	0.0187	0.0010	6%	5%	0%
Vanadium, total	mg/L	0.0205	0.0193	0.0222	0.00020	0.0010	0.0205	0.0193	0.0222	3	0.0193	0.0222	0.0029	0.0207	0.0205	0.0015	0%	6%	8%
Zinc, dissolved	mg/L	<0.01	<0.01	<0.01	0.01000	0.05	0.0071	0.0071	0.0071	3	0.0071	0.0071	0.0000	0.0071	0.0071	0.0000	0%	0%	0%
Zinc, total	mg/L	<0.01	<0.01	<0.01	0.01000	0.05	0.0071	0.0071	0.0071	3	0.0071	0.0071	0.0000	0.0071	0.0071	0.0000	0%	0%	0%
Hardness as CaCO3	mg/L	120.0000	141.0000	120.0000	0.80000	4	120.0000	141.0000	120.0000	3	120.0000	141.0000	21.0000	127.0000	120.0000	12.1244	0%	16%	0%
Nitrogen, ammonia	mg/L	<0.05	<0.05	<0.05	0.05000	0.25	0.0354	0.0354	0.0354	3	0.0354	0.0354	0.0000	0.0354	0.0354	0.0000	0%	0%	0%
Phosphorus, total	mg/L	0.0600	0.0600	0.0700	0.01000	0.05	0.0600	0.0600	0.0700	3	0.0600	0.0700	0.0100	0.0633	0.0600	0.0058	0%	0%	15%
Bicarbonate as CaCO3	mg/L	156.0000	165.0000	135.0000	2.00000	10	156.0000	165.0000	135.0000	3	135.0000	165.0000	30.0000	152.0000	156.0000	15.3948	0%	6%	14%
Carbonate as CaCO3	mg/L	<2	<2	<2	2.00000	10	1.4142	1.4142	1.4142	3	1.4142	1.4142	0.0000	1.4142	1.4142	0.0000	0%	0%	0%
Chloride	mg/L	18.6000	20.6000	17.6000	0.50000	2.5	18.6000	20.6000	17.6000	3	17.6000	20.6000	3.0000	18.9333	18.6000	1.5275	0%	10%	6%
Conductivity @25C	umhos/cm	515.0000	575.0000	527.0000	1.00000	5	515.0000	575.0000	527.0000	3	515.0000	575.0000	60.0000	539.0000	527.0000	31.7490	2%	9%	0%
Cyanide, total	mg/L	<0.003	<0.003	<0.003	0.00300	0.015	0.0021	0.0021	0.0021	3	0.0021	0.0021	0.0000	0.0021	0.0021	0.0000	0%	0%	0%
Cyanide, WAD	mg/L	<0.003	<0.003	<0.003	0.00300	0.015	0.0021	0.0021	0.0021	3	0.0021	0.0021	0.0000	0.0021	0.0021	0.0000	0%	0%	0%
Fluoride	mg/L	0.6900	0.5700	0.6600	0.05000	0.25	0.6900	0.5700	0.6600	3	0.5700	0.6900	0.1200	0.6400	0.6600	0.0624	4%	15%	0%
Hydroxide as CaCO3	mg/L	<2	<2	<2	2.00000	10	1.4142	1.4142	1.4142	3	1.4142	1.4142	0.0000	1.4142	1.4142	0.0000	0%	0%	0%
Nitrate as N, dissolved	mg/L	0.1600	<ND>	<ND>	0.02000	0.10	0.1600	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrate/Nitrite as N, dissolved	mg/L	0.1600	<ND>	<ND>	0.02000	0.10	0.1600	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrate/Nitrite as N	<ND>	<ND>	0.3900	0.2400	0.02000	0.10	<ND>	0.3900	0.2400	2	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrite as N, dissolved	mg/L	<0.01	<ND>	<ND>	0.01000	0.05	0.0071	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
pH	units	8.1000	8.2000	8.3000	0.10000	0.5	8.1000	8.2000	8.3000	3	8.1000	8.3000	0.2000	8.2000	8.2000	0.1000	1%	0%	1%
pH measured at	C	23.0000	21.0000	22.0000	0.10000	0.5	23.0000	21.0000	22.0000	3	21.0000	23.0000	2.0000	22.0000	22.0000	1.0000	4%	5%	0%
Residue, Filterable (TDS) @180C	mg/L	370.0000	400.0000	360.0000	10.00000	50	370.0000	400.0000	360.0000	3	360.0000	400.0000	40.0000	376.6667	370.0000	20.8167	0%	8%	3%
Residue, Non-Filterable (TSS) @105C	mg/L	<5	<5	<5	5.00000	25	3.5355	3.5355	3.5355	3	3.5355	3.5355	0.0000	3.5355	3.5355	0.0000	0%	0%	0%
Sulfate	mg/L	77.8000	89.1000	72.1000	0.50000	2.5	77.8000	89.1000	72.1000	3	72.1000	89.1000	17.0000	79.6667	77.8000	8.6524	0%	14%	8%
Total Alkalinity	mg/L	156.0000	165.0000	135.0000	2.00000	10	156.0000	165.0000	135.0000	3	135.0000	165.0000	30.0000	152.0000	156.0000	15.3948	0%	6%	14%

[1] If the MDL varies by sampling event, then the minimum value is reported here

[2] Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[3] Quarterly RPD compares quarterly results with the annual median value, red values are greater than or equal to 20% and the corresponding quarterly value is greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
LD = Limited Data (n < 3, i.e. two or more results are below MDL; or missing data)
RPD = Relative Percent Difference
n = number of samples

OWYHEE RIVER DS

PARAMETER	UNITS	Q2-2013 Result	Q4-2013 Result	Q2-2014 Result	MDL[1]	RL	Q2-13[2]	Q4-13[2]	Q2-14[2]	n	Min	Max	Range	Mean	Median	St. Dev.	Q2-13 RPD[3]	Q4-13 RPD[3]	Q2-14 RPD[3]
Aluminum, dissolved	mg/L	<0.03	<0.03	0.0900	0.03000	0.15	0.0212	0.0212	0.0900	3	0.0212	0.0900	0.0688	0.0441	0.0212	0.0397	0%	0%	124%
Aluminum, total	mg/L	0.2200	0.3700	0.5400	0.03000	0.15	0.2200	0.3700	0.5400	3	0.2200	0.5400	0.3200	0.3767	0.3700	0.1601	51%	0%	37%
Antimony, dissolved	mg/L	<0.0004	<0.0004	<0.0004	0.00040	0.0020	0.0003	0.0003	0.0003	3	0.0003	0.0003	0.0000	0.0003	0.0003	0.0000	0%	0%	0%
Antimony, total	mg/L	<0.0004	<0.0004	<0.0004	0.00040	0.0020	0.0003	0.0003	0.0003	3	0.0003	0.0003	0.0000	0.0003	0.0003	0.0000	0%	0%	0%
Arsenic, dissolved	mg/L	0.0059	0.0059	0.0063	0.00020	0.0010	0.0059	0.0059	0.0063	3	0.0059	0.0063	0.0004	0.0060	0.0059	0.0002	0%	0%	7%
Arsenic, total	mg/L	0.0054	0.0059	0.0061	0.00020	0.0010	0.0054	0.0059	0.0061	3	0.0054	0.0061	0.0007	0.0058	0.0059	0.0004	9%	0%	3%
Barium, dissolved	mg/L	0.0150	0.0150	0.0160	0.00300	0.015	0.0150	0.0150	0.0160	3	0.0150	0.0160	0.0010	0.0153	0.0150	0.0006	0%	0%	6%
Barium, total	mg/L	0.0200	0.0190	0.0210	0.00300	0.015	0.0200	0.0190	0.0210	3	0.0190	0.0210	0.0020	0.0200	0.0200	0.0010	0%	5%	5%
Beryllium, dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Beryllium, total	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Bismuth, dissolved	mg/L	<0.04	<0.04	<0.04	0.04000	0.20	0.0283	0.0283	0.0283	3	0.0283	0.0283	0.0000	0.0283	0.0283	0.0000	0%	0%	0%
Bismuth, total	mg/L	<0.04	<0.04	<0.04	0.04000	0.20	0.0283	0.0283	0.0283	3	0.0283	0.0283	0.0000	0.0283	0.0283	0.0000	0%	0%	0%
Boron, dissolved	mg/L	0.0800	0.1000	0.1100	0.01000	0.05	0.0800	0.1000	0.1100	3	0.0800	0.1100	0.0300	0.0967	0.1000	0.0153	22%	0%	10%
Boron, total	mg/L	0.0900	0.1000	0.1100	0.01000	0.05	0.0900	0.1000	0.1100	3	0.0900	0.1100	0.0200	0.1000	0.1000	0.0100	11%	0%	10%
Cadmium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Cadmium, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Calcium, dissolved	mg/L	20.6000	20.7000	21.7000	0.10000	0.5	20.6000	20.7000	21.7000	3	20.6000	21.7000	1.1000	21.0000	20.7000	0.6083	0%	0%	5%
Calcium, total	mg/L	20.4000	21.2000	21.6000	0.10000	0.5	20.4000	21.2000	21.6000	3	20.4000	21.6000	1.2000	21.0667	21.2000	0.6110	4%	0%	2%
Chromium, dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.00050	0.0025	0.0004	0.0004	0.0004	3	0.0004	0.0004	0.0000	0.0004	0.0004	0.0000	0%	0%	0%
Chromium, total	mg/L	<0.0005	<0.0005	0.0006	0.00050	0.0025	0.0004	0.0004	0.0006	3	0.0004	0.0006	0.0002	0.0004	0.0004	0.0001	0%	0%	52%
Cobalt, dissolved	mg/L	0.0005	0.0008	0.0007	0.00005	0.00025	0.0005	0.0008	0.0007	3	0.0005	0.0008	0.0003	0.0006	0.0007	0.0001	30%	14%	0%
Cobalt, total	mg/L	<0.0001	0.0002	0.0002	0.00005	0.00025	0.0001	0.0002	0.0002	3	0.0001	0.0002	0.0001	0.0001	0.0002	0.0001	72%	0%	24%
Copper, dissolved	mg/L	0.0007	0.0005	0.0007	0.00050	0.0025	0.0007	0.0005	0.0007	3	0.0005	0.0007	0.0002	0.0006	0.0007	0.0001	0%	33%	0%
Copper, total	mg/L	0.0011	0.0016	0.0010	0.00050	0.0025	0.0011	0.0016	0.0010	3	0.0010	0.0016	0.0006	0.0012	0.0011	0.0003	0%	37%	10%
Gallium, dissolved	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Gallium, total	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Iron, dissolved	mg/L	<0.02	0.0200	0.0600	0.02000	0.10	0.0141	0.0200	0.0600	3	0.0141	0.0600	0.0459	0.0314	0.0200	0.0250	34%	0%	100%
Iron, total	mg/L	0.1600	0.3000	0.4200	0.02000	0.10	0.1600	0.3000	0.4200	3	0.1600	0.4200	0.2600	0.2933	0.3000	0.1301	61%	0%	33%
Lead, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Lead, total	mg/L	<0.0001	0.0001	0.0002	0.00010	0.0005	0.0001	0.0001	0.0002	3	0.0001	0.0002	0.0001	0.0001	0.0001	0.0001	34%	0%	67%
Lithium, dissolved	mg/L	<0.02	<0.02	0.0140	0.00800	0.04	0.0141	0.0141	0.0140	3	0.0140	0.0141	0.0001	0.0141	0.0141	0.0001	0%	0%	1%
Lithium, total	mg/L	<0.02	<0.02	0.0180	0.00800	0.04	0.0141	0.0141	0.0180	3	0.0141	0.0180	0.0039	0.0154	0.0141	0.0022	0%	0%	24%
Magnesium, dissolved	mg/L	5.5000	5.5000	5.8000	0.20000	1.0	5.5000	5.5000	5.8000	3	5.5000	5.8000	0.3000	5.6000	5.5000	0.1732	0%	0%	5%
Magnesium, total	mg/L	5.4000	5.7000	5.9000	0.20000	1.0	5.4000	5.7000	5.9000	3	5.4000	5.9000	0.5000	5.6667	5.7000	0.2517	5%	0%	3%
Manganese, dissolved	mg/L	0.0010	0.0064	0.0032	0.00050	0.0025	0.0010	0.0064	0.0032	3	0.0010	0.0064	0.0054	0.0035	0.0032	0.0027	105%	67%	0%
Manganese, total	mg/L	0.0029	0.0100	0.0070	0.00050	0.0025	0.0029	0.0100	0.0070	3	0.0029	0.0100	0.0071	0.0066	0.0070	0.0036	83%	35%	0%
Mercury, dissolved	ng/L	1.3000	1.1000	1.2000	0.20000	1.0	1.3000	1.1000	1.2000	3	1.1000	1.3000	0.2000	1.2000	1.2000	0.1000	8%	9%	0%
Mercury, total	ng/L	1.6000	2.4000	2.7000	0.40000	2.0	1.6000	2.4000	2.7000	3	1.6000	2.7000	1.1000	2.2333	2.4000	0.5686	40%	0%	12%
Molybdenum, dissolved	mg/L	0.0035	0.0036	0.0045	0.00050	0.0025	0.0035	0.0036	0.0045	3	0.0035	0.0045	0.0010	0.0039	0.0036	0.0006	3%	0%	22%
Molybdenum, total	mg/L	0.0035	0.0037	0.0042	0.00050	0.0025	0.0035	0.0037	0.0042	3	0.0035	0.0042	0.0007	0.0038	0.0037	0.0004	6%	0%	13%
Nickel, dissolved	mg/L	0.0006	0.0006	0.0006	0.00060	0.0030	0.0006	0.0006	0.0006	3	0.0006	0.0006	0.0000	0.0006	0.0006	0.0000	0%	0%	0%
Nickel, total	mg/L	0.0008	0.0008	0.0008	0.00060	0.0030	0.0008	0.0008	0.0008	3	0.0008	0.0008	0.0000	0.0008	0.0008	0.0000	0%	0%	0%
Potassium, dissolved	mg/L	3.4000	3.5000	3.8000	0.20000	1.0	3.4000	3.5000	3.8000	3	3.4000	3.8000	0.4000	3.5667	3.5000	0.2082	3%	0%	8%
Potassium, total	mg/L	3.3000	3.7000	3.8000	0.20000	1.0	3.3000	3.7000	3.8000	3	3.3000	3.8000	0.5000	3.6000	3.7000	0.2646	11%	0%	3%
Scandium, dissolved	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Scandium, total	mg/L	<0.1	<0.1	<0.1	0.10000	0.5	0.0707	0.0707	0.0707	3	0.0707	0.0707	0.0000	0.0707	0.0707	0.0000	0%	0%	0%
Selenium, dissolved	mg/L	0.0002	0.0003	0.0003	0.00010	0.0005	0.0002	0.0003	0.0003	3	0.0002	0.0003	0.0001	0.0003	0.0003	0.0001	40%	0%	0%
Selenium, total	mg/L	0.0003	0.0003	0.0003	0.00010	0.0005	0.0003	0.0003	0.0003	3	0.0003	0.0003	0.0000	0.0003	0.0003	0.0000	0%	0%	0%
Silver, dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Silver, total	mg/L	<0.00005	<0.00005	<0.00005	0.00005	0.00025	0.0000	0.0000	0.0000	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0%	0%	0%
Sodium, dissolved	mg/L	27.0000	28.6000	34.5000	0.20000	1	27.0000	28.6000	34.5000	3	27.0000	34.5000	7.5000	30.0333	28.6000	3.9501	6%	0%	19%
Sodium, total	mg/L	26.3000	28.6000	34.1000	0.20000	1	26.3000	28.6000	34.1000	3	26.3000	34.1000	7.8000	29.6667	28.6000	4.0079	8%	0%	18%
Strontium, dissolved	mg/L	0.1000	0.1000	0.1010	0.00500	0.03	0.1000	0.1000	0.1010	3	0.1000	0.1010	0.0010	0.1003	0.1000	0.0006	0%	0%	1%
Strontium, total	mg/L	0.1000	0.1000	0.1030	0.00500	0.03	0.1000	0.1000	0.1030	3	0.1000	0.1030	0.0030	0.1010	0.1000	0.0017	0%	0%	3%
Thallium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Thallium, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Tin, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Tin, total	mg/L	<0.0001	<0.0001	<0.0001	0.00010	0.0005	0.0001	0.0001	0.0001	3	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0%	0%	0%
Titanium, dissolved	mg/L	<0.005	<0.005	<0.005	0.00500	0.025	0.0035	0.0035	0.0035	3	0.0035	0.0035	0.0000	0.0035	0.0035	0.0000	0%	0%	0%
Titanium, total	mg/L	0.0070	0.0140	0.0230	0.00500	0.025	0.0070	0.0140	0.0230	3	0.0070	0.0230	0.0160	0.0147	0.0140	0.0080	67%	0%	49%
Uranium, dissolved	mg/L	0.0014	0.0016	0.0017	0.00010	0.0005	0.0014	0.0016	0.0017	3	0.0014	0.0017	0.0003	0.0016	0.0016	0.0002	13%	0%	6%
Uranium, total	mg/L	0.0015	0.0015	0.0017	0.00010	0.0005	0.0015	0.0015	0.0017	3	0.0015	0.0017	0.0002	0.0016	0.0015	0.0001	0%	0%	13%
Vanadium, dissolved	mg/L	0.0037	0.0043	0.0048	0.00020	0.0010	0.0037	0.0043	0.0048	3	0.0037	0.0048	0.0011	0.0043	0.0043	0.0006	15%	0%	11%
Vanadium, total	mg/L	0.0050	0.0052	0.0055	0.00020	0.0010	0.0050	0.0052	0.0055	3	0.0050	0.0055	0.0005	0.0052	0.0052	0.0003	4%	0%	6%
Zinc, dissolved	mg/L	<0.01	<0.01	<0.01	0.01000	0.05	0.0071	0.0071	0.0071	3	0.0071	0.0071	0.0000	0.0071	0.0071	0.0000	0%	0%	0%
Zinc, total	mg/L	<0.01	<0.01	<0.01	0.01000	0.05	0.0071	0.0071	0.0071	3	0.0071	0.0071	0.0000	0.0071	0.0071	0.0000	0%	0%	0%
Hardness as CaCO3	mg/L	74.0000	74.0000	78.0000	0.80000	4	74.0000	74.0000	78.0000	3	74.0000	78.0000	4.0000	75.3333	74.0000	2.3094	0%	0%	5%
Nitrogen, ammonia	mg/L	<0.05	<0.05	<0.05	0.05000	0.25	0.0354	0.0354	0.0354	3	0.0354	0.0354	0.0000	0.0354	0.0354	0.0000	0%	0%	0%
Phosphorus, total	mg/L	0.0200	0.0200	0.0200	0.01000	0.05	0.0200	0.0200	0.0200	3	0.0200	0.0200	0.0000	0.0200	0.0200	0.0000	0%	0%	0%
Bicarbonate as CaCO3	mg/L	90.0000	90.0000	81.0000	2.00000	10	90.0000	90.0000	81.0000	3	81.0000	90.0000	9.0000	87.0000	90.0000	5.1962	0%	0%	11%
Carbonate as CaCO3	mg/L	5.0000	9.0000	6.0000	2.00000	10	5.0000	9.0000	6.0000	3	5.0000	9.0000	4.0000	6.6667	6.0000	2.0817	18%	40%	0%
Chloride	mg/L	8.6000	8.5600	10.0000	0.50000	2.5	8.6000	8.5600	10.0000	3	8.5600	10.0000	1.4400	9.0533	8.6000	0.8201	0%	0%	15%
Conductivity @25C	umhos/cm	264.0000	277.0000	304.0000	1.00000	5	264.0000	277.0000	304.0000	3	264.0000	304.0000	40.0000	281.6667	277.0000	20.4042	5%	0%	9%
Cyanide, total	mg/L	<0.003	<0.003	<0.003	0.00300	0.015	0.0021	0.0021	0.0021	3	0.0021	0.0021	0.0000	0.0021	0.0021	0.0000	0%	0%	0%
Cyanide, WAD	mg/L	<0.003	<0.003	<0.003	0.00300	0.015	0.0021	0.0021	0.0021	3	0.0021	0.0021	0.0000	0.0021	0.0021	0.0000	0%	0%	0%
Fluoride	mg/L	1.1800	1.2000	1.4900	0.05000	0.25	1.1800	1.2000	1.4900	3	1.1800	1.4900	0.3100	1.2900	1.2000	0.1735	2%	0%	22%
Hydroxide as CaCO3	mg/L	<2	<2	<2	2.00000	10	1.4142	1.4142	1.4142	3	1.4142	1.4142	0.0000	1.4142	1.4142	0.0000	0%	0%	0%
Nitrate as N, dissolved	mg/L	<0.02	<ND>	<ND>	0.02000	0.10	0.0141	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrate/Nitrite as N, dissolved	mg/L	<0.02	<ND>	<ND>	0.02000	0.10	0.0141	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrate/Nitrite as N	<ND>	<ND>	0.1100	0.0600	0.02000	0.10	<ND>	0.1100	0.0600	2	LD	LD	LD	LD	LD	LD	LD	LD	LD
Nitrite as N, dissolved	mg/L	<0.01	<ND>	<ND>	0.01000	0.05	0.0071	<ND>	<ND>	1	LD	LD	LD	LD	LD	LD	LD	LD	LD
pH	units	8.4000	8.6000	8.6000	0.10000	0.5	8.4000	8.6000	8.6000	3	8.4000	8.6000	0.2000	8.5333	8.6000	0.1155	2%	0%	0%
pH measured at	C	23.0000	21.0000	21.0000	0.10000	0.5	23.0000	21.0000	21.0000	3	21.0000	23.0000	2.0000	21.6667	21.0000	1.1547	9%	0%	0%
Residue, Filterable (TDS) @180C	mg/L	150.0000	180.0000	180.0000	10.00000	50	150.0000	180.0000	180.0000	3	150.0000	180.0000	30.0000	170.0000	180.0000	17.3205	18%	0%	0%
Residue, Non-Filterable (TSS) @105C	mg/L	<5	<5	<5	5.00000	25	3.5355	3.5355	3.5355	3	3.5355	3.5355	0.0000	3.5355	3.5355	0.0000	0%	0%	0%
Sulfate	mg/L	22.7000	23.3000	30.5000	0.50000	2.5	22.7000	23.3000	30.5000	3	22.7000	30.5000	7.8000	25.5000	23.3000	4.3405	3%	0%	27%
Total Alkalinity	mg/L	95.0000	100.0000	87.0000	2.00000	10	95.0000	100.0000	87.0000	3	87.0000	100.0000	13.0000	94.0000	95.0000	6.5574	0%	5%	9%

[1] If the MDL varies by sampling event, then the minimum value is reported here

[2] Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[3] Quarterly RPD compares quarterly results with the annual median value, red values are greater than or equal to 20% and the corresponding quarterly value is greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
LD = Limited Data (n < 3, i.e. two or more results are below MDL; or missing data)
RPD = Relative Percent Difference
n = number of samples

Appendix F: Quality Assurance / Quality Control Results

Q2-2013			WHISKEY SPRING				Difference[2]	RPD[3] (%)
PARAMETER	UNITS	MDL	SAMPLE	DUPLICATE	SAMPLE[1]	DUPLICATE[1]		
Aluminum, dissolved	mg/L	0.0300	<0.03	<0.03	0.0212	0.0212	0.0000	0%
Aluminum, total	mg/L	0.0300	<0.03	<0.03	0.0212	0.0212	0.0000	0%
Antimony, dissolved	mg/L	0.0004	0.0009	0.0008	0.0009	0.0008	0.0001	12%
Antimony, total	mg/L	0.0004	0.0008	0.0007	0.0008	0.0007	0.0001	13%
Arsenic, dissolved	mg/L	0.0002	0.0898	0.0889	0.0898	0.0889	0.0009	1%
Arsenic, total	mg/L	0.0002	0.0846	0.0821	0.0846	0.0821	0.0025	3%
Barium, dissolved	mg/L	0.0030	0.0450	0.0460	0.0450	0.0460	0.0010	2%
Barium, total	mg/L	0.0030	0.0460	0.0470	0.0460	0.0470	0.0010	2%
Beryllium, dissolved	mg/L	0.0001	<0.00005	<0.00005	0.0000	0.0000	0.0000	0%
Beryllium, total	mg/L	0.0001	<0.00005	<0.00005	0.0000	0.0000	0.0000	0%
Bicarbonate as CaCO3	mg/L	2.0000	137.0000	136.0000	137.0000	136.0000	1.0000	1%
Bismuth, dissolved	mg/L	0.0400	<0.04	<0.04	0.0283	0.0283	0.0000	0%
Bismuth, total	mg/L	0.0400	<0.04	<0.04	0.0283	0.0283	0.0000	0%
Boron, dissolved	mg/L	0.0100	0.1700	0.1800	0.1700	0.1800	0.0100	6%
Boron, total	mg/L	0.0100	0.1800	0.1800	0.1800	0.1800	0.0000	0%
Cadmium, dissolved	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Cadmium, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Calcium, dissolved	mg/L	0.2000	37.2000	37.2000	37.2000	37.2000	0.0000	0%
Calcium, total	mg/L	0.2000	37.2000	36.8000	37.2000	36.8000	0.4000	1%
Carbonate as CaCO3	mg/L	2.0000	<2	<2	1.4142	1.4142	0.0000	0%
Chloride	mg/L	1.0000	7.4600	7.2300	7.4600	7.2300	0.2300	3%
Chromium, dissolved	mg/L	0.0005	<0.0005	<0.0005	0.0004	0.0004	0.0000	0%
Chromium, total	mg/L	0.0005	<0.0005	<0.0005	0.0004	0.0004	0.0000	0%
Cobalt, dissolved	mg/L	0.0001	0.0005	0.0002	0.0005	0.0002	0.0003	79%
Cobalt, total	mg/L	0.0001	<0.00005	<0.00005	0.0000	0.0000	0.0000	0%
Conductivity @25C	umhos/cm	1.0000	546.0000	542.0000	546.0000	542.0000	4.0000	1%
Copper, dissolved	mg/L	0.0005	0.0017	0.0017	0.0017	0.0017	0.0000	0%
Copper, total	mg/L	0.0005	<0.0005	<0.0005	0.0004	0.0004	0.0000	0%
Cyanide, total	mg/L	0.0030	<0.003	<0.003	0.0021	0.0021	0.0000	0%
Cyanide, WAD	mg/L	0.0030	<0.003	<0.003	0.0021	0.0021	0.0000	0%
Fluoride	mg/L	0.2000	0.7300	0.7100	0.7300	0.7100	0.0200	3%
Gallium, dissolved	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Gallium, total	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Hardness as CaCO3	mg/L	1.0000	118.0000	118.0000	118.0000	118.0000	0.0000	0%
Hydroxide as CaCO3	mg/L	2.0000	<2	<2	1.4142	1.4142	0.0000	0%
Iron, dissolved	mg/L	0.0200	0.0200	<0.02	0.0200	0.0141	0.0059	34%
Iron, total	mg/L	0.0200	<0.02	<0.02	0.0141	0.0141	0.0000	0%
Lead, dissolved	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Lead, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Lithium, dissolved	mg/L	0.0200	0.1100	0.1100	0.1100	0.1100	0.0000	0%
Lithium, total	mg/L	0.0200	0.1100	0.1000	0.1100	0.1000	0.0100	10%
Magnesium, dissolved	mg/L	0.2000	6.2000	6.2000	6.2000	6.2000	0.0000	0%
Magnesium, total	mg/L	0.2000	6.1000	6.1000	6.1000	6.1000	0.0000	0%
Manganese, dissolved	mg/L	0.0005	<0.0005	<0.0005	0.0004	0.0004	0.0000	0%
Manganese, total	mg/L	0.0005	<0.0005	<0.0005	0.0004	0.0004	0.0000	0%
Mercury, dissolved	ng/L	0.2000	0.4000	0.4000	0.4000	0.4000	0.0000	0%
Mercury, total	ng/L	0.2000	0.4000	0.3000	0.4000	0.3000	0.1000	29%
Molybdenum, dissolved	mg/L	0.0005	0.0210	0.0214	0.0210	0.0214	0.0004	2%
Molybdenum, total	mg/L	0.0005	0.0212	0.0210	0.0212	0.0210	0.0002	1%
Nickel, dissolved	mg/L	0.0006	<0.0006	<0.0006	0.0004	0.0004	0.0000	0%
Nickel, total	mg/L	0.0006	<0.0006	<0.0006	0.0004	0.0004	0.0000	0%
Nitrate as N, dissolved	mg/L	0.0200	0.0500	0.0600	0.0500	0.0600	0.0100	18%
Nitrate/Nitrite as N	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrate/Nitrite as N, dissolved	mg/L	0.0200	0.0500	0.0600	0.0500	0.0600	0.0100	18%

Q2-2013			WHISKEY SPRING				Difference[2]	RPD[3] (%)
PARAMETER	UNITS	MDL	SAMPLE	DUPLICATE	SAMPLE[1]	DUPLICATE[1]		
Nitrite as N, dissolved	mg/L	0.0100	<0.01	<0.01	0.0071	0.0071	0.0000	0%
Nitrogen, ammonia	mg/L	0.0500	<0.05	<0.05	0.0354	0.0354	0.0000	0%
pH	units	0.1000	8.2000	8.2000	8.2000	8.2000	0.0000	0%
pH measured at	C	0.1000	23.0000	22.0000	23.0000	22.0000	1.0000	4%
Phosphorus, total	mg/L	0.0100	0.0400	0.0500	0.0400	0.0500	0.0100	22%
Potassium, dissolved	mg/L	0.3000	6.0000	6.0000	6.0000	6.0000	0.0000	0%
Potassium, total	mg/L	0.3000	5.9000	5.8000	5.9000	5.8000	0.1000	2%
Residue, Filterable (TDS) @180C	mg/L	10.0000	400.0000	390.0000	400.0000	390.0000	10.0000	3%
Residue, Non-Filterable (TSS) @105C	mg/L	5.0000	<5	<5	3.5355	3.5355	0.0000	0%
Scandium, dissolved	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Scandium, total	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Selenium, dissolved	mg/L	0.0001	0.0022	0.0022	0.0022	0.0022	0.0000	0%
Selenium, total	mg/L	0.0001	0.0021	0.0021	0.0021	0.0021	0.0000	0%
Silver, dissolved	mg/L	0.0001	<0.00005	<0.00005	0.0000	0.0000	0.0000	0%
Silver, total	mg/L	0.0001	<0.00005	<0.00005	0.0000	0.0000	0.0000	0%
Sodium, dissolved	mg/L	0.3000	70.8000	70.6000	70.8000	70.6000	0.2000	0%
Sodium, total	mg/L	0.3000	70.7000	69.6000	70.7000	69.6000	1.1000	2%
Strontium, dissolved	mg/L	0.0100	0.1600	0.1600	0.1600	0.1600	0.0000	0%
Strontium, total	mg/L	0.0100	0.1600	0.1600	0.1600	0.1600	0.0000	0%
Sulfate	mg/L	1.0000	137.0000	133.0000	137.0000	133.0000	4.0000	3%
Thallium, dissolved	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Thallium, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Tin, dissolved	mg/L	0.0001	0.0001	<0.0001	0.0001	0.0001	0.0000	34%
Tin, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Titanium, dissolved	mg/L	0.0050	<0.005	<0.005	0.0035	0.0035	0.0000	0%
Titanium, total	mg/L	0.0050	<0.005	<0.005	0.0035	0.0035	0.0000	0%
Total Alkalinity	mg/L	2.0000	137.0000	136.0000	137.0000	136.0000	1.0000	1%
Uranium, dissolved	mg/L	0.0001	0.0054	0.0055	0.0054	0.0055	0.0001	2%
Uranium, total	mg/L	0.0001	0.0055	0.0054	0.0055	0.0054	0.0001	2%
Vanadium, dissolved	mg/L	0.0002	0.0215	0.0206	0.0215	0.0206	0.0009	4%
Vanadium, total	mg/L	0.0002	0.0217	0.0215	0.0217	0.0215	0.0002	1%
Zinc, dissolved	mg/L	0.0100	<0.01	<0.01	0.0071	0.0071	0.0000	0%
Zinc, total	mg/L	0.0100	<0.01	<0.01	0.0071	0.0071	0.0000	0%

[1]Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[2]Arithmetic difference between sample and duplicate

[3]RPD compares sample and duplicate, red values are greater than or equal to 20% and the sample and/or duplicate results are greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
RPD = Relative Percent Difference

Q2-2013			DI WATER	EQUIPMENT		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Aluminum, dissolved	mg/L	0.0300	0.02121	<0.03	0.02121	0.00	0%
Aluminum, total	mg/L	0.0300	0.02121	<0.03	0.02121	0.00	0%
Antimony, dissolved	mg/L	0.0004	0.00028	<0.0004	0.00028	0.00	0%
Antimony, total	mg/L	0.0004	0.00028	<0.0004	0.00028	0.00	0%
Arsenic, dissolved	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Arsenic, total	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Barium, dissolved	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Barium, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Beryllium, dissolved	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Beryllium, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Bicarbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Bismuth, dissolved	mg/L	0.0400	0.02828	<0.04	0.02828	0.00	0%
Bismuth, total	mg/L	0.0400	0.02828	<0.04	0.02828	0.00	0%
Boron, dissolved	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Boron, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Cadmium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Cadmium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Calcium, dissolved	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Calcium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Carbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Chloride	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Chromium, dissolved	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Chromium, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cobalt, dissolved	mg/L	0.0001	0.00004	0.00007	0.00007	0.00	66%
Cobalt, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Conductivity @25C	umhos/cm	1.0000	0.70711	<1	0.70711	0.00	0%
Copper, dissolved	mg/L	0.0005	0.00035	0.00	0.00070	0.00	66%
Copper, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cyanide, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Cyanide, WAD	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Fluoride	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Gallium, dissolved	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Gallium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Hardness as CaCO3	mg/L	1.0000	0.70711	<1	0.70711	0.00	0%
Hydroxide as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Iron, dissolved	mg/L	0.0200	0.01414	0.02	0.02000	0.01	34%
Iron, total	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Lead, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Lead, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Lithium, dissolved	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Lithium, total	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Magnesium, dissolved	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Magnesium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Manganese, dissolved	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Manganese, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Mercury, dissolved	ng/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Mercury, total	ng/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Molybdenum, dissolved	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Molybdenum, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Nickel, dissolved	mg/L	0.0006	0.00042	<0.0006	0.00042	0.00	0%
Nickel, total	mg/L	0.0006	0.00042	<0.0006	0.00042	0.00	0%
Nitrate/Nitrite as N	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrogen, ammonia	mg/L	0.0500	0.03536	<0.05	0.03536	0.00	0%
Phosphorus, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Potassium, dissolved	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Potassium, total	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Residue, Filterable (TDS) @180C	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>

Q2-2013			DI WATER	EQUIPMENT		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Residue, Non-Filterable (TSS) @105C	mg/L	5.0000	3.53553	<5	3.53553	0.00	0%
Scandium, dissolved	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Scandium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Selenium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Selenium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Silver, dissolved	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Silver, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Sodium, dissolved	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Sodium, total	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Strontium, dissolved	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Strontium, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Sulfate	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Thallium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Thallium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Tin, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Tin, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Titanium, dissolved	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%
Titanium, total	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%
Total Alkalinity	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Uranium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Uranium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Vanadium, dissolved	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Vanadium, total	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Zinc, dissolved	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Zinc, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%

[1]DI water assumed to have values below laboratory minimum detection limit; estimated values were generated by dividing the MDL by √2

[2]Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[3]Arithmetic difference between estimated DI water value and blank value

[4]RPD compares blank value and estimated DI water value, red values are greater than or equal to 20% and the blank results are greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
RPD = Relative Percent Difference
NA = Not Applicable

Q2-2013			DI WATER	TRANSFER		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Aluminum, total	mg/L	0.0300	0.02121	<0.03	0.02121	0.00	0%
Antimony, total	mg/L	0.0004	0.00028	<0.0004	0.00028	0.00	0%
Arsenic, total	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Barium, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Beryllium, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Bicarbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Bismuth, total	mg/L	0.0400	0.02828	<0.04	0.02828	0.00	0%
Boron, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Cadmium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Calcium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Carbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Chloride	mg/L	0.5000	0.35355	<0.5	0.35355	0.00	0%
Chromium, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cobalt, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Conductivity @25C	umhos/cm	1.0000	0.70711	<1	0.70711	0.00	0%
Copper, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cyanide, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Cyanide, WAD	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Fluoride	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Gallium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Hardness as CaCO3	mg/L	1.0000	0.70711	<1	0.70711	0.00	0%
Hydroxide as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Iron, total	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Lead, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Lithium, total	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Magnesium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Manganese, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Mercury, total	ng/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Molybdenum, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Nickel, total	mg/L	0.0006	0.00042	<0.0006	0.00042	0.00	0%
Nitrate as N, dissolved	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Nitrate/Nitrite as N	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrate/Nitrite as N, dissolved	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Nitrite as N, dissolved	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Nitrogen, ammonia	mg/L	0.0500	0.03536	0.09	0.09000	0.05	87%
Phosphorus, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Potassium, total	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Residue, Filterable (TDS) @180C	mg/L	10.0000	7.07107	<10	7.07107	0.00	0%
Residue, Non-Filterable (TSS) @105C	mg/L	5.0000	3.53553	<5	3.53553	0.00	0%
Scandium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Selenium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Silver, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Sodium, total	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Strontium, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%

Q2-2013			DI WATER	TRANSFER		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Sulfate	mg/L	0.5000	0.35355	<0.5	0.35355	0.00	0%
Thallium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Tin, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Titanium, total	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%
Total Alkalinity	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Uranium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Vanadium, total	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Zinc, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%

[1]DI water assumed to have values below laboratory minimum detection limit; estimated values were generated by dividing the MDL by √2

[2]Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[3]Arithmetic difference between estimated DI water value and blank value

[4]RPD compares blank value and estimated DI water value, red values are greater than or equal to 20% and the blank results are greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
RPD = Relative Percent Difference
NA = Not Applicable

Q4-2013			SAGEBRUSH SPRING				Difference[2]	RPD[3] (%)
PARAMETER	UNITS	MDL	SAMPLE	DUPLICATE	SAMPLE[1]	DUPLICATE[1]		
Aluminum, dissolved	mg/L	0.0300	<0.03	<0.03	0.0212	0.0212	0.0000	0%
Aluminum, total	mg/L	0.0300	<0.03	<0.03	0.0212	0.0212	0.0000	0%
Antimony, dissolved	mg/L	0.0004	<0.0004	<0.0004	0.0003	0.0003	0.0000	0%
Antimony, total	mg/L	0.0004	<0.0004	<0.0004	0.0003	0.0003	0.0000	0%
Arsenic, dissolved	mg/L	0.0002	0.0072	0.0072	0.0072	0.0072	0.0000	0%
Arsenic, total	mg/L	0.0002	0.0079	0.0077	0.0079	0.0077	0.0002	3%
Barium, dissolved	mg/L	0.0030	0.0040	0.0040	0.0040	0.0040	0.0000	0%
Barium, total	mg/L	0.0030	0.0040	0.0040	0.0040	0.0040	0.0000	0%
Beryllium, dissolved	mg/L	0.0001	<0.00005	<0.00005	0.0000	0.0000	0.0000	0%
Beryllium, total	mg/L	0.0001	<0.00005	<0.00005	0.0000	0.0000	0.0000	0%
Bicarbonate as CaCO3	mg/L	2.0000	157.0000	158.0000	157.0000	158.0000	1.0000	1%
Bismuth, dissolved	mg/L	0.0400	<0.04	<0.04	0.0283	0.0283	0.0000	0%
Bismuth, total	mg/L	0.0400	<0.04	<0.04	0.0283	0.0283	0.0000	0%
Boron, dissolved	mg/L	0.0100	0.0600	0.0600	0.0600	0.0600	0.0000	0%
Boron, total	mg/L	0.0100	0.0600	0.0600	0.0600	0.0600	0.0000	0%
Cadmium, dissolved	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Cadmium, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Calcium, dissolved	mg/L	0.2000	47.0000	46.6000	47.0000	46.6000	0.4000	1%
Calcium, total	mg/L	0.2000	46.6000	45.9000	46.6000	45.9000	0.7000	2%
Carbonate as CaCO3	mg/L	2.0000	<2	<2	1.4142	1.4142	0.0000	0%
Chloride	mg/L	0.5000	10.6000	10.6000	10.6000	10.6000	0.0000	0%
Chromium, dissolved	mg/L	0.0005	0.0010	0.0011	0.0010	0.0011	0.0001	10%
Chromium, total	mg/L	0.0005	0.0011	0.0011	0.0011	0.0011	0.0000	0%
Cobalt, dissolved	mg/L	0.0001	0.0005	0.0002	0.0005	0.0002	0.0003	102%
Cobalt, total	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0%
Conductivity @25C	umhos/cm	1.0000	389.0000	385.0000	389.0000	385.0000	4.0000	1%
Copper, dissolved	mg/L	0.0005	<0.0005	<0.0005	0.0004	0.0004	0.0000	0%
Copper, total	mg/L	0.0005	<0.0005	<0.0005	0.0004	0.0004	0.0000	0%
Cyanide, total	mg/L	0.0030	<0.003	<0.003	0.0021	0.0021	0.0000	0%
Cyanide, WAD	mg/L	0.0030	<0.003	<0.003	0.0021	0.0021	0.0000	0%
Fluoride	mg/L	0.1000	0.3600	0.3600	0.3600	0.3600	0.0000	0%
Gallium, dissolved	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Gallium, total	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Hardness as CaCO3	mg/L	1.0000	159.0000	158.0000	159.0000	158.0000	1.0000	1%
Hydroxide as CaCO3	mg/L	2.0000	<2	<2	1.4142	1.4142	0.0000	0%
Iron, dissolved	mg/L	0.0200	<0.02	<0.02	0.0141	0.0141	0.0000	0%
Iron, total	mg/L	0.0200	<0.02	<0.02	0.0141	0.0141	0.0000	0%
Lead, dissolved	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Lead, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Lithium, dissolved	mg/L	0.0200	0.0200	0.0200	0.0200	0.0200	0.0000	0%
Lithium, total	mg/L	0.0200	<0.02	<0.02	0.0141	0.0141	0.0000	0%
Magnesium, dissolved	mg/L	0.2000	10.1000	10.1000	10.1000	10.1000	0.0000	0%
Magnesium, total	mg/L	0.2000	10.0000	9.9000	10.0000	9.9000	0.1000	1%
Manganese, dissolved	mg/L	0.0005	0.0008	<0.0005	0.0008	0.0004	0.0004	77%
Manganese, total	mg/L	0.0005	<0.0005	<0.0005	0.0004	0.0004	0.0000	0%
Mercury, dissolved	ng/L	0.2000	<0.2	<0.2	0.1414	0.1414	0.0000	0%
Mercury, total	ng/L	0.2000	<0.2	<0.2	0.1414	0.1414	0.0000	0%
Molybdenum, dissolved	mg/L	0.0005	0.0018	0.0018	0.0018	0.0018	0.0000	0%
Molybdenum, total	mg/L	0.0005	0.0018	0.0019	0.0018	0.0019	0.0001	5%
Nickel, dissolved	mg/L	0.0006	<0.0006	<0.0006	0.0004	0.0004	0.0000	0%
Nickel, total	mg/L	0.0006	<0.0006	<0.0006	0.0004	0.0004	0.0000	0%
Nitrate as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrate/Nitrite as N	mg/L	0.0200	3.0900	3.0800	3.0900	3.0800	0.0100	0%
Nitrate/Nitrite as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>

Q4-2013			SAGEBRUSH SPRING				Difference[2]	RPD[3] (%)
PARAMETER	UNITS	MDL	SAMPLE	DUPLICATE	SAMPLE[1]	DUPLICATE[1]		
Nitrite as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrogen, ammonia	mg/L	0.0500	<0.05	<0.05	0.0354	0.0354	0.0000	0%
pH	units	0.1000	8.2000	8.2000	8.2000	8.2000	0.0000	0%
pH measured at	C	0.1000	22.0000	21.0000	22.0000	21.0000	1.0000	5%
Phosphorus, total	mg/L	0.0100	0.0200	0.0100	0.0200	0.0100	0.0100	67%
Potassium, dissolved	mg/L	0.3000	5.1000	5.0000	5.1000	5.0000	0.1000	2%
Potassium, total	mg/L	0.3000	5.1000	5.0000	5.1000	5.0000	0.1000	2%
Residue, Filterable (TDS) @180C	mg/L	10.0000	270.0000	270.0000	270.0000	270.0000	0.0000	0%
Residue, Non-Filterable (TSS) @105C	mg/L	5.0000	<5	<5	3.5355	3.5355	0.0000	0%
Scandium, dissolved	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Scandium, total	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Selenium, dissolved	mg/L	0.0001	0.0011	0.0011	0.0011	0.0011	0.0000	0%
Selenium, total	mg/L	0.0001	0.0011	0.0011	0.0011	0.0011	0.0000	0%
Silver, dissolved	mg/L	0.0001	<0.00005	<0.00005	0.0000	0.0000	0.0000	0%
Silver, total	mg/L	0.0001	<0.00005	<0.00005	0.0000	0.0000	0.0000	0%
Sodium, dissolved	mg/L	0.3000	20.5000	20.4000	20.5000	20.4000	0.1000	0%
Sodium, total	mg/L	0.3000	20.3000	20.0000	20.3000	20.0000	0.3000	1%
Strontium, dissolved	mg/L	0.0100	0.2100	0.2100	0.2100	0.2100	0.0000	0%
Strontium, total	mg/L	0.0100	0.2100	0.2000	0.2100	0.2000	0.0100	5%
Sulfate	mg/L	0.5000	17.9000	18.0000	17.9000	18.0000	0.1000	1%
Thallium, dissolved	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Thallium, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Tin, dissolved	mg/L	0.0001	0.0002	0.0001	0.0002	0.0001	0.0001	67%
Tin, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Titanium, dissolved	mg/L	0.0050	<0.005	<0.005	0.0035	0.0035	0.0000	0%
Titanium, total	mg/L	0.0050	<0.005	<0.005	0.0035	0.0035	0.0000	0%
Total Alkalinity	mg/L	2.0000	157.0000	158.0000	157.0000	158.0000	1.0000	1%
Uranium, dissolved	mg/L	0.0001	0.0038	0.0038	0.0038	0.0038	0.0000	0%
Uranium, total	mg/L	0.0001	0.0040	0.0039	0.0040	0.0039	0.0001	3%
Vanadium, dissolved	mg/L	0.0002	0.0205	0.0202	0.0205	0.0202	0.0003	1%
Vanadium, total	mg/L	0.0002	0.0211	0.0209	0.0211	0.0209	0.0002	1%
Zinc, dissolved	mg/L	0.0100	0.0200	0.0200	0.0200	0.0200	0.0000	0%
Zinc, total	mg/L	0.0100	0.0100	0.0200	0.0100	0.0200	0.0100	67%

[1]Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[2]Arithmetic difference between sample and duplicate

[3]RPD compares sample and duplicate, red values are greater than or equal to 20% and the sample and/or duplicate results are greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
RPD = Relative Percent Difference

Q4-2013			DI WATER	EQUIPMENT		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Aluminum, dissolved	mg/L	0.0300	0.02121	<0.03	0.02121	0.00	0%
Aluminum, total	mg/L	0.0300	0.02121	<0.03	0.02121	0.00	0%
Antimony, dissolved	mg/L	0.0004	0.00028	<0.0004	0.00028	0.00	0%
Antimony, total	mg/L	0.0004	0.00028	<0.0004	0.00028	0.00	0%
Arsenic, dissolved	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Arsenic, total	mg/L	0.0002	0.00014	0.0004	0.0004	0.00	96%
Barium, dissolved	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Barium, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Beryllium, dissolved	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Beryllium, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Bicarbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Bismuth, dissolved	mg/L	0.0400	0.02828	<0.04	0.02828	0.00	0%
Bismuth, total	mg/L	0.0400	0.02828	<0.04	0.02828	0.00	0%
Boron, dissolved	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Boron, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Cadmium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Cadmium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Calcium, dissolved	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Calcium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Carbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Chloride	mg/L	0.5000	0.35355	<0.5	0.35355	0.00	0%
Chromium, dissolved	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Chromium, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cobalt, dissolved	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Cobalt, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Conductivity @25C	umhos/cm	1.0000	0.70711	1.00	1.00000	0.29	34%
Copper, dissolved	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Copper, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cyanide, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Cyanide, WAD	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Fluoride	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Gallium, dissolved	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Gallium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Hardness as CaCO3	mg/L	1.0000	0.70711	<1	0.70711	0.00	0%
Hydroxide as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Iron, dissolved	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Iron, total	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Lead, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Lead, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Lithium, dissolved	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Lithium, total	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Magnesium, dissolved	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Magnesium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Manganese, dissolved	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Manganese, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Mercury, dissolved	ng/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Mercury, total	ng/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Molybdenum, dissolved	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Molybdenum, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Nickel, dissolved	mg/L	0.0006	0.00042	<0.0006	0.00042	0.00	0%
Nickel, total	mg/L	0.0006	0.00042	<0.0006	0.00042	0.00	0%
Nitrate/Nitrite as N	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Nitrogen, ammonia	mg/L	0.0500	0.03536	<0.05	0.03536	0.00	0%
Phosphorus, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Potassium, dissolved	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Potassium, total	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Residue, Filterable (TDS) @180C	mg/L	10.0000	7.07107	<10	7.07107	0.00	0%

Q4-2013			DI WATER	EQUIPMENT		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Residue, Non-Filterable (TSS) @105C	mg/L	5.0000	3.53553	<5	3.53553	0.00	0%
Scandium, dissolved	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Scandium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Selenium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Selenium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Silver, dissolved	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Silver, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Sodium, dissolved	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Sodium, total	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Strontium, dissolved	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Strontium, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Sulfate	mg/L	0.5000	0.35355	<0.5	0.35355	0.00	0%
Thallium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Thallium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Tin, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Tin, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Titanium, dissolved	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%
Titanium, total	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%
Total Alkalinity	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Uranium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Uranium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Vanadium, dissolved	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Vanadium, total	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Zinc, dissolved	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Zinc, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%

[1]DI water assumed to have values below laboratory minimum detection limit; estimated values were generated by dividing the MDL by √2

[2]Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[3]Arithmetic difference between estimated DI water value and blank value

[4]RPD compares blank value and estimated DI water value, red values are greater than or equal to 20% and the blank results are greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
RPD = Relative Percent Difference
NA = Not Applicable

Q4-2013			DI WATER	TRANSFER		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Aluminum, total	mg/L	0.0300	0.02121	<0.03	0.02121	0.00	0%
Antimony, total	mg/L	0.0004	0.00028	<0.0004	0.00028	0.00	0%
Arsenic, total	mg/L	0.0002	0.00014	0.0007	0.00070	0.00	133%
Barium, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Beryllium, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Bicarbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Bismuth, total	mg/L	0.0400	0.02828	<0.04	0.02828	0.00	0%
Boron, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Cadmium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Calcium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Carbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Chloride	mg/L	0.5000	0.35355	<0.5	0.35355	0.00	0%
Chromium, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cobalt, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Conductivity @25C	umhos/cm	1.0000	0.70711	<1	0.70711	0.00	0%
Copper, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cyanide, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Cyanide, WAD	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Fluoride	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Gallium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Hardness as CaCO3	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Hydroxide as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Iron, total	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Lead, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Lithium, total	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Magnesium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Manganese, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Mercury, total	ng/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Molybdenum, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Nickel, total	mg/L	0.0006	0.00042	<0.0006	0.00042	0.00	0%
Nitrate as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrate/Nitrite as N	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Nitrate/Nitrite as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrite as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrogen, ammonia	mg/L	0.0500	0.03536	<0.05	0.03536	0.00	0%
Phosphorus, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Potassium, total	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Residue, Filterable (TDS) @180C	mg/L	10.0000	7.07107	<10	7.07107	0.00	0%
Residue, Non-Filterable (TSS) @105C	mg/L	5.0000	3.53553	<5	3.53553	0.00	0%
Scandium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Selenium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Silver, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Sodium, total	mg/L	0.3000	0.21213	<0.3	0.21213	0.00	0%
Strontium, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%

Q4-2013			DI WATER	TRANSFER		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Sulfate	mg/L	0.5000	0.35355	<0.5	0.35355	0.00	0%
Thallium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Tin, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Titanium, total	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%
Total Alkalinity	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Uranium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Vanadium, total	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Zinc, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%

[1]DI water assumed to have values below laboratory minimum detection limit; estimated values were generated by dividing the MDL by √2

[2]Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[3]Arithmetic difference between estimated DI water value and blank value

[4]RPD compares blank value and estimated DI water value, red values are greater than or equal to 20% and the blank results are greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
RPD = Relative Percent Difference
NA = Not Applicable

Q2-2014			Twin Springs South				Difference[2]	RPD[3] (%)
PARAMETER	UNITS	MDL	SAMPLE	DUPLICATE	SAMPLE[1]	DUPLICATE[1]		
Aluminum, dissolved	mg/L	0.0300	<0.03	<0.03	0.0212	0.0212	0.0000	0%
Aluminum, total	mg/L	0.0300	<0.03	<0.03	0.0212	0.0212	0.0000	0%
Antimony, dissolved	mg/L	0.0004	<0.0004	<0.0004	0.0003	0.0003	0.0000	0%
Antimony, total	mg/L	0.0004	<0.0004	<0.0004	0.0003	0.0003	0.0000	0%
Arsenic, dissolved	mg/L	0.0002	0.0380	0.0394	0.0380	0.0394	0.0014	4%
Arsenic, total	mg/L	0.0002	0.0409	0.0409	0.0409	0.0409	0.0000	0%
Barium, dissolved	mg/L	0.0030	0.0050	0.0050	0.0050	0.0050	0.0000	0%
Barium, total	mg/L	0.0030	0.0040	0.0030	0.0040	0.0030	0.0010	29%
Beryllium, dissolved	mg/L	0.0001	<0.00005	<0.0003	0.0000	0.0002	0.0002	143%
Beryllium, total	mg/L	0.0001	<0.00005	<0.00005	0.0000	0.0000	0.0000	0%
Bicarbonate as CaCO3	mg/L	2.0000	132.0000	133.0000	132.0000	133.0000	1.0000	1%
Bismuth, dissolved	mg/L	0.0400	<0.04	<0.04	0.0283	0.0283	0.0000	0%
Bismuth, total	mg/L	0.0400	<0.04	<0.04	0.0283	0.0283	0.0000	0%
Boron, dissolved	mg/L	0.0100	0.1100	0.1200	0.1100	0.1200	0.0100	9%
Boron, total	mg/L	0.0100	0.0900	0.0900	0.0900	0.0900	0.0000	0%
Cadmium, dissolved	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Cadmium, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Calcium, dissolved	mg/L	0.1000	26.8000	26.9000	26.8000	26.9000	0.1000	0%
Calcium, total	mg/L	0.1000	27.3000	26.7000	27.3000	26.7000	0.6000	2%
Carbonate as CaCO3	mg/L	2.0000	3.0000	<2	3.0000	1.4142	1.5858	72%
Chloride	mg/L	0.5000	10.5000	10.6000	10.5000	10.6000	0.1000	1%
Chromium, dissolved	mg/L	0.0005	0.0008	0.0008	0.0008	0.0008	0.0000	0%
Chromium, total	mg/L	0.0005	0.0009	0.0010	0.0009	0.0010	0.0001	11%
Cobalt, dissolved	mg/L	0.0001	0.0003	0.0001	0.0003	0.0001	0.0002	86%
Cobalt, total	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	13%
Conductivity @25C	umhos/cm	1.0000	456.0000	454.0000	456.0000	454.0000	2.0000	0%
Copper, dissolved	mg/L	0.0005	<0.0005	<0.0005	0.0004	0.0004	0.0000	0%
Copper, total	mg/L	0.0005	<0.0005	<0.0005	0.0004	0.0004	0.0000	0%
Cyanide, total	mg/L	0.0030	<0.003	<0.003	0.0021	0.0021	0.0000	0%
Cyanide, WAD	mg/L	0.0030	<0.003	<0.003	0.0021	0.0021	0.0000	0%
Fluoride	mg/L	0.0500	0.6200	0.6300	0.6200	0.6300	0.0100	2%
Gallium, dissolved	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Gallium, total	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Hardness as CaCO3	mg/L	0.8000	129.0000	129.0000	129.0000	129.0000	0.0000	0%
Hydroxide as CaCO3	mg/L	2.0000	<2	<2	1.4142	1.4142	0.0000	0%
Iron, dissolved	mg/L	0.0200	<0.02	<0.02	0.0141	0.0141	0.0000	0%
Iron, total	mg/L	0.0200	<0.02	<0.02	0.0141	0.0141	0.0000	0%
Lead, dissolved	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Lead, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Lithium, dissolved	mg/L	0.0080	0.0130	0.0130	0.0130	0.0130	0.0000	0%
Lithium, total	mg/L	0.0080	0.0130	0.0130	0.0130	0.0130	0.0000	0%
Magnesium, dissolved	mg/L	0.2000	15.0000	15.0000	15.0000	15.0000	0.0000	0%
Magnesium, total	mg/L	0.2000	15.2000	14.9000	15.2000	14.9000	0.3000	2%
Manganese, dissolved	mg/L	0.0005	0.0018	0.0015	0.0018	0.0015	0.0003	18%
Manganese, total	mg/L	0.0005	0.0043	0.0024	0.0043	0.0024	0.0019	57%
Mercury, dissolved	ng/L	0.2000	<0.2	<0.2	0.1414	0.1414	0.0000	0%
Mercury, total	ng/L	0.2000	<0.2	<0.2	0.1414	0.1414	0.0000	0%
Molybdenum, dissolved	mg/L	0.0030	0.0090	0.0090	0.0090	0.0090	0.0000	0%
Molybdenum, total	mg/L	0.0005	0.0093	0.0090	0.0093	0.0090	0.0003	3%
Nickel, dissolved	mg/L	0.0006	<0.0006	<0.0006	0.0004	0.0004	0.0000	0%
Nickel, total	mg/L	0.0006	<0.0006	<0.0006	0.0004	0.0004	0.0000	0%
Nitrate as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrate/Nitrite as N	mg/L	0.0200	1.9200	1.9300	1.9200	1.9300	0.0100	1%
Nitrate/Nitrite as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>

Q2-2014			Twin Springs South				Difference[2]	RPD[3] (%)
PARAMETER	UNITS	MDL	SAMPLE	DUPLICATE	SAMPLE[1]	DUPLICATE[1]		
Nitrite as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrogen, ammonia	mg/L	0.0500	<0.05	<0.05	0.0354	0.0354	0.0000	0%
pH	units	0.1000	8.3000	8.3000	8.3000	8.3000	0.0000	0%
pH measured at	C	0.1000	23.0000	22.0000	23.0000	22.0000	1.0000	4%
Phosphorus, total	mg/L	0.0100	0.0200	0.0200	0.0200	0.0200	0.0000	0%
Potassium, dissolved	mg/L	0.2000	9.0000	9.0000	9.0000	9.0000	0.0000	0%
Potassium, total	mg/L	0.2000	9.0000	8.8000	9.0000	8.8000	0.2000	2%
Residue, Filterable (TDS) @180C	mg/L	10.0000	300.0000	300.0000	300.0000	300.0000	0.0000	0%
Residue, Non-Filterable (TSS) @105C	mg/L	5.0000	<5	<5	3.5355	3.5355	0.0000	0%
Scandium, dissolved	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Scandium, total	mg/L	0.1000	<0.1	<0.1	0.0707	0.0707	0.0000	0%
Selenium, dissolved	mg/L	0.0001	0.0046	0.0046	0.0046	0.0046	0.0000	0%
Selenium, total	mg/L	0.0001	0.0042	0.0042	0.0042	0.0042	0.0000	0%
Silver, dissolved	mg/L	0.0003	<0.0003	<0.0003	0.0002	0.0002	0.0000	0%
Silver, total	mg/L	0.0001	<0.00005	<0.00005	0.0000	0.0000	0.0000	0%
Sodium, dissolved	mg/L	0.2000	42.7000	42.8000	42.7000	42.8000	0.1000	0%
Sodium, total	mg/L	0.2000	43.2000	42.2000	43.2000	42.2000	1.0000	2%
Strontium, dissolved	mg/L	0.0050	0.1500	0.1500	0.1500	0.1500	0.0000	0%
Strontium, total	mg/L	0.0050	0.1510	0.1470	0.1510	0.1470	0.0040	3%
Sulfate	mg/L	0.5000	44.0000	43.9000	44.0000	43.9000	0.1000	0%
Thallium, dissolved	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Thallium, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Tin, dissolved	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Tin, total	mg/L	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0000	0%
Titanium, dissolved	mg/L	0.0050	<0.005	<0.005	0.0035	0.0035	0.0000	0%
Titanium, total	mg/L	0.0050	<0.005	<0.005	0.0035	0.0035	0.0000	0%
Total Alkalinity	mg/L	2.0000	135.0000	135.0000	135.0000	135.0000	0.0000	0%
Uranium, dissolved	mg/L	0.0001	0.0028	0.0032	0.0028	0.0032	0.0004	13%
Uranium, total	mg/L	0.0001	0.0032	0.0032	0.0032	0.0032	0.0000	0%
Vanadium, dissolved	mg/L	0.0002	0.0416	0.0419	0.0416	0.0419	0.0003	1%
Vanadium, total	mg/L	0.0002	0.0441	0.0449	0.0441	0.0449	0.0008	2%
Zinc, dissolved	mg/L	0.0100	<0.01	<0.01	0.0071	0.0071	0.0000	0%
Zinc, total	mg/L	0.0100	<0.01	<0.01	0.0071	0.0071	0.0000	0%

[1]Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[2]Arithmetic difference between sample and duplicate

[3]RPD compares sample and duplicate, red values are greater than or equal to 20% and the sample and/or duplicate results are greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
RPD = Relative Percent Difference

Q2-2014			DI WATER	EQUIPMENT		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Aluminum, dissolved	mg/L	0.0300	0.02121	<0.03	0.02121	0.00	0%
Aluminum, total	mg/L	0.0300	0.02121	<0.03	0.02121	0.00	0%
Antimony, dissolved	mg/L	0.0004	0.00028	<0.0004	0.00028	0.00	0%
Antimony, total	mg/L	0.0004	0.00028	<0.0004	0.00028	0.00	0%
Arsenic, dissolved	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Arsenic, total	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Barium, dissolved	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Barium, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Beryllium, dissolved	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Beryllium, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Bicarbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Bismuth, dissolved	mg/L	0.0400	0.02828	<0.04	0.02828	0.00	0%
Bismuth, total	mg/L	0.0400	0.02828	<0.04	0.02828	0.00	0%
Boron, dissolved	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Boron, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Cadmium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Cadmium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Calcium, dissolved	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Calcium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Carbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Chloride	mg/L	0.5000	0.35355	<0.5	0.35355	0.00	0%
Chromium, dissolved	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Chromium, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cobalt, dissolved	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Cobalt, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Conductivity @25C	umhos/cm	1.0000	0.70711	1.00	1.00000	0.29	34%
Copper, dissolved	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Copper, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cyanide, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Cyanide, WAD	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Fluoride	mg/L	0.0500	0.03536	<0.05	0.03536	0.00	0%
Gallium, dissolved	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Gallium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Hardness as CaCO3	mg/L	0.8000	0.56569	<0.8	0.56569	0.00	0%
Hydroxide as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Iron, dissolved	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Iron, total	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Lead, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Lead, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Lithium, dissolved	mg/L	0.0080	0.00566	<0.008	0.00566	0.00	0%
Lithium, total	mg/L	0.0080	0.00566	<0.008	0.00566	0.00	0%
Magnesium, dissolved	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Magnesium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Manganese, dissolved	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Manganese, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Mercury, dissolved	ng/L	0.2000	0.14142	0.20	0.20000	0.06	34%
Mercury, total	ng/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Molybdenum, dissolved	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Molybdenum, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Nickel, dissolved	mg/L	0.0006	0.00042	<0.0006	0.00042	0.00	0%
Nickel, total	mg/L	0.0006	0.00042	<0.0006	0.00042	0.00	0%
Nitrate/Nitrite as N	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Nitrogen, ammonia	mg/L	0.0500	0.03536	<0.05	0.03536	0.00	0%
Phosphorus, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Potassium, dissolved	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Potassium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Residue, Filterable (TDS) @180C	mg/L	10.0000	7.07107	<10	7.07107	0.00	0%

Q2-2014			DI WATER	EQUIPMENT		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Residue, Non-Filterable (TSS) @105C	mg/L	5.0000	3.53553	<5	3.53553	0.00	0%
Scandium, dissolved	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Scandium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Selenium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Selenium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Silver, dissolved	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Silver, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Sodium, dissolved	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Sodium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Strontium, dissolved	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%
Strontium, total	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%
Sulfate	mg/L	0.5000	0.35355	<0.5	0.35355	0.00	0%
Thallium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Thallium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Tin, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Tin, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Titanium, dissolved	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%
Titanium, total	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%
Total Alkalinity	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Uranium, dissolved	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Uranium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Vanadium, dissolved	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Vanadium, total	mg/L	0.0002	0.00014	0.00	0.00030	0.00	72%
Zinc, dissolved	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Zinc, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%

[1]DI water assumed to have values below laboratory minimum detection limit; estimated values were generated by dividing the MDL by √2

[2]Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[3]Arithmetic difference between estimated DI water value and blank value

[4]RPD compares blank value and estimated DI water value, red values are greater than or equal to 20% and the blank results are greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
RPD = Relative Percent Difference
NA = Not Applicable

Q2-2014			DI WATER	TRANSFER		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Aluminum, total	mg/L	0.0300	0.02121	<0.03	0.02121	0.00	0%
Antimony, total	mg/L	0.0004	0.00028	<0.0004	0.00028	0.00	0%
Arsenic, total	mg/L	0.0002	0.00014	<0.0002	0.00014	0.00	0%
Barium, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Beryllium, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Bicarbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Bismuth, total	mg/L	0.0400	0.02828	<0.04	0.02828	0.00	0%
Boron, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Cadmium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Calcium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Carbonate as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Chloride	mg/L	0.5000	0.35355	<0.5	0.35355	0.00	0%
Chromium, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cobalt, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Conductivity @25C	umhos/cm	1.0000	0.70711	1.00	1.00000	0.29	34%
Copper, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Cyanide, total	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Cyanide, WAD	mg/L	0.0030	0.00212	<0.003	0.00212	0.00	0%
Fluoride	mg/L	0.0500	0.03536	<0.05	0.03536	0.00	0%
Gallium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Hardness as CaCO3	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Hydroxide as CaCO3	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Iron, total	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Lead, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Lithium, total	mg/L	0.0080	0.00566	<0.008	0.00566	0.00	0%
Magnesium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Manganese, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Mercury, total	ng/L	0.2000	0.14142	0.20	0.20000	0.06	34%
Molybdenum, total	mg/L	0.0005	0.00035	<0.0005	0.00035	0.00	0%
Nickel, total	mg/L	0.0006	0.00042	<0.0006	0.00042	0.00	0%
Nitrate as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrate/Nitrite as N	mg/L	0.0200	0.01414	<0.02	0.01414	0.00	0%
Nitrate/Nitrite as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrite as N, dissolved	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>	<ND>
Nitrogen, ammonia	mg/L	0.0500	0.03536	<0.05	0.03536	0.00	0%
Phosphorus, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%
Potassium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Residue, Filterable (TDS) @180C	mg/L	10.0000	7.07107	<10	7.07107	0.00	0%
Residue, Non-Filterable (TSS) @105C	mg/L	5.0000	3.53553	<5	3.53553	0.00	0%
Scandium, total	mg/L	0.1000	0.07071	<0.1	0.07071	0.00	0%
Selenium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Silver, total	mg/L	0.0001	0.00004	<0.00005	0.00004	0.00	0%
Sodium, total	mg/L	0.2000	0.14142	<0.2	0.14142	0.00	0%
Strontium, total	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%

Q2-2014			DI WATER	TRANSFER		Difference[3]	RPD[4] (%)
PARAMETER	UNITS	MDL	ESTIMATED[1]	BLANK	BLANK[2]		
Sulfate	mg/L	0.5000	0.35355	<0.5	0.35355	0.00	0%
Thallium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Tin, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Titanium, total	mg/L	0.0050	0.00354	<0.005	0.00354	0.00	0%
Total Alkalinity	mg/L	2.0000	1.41421	<2	1.41421	0.00	0%
Uranium, total	mg/L	0.0001	0.00007	<0.0001	0.00007	0.00	0%
Vanadium, total	mg/L	0.0002	0.00014	0.0002	0.00020	0.00	34%
Zinc, total	mg/L	0.0100	0.00707	<0.01	0.00707	0.00	0%

[1]DI water assumed to have values below laboratory minimum detection limit; estimated values were generated by dividing the MDL by √2

[2]Reported values below detection levels were substituted with estimated values for calculation purposes; estimated values were generated by dividing the MDL by √2

[3]Arithmetic difference between estimated DI water value and blank value

[4]RPD compares blank value and estimated DI water value, red values are greater than or equal to 20% and the blank results are greater than 5 times the MDL

Note:
MDL = Minimum Detection Level
RL = Reporting Level (equals 5*MDL)
ND = No Data
RPD = Relative Percent Difference
NA = Not Applicable

Q2-2013			TRANSFER BLANK	
PARAMETER	**UNITS**	**MDL**	**VALUE**	**DATE**
Mercury, total	ng/L	0.2	<0.2	6/20/2013
Mercury, total	ng/L	0.2	<0.2	6/26/2013
Mercury, total	ng/L	0.2	<0.2	6/17/2013

Q4-2013			TRANSFER BLANK	
PARAMETER	**UNITS**	**MDL**	**VALUE**	**DATE**
Mercury, total	ng/L	0.2	<0.2	11/23/2013
Mercury, total	ng/L	0.2	<0.2	11/24/2013

Q2-2014			TRANSFER BLANK	
PARAMETER	**UNITS**	**MDL**	**VALUE**	**DATE**
Mercury, total	ng/L	0.2	<0.2	6/27/2014
Mercury, total	ng/L	0.2	<0.2	6/23/2014
Mercury, total	ng/L	0.2	<0.2	6/25/2014