

September 1, 2017

Pasco School District No. 1
Attn: Randy D. Nunamaker, Executive Director of Operations
1215 West Lewis Street
Pasco, Washington, 99301

**RE: Winter 2016 Drinking Water Sampling Results
Marie Curie STEM Elementary School, 715 North California Avenue, Pasco,
Washington**

Dear Randy:

On Thursday, November 10, 2016, Fulcrum Environmental Consulting, Inc. (Fulcrum) collected 60 drinking water samples for lead and copper analysis from Marie Curie STEM Elementary School (School) located at 715 North California Avenue in Pasco, Washington. Initial sampling identified eight fixture locations with copper concentrations above guidance levels. Fulcrum returned to the School to collect samples after remediation of the fixtures and found results below guidance levels. Sampling was completed as part of a District-wide project and all analysis was completed by Washington State Department of Ecology (Ecology) accredited laboratories.

Summary

The purpose of initial sampling was to evaluate current drinking water quality conditions with respect to lead and copper as a result of the increased national and local interest related to lead in drinking water. The intent of sampling was to meet the requirements of the pending regulations set forth in Washington Administrative Code (WAC) 246-366A-130 and 246-366A-135¹. Consistent with the regulations, Fulcrum completed sampling at the rates of at least 50% of plumbing fixtures used regularly for drinking or cooking in elementary and preschools and at least 25% of drinking or cooking fixtures in middle schools, junior high schools, and high schools. In addition, Fulcrum sampled administrative facilities in the District at the same rate as elementary schools, of at least 50% of drinking and cooking fixtures.

Fulcrum completed initial sampling on November 10, 2016. Initial results identified eight samples with copper concentrations above the Environmental Protection Agency (EPA) action level of 1,300 µg/L. Upon receipt of results, Fulcrum and the District consulted with the Benton-Franklin Health District in development of a remedial action plan.

Copper is not a significant component in fixtures, but is the primary material in the plumbing system. To remediate elevated copper, the District aggressively flushed the fixtures with cold water to clear the plumbing of copper construction debris. Fulcrum returned to the School on January 4, March 29, April 25, May 26, and July 25, 2017 and collected samples to evaluate the success of the remediation. Follow-up

¹ Washington State Department of Health, WAC 246-366A, *The Environmental Health and Safety Standards of Primary and Secondary Schools*, <http://apps.leg.wa.gov/WAC/default.aspx?cite=246-366A>, July 26, 2016

samples found results below the EPA action level, confirming the remediation was successful. Following sampling and review of laboratory results, Benton-Franklin Health District supported Fulcrum's recommendation and the District's request to return the fixtures to service.

As all samples now report concentrations below lead and copper action levels, at this time Fulcrum does not recommend any additional sampling. However, consistent with industry practice and the intent of WAC 246-366A, Fulcrum recommends that the District complete re-sampling of the building within the next five years (before November 2021). Additionally, if WAC 246-366A-130 is enacted, the regulations would require testing of all remaining fixtures within two years of the effective date (July 1, 2017). See Figure 1-A and 1-B in Attachment A for fixture locations and laboratory results.

Sampling Methodology

As a portion of this project, Fulcrum prepared a Sampling and Analysis Plan (SAP) in consultation with the Benton-Franklin Health District intended to satisfy future initial sampling requirements under pending regulations.

For initial evaluation purposes, Fulcrum collected "first draw" samples. This "first draw" water volume consists of 250 milliliters (mL) and is intended to represent the water quality in the fixture, tubing connecting the fixture to the building piping, and potentially a portion of the building piping. If lead and copper are present, this first-draw sample typically contains the highest lead levels and indicates high copper from the associated building piping.

For most post-remediation evaluation sampling, Fulcrum collected three-part samples consisting of the first draw, "second draw", and "third draw" water volumes. Second and third draw samples are intended to represent the water quality of building piping and plumbing components behind the fixture and the water entering the building from the water main.

As a quality control measure, Fulcrum also included a laboratory blank of distilled water and a laboratory "spike" sample with known concentrations of lead and copper at the selected action levels for the project during all sampling events. Blank and spike sample results are included in the results tables for reference.

Blank and spike samples were used to evaluate laboratory performance. The reported lead and copper concentrations of quality assurance samples provided a metric to determine accuracy of the analyses. If the reported concentration of the spike sample differed from the action level, then the spike sample concentration was used as the action level.

Field evaluation of pH and temperature of drinking water was completed during the cold water flush and immediately following sample collection on select fixtures during the initial sampling event as a general evaluation of water quality.

Sampling Activities

Fulcrum's two-part sampling process consisted of an initial site visit the prior afternoon/evening to locate and flush each water sampling location (fixture). Sample collection occurred the following morning, after the fixture sat motionless for more than eight but no less than 18 hours, typically approximately 14 hours.

Initial Sampling

On the initial visit, Fulcrum flushed cold water through each fixture selected for sampling for approximately one minute. Following the flush, each fixture was covered and secured within a plastic bag. The plastic bags were marked with signage indicating testing was in progress and the fixture should not be used. Fulcrum returned to the school eight to 18 hours later to collect the samples. Each sample consisted of the first draw collected into 250-mL unpreserved polyethylene bottles and was immediately placed on ice in a chilled cooler.

Samples collected from the initial sampling event were delivered under chain-of-custody to RJ Lee Group's Columbia Basin Analytical Laboratory (Ecology Lab ID: C859-16) in Pasco, Washington for analysis.

Fixture Replacement and Flushing

Fixtures identified with elevated lead concentrations were replaced and preconditioned by running cold water continuously through the fixture for 24 hours, as outlined in WAC 246-366A-130. Following replacement and preconditioning, Fulcrum collected follow-up samples to confirm the success of fixture replacement.

Fixtures producing elevated copper concentrations were generally identified in newer District buildings and were not associated with specific fixture styles. The relationship between building construction age and fixture styles indicates elevated copper concentrations are principally associated with construction debris in the plumbing system.

All fixtures with elevated copper were flushed aggressively by running water through the fixture at high flow with the aerator removed for approximately 30 minutes to clear the plumbing of any debris potentially causing elevated copper concentrations. Following an aggressive flush, fixtures were resampled to evaluate the effectiveness at reducing copper concentrations. The District elected to install filters on fixtures that did not respond to an aggressive flush. Filtered fixtures were resampled following filter installation to verify effectiveness of the filter.

Remedial Sampling

Remedial sampling typically consisted of first, second, and third draw samples from the fixture locations and plumbing system in question. First draw samples were collected into 250 mL polyethylene bottles preserved with nitric acid. The second draw water volume consists of water collected into a 250 mL unpreserved polyethylene container immediately following the first draw. No water was lost between collection of the first and second draw samples. The third draw water volume is a 1,000 mL sample collected

into a one liter unpreserved polyethylene container after the fixture has been flushed for about three to five minutes.

Samples collected following remedial activities were shipped by common carrier under chain of custody to Fremont Analytical Laboratory (Ecology Lab ID: C910-16) in Seattle, Washington for analysis. Fremont was selected based on their availability to complete analysis on an expedited schedule.

Analytical Results

Samples from both initial and remedial sampling events were analyzed for lead and copper in drinking water by EPA Method 200.8.

Initial Sampling

Sample locations from the initial sampling event are presented in Figure 1-A and Figure 1-B in Attachment A of this letter. A site-specific sampling and analysis plan (SSSAP) that provides a building specific summary of the location, number, and sampling frequency of water fixture locations is located in Attachment B. Initial analytical results are summarized in Table 1 located in Attachment C of this letter. Laboratory analytical results from the initial sampling event are located in Attachment D of this letter.

In addition, pH and temperature data from the initial sampling event is presented in Table 2 in Attachment C of this letter.

Remedial Sampling

Sample locations from remedial sampling events are presented in Figure 1-A and Figure 1-B in Attachment A of this letter. The remedial analytical results from this project are summarized in Table 3 located in Attachment C of this letter. Laboratory analytical results from the remedial sampling event are located in Attachment E of this letter.

Discussion

Initial Sampling

Analytical results identified eight samples with copper concentrations above the EPA action level of 1,300 micrograms per liter ($\mu\text{g/L}$). No samples were identified with lead concentrations above method reporting limit.

Remedial Sampling

Immediately following receipt of initial sampling results, the District removed the identified fixtures from service pending remediation and further testing. To remediate elevated copper concentrations, the District completed an aggressive flush of the identified fixtures. Fulcrum returned to the School on January 4, March

29, April 25, May 26, and July 25, 2017 following aggressive flushing to collect follow-up samples from the eight initially identified fixtures.

Analytical results from remedial sampling indicated aggressive flushing was successful at reducing copper concentrations below the action level for the fixtures in question.

Recommendations

No samples were found to contain lead concentrations above guidance levels. Eight initial samples contained copper above the EPA action level of 1,300 µg/L. The District completed an aggressive flush to reduce the copper concentration of the fixtures and follow-up samples yielded results below the EPA action level, confirming the remediation was successful. Following sampling and review of laboratory results, Benton-Franklin Health District supported Fulcrum's recommendation and the District's request to return the fixtures to service.

As all samples now report concentrations below lead and copper action levels, Fulcrum does not recommend any additional sampling at this time. However, consistent with industry practice and the intent of WAC 246-366A, Fulcrum recommends that the District complete re-sampling of the building within the next five years (before November 2021). Additionally, if WAC 246-366A-130 is enacted, the regulations would require testing of all remaining fixtures within two years of the effective date (July 1, 2017).

If you have any questions, please feel free to contact me at (509) 574-0839.

Sincerely,



Amanda Enbysk, GIT
Environmental Geologist



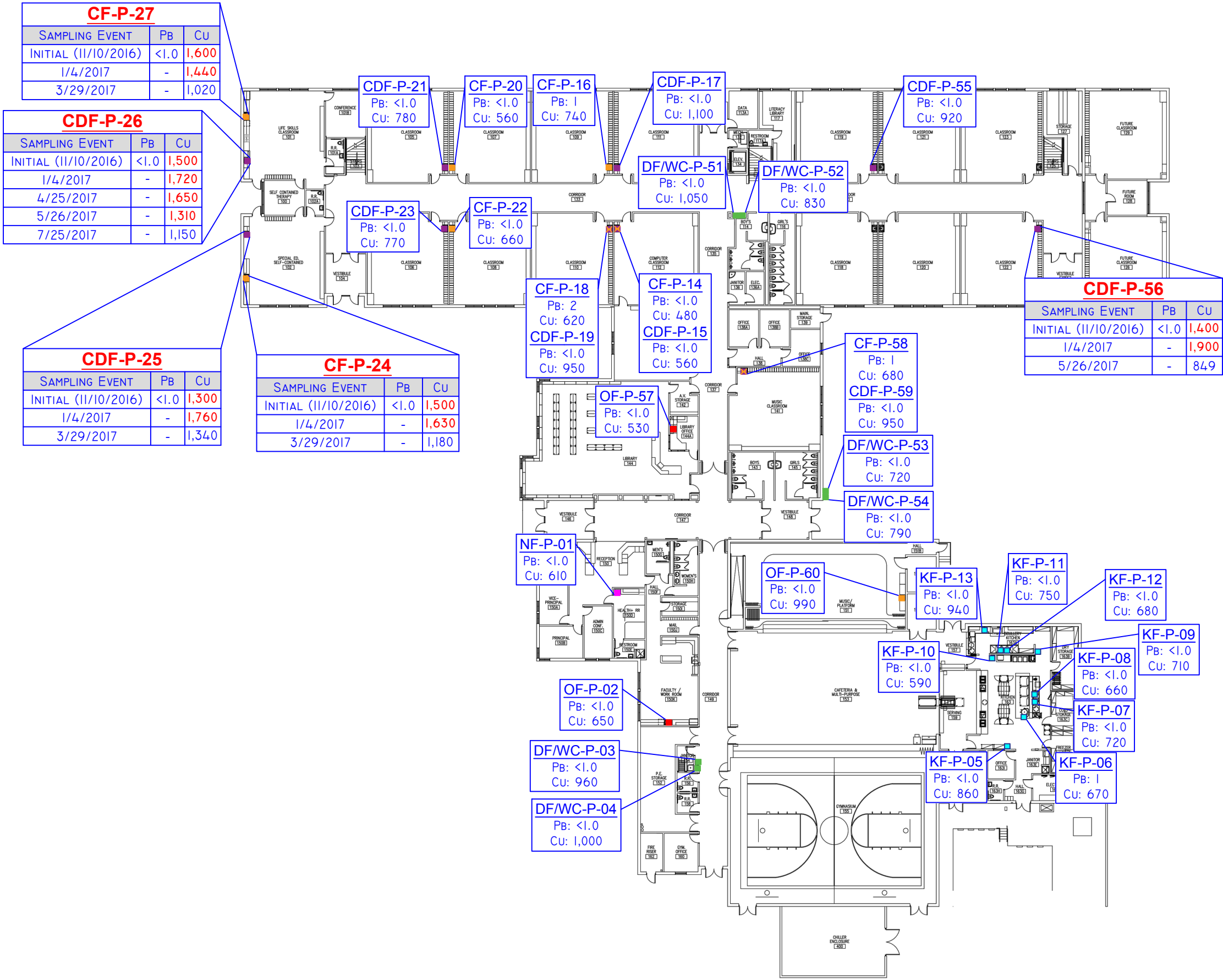
Ryan K. Mathews, CIH, CHMM
Principal



ATTACHMENT A

Figure 1-A: Sample Location Map – First Floor
Figure 1-B: Sample Location Map – Second Floor





LEGEND

KF-P-## - Kitchen faucet

NF-P-## - Nurse's faucet

OF-P-## - Office faucet

WC-P-## - Water cooler fountain

CF-P-## - Classroom faucet

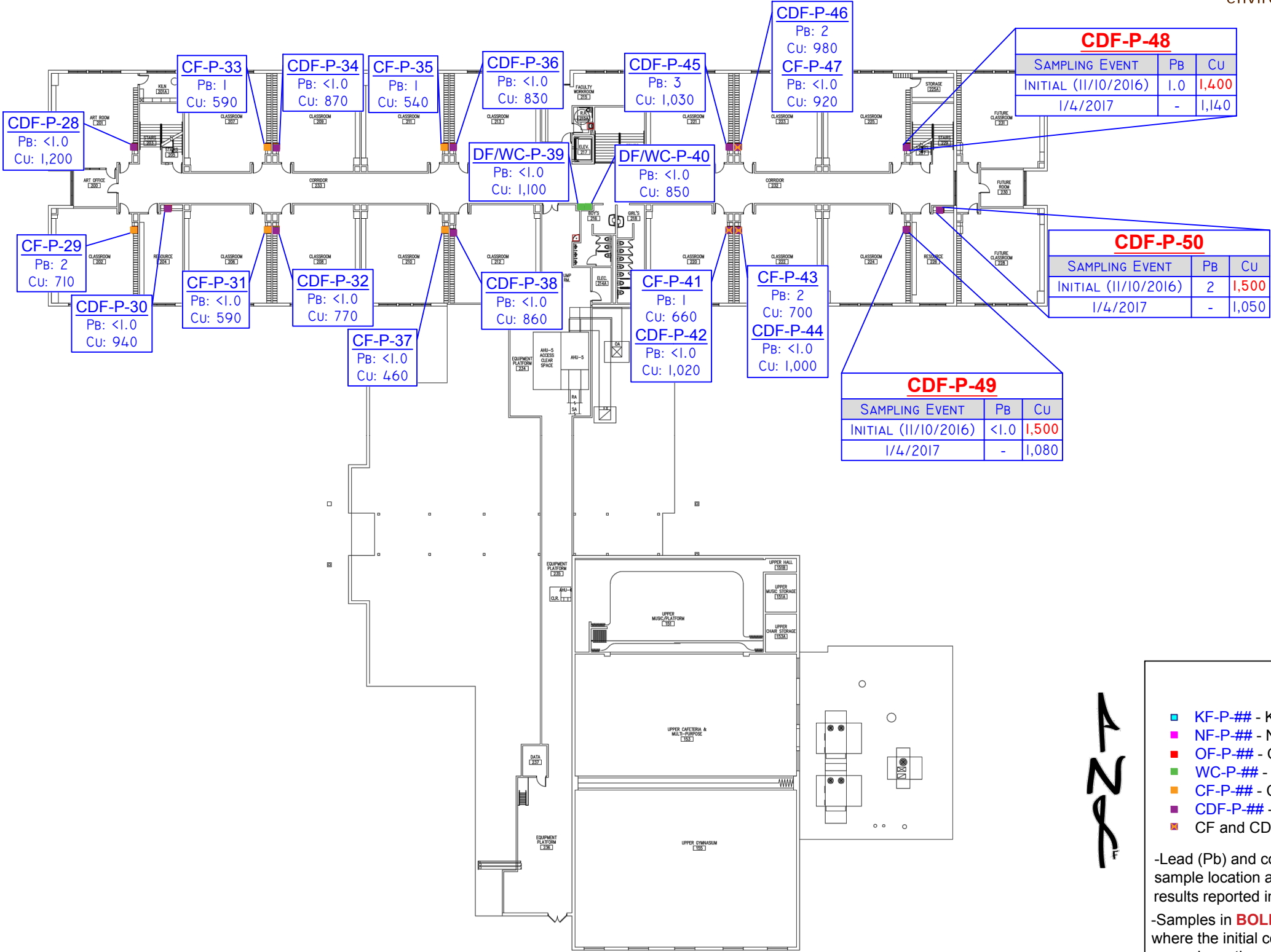
CDF-P-## - Classroom drinking fountain

CF and CDF sampled at same sink

-Lead (Pb) and copper (Cu) results for each sample location are below each identifier. All results reported in µg/L.

-Samples in **BOLD RED** indicate fixture locations where the initial concentrations of lead or copper were above the respective action level.

DRAWING PROVIDED BY PASCO SCHOOL DISTRICT NO. 1



DRAWING PROVIDED BY PASCO SCHOOL DISTRICT NO. 1

ATTACHMENT B

Site-Specific Sampling and Analysis Plan



Site-Specific Sampling and Analysis Plan

Pasco School District No. 1 – Winter 2016 Drinking Water Sampling

Note: This SSSAP has been prepared as a supplement to the project SAP/QAPP and provide a building specific summary of the location, number, and sampling frequency of water fixture locations.

Campus/Building: Marie Curie STEM Elementary School Address: 715 N. California Ave, Pasco, WA 99301

☒ Elementary ☐ Middle School ☐ High School ☐ Administration

Date of Construction: 2015 Modernizations: N/A

Fixture Type	Fixture Locations	Fixture Styles ¹	Samples Collected	Ratio
Drinking fountain/water cooler (DF)	8	2	8	100%
Kitchen Fixture (KF)	9	6	9	100%
Classroom faucet, including faucets in Food Labs and Life Sciences Classrooms (CF)	38	3	17	45%
Classroom drinking fountain at sink (CDF)	35	1	23	66%
Nurse's Office/Health Room (NF)	1	1	1	100%
Teacher's Lounges/Work Rooms (OF)	2	2	2	100%
TOTALS	93		60	65%

¹ Fixture styles are approximate based on sampler's observations

Lead Sampler: Nathan Bostrom Date: 11/10/2016

Sample Prefix: CUR - 111016 - - P (first-draw) - 01 to 62
School Code Date Fixture Type Sample Type Sample Number

Laboratory: R. J. Lee Group, Columbia Basin Analytical Delivery Date: November 10, 2016

Comments:

ATTACHMENT C

Table 1: Initial Sampling Analytical Results Summary Table
Table 2: pH and Temperature Data Summary Table
Table 3: Remedial Sampling Analytical Results Summary Table

Table 1: Initial Sampling Analytical Results

Sample Identification and Location	Type of Fixture	Lead Results (µg/L)	Copper Results (µg/L)
CUR111016-NF-P-01: Health Room	Nurse's Faucet	<1.0	610
CUR111016-OF-P-02: Teacher's Lounge, Room 150K	Office Faucet	<1.0	650
CUR111016-DF/WC-P-03: Right fixture in hallway west of Gymnasium	Water Cooler Fountain	<1.0	960
CUR111016-DF/WC-P-04: Left fixture in hallway west of Gymnasium	Water Cooler Fountain	<1.0	1,000
CUR111016-KF-P-05: South wall of kitchen, handsink	Kitchen Faucet	<1.0	860
CUR111016-KF-P-06: Kitchen vat fill	Kitchen Faucet	1	670
CUR111016-KF-P-07: East side of kitchen island, south sink	Kitchen Faucet	<1.0	720
CUR111016-KF-P-08: East side of kitchen island, center sink	Kitchen Faucet	<1.0	660
CUR111016-KF-P-09: East hallway of scullery kitchen, handwash	Kitchen Faucet	<1.0	710
CUR111016-KF-P-10: North wall of kitchen, handwash	Kitchen Faucet	<1.0	590
CUR111016-KF-P-11: South wall of scullery kitchen, sprayer	Kitchen Faucet	<1.0	750
CUR111016-KF-P-12: South wall of scullery kitchen, faucet	Kitchen Faucet	<1.0	680
CUR111016-KF-P-13: North wall of scullery kitchen	Kitchen Faucet	<1.0	940
CUR111016-CF-P-14: Classroom 112	Classroom Faucet	<1.0	480
CUR111016-CDF-P-15: Classroom 112	Classroom Drinking Fountain	<1.0	560
CUR111016-CF-P-16: Classroom 109	Classroom Faucet	1	740
CUR111016-CDF-P-17: Classroom 111	Classroom Drinking Fountain	<1.0	1,100
CUR111016-CF-P-18: Classroom 110	Classroom Faucet	2	620
CUR111016-CDF-P-19: Classroom 110	Classroom Drinking Fountain	<1.0	950
CUR111016-CF-P-20: Classroom 107	Classroom Faucet	<1.0	560
CUR111016-CDF-P-21: Classroom 105	Classroom Drinking Fountain	<1.0	780
CUR111016-CF-P-22: Classroom 108	Classroom Faucet	<1.0	660
CUR111016-CDF-P-23: Classroom 106	Classroom Drinking Fountain	<1.0	770
CUR111016-CF-P-24: Classroom 102, left sink	Classroom Faucet	<1.0	1,500
CUR111016-CDF-P-25: Classroom 102, right sink	Classroom Drinking Fountain	<1.0	1,300
CUR111016-CDF-P-26: Classroom 101, left sink	Classroom Drinking Fountain	<1.0	1,500
CUR111016-CF-P-27: Classroom 101, right sink	Classroom Faucet	<1.0	1,600
CUR111016-CDF-P-28: Classroom 201	Classroom Drinking Fountain	<1.0	1,200
CUR111016-CF-P-29: Classroom 202	Classroom Faucet	2	710
CUR111016-CDF-P-30: Resource, Room 204	Classroom Drinking Fountain	<1.0	940
CUR111016-CF-P-31: Classroom 206	Classroom Faucet	<1.0	590
CUR111016-CDF-P-32: Classroom 208	Classroom Drinking Fountain	<1.0	770
CUR111016-CF-P-33: Classroom 207	Classroom Faucet	1	590
CUR111016-CDF-P-34: Classroom 209	Classroom Drinking Fountain	<1.0	870
CUR111016-CF-P-35: Classroom 211	Classroom Faucet	1	540
CUR111016-CDF-P-36: Classroom 213	Classroom Drinking Fountain	<1.0	830
CUR111016-CF-P-37: Classroom 210	Classroom Faucet	<1.0	460
CUR111016-CDF-P-38: Classroom 212	Classroom Drinking Fountain	<1.0	860
CUR111016-DF/WC-P-39: Right fixture in 2nd floor hallway	Water Cooler Fountain	<1.0	1,100
CUR111016-DF/WC-P-40: Left fixture in 2nd floor hallway	Water Cooler Fountain	<1.0	850
CUR111016-CF-P-41: Classroom 220	Classroom Faucet	1	660
CUR111016-CDF-P-42: Classroom 220	Classroom Drinking Fountain	<1.0	1,020
CUR111016-CF-P-43: Classroom 222	Classroom Faucet	2	700

Sample Identification and Location	Type of Fixture	Lead Results (µg/L)	Copper Results (µg/L)
CUR111016-CDF-P-44: Classroom 222	Classroom Drinking Fountain	<1.0	1,000
CUR111016-CDF-P-45: Classroom 221	Classroom Drinking Fountain	3	1,030
CUR111016-CDF-P-46: Classroom 223	Classroom Drinking Fountain	2	980
CUR111016-CF-P-47: Classroom 223	Classroom Faucet	<1.0	920
CUR111016-CDF-P-48: Classroom 225	Classroom Drinking Fountain	1	1,400
CUR111016-CDF-P-49: Classroom 224	Classroom Drinking Fountain	<1.0	1,500
CUR111016-CDF-P-50: Classroom 226	Classroom Drinking Fountain	2	1,500
CUR111016-DF/WC-P-51: Right fixture on first floor opposite stairs	Water Cooler Fountain	<1.0	1,050
CUR111016-DF/WC-P-52: Left fixture on 1st floor opposite stairs	Water Cooler Fountain	<1.0	830
CUR111016-DF/WC-P-53: Exterior west side of building, right fixture	Water Cooler Fountain	<1.0	720
CUR111016-DF/WC-P-54: Exterior west side of building, left fixture	Water Cooler Fountain	<1.0	790
CUR111016-CDF-P-55: Classroom 119	Classroom Drinking Fountain	<1.0	920
CUR111016-CDF-P-56: Classroom 122	Classroom Drinking Fountain	<1.0	1,400
CUR111016-OF-P-57: Library Workroom	Office Faucet	<1.0	530
CUR111016-CF-P-58: Music, Classroom 141	Classroom Faucet	1	680
CUR111016-CDF-P-59: Music, Classroom 141	Classroom Drinking Fountain	<1.0	950
CUR111016-OF-P-60: Music, Classroom 151	Classroom Faucet	<1.0	990
<i>CUR111016-CF-P-61: Laboratory Blank - labeled Room 118</i>	<i>Distilled Water Blank</i>	<i><1.0</i>	<i><10</i>
<i>CUR111016-DF/WC-P-62: Laboratory Spike - labeled Hallway South</i>	<i>Lead and Copper Spike</i>	<i>15</i>	<i>1,300</i>
EPA Action Level		15	1,300

1 µg/L means microgram per liter or parts per billion (ppb).

2 Action levels based on the U.S. EPA's Lead and Copper Rule.

Results in **bold** indicate concentrations above the action levels of 15 µg/L for lead and 1,300 µg/L for copper

Results in *italics* are quality assurance spike and blank samples

Table 2: pH and Temperature Data Summary

Sample Number and Location	Fixture Type	pH Flush	pH Sample	Temperature Flush (°C)	Temperature Sample (°C)
CUR111016-DF/WC-P-04: Left fixture in hallway west of Gymnasium	Water Cooler Fountain	7.68	7.74	13.2	16.3
CUR111016-KF-P-08: East side of kitchen island, center sink	Kitchen Faucet	7.52	7.90	19.9	17.2
CUR111016-KF-P-12: South wall of scullery kitchen, faucet	Kitchen Faucet	7.57	7.81	19.3	18.3
CUR111016-CF-P-16: Classroom 109	Classroom Faucet	7.66	7.75	21.9	20.8
CUR111016-CF-P-20: Classroom 107	Classroom Faucet	7.64	7.73	21.6	21.0
CUR111016-CDF-P-25: Classroom 102	Classroom Drinking Fountain	7.74	7.74	21.2	19.1
CUR111016-CDF-P-28: Classroom 201	Classroom Drinking Fountain	7.77	7.72	21.4	21.7
CUR111016-CDF-P-32: Classroom 208	Classroom Drinking Fountain	7.75	7.76	20.3	21.4
CUR111016-CDF-P-36: Classroom 213	Classroom Drinking Fountain	7.37	7.76	19.4	21.2

Sample Number and Location	Fixture Type	pH Flush	pH Sample	Temperature Flush (°C)	Temperature Sample (°C)
CUR111016-DF/WC-P-40: Left fixture in 2nd floor hallway	Water Cooler Fountain	7.21	7.97	12.7	10.8
CUR111016-CDF-P-45: Classroom 221	Classroom Drinking Fountain	6.90	7.71	-	-
CUR111016-CDF-P-48: Classroom 225	Classroom Drinking Fountain	7.07	7.79	21.7	20.5
CUR111016-DF/WC-P-52: Left fixture on 1st floor opposite stairs	Water Cooler Fountain	7.69	7.89	10.9	13.5
CUR111016-CDF-P-56: Classroom 122	Classroom Drinking Fountain	7.52	7.67	21.2	21.1

Table 3: Remedial Sampling Analytical Results Summary

Sampling Event	Sample Identification									
	CF-P-24	CDF-P-25	CDF-P-26	CF-P-27	CDF-P-48	CDF-P-49	CDF-P-50	CDF-P-56	CF-P-61	DF/WC-P-62
Initial (11/10/2016)	1,500	1,300	1,500	1,600	1,400	1,500	1,500	1,400	<10	1,300
1/4/2017	1,630	1,760	1,720	1,440	1,140	1,080	1,050	1,900	<0.5	1,420
3/29/2017	1,180	1,340	-	1,020	-	-	-	-	<0.5	1,350
4/25/2017	-	-	1,650	-	-	-	-	-	0.579	1,350
5/26/2017	-	-	1,310	-	-	-	-	849	0.560	1,360
4/25/2017	-	-	1,150	-	-	-	-	-	0.509	1,310
EPA Action Level	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300

1 Results reported in means microgram per liter (µg/L) or parts per billion (ppb).

2 Action levels based on the U.S. EPA's Lead and Copper Rule.

Results indicated in **bold** indicate concentrations above the action level of 1,300 µg/L for copper

Results indicated in *italics* are quality assurance spike and blank samples

ATTACHMENT D

Initial Analytical Results





RJ LeeGroup, Inc. | Columbia Basin Analytical Laboratories

2710 North 20th Avenue, Pasco WA 99301

Tel: (509) 545-4989 | Fax: (509) 544-6010

Fulcrum Environmental
406 N. 2nd St.
Yakima, WA 98901

Subject: Chemical Analysis Report

Columbia Basin Analytical Laboratories received 62 sample(s) on 11/10/16 for analysis. These sample(s) have been assigned a login order number of W611040. Enclosed is the final report that consists of a summary report of the sample(s), and a copy of the chain of custody.

General Lab Comments

The results provided in this report relate only to the items tested. Sample(s) were received in acceptable conditions unless otherwise noted in the comments above. Sample(s) have not been field blank corrected unless otherwise noted in the general set comments above. The sample(s) were prepared in accordance with EPA 200.8 and analyzed in compliance with EPA 200.8. This test report shall not be reproduced, except in full, without written approval of Columbia Basin Analytical Laboratories. Any questions, please contact our office.

Release of the data contained in the hard copy report has been authorized by the Laboratory Director or a designee as verified by the following signature. This report has been administratively reviewed by the following individual:

A handwritten signature in black ink, appearing to read 'Fernanda Pincheira', with the first name and last name clearly legible.

12/28/16

Project Coordinator II, M. Fernanda Pincheira

Date

If you have any questions please feel free to contact Fernanda Pincheira at MPincheira@rjleegroup.com.

Columbia Basin Analytical Laboratories | 2710 North 20th Avenue, Pasco WA 99301 | 509.545.4989

WWW.RJLEEGROUP.COM

Report Template: GenMetalReportFull_v12.rpt

Approved: 12/27/16 17:56
Report Time Stamp: 12/28/16 12:37



Laboratory Report

Ryan Mathews

Fulcrum Environmental
406 N. 2nd St.
Yakima, WA 98901

Client Project:

No Project

RJ Lee Group No.: W611040

COC No.:

Samples Received: 11/10/16

Analysis/Prep Date: 12/27/16

Report Date: 12/28/16

Sample Name:	CUR111016-NF-P-01	Matrix:	Potable Water	Date Received:	11/10/16
RJ Lee Grp. ID:	W611040-01			Date Analyzed:	12/27/16
Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers	
Copper	EPA 200.8	0.61	0.01		
Lead	EPA 200.8	< 0.001	0.001		

Sample Name:	CUR111016-OF-P-02	Matrix:	Potable Water	Date Received:	11/10/16
RJ Lee Grp. ID:	W611040-02			Date Analyzed:	12/27/16
Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers	
Copper	EPA 200.8	0.65	0.01		
Lead	EPA 200.8	< 0.001	0.001		

Sample Name:	CUR111016-DF/WC-P-03	Matrix:	Potable Water	Date Received:	11/10/16
RJ Lee Grp. ID:	W611040-03			Date Analyzed:	12/27/16
Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers	
Copper	EPA 200.8	0.96	0.01		
Lead	EPA 200.8	< 0.001	0.001		

Sample Name:	CUR111016-DF/WC-P-04	Matrix:	Potable Water	Date Received:	11/10/16
RJ Lee Grp. ID:	W611040-04			Date Analyzed:	12/27/16
Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers	
Copper	EPA 200.8	1.00	0.01		
Lead	EPA 200.8	< 0.001	0.001		

Sample Name:	CUR111016-KF-P-05	Matrix:	Potable Water	Date Received:	11/10/16
RJ Lee Grp. ID:	W611040-05			Date Analyzed:	12/27/16
Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers	
Copper	EPA 200.8	0.86	0.01		
Lead	EPA 200.8	< 0.001	0.001		

Columbia Basin Analytical Laboratories | 2710 North 20th Avenue, Pasco WA 93301 | 509.545.4989

WWW.RJLEEGROUP.COM

Report Template: GenMetalReportFull_v12.rpt

Approved: 12/27/16 17:56
Report Time Stamp: 12/28/16 12:37

**Sample Name:** CUR111016-KF-P-06**Matrix:** Potable Water**Date Received:** 11/10/16**RJ Lee Grp. ID:** W611040-06**Date Analyzed:** 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.67	0.01	
Lead	EPA 200.8	0.001	0.001	

Sample Name: CUR111016-KF-P-07**Matrix:** Potable Water**Date Received:** 11/10/16**RJ Lee Grp. ID:** W611040-07**Date Analyzed:** 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.72	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-KF-P-08**Matrix:** Potable Water**Date Received:** 11/10/16**RJ Lee Grp. ID:** W611040-08**Date Analyzed:** 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.66	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-KF-P-09**Matrix:** Potable Water**Date Received:** 11/10/16**RJ Lee Grp. ID:** W611040-09**Date Analyzed:** 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.71	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-KF-P-10**Matrix:** Potable Water**Date Received:** 11/10/16**RJ Lee Grp. ID:** W611040-10**Date Analyzed:** 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.59	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-KF-P-11**Matrix:** Potable Water**Date Received:** 11/10/16**RJ Lee Grp. ID:** W611040-11**Date Analyzed:** 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.75	0.01	
Lead	EPA 200.8	< 0.001	0.001	

**Sample Name:** CUR111016-KF-P-12**Matrix:** Potable Water**Date Received:** 11/10/16**RJ Lee Grp. ID:** W611040-12**Date Analyzed:** 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.68	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-KF-P-13**Matrix:** Potable Water**Date Received:** 11/10/16**RJ Lee Grp. ID:** W611040-13**Date Analyzed:** 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.94	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CF-P-14**Matrix:** Potable Water**Date Received:** 11/10/16**RJ Lee Grp. ID:** W611040-14**Date Analyzed:** 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.48	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CDF-P-15**Matrix:** Potable Water**Date Received:** 11/10/16**RJ Lee Grp. ID:** W611040-15**Date Analyzed:** 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.56	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CF-P-16**Matrix:** Potable Water**Date Received:** 11/10/16**RJ Lee Grp. ID:** W611040-16**Date Analyzed:** 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.74	0.01	
Lead	EPA 200.8	0.001	0.001	

Sample Name: CUR111016-CDF-P-17**Matrix:** Potable Water**Date Received:** 11/10/16**RJ Lee Grp. ID:** W611040-17**Date Analyzed:** 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.1	0.1	
Lead	EPA 200.8	< 0.001	0.001	



Sample Name: CUR111016-CF-P-18 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-18

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.62	0.01	
Lead	EPA 200.8	0.002	0.001	

Sample Name: CUR111016-CDF-P-19 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-19

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.95	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CF-P-20 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-20

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.56	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CDF-P-21 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-21

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.78	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CF-P-22 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-22

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.66	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CDF-P-23 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-23

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.77	0.01	
Lead	EPA 200.8	< 0.001	0.001	

**Sample Name:** CUR111016-CF-P-24**Matrix:** Potable Water**Date Received:** 11/10/16**RJ Lee Grp. ID:** W611040-24**Date Analyzed:** 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.5	0.1	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CDF-P-25**Matrix:** Potable Water**Date Received:** 11/10/16**RJ Lee Grp. ID:** W611040-25**Date Analyzed:** 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.3	0.1	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CDF-P-26**Matrix:** Potable Water**Date Received:** 11/10/16**RJ Lee Grp. ID:** W611040-26**Date Analyzed:** 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.5	0.1	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CF-P-27**Matrix:** Potable Water**Date Received:** 11/10/16**RJ Lee Grp. ID:** W611040-27**Date Analyzed:** 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.6	0.1	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CDF-P-28**Matrix:** Potable Water**Date Received:** 11/10/16**RJ Lee Grp. ID:** W611040-28**Date Analyzed:** 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.2	0.1	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CF-P-29**Matrix:** Potable Water**Date Received:** 11/10/16**RJ Lee Grp. ID:** W611040-29**Date Analyzed:** 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.71	0.01	
Lead	EPA 200.8	0.002	0.001	



Sample Name: CUR111016-CDF-P-30 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-30

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.94	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CF-P-31 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-31

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.59	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CDF-P-32 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-32

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.77	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CF-P-33 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-33

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.59	0.01	
Lead	EPA 200.8	0.001	0.001	

Sample Name: CUR111016-CDF-P-34 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-34

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.87	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CF-P-35 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-35

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.54	0.01	
Lead	EPA 200.8	0.001	0.001	



Sample Name: CUR111016-CDF-P-36 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-36

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.83	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CF-P-37 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-37

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.46	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CDF-P-38 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-38

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.86	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-DF/WC-P-39 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-39

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.1	0.1	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-DF/WC-P-40 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-40

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.85	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CF-P-41 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-41

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.66	0.01	
Lead	EPA 200.8	0.001	0.001	



Sample Name: CUR111016-CDF-P-42 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-42

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.02	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CF-P-43 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-43

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.70	0.01	
Lead	EPA 200.8	0.002	0.001	

Sample Name: CUR111016-CDF-P-44 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-44

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.0	0.1	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CDF-P-45 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-45

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.03	0.01	
Lead	EPA 200.8	0.003	0.001	

Sample Name: CUR111016-CDF-P-46 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-46

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.98	0.01	
Lead	EPA 200.8	0.002	0.001	

Sample Name: CUR111016-CF-P-47 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-47

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.92	0.01	
Lead	EPA 200.8	< 0.001	0.001	



Sample Name: CUR111016-CDF-P-48 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-48

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.4	0.1	
Lead	EPA 200.8	0.001	0.001	

Sample Name: CUR111016-CDF P-49 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-49

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.5	0.1	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CDF P-50 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-50

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.5	0.1	
Lead	EPA 200.8	0.002	0.001	

Sample Name: CUR111016-DF/WC-P-51 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-51

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.05	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-DF/WC-P-52 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-52

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.83	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-DF/WC-P-53 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-53

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.72	0.01	
Lead	EPA 200.8	< 0.001	0.001	



Sample Name: CUR111016-DF/WC-P-54 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-54

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.79	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CDF-P-55 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-55

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.92	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CDF-P-56 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-56

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.4	0.1	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-OF-P-57 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-57

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.53	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CF-P-58 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-58

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.68	0.01	
Lead	EPA 200.8	0.001	0.001	

Sample Name: CUR111016-CDF-P-59 **Matrix:** Potable Water
RJ Lee Grp. ID: W611040-59

Date Received: 11/10/16
Date Analyzed: 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.95	0.01	
Lead	EPA 200.8	< 0.001	0.001	

**Sample Name:** CUR111016-OF-P-60**Matrix:** Potable Water**Date Received:** 11/10/16**RJ Lee Grp. ID:** W611040-60**Date Analyzed:** 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.99	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-CF-P-61**Matrix:** Potable Water**Date Received:** 11/10/16**RJ Lee Grp. ID:** W611040-61**Date Analyzed:** 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	< 0.010	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: CUR111016-DF/WC-P-62**Matrix:** Potable Water**Date Received:** 11/10/16**RJ Lee Grp. ID:** W611040-62**Date Analyzed:** 12/27/16

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.3	0.1	
Lead	EPA 200.8	0.015	0.001	

Report Qualifiers:*A = Target Analyte media breakthrough suspect, see analytical report**D = Analyte analyzed in a dilution**E = Report concentration was above the instrument calibration range**J = Analyte detected below quantitation limits, concentration is estimated**P = Library spectrum match, rsd >90% w RT match**Q = Result out of method specific acceptance QC criteria**S = Spike Recovery outside accepted recovery limits**Z = Not ELAP accredited analyte**ND = Not Detected**B = Analyte detected in the associated blank**d = Data that exceeds the RSD criteria set by the SOP**H = Holding times for preparation or analysis exceeded**L = Sample condition at receipt out of compliance with method defined conditions**R = RPD (relative percent difference) outside accepted recovery limits**U = Analyte analyzed for but not detected**N/A = Not Applicable*
Scientist III J Grissmerson

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Report Template: GenMetalReportFull_v12.rpt

Approved: 12/27/16 17:56
Report Time Stamp: 12/28/16 12:37

Request for Environmental and IH Laboratory Analytical Services

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ATTENTION TO:				Purchase Order No.:		Client Job No.:	
Lab Use Only Project No.: <u>161898.01</u> Date Logged In: _____ Logged In By: _____				Turnaround Request Standard: Yes No ☐ If 'No', No. of Business Days: _____		Client Job No.: <u>161898.01</u>	
Report Results To Name: Amanda Enbysk, Ryan Mathews Company: Fulcrum Environmental Consulting Address: 406 North 2nd Street City, State, Zip: Yakima, WA, 98901 Phone: (509) 574-0839 Fax: (509) 575-8453 Call with Verbal Results: _____ Email Results To: aenbysk@fulcrum.net, cc: rmathews@fulcrum.net Fax Results To: _____				Drinking Water Sample Purpose: Information X Regulatory ☐ Accreditation (please list below): _____ System ID #: _____ DOH Source #: _____ Multiple Sources #s: _____		Chemistry Analysis Key Preservation: ☐ Unpres ☐ H ₂ SO ₄ ☐ Matrix: ☐ WW=Wastewater ☐ SW=Surface Water 4°C ☐ HCl ☐ NaOH ☐ GW=Groudwater ☐ S=Soil/Sludge ☐ DW=Drinking Water HNO ₃ ☐ Na ₂ SO ₄ ☐ E=Extract ☐ O=Oil ☐ W=Wipe Other ☐ X=Other ☐ A=Air (filter or tube)	
Send Invoice To Company: Fulcrum Environmental Address: 406 N 2nd Street City, State, Zip: Yakima, WA, 98901 Phone: (509) 574-0839 Fax: (509) 575-8453 Email: lboutillier@fulcrum.net				Analysis Requested			
Special Instructions				Pres. Upon Receipt (Y/N)			
Client Sample ID				Sample Description			
Sample Date				Sample Time			
Start				Stop			
Wipe Area / Air Volume				Temp °C			
CUR110116-NF-P-01 Nurse's Office 11/10/16				X			
CUR110116-OF-P-02 RM - 150K				X			
CUR110116-DPhc-P-03 access from Gym South				X			
CUR110116-12P/12C-P-04 Kitchen South hand Sink				X			
CUR110116-KF-P-05 Kitchen South hand Sink				X			
CUR110116-KF-P-06 Kitchen west				X			
CUR110116-KF-P-07 Kitchen Southeast				X			
CUR110116-KF-P-08 Kitchen East				X			
CUR110116-KF-P-09 Kitchen Northeast Handcork				X			
CUR110116-KF-P-10 Kitchen North Handcork				X			
CUR110116-KF-P-11 Kitchen North				X			
Chain of Custody Relinquished By (Signature): <u>Nathan Pans</u> Date: <u>11/10/16</u> Time: _____ Relinquished By (Print Name): <u>Nathan Pans</u> Relinquished To: _____ Company Name: _____ Method of Shipment: _____				Chain of Custody Received By (Signature): <u>[Signature]</u> Date: <u>11/10/16</u> Time: <u>8:10</u> Received By (Print Name): _____ Relinquished To: _____ Company Name: <u>Kellye</u> Method of Shipment: _____			
Chain of Custody Relinquished By (Signature): _____ Date: _____ Time: _____ Relinquished By (Print Name): _____ Relinquished To: _____ Company Name: _____ Method of Shipment: _____				Chain of Custody Received By (Signature): _____ Date: _____ Time: _____ Received By (Print Name): _____ Relinquished To: _____ Company Name: _____ Method of Shipment: _____			

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ATTENTION TO:				Purchase Order No.:		Client Job No.:	
Lab Use Only Project No.: <u>161494.01</u> Date Logged In: <u>11/10/16</u> Logged In By: <u>Kevin Mathews</u>				Turnaround Request Standard: Yes No ☐ If 'No', No. of Business Days: _____		Client Job No.: <u>161494.01</u>	
Report Results To Name: Amanda Embysk, Ryan Mathews Company: Fulcrum Environmental Consulting Address: 406 North 2nd Street City, State, Zip: Yakima, WA, 98901 Phone: (509) 574-0839 Fax: (509) 575-8453 Call with Verbal Results: <u>11/10/16</u> Email Results To: <u>amembysk@fulcrum.net, cc: rmathews@fulcrum.net</u> Fax Results To: _____				Drinking Water Sample Purpose: Information X Regulatory ☐ Accreditation (please list below): _____ System ID #: _____ DOH Source #: _____ Multiple Sources #: _____		Chemistry Analysis Key Preservation: ☐ Unpres ☐ H ₂ SO ₄ ☐ Matrix: ☐ W=Water ☐ W=Surface Water ☐ P=Plastic ☐ 4°C ☐ HCl ☐ NaOH ☐ GW=Groundwater ☐ DW=Drinking Water ☐ G=Glass ☐ HNO ₃ ☐ Na ₂ SO ₄ ☐ E=Extract ☐ O=Oil ☐ W=Wipe ☐ Other ☐ X=Other A=Air (filter or tube)	
Send Invoice To Company: Fulcrum Environmental Email: lboutillier@fulcrum.net Address: 406 N 2nd Street City, State, Zip: Yakima, WA, 98901 Phone: (509) 574-0839 Fax: (509) 575-8453				Analysis Requested			
Special Instructions				Pres. Upon Receipt (Y/N)			
Client Sample ID				Sample Description			
Sample Date				Sample Time			
Start				Stop			
Wipe Area / Air Volume				EPA 200.8: Pb, Cu			
CUA111016 - CDF-P-23 RM-106 106 11/10/16				18.1			
CUA211016 - CF-P-24 RM-102				18.1			
CUA211016 - CDF-P-25 RM-102				17.5			
CUA211016 - CDF-P-26 RM-101				17.4			
CUA211016 - CF-P-27 RM-101				17.4			
CUA211016 - CDF-P-28 RM-201				17.5			
CUA211016 - CF-P-29 RM-202				18.2			
CUA211016 - CDF-P-30 RM-204				17.9			
CUA211016 - CF-P-31 RM-206				17.8			
CUA211016 - CDF-P-32 RM-208				17.8			
CUA211016 - CF-P-33 RM-207				17.5			
Chain of Custody				Chain of Custody			
Relinquished By (Signature): <u>Kevin Mathews</u> Date: <u>11-10-16</u> Time: _____				Received By (Signature): <u>Steve</u> Date: <u>11/10/16</u> Time: <u>2:10</u>			
Relinquished By (Print Name): <u>Kevin Mathews</u>				Received By (Print Name): <u>Steve</u>			
Company Name: _____				Company Name: _____			
Relinquished By (Signature): _____ Date: _____ Time: _____				Received By (Signature): _____ Date: _____ Time: _____			
Relinquished By (Print Name): _____				Received By (Print Name): _____			
Company Name: _____				Company Name: _____			

Pennsylvania - HQ
 350 Hochberg Road
 Monroeville, PA 15146
 724.325.1776 Phone
 724.733.1799 Fax

Washington
 Columbia Basin Analytical Laboratories
 2710 North 20th Avenue
 Pasco, WA 99301
 509.545.4989 Phone
 509.544.6010 Fax



Request for Environmental and IH Laboratory Analytical Services

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ATTENTION TO: Ryan Mathews				Purchase Order No.:		Client Job No.: 161898.01	
Lab Use Only		Project No.:		Client No.:		Logged In By:	
Report Results To		Name: Amanda Embysk, Ryan Mathews		Drinking Water Sample Only		Standard: Yes No If 'No,' No. of Business Days:	
Company: Fulcrum Environmental Consulting		Address: 406 North 2nd Street		System ID #:		Sample Purpose: Information X Regulatory Accreditation (please list below):	
City, State, Zip: Yakima, WA, 98901		Phone: (509) 574-0839 Fax: (509) 575-8453		DOH Source #:		Multiple Sources #s:	
Call with Verbal Results:		Email Results To: aembysk@fulcrum.net, cc: rmathews@fulcrum.net		Sample Purpose: A B Other		Matrix: WW=Wastewater GW=Groundwater S=Soil/Sludge E=Extract	
Fax Results To:		Name: Lorrie Boutillier		Preservation: Unpres H ₂ SO ₄ 4°C HNO ₃ NaOH Na ₂ SO ₄ Other		SW=Surface Water DW=Drinking Water O=Oil X=Other	
Send Invoice To		Company: Fulcrum Environmental		Email: lboutillier@fulcrum.net		Container: P=Plastic G=Glass W=Wipe A=Air (filter or tube)	
Address: 406 N 2nd Street		City, State, Zip: Yakima, WA, 98901		Phone: (509) 574-0839 Fax: (509) 575-8453		Analysis Requested	
Special Instructions		Client Sample ID		Sample Description		Sample Date	
						Start Stop Wipe Area / Air Volume	
		CARE111016-CDF-P-34		RM-209		11/10/16	
		CARE111016-CF-P-35		RM-211			
		CARE111016-CDF-P-36		RM-213			
		CARE111016-CF-P-37		RM-210			
		CARE111016-CDF-P-38		RM-212			
		CARE111016-CDF-P-39		2nd floor west			
		CARE111016-CDF-P-40		2nd floor east			
		CARE111016-CF-P-41		RM-222			
		CARE111016-CDF-P-42		RM-220			
		CARE111016-CF-P-43		RM-222			
		CARE111016-CDF-P-44		RM-232			
Chain of Custody		Relinquished By (Signature): <i>Allyson Bess</i>		Date: 11-10-16 Time:		Chain of Custody	
Relinquished By (Print Name): <i>Allyson Bess</i>		Relinquished To:		Method of Shipment:		Received By (Signature):	
Company Name:		Date:		Time:		Received By (Print Name):	
Relinquished By (Signature):		Relinquished To:		Method of Shipment:		Received By (Signature):	
Relinquished By (Print Name):		Date:		Time:		Received By (Print Name):	
Company Name:		Date:		Time:		Received By (Signature):	
Relinquished By (Signature):		Relinquished To:		Method of Shipment:		Received By (Signature):	
Relinquished By (Print Name):		Date:		Time:		Received By (Print Name):	
Company Name:		Date:		Time:		Received By (Signature):	
Relinquished By (Signature):		Relinquished To:		Method of Shipment:		Received By (Signature):	
Relinquished By (Print Name):		Date:		Time:		Received By (Print Name):	
Company Name:		Date:		Time:		Received By (Signature):	

Pennsylvania - HQ
350 Hochberg Road
Monroeville, PA 15146

Washington
Columbia Basin Analytical Laboratories
2710 North 20th Avenue
Pasco, WA 99301

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RJ LEE GROUP
DELIVERING SCIENTIFIC RESOLUTION

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Kyan Mathews

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ATTACHMENT E

Remedial Analytical Results





Fremont
Analytical

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Fulcrum Environmental

Ryan Mathews
406 N. 2nd Street
Yakima, WA 98901

**RE: Pasco SD Drinking Water - Curie STEM Elementary Additional Sa
Work Order Number: 1701029**

January 05, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 26 sample(s) on 1/5/2017 for the analyses presented in the following report.

Drinking Water Metals by EPA Method 200.8

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward
Project Manager

DoD/ELAP Certification #L2371, ISO/IEC 17025:2005
ORELAP Certification: WA 100009-007 (NELAP Recognized)

CLIENT: Fulcrum Environmental
Project: Pasco SD Drinking Water - Curie STEM Ele
Work Order: 1701029

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1701029-001	CUR1417-CF-P-24	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-002	CUR1417-CF-S-24	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-003	CUR1417-CF-T-24	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-004	CUR1417-CDF-P-25	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-005	CUR1417-CDF-S-25	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-006	CUR1417-CDF-T-25	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-007	CUR1417-CDF-P-26	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-008	CUR1417-CDF-S-26	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-009	CUR1417-CDF-T-26	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-010	CUR1417-CF-P-27	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-011	CUR1417-CF-S-27	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-012	CUR1417-CF-T-27	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-013	CUR1417-CDF-P-48	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-014	CUR1417-CDF-S-48	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-015	CUR1417-CDF-T-48	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-016	CUR1417-CDF-P-49	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-017	CUR1417-CDF-S-49	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-018	CUR1417-CDF-T-49	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-019	CUR1417-CDF-P-50	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-020	CUR1417-CDF-S-50	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-021	CUR1417-CDF-T-50	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-022	CUR1417-CDF-P-56	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-023	CUR1417-CDF-S-56	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-024	CUR1417-CDF-T-56	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-025	CUR1417-CF-P-61	01/04/2017 6:30 AM	01/05/2017 9:17 AM
1701029-026	CUR1417-DF-P-62	01/04/2017 6:30 AM	01/05/2017 9:17 AM

CLIENT: Fulcrum Environmental**Project:** Pasco SD Drinking Water - Curie STEM Elementary Additional Sampling

WorkOrder Narrative:

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Prep Sample Comments:

1701029-001A 199977: Prep Comments for EPA200.8, Sample 1701029-001A: Turbidity: 0.24 NTU
1701029-004A 199978: Prep Comments for EPA200.8, Sample 1701029-004A: Turbidity: 0.19 NTU
1701029-007A 199979: Prep Comments for EPA200.8, Sample 1701029-007A: Turbidity: 0.13 NTU
1701029-010A 199980: Prep Comments for EPA200.8, Sample 1701029-010A: Turbidity: 0.27 NTU
1701029-013A 199981: Prep Comments for EPA200.8, Sample 1701029-013A: Turbidity: 0.10 NTU
1701029-016A 199982: Prep Comments for EPA200.8, Sample 1701029-016A: Turbidity: 0.12 NTU
1701029-019A 199983: Prep Comments for EPA200.8, Sample 1701029-019A: Turbidity: 0.16 NTU
1701029-022A 199984: Prep Comments for EPA200.8, Sample 1701029-022A: Turbidity: 0.14 NTU
1701029-025A 199985: Prep Comments for EPA200.8, Sample 1701029-025A: Turbidity: 0.10 NTU
1701029-026A 199986: Prep Comments for EPA200.8, Sample 1701029-026A: Turbidity: 0.23 NTU

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



Analytical Report

Work Order: 1701029
Date Reported: 1/5/2017

CLIENT: Fulcrum Environmental

Project: Pasco SD Drinking Water - Curie STEM Elementary Additional Sampling

Lab ID: 1701029-001

Client Sample ID: CUR1417-CF-P-24

Collection Date: 1/4/2017 6:30:00 AM

Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Drinking Water Metals by EPA Method 200.8

Batch ID: 15848 Analyst: TN

Copper	1,630	0.500		µg/L	1	1/5/2017 2:23:38 PM
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Lab ID: 1701029-004

Client Sample ID: CUR1417-CDF-P-25

Collection Date: 1/4/2017 6:30:00 AM

Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

Drinking Water Metals by EPA Method 200.8

Batch ID: 15848 Analyst: TN

Copper	1,760	0.500		µg/L	1	1/5/2017 2:27:14 PM
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Lab ID: 1701029-007

Client Sample ID: CUR1417-CDF-P-26

Collection Date: 1/4/2017 6:30:00 AM

Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

Drinking Water Metals by EPA Method 200.8

Batch ID: 15848 Analyst: TN

Copper	1,720	0.500		µg/L	1	1/5/2017 2:30:50 PM
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Analytical Report

Work Order: 1701029
Date Reported: 1/5/2017

CLIENT: Fulcrum Environmental

Project: Pasco SD Drinking Water - Curie STEM Elementary Additional Sampling

Lab ID: 1701029-010

Client Sample ID: CUR1417-CF-P-27

Collection Date: 1/4/2017 6:30:00 AM

Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

Drinking Water Metals by EPA Method 200.8

Batch ID: 15848

Analyst: TN

Copper	1,440	0.500		µg/L	1	1/5/2017 2:34:26 PM
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Lab ID: 1701029-013

Client Sample ID: CUR1417-CDF-P-48

Collection Date: 1/4/2017 6:30:00 AM

Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Drinking Water Metals by EPA Method 200.8

Batch ID: 15848

Analyst: TN

Copper	1,140	0.500		µg/L	1	1/5/2017 2:38:01 PM
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Lab ID: 1701029-016

Client Sample ID: CUR1417-CDF-P-49

Collection Date: 1/4/2017 6:30:00 AM

Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Drinking Water Metals by EPA Method 200.8

Batch ID: 15848

Analyst: TN

Copper	1,080	0.500		µg/L	1	1/5/2017 2:41:37 PM
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Analytical Report

Work Order: 1701029
Date Reported: 1/5/2017

CLIENT: Fulcrum Environmental

Project: Pasco SD Drinking Water - Curie STEM Elementary Additional Sampling

Lab ID: 1701029-019

Client Sample ID: CUR1417-CDF-P-50

Collection Date: 1/4/2017 6:30:00 AM

Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Drinking Water Metals by EPA Method 200.8

Batch ID: 15848

Analyst: TN

Copper	1,050	0.500		µg/L	1	1/5/2017 2:52:27 PM
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Lab ID: 1701029-022

Client Sample ID: CUR1417-CDF-P-56

Collection Date: 1/4/2017 6:30:00 AM

Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Drinking Water Metals by EPA Method 200.8

Batch ID: 15848

Analyst: TN

Copper	1,900	0.500		µg/L	1	1/5/2017 2:56:03 PM
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Lab ID: 1701029-025

Client Sample ID: CUR1417-CF-P-61

Collection Date: 1/4/2017 6:30:00 AM

Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Drinking Water Metals by EPA Method 200.8

Batch ID: 15848

Analyst: TN

Copper	ND	0.500		µg/L	1	1/5/2017 2:59:38 PM
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Analytical Report

Work Order: 1701029

Date Reported: 1/5/2017

CLIENT: Fulcrum Environmental

Project: Pasco SD Drinking Water - Curie STEM Elementary Additional Sampling

Lab ID: 1701029-026

Collection Date: 1/4/2017 6:30:00 AM

Client Sample ID: CUR1417-DF-P-62

Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Drinking Water Metals by EPA Method 200.8

Batch ID: 15848

Analyst: TN

Copper	1,420	0.500		µg/L	1	1/5/2017 3:03:14 PM
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Work Order: 1701029
CLIENT: Fulcrum Environmental
Project: Pasco SD Drinking Water - Curie STEM Ele

QC SUMMARY REPORT

Drinking Water Metals by EPA Method 200.8

Sample ID	MB-15848	SampType:	MBLK	Units:	µg/L	Prep Date:	1/5/2017	RunNo:	33740		
Client ID:	MBLKW	Batch ID:	15848	Analysis Date:				1/5/2017	SeqNo:	640617	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	ND	0.500									
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Sample ID	LCS-15848	SampType: LCS			Units: µg/L		Prep Date: 1/5/2017			RunNo: 33740		
Client ID:	LCSW	Batch ID: 15848			Analysis Date: 1/5/2017			SeqNo: 640618				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

Copper	102	0.500	100.0	0	102	85	115				
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Sample ID	1612269-073ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	1/5/2017	RunNo:	33740		
Client ID:	BATCH	Batch ID:	15848	Analysis Date:				1/5/2017	SeqNo:	640622	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	97.8	0.500						100.7	2.97	30	
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Sample ID	1612269-073AMS	SampType:	MS	Units:	µg/L	Prep Date:	1/5/2017	RunNo:	33740		
Client ID:	BATCH	Batch ID:	15848	Analysis Date:				1/5/2017	SeqNo:	640623	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	301	0.500	200.0	100.7	100	70	130				
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Sample ID	1612269-073AMSD	SampType:	MSD	Units:	µg/L	Prep Date:	1/5/2017	RunNo:	33740		
Client ID:	BATCH	Batch ID:	15848	Analysis Date:				1/5/2017	SeqNo:	640624	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	312	0.500	200.0	100.7	106	70	130	300.7	3.80	30	
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Client Name: **FE**
 Logged by: **Erica Silva**

Work Order Number: **1701029**
 Date Received: **1/5/2017 9:17:00 AM**

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
 2. How was the sample delivered? UPS

Log In

3. Coolers are present? Yes ☒ No ☐ NA ☐
 4. Shipping container/cooler in good condition? Yes ☒ No ☐
 5. Custody Seals present on shipping container/cooler?
 (Refer to comments for Custody Seals not intact) Yes ☐ No ☐ Not Required ☒
 6. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
 7. Were all items received at a temperature of >0°C to 10.0°C* Yes ☒ No ☐ NA ☐
 8. Sample(s) in proper container(s)? Yes ☒ No ☐
 9. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
 10. Are samples properly preserved? Yes ☒ No ☐
 11. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
 12. Is there headspace in the VOA vials? Yes ☐ No ☐ NA ☒
 13. Did all samples containers arrive in good condition(unbroken)? Yes ☒ No ☐
 14. Does paperwork match bottle labels? Yes ☒ No ☐
 15. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
 16. Is it clear what analyses were requested? Yes ☒ No ☐
 17. Were all holding times able to be met? Yes ☒ No ☐

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: Date
 By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
 Regarding:
 Client Instructions:

19. Additional remarks:

Item Information

Item #	Temp °C
Cooler 1	0.3
Cooler 2	0.6
Sample 1	0.1
Sample 2	0.8

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C



Fremont

Analytical

3600 Fremont Ave N.
Seattle, WA 98103

Tel: 206-352-3790
Fax: 206-352-7178

Chain of Custody Record and Laboratory Services Agreement

Date: 1/4/2017

Laboratory Project No (Internal): 1701029

Client: Fulcrum Environmental Consulting

Project Name: Pasco SD Drinking Water - Curie STEM Elementary Additional Sampling

Address: 406 North Second Street

Project No: 161898.08
Location: Curie STEM Elementary, Pasco, WA

City, State, Zip: Yakima, WA 98901

Report To (PM): Ryan Mathews

Telephone: 509.574.0839 Fax: 509.545.8453

PM Email: rmathews@fulcrum.net; cc: aenbysk@fulcrum.net

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)																Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				GY/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCS (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (IC)***	EDB (8011)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite
 Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be assessed if samples are retained after 30 days.)

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished	Date/Time	Received	Date/Time
<i>[Signature]</i>	1/4/2017 1645	<i>[Signature]</i>	1/5/17 0917
Relinquished	Date/Time	Received	Date/Time
<i>[Signature]</i>		<i>[Signature]</i>	



Fremont

Analytical

3600 Fremont Ave N.
Seattle, WA 98103

Tel: 206-352-3790
Fax: 206-352-7178

Chain of Custody Record and Laboratory Services Agreement

Date: 1/4/2017

Laboratory Project No (Internal):

1701029

Page: 2 of 3

Client: Fulcrum Environmental Consulting

Project Name: Pasco SD Drinking Water - Curie STEM Elementary Additional Sampling

Collected by: Amanda Enbysk

Address: 406 North Second Street

Location: Curie STEM Elementary, Pasco, WA

City, State, Zip: Yakima, WA 98901

Report To (PM): Ryan Mathews

Telephone: 509.574.0839 Fax: 509.545.8453

PM Email: rmathews@fulcrum.net, cc:aenbysk@fulcrum.net

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GY/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)***	EDB (8011)	Comments	
CUR1417-CF-S-27	1/4/2017	630	DW								X							HOLD
CUR1417-CF-T-27	1/4/2017	630	DW								X							HOLD
CUR1417-CDF-P-48	1/4/2017	630	DW								X							
CUR1417-CDF-S-48	1/4/2017	630	DW								X							HOLD
CUR1417-CDF-T-48	1/4/2017	630	DW								X							HOLD
CUR1417-CDF-P-49	1/4/2017	630	DW								X							
CUR1417-CDF-S-49	1/4/2017	630	DW								X							HOLD
CUR1417-CDF-T-49	1/4/2017	630	DW								X							HOLD
CUR1417-CDF-P-50	1/4/2017	630	DW								X							
CUR1417-CDF-S-50	1/4/2017	630	DW								X							HOLD

**Metals Analysis (Circle):			MTCA-5	RCCA-8	Priority Pollutants	TAL	Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu	Fe	Hg	K	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Sr	Sn	Ti	Tl	U	V	Zn
***Anions (Circle):			Nitrate	Nitrite	Chloride	Sulfate	Bromide	O-Phosphate	Fluoride	Nitrate+Nitrite	Turn-around times for samples received after 4:00pm will begin on the following business day.														
Sample Disposal:			☐ Return to Client	☐ Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be assessed if samples are retained after 30 days.)																					
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Relinquished	Date/Time	Received	Date/Time																						
Relinquished	1/4/2017 1645		15/2017 0917																						
TAT: ASAP																									
Please coordinate with the lab in advance																									

411 HNO3 preserved

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite
 Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be assessed if samples are retained after 30 days.)

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Relinquished Date/Time 1/4/2017 1645 Received Date/Time 1/5/2017 0917

Relinquished Date/Time 1/4/2017 1645 Received Date/Time 1/5/2017 0917

Special Remarks: All HNO3 preserved

TAT: ASAP

TAT → SameDay NextDay 2 Day 3 Day STD
 *Please coordinate with the lab in advance



Fremont

Analytical

3600 Fremont Ave N.
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Chain of Custody Record and Laboratory Services Agreement

Date: 1/4/2017

Laboratory Project No (Internal):

1701029

Page: 3 of: 3

Project Name: Pasco SD Drinking Water - Curie STEM Elementary Additional Sampling

Project No: 161898.08

Collected by: Amanda Enbysk

Location: Curie STEM Elementary, Pasco, WA

Report To (PM): Ryan Matthews

PM Email: rmatthews@fulcrum.net; cc: aenbysk@fulcrum.net

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GY/BTEX	BTEX	Gasoline Range Organics (GY)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DH)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (IC)**	EDB (8011)	Comments
CUR1417-CDP-T-50	1/4/2017	630	DW														HOLD
CUR1417-CDP-P-56	1/4/2017	630	DW														HOLD
CUR1417-CDP-S-56	1/4/2017	630	DW														HOLD
CUR1417-CDP-T-56	1/4/2017	630	DW														HOLD
CUR1417-CF-P-61	1/4/2017	630	DW														
CUR1417-DE-P-62	1/4/2017	630	DW														

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite Turn-around times for samples received after 4:00pm will begin on the following business day.

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Refused

Date/Time

Received

Date/Time

Received

Refused

Date/Time

Received

Date/Time

Received

Date/Time

Reinquished

Date/Time

Received

Date/Time

Received



Fremont
Analytical

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Fulcrum Environmental

Ryan Mathews
406 N. 2nd Street
Yakima, WA 98901

RE: Pasco SD Drinking Water - Curie STEM Elementary
Work Order Number: 1703334

March 30, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 11 sample(s) on 3/30/2017 for the analyses presented in the following report.

Drinking Water Metals by EPA Method 200.8

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward
Project Manager

CC:
Amanda Enbysk

CLIENT: Fulcrum Environmental
Project: Pasco SD Drinking Water - Curie STEM Ele
Work Order: 1703334

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1703334-001	CUR32917-CF-P-24	03/29/2017 6:30 AM	03/30/2017 9:25 AM
1703334-002	CUR32917-CF-S-24	03/29/2017 6:30 AM	03/30/2017 9:25 AM
1703334-003	CUR32917-CF-T-24	03/29/2017 6:30 AM	03/30/2017 9:25 AM
1703334-004	CUR32917-CDF-P-25	03/29/2017 6:30 AM	03/30/2017 9:25 AM
1703334-005	CUR32917-CDF-S-25	03/29/2017 6:30 AM	03/30/2017 9:25 AM
1703334-006	CUR32917-CDF-T-25	03/29/2017 6:30 AM	03/30/2017 9:25 AM
1703334-007	CUR32917-CF-P-27	03/29/2017 6:30 AM	03/30/2017 9:25 AM
1703334-008	CUR32917-CF-S-27	03/29/2017 6:30 AM	03/30/2017 9:25 AM
1703334-009	CUR32917-CF-T-27	03/29/2017 6:30 AM	03/30/2017 9:25 AM
1703334-010	CUR32917-CF-P-61	03/29/2017 6:30 AM	03/30/2017 9:25 AM
1703334-011	CUR32917-DF/WC-P-62	03/29/2017 6:30 AM	03/30/2017 9:25 AM

CLIENT: Fulcrum Environmental
Project: Pasco SD Drinking Water - Curie STEM Elementary

WorkOrder Narrative:

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Prep Sample Comments:

1703334-001A 213365: Prep Comments for EPA200.8, Sample 1703334-001A: Turbidity: 0.01 NTU

1703334-004A 213366: Prep Comments for EPA200.8, Sample 1703334-004A: Turbidity: 0.01 NTU

1703334-007A 213367: Prep Comments for EPA200.8, Sample 1703334-007A: Turbidity: 0.01 NTU

1703334-010A 213368: Prep Comments for EPA200.8, Sample 1703334-010A: Turbidity: 0.01 NTU

1703334-011A 213369: Prep Comments for EPA200.8, Sample 1703334-011A: Turbidity: 0.00 NTU

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



Analytical Report

Work Order: 1703334
Date Reported: 3/30/2017

CLIENT: Fulcrum Environmental
Project: Pasco SD Drinking Water - Curie STEM Elementary

Lab ID: 1703334-001
Client Sample ID: CUR32917-CF-P-24
Collection Date: 3/29/2017 6:30:00 AM
Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Drinking Water Metals by EPA Method 200.8</u>				Batch ID: 16636		Analyst: TN
Copper	1,180	0.500		µg/L	1	3/30/2017 2:21:35 PM

Lab ID: 1703334-004
Client Sample ID: CUR32917-CDF-P-25
Collection Date: 3/29/2017 6:30:00 AM
Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Drinking Water Metals by EPA Method 200.8</u>				Batch ID: 16636		Analyst: TN
Copper	1,340	0.500		µg/L	1	3/30/2017 2:25:36 PM

Lab ID: 1703334-007
Client Sample ID: CUR32917-CF-P-27
Collection Date: 3/29/2017 6:30:00 AM
Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Drinking Water Metals by EPA Method 200.8</u>				Batch ID: 16636		Analyst: TN
Copper	1,020	0.500		µg/L	1	3/30/2017 2:29:38 PM



Analytical Report

Work Order: 1703334
Date Reported: 3/30/2017

CLIENT: Fulcrum Environmental
Project: Pasco SD Drinking Water - Curie STEM Elementary

Lab ID: 1703334-010

Client Sample ID: CUR32917-CF-P-61

Collection Date: 3/29/2017 6:30:00 AM

Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Drinking Water Metals by EPA Method 200.8

Batch ID: 16636

Analyst: TN

Copper	ND	0.500		µg/L	1	3/30/2017 2:33:39 PM
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Lab ID: 1703334-011

Client Sample ID: CUR32917-DF/WC-P-62

Collection Date: 3/29/2017 6:30:00 AM

Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Drinking Water Metals by EPA Method 200.8

Batch ID: 16636

Analyst: TN

Copper	1,350	0.500		µg/L	1	3/30/2017 2:37:40 PM
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Work Order: 1703334
CLIENT: Fulcrum Environmental
Project: Pasco SD Drinking Water - Curie STEM Ele

QC SUMMARY REPORT

Drinking Water Metals by EPA Method 200.8

Sample ID	MB-16636	SampType:	MBLK		Units:	µg/L		Prep Date:	3/30/2017		RunNo:	35228	
Client ID:	MBLKW	Batch ID:	16636					Analysis Date:	3/30/2017		SeqNo:	673718	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val		%RPD	RPDLimit	Qual
Copper		ND	0.500										

Sample ID	LCS-16636	SampType:	LCS		Units:	µg/L		Prep Date:	3/30/2017		RunNo:	35228	
Client ID:	LCSW	Batch ID:	16636					Analysis Date:	3/30/2017		SeqNo:	673719	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val		%RPD	RPDLimit	Qual
Copper		95.8	0.500	100.0	0	95.8	85	115					

Sample ID	1703298-001ADUP	SampType:	DUP		Units:	µg/L		Prep Date:	3/30/2017		RunNo:	35228	
Client ID:	BATCH	Batch ID:	16636					Analysis Date:	3/30/2017		SeqNo:	673723	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val		%RPD	RPDLimit	Qual
Copper		3.09	0.500						3.227		4.26	30	

Sample ID	1703298-001AMS	SampType:	MS		Units:	µg/L		Prep Date:	3/30/2017		RunNo:	35228	
Client ID:	BATCH	Batch ID:	16636					Analysis Date:	3/30/2017		SeqNo:	673724	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val		%RPD	RPDLimit	Qual
Copper		195	0.500	200.0	3.227	95.8	70	130					

Sample ID	1703298-001AMSD	SampType:	MSD		Units:	µg/L		Prep Date:	3/30/2017		RunNo:	35228	
Client ID:	BATCH	Batch ID:	16636					Analysis Date:	3/30/2017		SeqNo:	673725	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val		%RPD	RPDLimit	Qual
Copper		203	0.500	200.0	3.227	99.9	70	130	194.9		4.10	30	



Work Order Number: **1703334**

Date Received: **3/30/2017 9:25:00 AM**

1. Is Chain of Custody complete?	Yes ☒	No ☐	Not Present ☐
2. How was the sample delivered?	UPS		

3. Coolers are present?	Yes ☒	No ☐	NA ☐
4. Shipping container/cooler in good condition?	Yes ☒	No ☐	
5. Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☒	Not Required ☐
6. Was an attempt made to cool the samples?	Yes ☒	No ☐	NA ☐
7. Were all items received at a temperature of $>0^{\circ}\text{C}$ to 10.0°C *	Yes ☒	No ☐	NA ☐
8. Sample(s) in proper container(s)?	Yes ☒	No ☐	
9. Sufficient sample volume for indicated test(s)?	Yes ☒	No ☐	
10. Are samples properly preserved?	Yes ☒	No ☐	
11. Was preservative added to bottles?	Yes ☒	No ☐	NA ☐
12. Is there headspace in the VOA vials?	Yes ☐	No ☐	HNO3 ☐
13. Did all samples containers arrive in good condition(unbroken)?	Yes ☒	No ☐	NA ☒
14. Does paperwork match bottle labels?	Yes ☒	No ☐	
15. Are matrices correctly identified on Chain of Custody?	Yes ☒	No ☐	
16. Is it clear what analyses were requested?	Yes ☒	No ☐	
17. Were all holding times able to be met?	Yes ☒	No ☐	

18. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: Date:
 By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
 Regarding:
 Client Instructions:

19. Additional remarks:

Item #	Temp °C
Cooler	1.1
Sample	1.5

Original



Fremont

Analytical

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Seattle, WA 98103

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Project Name:

Pasco SD Drinking Water - Curie STEM Elementary

Project No:

161898.08

Location:

Curie STEM Elementary School, Pasco, WA

Report To (PM):

Ryan Mathews

PM Email:

rmathews@fulcrum.net; cc: aenbysk@fulcrum.net

Date: 3/29/2017

Laboratory Project No (Internal):

17033334

Page: 1 of 2

Chain of Custody Record and Laboratory Services Agreement

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Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	SVOs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (IC)***	EDB (801.1)	Comments
1 CUR32917-CF-P-24	3/29/2017	0630	DW													HND3 preserved
2 CUR32917-CF-S-24																HND3 unp.
3 CUR32917-CF-T-24																HND3 preserved
4 CUR32917-COF-P-25																HND3 preserved
5 CUR32917-COF-S-25																HND3 unp.
6 CUR32917-COF-T-25																HND3 preserved
7 CUR32917-CF-P-27																HND3 unp.
8 CUR32917-CF-S-27																HND3 unp.
9 CUR32917-CF-T-27																HND3 preserved
10 CUR32917-CF-P-261																HND3 preserved

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-phosphate Fluoride Nitrate+Nitrite
 Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be assessed if samples are retained after 30 days.)
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 Refiniquished: 3/29/2017, 1600 Received: 3/30/2017 0925
 Reinquished: 3/29/2017, 1600 Received: 3/30/2017 0925
 Date/Time Date/Time
 TAT - ASAP
 TAT - SameDay NextDay 2 Day 3 Day STD
 *Please coordinate with the lab in advance



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Fax: 206-352-7178

Chain of Custody Record and Laboratory Services Agreement

Date: 3/29/2017

Laboratory Project No (Internal):

Page: 2 of 2

Client: Fulcrum Environmental Consulting

Project Name: Pasco SD Drinking Water -Curie STEM Elementary

161898.08

Address: 406 North Second Street

Project No: Curie STEM Elementary School, Pasco, WA

City, State, Zip: Yakima, WA, 98901

Collected by: Amanda Embysk

Telephone: 509.574.0839 Fax: 509.575.8453

Report To (PM): Ryan Mathews
rmathews@fulcrum.net; cc: aenbysk@fulcrum.net

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624) GX/BTEX BTEX Gasoline Range Organics (GX) Hydrocarbon Identification (HCD) Diesel/Heavy Oil Range Organics (DX) SVOCS (EPA 8270 / 625) PAHs (EPA 8270 - SIM) PCBs (EPA 8082 / 608) Metals** (EPA 6020 / 200.8) Total (T) Dissolved (D) Anions (C)*** EDB (8011)	Comments
1 J083017-05/WC-P-62	3/29/2017	0630	DW	⊕	HVOCs preserved
2					
3					
4					
5					
6					
7					
8					
9					
10					

***Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate-Nitrite Turn-around times for samples received after 4:00pm will begin on the following business day.

Sample Disposal: ☐ Return to Client ☐ Disposed by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be assessed if samples are retained after 30 days.)

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished: *[Signature]* Date/Time: 3/29/2017 1600 Received: *[Signature]* Date/Time: 3/30/2017 0925

Relinquished: *[Signature]* Date/Time: 3/29/2017 1600 Received: *[Signature]* Date/Time: 3/30/2017 0925

TAT → SameDay NextDay 2 Day 3 Day STD

Please coordinate with the lab in advance



Fremont
Analytical

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Fulcrum Environmental

Ryan Mathews
406 N. 2nd Street
Yakima, WA 98901

RE: Pasco SD Drinking Water - Curie STEM Elementary
Work Order Number: 1704309

April 26, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 5 sample(s) on 4/26/2017 for the analyses presented in the following report.

Drinking Water Metals by EPA Method 200.8

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward
Project Manager

CC:
Amanda Enbysk

DoD/ELAP Certification #L2371, ISO/IEC 17025:2005
ORELAP Certification: WA 100009-007 (NELAP Recognized)

Original

www.fremontanalytical.com

CLIENT: Fulcrum Environmental
Project: Pasco SD Drinking Water - Curie STEM Ele
Work Order: 1704309

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1704309-001	CUR42517-CDF-P-26	04/25/2017 8:30 AM	04/26/2017 9:36 AM
1704309-002	CUR42517-CDF-S-26	04/25/2017 8:30 AM	04/26/2017 9:36 AM
1704309-003	CUR42517-CDF-T-26	04/25/2017 8:30 AM	04/26/2017 9:36 AM
1704309-004	CUR42517-CF-P-61	04/25/2017 8:30 AM	04/26/2017 9:36 AM
1704309-005	CUR42517-DF-P-62	04/25/2017 8:30 AM	04/26/2017 9:36 AM

CLIENT: Fulcrum Environmental
Project: Pasco SD Drinking Water - Curie STEM Elementary

WorkOrder Narrative:**I. SAMPLE RECEIPT:**

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Prep Sample Comments:

1704309-001A 216808: Prep Comments for EPA200.8, Sample 1704309-001A: Turbidity: 0.04 NTU

1704309-004A 216812: Prep Comments for EPA200.8, Sample 1704309-004A: Turbidity: 0.07 NTU

1704309-005A 216813: Prep Comments for EPA200.8, Sample 1704309-005A: Turbidity: 0.02 NTU

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



Analytical Report

Work Order: 1704309
Date Reported: 4/26/2017

CLIENT: Fulcrum Environmental
Project: Pasco SD Drinking Water - Curie STEM Elementary

Lab ID: 1704309-001
Client Sample ID: CUR42517-CDF-P-26
Collection Date: 4/25/2017 8:30:00 AM
Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Drinking Water Metals by EPA Method 200.8</u>				Batch ID: 16884		Analyst: TN
Copper	1,650	0.500		µg/L	1	4/26/2017 12:12:14 PM

Lab ID: 1704309-004
Client Sample ID: CUR42517-CF-P-61
Collection Date: 4/25/2017 8:30:00 AM
Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Drinking Water Metals by EPA Method 200.8</u>				Batch ID: 16884		Analyst: TN
Copper	0.579	0.500		µg/L	1	4/26/2017 12:28:19 PM

Lab ID: 1704309-005
Client Sample ID: CUR42517-DF-P-62
Collection Date: 4/25/2017 8:30:00 AM
Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Drinking Water Metals by EPA Method 200.8</u>				Batch ID: 16884		Analyst: TN
Copper	1,350	0.500		µg/L	1	4/26/2017 12:32:21 PM

Work Order: 1704309
CLIENT: Fulcrum Environmental
Project: Pasco SD Drinking Water - Curie STEM Ele

QC SUMMARY REPORT

Drinking Water Metals by EPA Method 200.8

Sample ID	MB-16884	SampType:	MBLK	Units:	µg/L	Prep Date:	4/26/2017	RunNo:	35748		
Client ID:	MBLKW	Batch ID:	16884			Analysis Date:	4/26/2017	SeqNo:	684782		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.500									

Sample ID	LCS-16884	SampType:	LCS	Units:	µg/L	Prep Date:	4/26/2017	RunNo:	35748		
Client ID:	LCSW	Batch ID:	16884			Analysis Date:	4/26/2017	SeqNo:	684783		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	101	0.500	100.0	0	101	85	115				

Sample ID	1704309-001ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	4/26/2017	RunNo:	35748		
Client ID:	CUR42517-CDF-P-26	Batch ID:	16884			Analysis Date:	4/26/2017	SeqNo:	684787		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	1.640	0.500						1.648	0.306	30	

Sample ID	1704309-001AMS	SampType:	MS	Units:	µg/L	Prep Date:	4/26/2017	RunNo:	35748		
Client ID:	CUR42517-CDF-P-26	Batch ID:	16884			Analysis Date:	4/26/2017	SeqNo:	684788		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	1.780	0.500	200.0	1.648	67.6	70	130				S

NOTES:

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed and recovered within range.

Sample ID	1704309-001AMSD	SampType:	MSD	Units:	µg/L	Prep Date:	4/26/2017	RunNo:	35748		
Client ID:	CUR42517-CDF-P-26	Batch ID:	16884			Analysis Date:	4/26/2017	SeqNo:	684789		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	1,820	0.500	200.0	1,648	85.7	70	130	1,783	2.02	30	



Work Order Number: **1704309**

Date Received: **4/26/2017 9:36:00 AM**

1. Is Chain of Custody complete?	Yes ☒	No ☐	Not Present ☐
2. How was the sample delivered?	UPS		

3. Coolers are present?	Yes ☒	No ☐	NA ☐
4. Shipping container/cooler in good condition?	Yes ☒	No ☐	
5. Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Required ☒
6. Was an attempt made to cool the samples?	Yes ☒	No ☐	NA ☐
7. Were all items received at a temperature of $>0^{\circ}\text{C}$ to 10.0°C *	Yes ☒	No ☐	NA ☐
8. Sample(s) in proper container(s)?	Yes ☒	No ☐	
9. Sufficient sample volume for indicated test(s)?	Yes ☒	No ☐	
10. Are samples properly preserved?	Yes ☒	No ☐	
11. Was preservative added to bottles?	Yes ☒	No ☐	NA ☐
12. Is there headspace in the VOA vials?	Yes ☐	No ☐	HNO3 NA ☒
13. Did all samples containers arrive in good condition(unbroken)?	Yes ☒	No ☐	
14. Does paperwork match bottle labels?	Yes ☒	No ☐	
15. Are matrices correctly identified on Chain of Custody?	Yes ☒	No ☐	
16. Is it clear what analyses were requested?	Yes ☒	No ☐	
17. Were all holding times able to be met?	Yes ☒	No ☐	

18. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: Date:
 By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
 Regarding:
 Client Instructions:

19. Additional remarks:

Item #	Temp °C
Cooler	4.8
Sample	1.4

Original



Fremont
Analytical

3600 Fremont Ave N.
Seattle, WA 98103

Tel: 206-352-3790
Fax: 206-352-7178

Client: Fulcrum Environmental Consulting

Address: 406 North Second Street

City, State, Zip: Yakima, WA, 98901

Telephone: 509.574.0839

Fax: 509.575.8453

PM Email:

rmathews@fulcrum.net; cc: aenbysk@fulcrum.net

Project Name:

Basco SD Drinking Water - Cure STEM Elementary

Project No:

161898.08

Collected by: Amanda Embysk

Location:

Monte Cure STEM Elementary, Basco, WA

Report To (PM):

Ryan Mathews

Date: 4/25/17

Laboratory Project No (Internal):

1704709

Page: 1 of 1

Chain of Custody Record and Laboratory Services Agreement

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCD)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (IC)**	EDB (8011)	Comments	
1 CUR-42517-40F-P-26	4/25/17	0830	DW															
2 CUR-42517-40F-S-26																		
3 CUR-42517-40F-T-26																		
4 CUR-42517-40F-P-61																		
5 CUR-42517-40F-P-62																		
6																		
7																		
8																		
9																		
10																		

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate-Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be assessed if samples are retained after 30 days.)

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Refused/Noted: ☒ Date/Time: 4/25/2017 11:00

Received: ☒ Date/Time: 4/26/17 0936

Retained: ☒ Date/Time: 4/26/17 0936

Special Remarks: Please preserve all unreserved

TAT: ASAP

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

*Please coordinate with the lab in advance



Fremont
Analytical

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Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Fulcrum Environmental

Ryan Mathews
406 N. 2nd Street
Yakima, WA 98901

RE: Pasco SD Drinking Water - Curie STEM Elementary
Work Order Number: 1705326

June 02, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 8 sample(s) on 5/30/2017 for the analyses presented in the following report.

Drinking Water Metals by EPA Method 200.8

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward
Project Manager

DoD/ELAP Certification #L2371, ISO/IEC 17025:2005
ORELAP Certification: WA 100009-007 (NELAP Recognized)

CLIENT: Fulcrum Environmental
Project: Pasco SD Drinking Water - Curie STEM Ele
Work Order: 1705326

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1705326-001	CUR52617-CDF-P-26	05/26/2017 7:15 AM	05/30/2017 9:25 AM
1705326-002	CUR52617-CDF-S-26	05/26/2017 7:15 AM	05/30/2017 9:25 AM
1705326-003	CUR52617-CDF-T-26	05/26/2017 7:15 AM	05/30/2017 9:25 AM
1705326-004	CUR52617-CDF-P-56	05/26/2017 7:15 AM	05/30/2017 9:25 AM
1705326-005	CUR52617-CDF-S-56	05/26/2017 7:15 AM	05/30/2017 9:25 AM
1705326-006	CUR52617-CDF-T-56	05/26/2017 7:15 AM	05/30/2017 9:25 AM
1705326-007	CUR52617-CF-P-61	05/26/2017 7:15 AM	05/30/2017 9:25 AM
1705326-008	CUR52617-DF-P-62	05/26/2017 7:15 AM	05/30/2017 9:25 AM

CLIENT: Fulcrum Environmental
Project: Pasco SD Drinking Water - Curie STEM Elementary

WorkOrder Narrative:

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Prep Sample Comments:

1705326-001A 221924: Prep Comments for EPA200.8, Sample 1705326-001A: Turbidity: 0.01 NTU
1705326-004A 221925: Prep Comments for EPA200.8, Sample 1705326-004A: Turbidity: 0.02 NTU
1705326-007A 221926: Prep Comments for EPA200.8, Sample 1705326-007A: Turbidity: 0.04 NTU
1705326-008A 221927: Prep Comments for EPA200.8, Sample 1705326-008A: Turbidity: 0.03 NTU

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



Analytical Report

Work Order: 1705326
Date Reported: 6/2/2017

CLIENT: Fulcrum Environmental
Project: Pasco SD Drinking Water - Curie STEM Elementary

Lab ID: 1705326-001
Client Sample ID: CUR52617-CDF-P-26
Collection Date: 5/26/2017 7:15:00 AM
Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Drinking Water Metals by EPA Method 200.8</u>				Batch ID: 17228	Analyst: TN	
Copper	1,310	0.500		µg/L	1	6/1/2017 5:41:16 PM

Lab ID: 1705326-004
Client Sample ID: CUR52617-CDF-P-56
Collection Date: 5/26/2017 7:15:00 AM
Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Drinking Water Metals by EPA Method 200.8</u>				Batch ID: 17228	Analyst: TN	
Copper	849	0.500		µg/L	1	6/1/2017 5:45:17 PM

Lab ID: 1705326-007
Client Sample ID: CUR52617-CF-P-61
Collection Date: 5/26/2017 7:15:00 AM
Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Drinking Water Metals by EPA Method 200.8</u>				Batch ID: 17228	Analyst: TN	
Copper	0.560	0.500		µg/L	1	6/1/2017 5:49:19 PM



Analytical Report

Work Order: 1705326

Date Reported: 6/2/2017

CLIENT: Fulcrum Environmental

Project: Pasco SD Drinking Water - Curie STEM Elementary

Lab ID: 1705326-008

Collection Date: 5/26/2017 7:15:00 AM

Client Sample ID: CUR52617-DF-P-62

Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Drinking Water Metals by EPA Method 200.8

Batch ID: 17228

Analyst: TN

Copper	1,360	0.500		µg/L	1	6/1/2017 5:53:20 PM
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Work Order: 1705326
CLIENT: Fulcrum Environmental
Project: Pasco SD Drinking Water - Curie STEM Ele

QC SUMMARY REPORT

Drinking Water Metals by EPA Method 200.8

Sample ID	MB-17228	SampType:	MBLK	Units:	µg/L	Prep Date:	6/1/2017	RunNo:	36533			
Client ID:	MBLKW	Batch ID:	17228			Analysis Date:	6/1/2017	SeqNo:	701073			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	ND	0.500										
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Sample ID	LCS-17228	SampType:	LCS	Units:	µg/L	Prep Date:	6/1/2017	RunNo:	36533		
Client ID:	LCSW	Batch ID:	17228			Analysis Date:	6/1/2017	SeqNo:	701074		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	103	0.500	100.0	0	103	85	115					
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Sample ID	1705308-001ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	6/1/2017	RunNo:	36533			
Client ID:	BATCH	Batch ID:	17228			Analysis Date:	6/1/2017	SeqNo:	701076			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	187	0.500							198.7	5.82	30	
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Sample ID	1705308-001AMS	SampType:	MS	Units:	µg/L	Prep Date:	6/1/2017	RunNo:	36533		
Client ID:	BATCH	Batch ID:	17228			Analysis Date:	6/1/2017	SeqNo:	701077		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	410	0.500	200.0	198.7	106	70	130					
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Sample ID	1705308-001AMSD	SampType:	MSD	Units:	µg/L	Prep Date:	6/1/2017	RunNo:	36533			
Client ID:	BATCH	Batch ID:	17228			Analysis Date:	6/1/2017	SeqNo:	701080			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	402	0.500	200.0	198.7	102	70	130	410.2	1.97	30		
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Work Order Number: **1705326**

Date Received: **5/30/2017 9:25:00 AM**

1. Is Chain of Custody complete?	Yes ☒	No ☐	Not Present ☐
2. How was the sample delivered?	UPS		

3. Coolers are present?	Yes ☒	No ☐	NA ☐
4. Shipping container/cooler in good condition?	Yes ☒	No ☐	
5. Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☒	Not Required ☐
6. Was an attempt made to cool the samples?	Yes ☒	No ☐	NA ☐
7. Were all items received at a temperature of >0°C to 10.0°C*	Yes ☒	No ☐	NA ☐
8. Sample(s) in proper container(s)?	Yes ☒	No ☐	
9. Sufficient sample volume for indicated test(s)?	Yes ☒	No ☐	
10. Are samples properly preserved?	Yes ☒	No ☐	
11. Was preservative added to bottles?	Yes ☒	No ☐	NA ☐
		HNO3 to 002A, 003A, 005A, 006A	
12. Is there headspace in the VOA vials?	Yes ☐	No ☐	NA ☒
13. Did all samples containers arrive in good condition(unbroken)?	Yes ☒	No ☐	
14. Does paperwork match bottle labels?	Yes ☒	No ☐	
15. Are matrices correctly identified on Chain of Custody?	Yes ☒	No ☐	
16. Is it clear what analyses were requested?	Yes ☒	No ☐	
17. Were all holding times able to be met?	Yes ☒	No ☐	

18. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: Date:
 By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
 Regarding:
 Client Instructions:

6/1/17: Client expedited TAT

Item #	Temp °C
Cooler	5.4
Sample	5.6

Original



Fremont

Analytical

3600 Fremont Ave N.
Seattle, WA 98103

Tel: 206-352-3790
Fax: 206-352-7178

Client: Fulcrum Environmental Consulting
Address: 406 North Second Street
City, State, Zip: Yakima, WA, 98901

Telephone: 509.574.0839 Fax: 509.575.8453

Chain of Custody Record and Laboratory Services Agreement

Date: 5/26/2017

Laboratory Project No (Internal):

17053240

Page: 1 of 1

Project Name:

Pasco SD Drinking Water - Curie STEM Elementary

Project No:

161898.08

Collected by: Amanda Enbysk

Location:

Marie Curie STEM Elementary, Pasco, WA

Report To (PM):

Ryan Mathews

PM Email:

rmathews@efulcrum.net; cc: aenbysk@efulcrum.net

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (IC)**	EDB (8011)	Comments	
1 CUR52417-COF-P-240	5/26/2017	715	DW														
2 CUR52417-COF-S-240																	
3 CUR52417-COF-T-240																	
4 CUR52417-COF-P-56																	
5 CUR52417-COF-S-56																	
6 CUR52417-COF-T-56																	
7 CUR52417-CF-P-61																	
8 CUR52417-COF-P-62																	
9																	
10																	



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Fulcrum Environmental

Ryan Mathews
406 N. 2nd Street
Yakima, WA 98901

RE: PSD Drinking Water - Curie Elementary
Work Order Number: 1707245

July 26, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 5 sample(s) on 7/26/2017 for the analyses presented in the following report.

Drinking Water Metals by EPA Method 200.8

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward
Project Manager

CC:
Amanda Enbysk

CLIENT: Fulcrum Environmental
Project: PSD Drinking Water - Curie Elementary
Work Order: 1707245

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1707245-001	CUR72517-CDF-P-26	07/25/2017 8:30 AM	07/26/2017 9:35 AM
1707245-002	CUR72517-CDF-S-26	07/25/2017 8:30 AM	07/26/2017 9:35 AM
1707245-003	CUR72517-CDF-T-26	07/25/2017 8:30 AM	07/26/2017 9:35 AM
1707245-004	CUR72517-CF-P-61	07/25/2017 8:30 AM	07/26/2017 9:35 AM
1707245-005	CUR72517-DF-P-62	07/25/2017 8:30 AM	07/26/2017 9:35 AM

CLIENT: Fulcrum Environmental
Project: PSD Drinking Water - Curie Elementary

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



Analytical Report

Work Order: 1707245

Date Reported: 7/26/2017

CLIENT: Fulcrum Environmental

Project: PSD Drinking Water - Curie Elementary

Lab ID: 1707245-001

Client Sample ID: CUR72517-CDF-P-26

Collection Date: 7/25/2017 8:30:00 AM

Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Drinking Water Metals by EPA Method 200.8</u>				Batch ID: 17729		Analyst: TN
Copper	1,150	0.500		µg/L	1	7/26/2017 2:24:17 PM

Lab ID: 1707245-004

Client Sample ID: CUR72517-CF-P-61

Collection Date: 7/25/2017 8:30:00 AM

Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Drinking Water Metals by EPA Method 200.8</u>				Batch ID: 17729		Analyst: TN
Copper	0.509	0.500		µg/L	1	7/26/2017 2:36:23 PM

Lab ID: 1707245-005

Client Sample ID: CUR72517-DF-P-62

Collection Date: 7/25/2017 8:30:00 AM

Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Drinking Water Metals by EPA Method 200.8</u>				Batch ID: 17729		Analyst: TN
Copper	1,310	0.500		µg/L	1	7/26/2017 2:40:24 PM



Date: 7/26/2017

Work Order: 1707245

CLIENT: Fulcrum Environmental

Project: PSD Drinking Water - Curie Elementary

QC SUMMARY REPORT**Drinking Water Metals by EPA Method 200.8**

Sample ID	MB-17729	SampType:	MBLK			Units:	µg/L			Prep Date:	7/26/2017		RunNo:	37627	
Client ID:	MBLKW	Batch ID:	17729							Analysis Date:	7/26/2017		SeqNo:	723005	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val		%RPD	RPDLimit	Qual		

Copper		ND	0.500									
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Sample ID	LCS-17729	SampType:	LCS	Units:	µg/L	Prep Date:	7/26/2017	RunNo:	37627		
Client ID:	LCSW	Batch ID:	17729			Analysis Date:	7/26/2017	SeqNo:	723006		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper		98.2	0.500	100.0	0	98.2	85	115				
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Sample ID	1707243-001ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	7/26/2017	RunNo:	37627			
Client ID:	BATCH	Batch ID:	17729			Analysis Date:	7/26/2017	SeqNo:	723008			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper		146	0.500						146.9	0.616	30	
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Sample ID	1707243-001AMS	SampType:	MS	Units:	µg/L	Prep Date:	7/26/2017	RunNo:	37627			
Client ID:	BATCH	Batch ID:	17729			Analysis Date:	7/26/2017	SeqNo:	723009			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper		320	0.500	200.0	146.9	86.6	70	130				
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Sample ID	1707243-001AMSD	SampType:	MSD	Units:	µg/L	Prep Date:	7/26/2017	RunNo:	37627			
Client ID:	BATCH	Batch ID:	17729			Analysis Date:	7/26/2017	SeqNo:	723010			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper		344	0.500	200.0	146.9	98.6	70	130	320.2	7.18	30	
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Work Order Number: **1707245**

Date Received: **7/26/2017 9:35:00 AM**

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐

2. How was the sample delivered? FedEx

3. Coolers are present?	Yes ☒	No ☐	NA ☐
4. Shipping container/cooler in good condition?	Yes ☒	No ☐	
5. Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Required ☒
6. Was an attempt made to cool the samples?	Yes ☒	No ☐	NA ☐
7. Were all items received at a temperature of >0°C to 10.0°C *	Yes ☒	No ☐	NA ☐
8. Sample(s) in proper container(s)?	Yes ☒	No ☐	
9. Sufficient sample volume for indicated test(s)?	Yes ☒	No ☐	
10. Are samples properly preserved?	Yes ☒	No ☐	
11. Was preservative added to bottles?	Yes ☒	No ☐	NA ☐
			HNO3
12. Is there headspace in the VOA vials?	Yes ☐	No ☐	NA ☒
13. Did all samples containers arrive in good condition(unbroken)?	Yes ☒	No ☐	
14. Does paperwork match bottle labels?	Yes ☒	No ☐	
15. Are matrices correctly identified on Chain of Custody?	Yes ☒	No ☐	
16. Is it clear what analyses were requested?	Yes ☒	No ☐	
17. Were all holding times able to be met?	Yes ☒	No ☐	

18. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: Date:
 By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
 Regarding:
 Client Instructions:

19. Additional remarks:

Item #	Temp °C
Cooler 1	2.9
Cooler 2	0.3
Cooler 3	4.9
Sample 1	3.1
Sample 2	0.3

Original



Sample Log-In Check List

Client Name: **FE**

Work Order Number: **1707245**

Logged by: **Clare Griggs**

Date Received: **7/26/2017 9:35:00 AM**

Item #	Temp °C
Sample 3	4.3

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C



Fremont
Analytical

3600 Fremont Ave N.
Seattle, WA 98103

Tel: 206-352-3790
Fax: 206-352-7178

Client: Fulcrum Environmental Consulting
Address: 406 North Second Street
City, State, Zip: Yakima, WA, 98901
Telephone: 509.574.0839 Fax: 509.575.8453

Project Name: PSD Drinking Water - Curie Elementary
Project No: 16098.08
Location: Curie STEM Elementary, Pasco, WA
Report To (PM): Ryan Mathews
PM Email: rmathews@fulcrum.net; cc: aenbysk@fulcrum.net

Date: 7/25/2017

Laboratory Project No (Internal): 1707245

Page: 1 of: 1

Chain of Custody Record and Laboratory Services Agreement

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCD)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)**	EDB (8011)	Comments	
1 CUR-2517-CF-P-26	7/25/17	0830	PW															Flow preserved
2 CUR-2517-CF-5-26																		Flow
3 CUR-2517-CGF-T-26																		Flow
4 CUR-2517-CF-P-61																		Flow
5 CUR-2517-OF-P-62																		Flow
6																		
7																		
8																		
9																		
10																		

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite Turn-around times for samples received after 4:00pm will begin on the following business day.

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be assessed if samples are retained after 30 days.)

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished [Signature] Date/Time 7/25/17; 1400 Received [Signature] Date/Time 7/26/17 0935

Reinquired [Signature] Date/Time 7/26/17; 1400 Received [Signature] Date/Time 7/26/17 0935

TAT → SameDay NextDay 2 Day 3 Day STD

*Please coordinate with the lab in advance