

October 31, 2017

Kennewick School District No. 17 Attn: Keith Colee, Maintenance and Operations Manager 1000 West Fourth Avenue Kennewick, Washington, 99336

RE: Winter 2016 Drinking Water Sampling Results
Lincoln Elementary School, 4901 West 20th Avenue, Kennewick, Washington

Dear Keith:

On Wednesday, December 21, 2016, Fulcrum Environmental Consulting, Inc. (Fulcrum) collected 52 drinking water samples for lead and copper analysis from Lincoln Elementary School (School) located at 4601 West 20th Avenue in Kennewick, Washington. Initial sampling identified 23 fixture locations with copper concentrations above guidance levels. Fulcrum returned to the School on January 21, March 4, and March 18, 2017 to collect samples after remediation of the fixtures and laboratory results found concentrations to be 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 December 21, 2016. Initial results identified 23 samples with copper concentrations above the Environmental Protection Agency (EPA) action level of 1,300 μg/L. Upon receipt of results, the District removed the identified fixtures from service pending remediation and further testing.

Copper is not a significant component in fixtures, but is the primary material in the plumbing system. To remediate elevated copper levels, the District aggressively flushed the identified fixtures with cold water to clear the plumbing of copper construction debris. Fulcrum returned on January 21, March 4, and March 18, 2017 and collected samples to evaluate the success of the remediation. Most follow-up samples yielded results below the EPA action level, confirming the remediation was successful. One fixture, located in the

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



Staff Work Room, did not respond to remediation and remained above the action level. Fulcrum recommended and the District elected to permanently remove the fixture from service. Following sampling and review of laboratory results, Fulcrum recommended, and District elected to, return all fixtures reporting below action levels 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 December 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 and Figure 2 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) 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 occured 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, install signage indicating the fixtures should be used only for handwashing, or permanently removed from service 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 location 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 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 the remedial sampling event are presented in Figure 2 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 23 samples with copper concentrations above the EPA action level of 1,300 micrograms per liter (μ g/L). No samples were identified with lead concentrations above the EPA action level of 15 μ g/L.

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 fixtures. Fulcrum returned on the morning following the aggressive flush, January 21, March 4, and March 18, 2017, to collect follow-up samples.

Analytical results from remedial sampling indicated the aggressive flush was successful at reducing copper concentrations below the action level for all but one of the fixtures. Fulcrum recommended the District elected to permanently remove the remaining fixture, identified as the drinking fountain in Staff Work Room 176, from service.

Recommendations

No samples were found to contain lead concentrations above the EPA action level of 15 µg/L. A total of 23 initial samples contained copper above the EPA action level of 1,300 ug/L. The District completed an aggressive flush to reduce the copper concentration of the fixtures and follow-up sampling yielded results below the EPA action level for all but one fixture. Fulcrum recommended, and the District elected, to permanently remove the remaining fixture from service. Following sampling and review of laboratory results, Fulcrum recommended and the District elected to return all fixtures reporting below action levels 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 five years (before December 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

Ryan K Matheus

Principal

9916 CP **EXPIRES**



ATTACHMENT A

Figure 1: Initial Sample Location Map Figure 2: Remedial Sample Location Map





LEGEND

KF-## - Kitchen faucet

CF-## - Classroom faucet

CDF-## - Classroom drinking fountain

OF-## - Office faucet

WC-## - Water cooler fountain

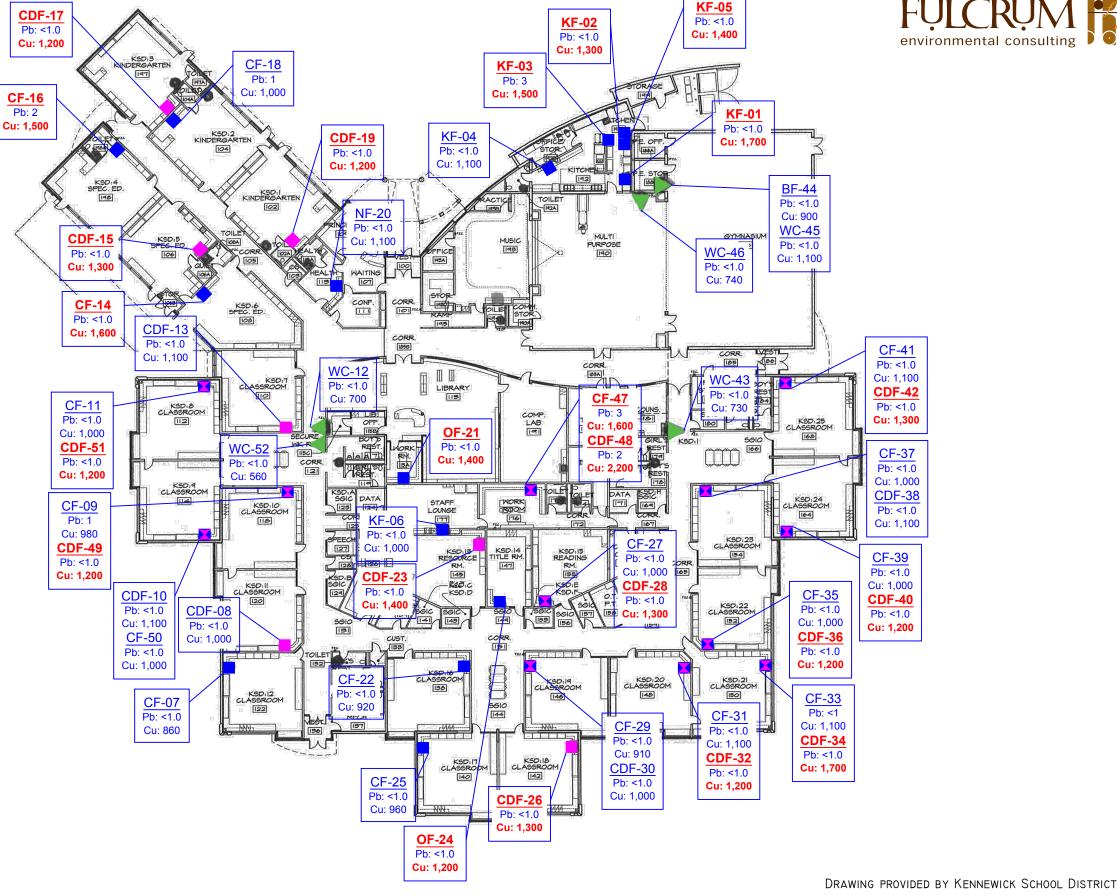
BF-## - Bottle filler fountain

NF-## - Nurse's faucet

- Sample location: faucet
 - Sample location: drinking fountain at sink
- Sample location: faucet and drinking fountain at
- Sample location: water cooler fountain

-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



Fulcrum Environmental Consulting, Inc.

406 North Second Street, Yakima, Washington 98901 p: 509.574.0839 f: 509.575.8453 efulcrum.net

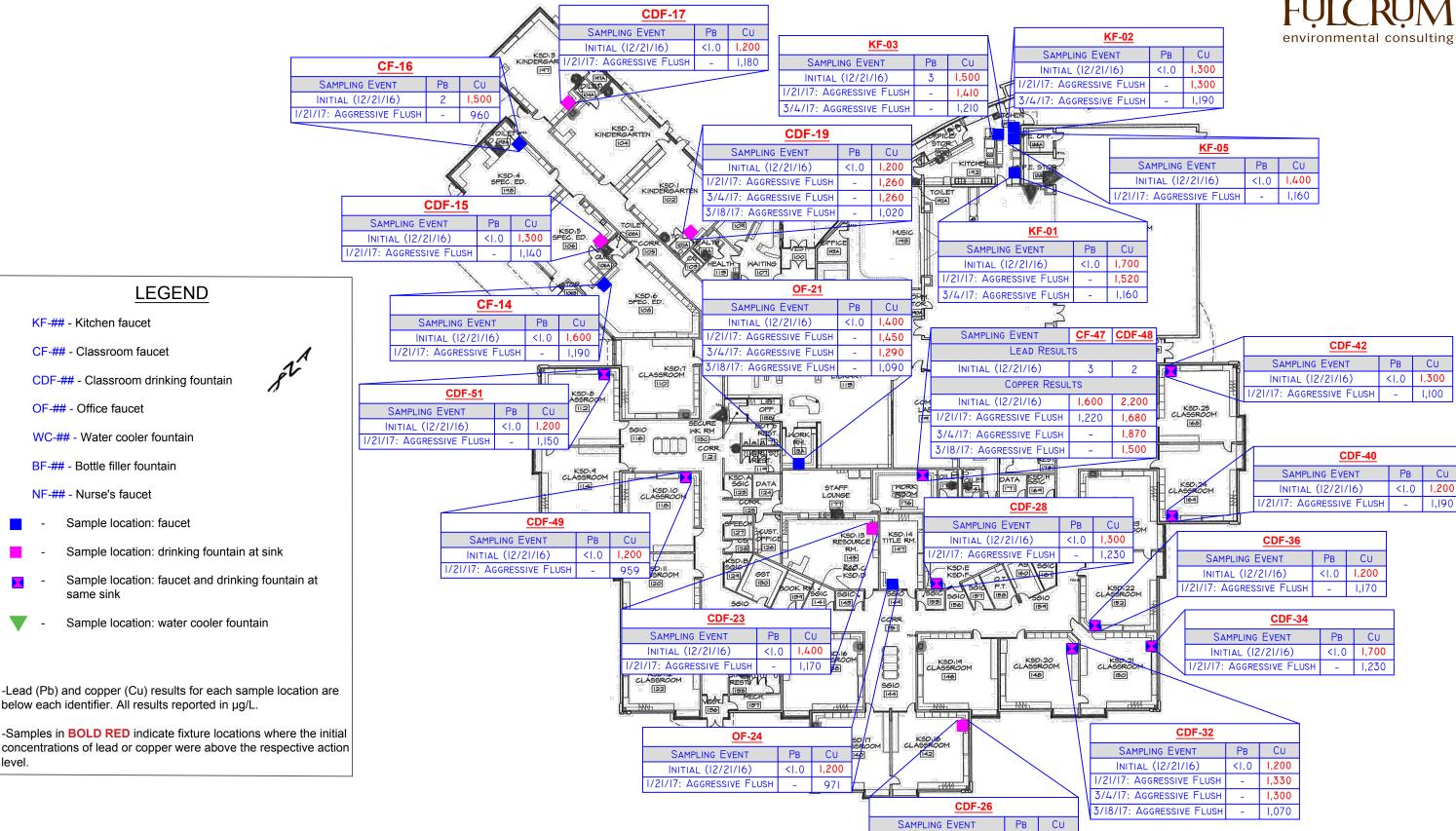
Kennewick SD Drinking Water Sampling. 162017.00. AME. 10162017

Lincoln Elementary School

4901 West 20th Avenue Kennewick, Washington **Initial Sample Location Map**

FIGURE





Fulcrum Environmental Consulting, Inc.

level.

406 North Second Street, Yakima, Washington 98901 p: 509.574.0839 f: 509.575.8453 efulcrum.net

Lincoln Elementary School 4901 West 20th Avenue Kennewick, Washington

Remedial Sample Location Map

<1.0 1,300

INITIAL (12/21/16) 1/21/17: AGGRESSIVE FLUSH

FIGURE

DRAWING PROVIDED BY KENNEWICK SCHOOL DISTRICT

LEGEND

KF-## - Kitchen faucet

OF-## - Office faucet

CF-## - Classroom faucet

WC-## - Water cooler fountain

BF-## - Bottle filler fountain

NF-## - Nurse's faucet

CDF-## - Classroom drinking fountain

Sample location: faucet

below each identifier. All results reported in µg/L.

Sample location: water cooler fountain



ATTACHMENT B

Site-Specific Sampling and Analysis Plan





Site-Specific Sampling and Analysis Plan

Kennewick School District – Winter 2016 Drinking Water Sampling

Note: This SSSAP has been prepared as a specific summary of the location, number, of				
Campus/Building: Lincoln Elementary	A	ddress: <u>4901 W</u>	Vest 20th Avenue,	Kennewick, WA
☑ Elementary □ Middle School	□ High	School	☐ Administrati	on
Date of Construction: 2014	1	Modernization	s: <u>N</u>	/A
Fixture Type	Locations	Fixture Styles ¹	Samples	Ratio
Drinking fountain/water cooler (DF/WC)	8	3	6	63%
Kitchen Fixture (KF)	5	4	5	100%
Classroom faucet, including faucets in Food Labs and Life Sciences Classrooms (CF)	27	1	17	63%
Classroom drinking fountain at sink (CDF)	30	1	19	63%
Nurse's Office/Health Room (NF)	1	1	1	100%
Teacher's Lounges/Work Rooms (OF)	4	2	4	100%
TOTALS	75		52	69%
Fixture styles are approximate based o	n sampler's obs	ervations		_
Lead Sampler: Kyle Ames		Date	: 12/21/2016	
Sample Prefix: <u>LE</u> – <u>122116</u> School Code Date			oe Sample Numb	ber
Laboratory: R. J. Lee Group, Columbia	Basin Analyti	cal Delive	ery Date: <u>Decen</u>	nber 21, 2016
Comments:				a



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 Summary

Table 1: Illitial Sampling Analytical Results Summary		Lead	Copper
Sample Identification and Location	Fixture Type	Results	Results
k	3.4	(µg/L)	(µg/L)
LE122116-P-KF-01: Kitchen, E. wall, S. Fixture	Kitchen Faucet	1	1,700
LE122116-P-KF-02: Kitchen, E. wall, N. Fixture	Kitchen Faucet	<1.0	1,300
LE122116-P-KF-03: Kitchen, Middle island	Kitchen Faucet	3	1,500
LE122116-P-KF-04: Kitchen, N.W. wall	Kitchen Faucet	<1.0	1,100
LE122116-P-KF-05: Kitchen, E. wall, Middle Fixture	Kitchen Faucet	<1.0	1,400
LE122116-P-KF-06: Staff lounge, Room 177	Kitchen Faucet	<1.0	1,000
LE122116-P-CF-07: Room 122	Classroom Faucet	<1.0	860
LE122116-P-CDF-08: Classroom 11	Classroom Drinking Fountain	<1.0	1,000
LE122116-P-CF-09: Classroom 10	Classroom Faucet	1	980
LE122116-P-CDF-10: Classroom 9	Classroom Drinking Fountain	<1.0	1,100
LE122116-P-CF-11: Clasroom 8	Classroom Faucet	<1.0	1,000
LE122116-P-WC-12: Hallway opposite Classroom 7, left fixture	Water Cooler Fountain	<1.0	700
LE122116-P-CDF-13: Classroom 7	Classroom Drinking Fountain	<1.0	1,100
LE122116-P-CF-14: Clasroom 6	Classroom Faucet	<1.0	1,600
LE122116-P-CDF-15: Classroom 5	Classroom Drinking Fountain	<1.0	1,300
LE122116-P-CF-16: Classroom 4	Classroom Faucet	2	1,500
LE122116-P-CDF-17: Classroom 3	Classroom Drinking Fountain	<1.0	1,200
LE122116-P-CF-18: Classroom 2	Classroom Faucet	1	1,000
LE122116-P-CDF-19: Classroom 1	Classroom Drinking Fountain	<1.0	1,200
LE122116-P-NF-20: Health Room	Nurse's Faucet	<1.0	1,100
LE122116-P-OF-21: Library Work Room	Office Faucet	<1.0	1,400
LE122116-P-CF-22: Classroom 16	Classroom Faucet	<1.0	920
LE122116-P-CDF-23: Classroom 13	Classroom Drinking Fountain	<1.0	1,400
LE122116-P-OF-24: Classroom 14	Office Faucet	<1.0	1,200
LE122116-P-CF-25: Classroom 17	Classroom Faucet	<1.0	960
LE122116-P-CDF-26: Classroom 18	Classroom Drinking Fountain	<1.0	1,300
LE122116-P-CF-27: Classroom 15	Classroom Faucet	<1.0	1,000
LE122116-P-CDF-28: Classroom 15	Classroom Drinking Fountain	<1.0	1,300
LE122116-P-CF-29: Classroom 19	Classroom Faucet	<1.0	910
LE122116-P-CDF-30: Classroom 19	Classroom Drinking Fountain	<1.0	1,000
LE122116-P-CF-31: Classroom 20	Classroom Faucet	<1.0	1,100
LE122116-P-CDF-32: Classroom 20	Classroom Drinking Fountain	<1.0	1,200
LE122116-P-CF-33: Classroom 21	Classroom Faucet	<1.0	1,100
LE122116-P-CDF-34: Classroom 21	Classroom Drinking Fountain	<1.0	1,700
LE122116-P-CF-35: Classroom 22	Classroom Faucet	<1.0	1,000
LE122116-P-CDF-36: Classroom 22	Classroom Drinking Fountain	<1.0	1,200
LE122116-P-CF-37: Classroom 23	Classroom Faucet	<1.0	1,000
LE122116-P-CDF-38: Classroom 23	Classroom Drinking Fountain	<1.0	1,100
LE122116-P-CF-39: Classroom 24	Classroom Faucet	<1.0	1,000
LE122116-P-CDF-40: Classroom 24	Classroom Drinking Fountain	<1.0	1,200
LE122116-P-CF-41: Classroom 25	Classroom Faucet	<1.0	1,100



		Lead	Copper
Sample Identification and Location	Fixture Type	Results	Results
		(µg/L)	(µg/L)
LE122116-P-CDF-42: Classroom 25	Classroom Drinking Fountain	<1.0	1,300
LE122116-P-WC-43: Hallway opposite Classroom 25, left fixture	Water Cooler Fountain	<1.0	730
LE122116-P-BF-44: Gymnasium, left fixture	Bottle Filler	<1.0	900
LE122116-P-WC-45: Gymnasium, left fixture	Water Cooler Fountain	<1.0	1,100
LE122116-P-WC-46: Multi Purpose/Cafeteria, left fixture	Water Cooler Fountain	<1.0	740
LE122116-P-OF-47: Staff Work Room 176	Office Faucet	3	1,600
LE122116-P-CDF-48: Staff Work Room 176	Classroom Drinking Fountain	2	2,200
LE122116-P-CDF-49: Classroom 10	Classroom Drinking Fountain	<1.0	1,200
LE122116-P-CF-50: Classroom 9	Classroom Faucet	<1.0	1,000
LE122116-P-CDF-51: Classroom 8	Classroom Drinking Fountain	<1.0	1,200
LE122116-P-WC-52: Hallway opposite Classroom 7, right fixture	Water Cooler Fountain	<1.0	560
LE122116-P-WC-53: Laboratory Blank	Distilled Water Blank	<1.0	<10
LE122116-P-WC-54: Laboratory Spike	Lead and Copper Spike	14.0	1,200
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 indicated in **bold** indicate concentrations above the action levels of 15 μg/L for lead and 1,300 μg/L for copper Results indicated in *italics* are quality assurance spike and blank samples

Table 2: pH and Temperature Data Summary

Sample Number	Fixture Type	pH Flush	pH Sample	Temperature (°C) Flush	Temperature (°C) Sample
LE122116-P-CDF-08: Classroom 11	Classroom Drinking Fountain	8.06	8.11	16.6	18.6
LE122116-P-WC-12: Hallway opposite Classroom 7, left fixture	Water Cooler Fountain	7.84	7.87	16.3	17.0
LE122116-P-CF-16: Classroom 4	Classroom Faucet	7.90	7.91	15.6	18.6
LE122116-P-NF-20: Health Room	Nurse's Faucet	8.07	8.03	15.6	17.4
LE122116-P-OF-24: Classroom 14	Office Faucet	8.04	8.03	14.9	19.4
LE122116-P-CDF-28: Classroom 15	Classroom Drinking Fountain	8.01	8.01	15.5	19.0
LE122116-P-CDF-32: Classroom 20	Classroom Drinking Fountain	7.92	7.89	14.7	20.3
LE122116-P-CDF-36: Classroom 22	Classroom Drinking Fountain	7.91	8.07	14.9	18.9
LE122116-P-CDF-40: Classroom 24	Classroom Drinking Fountain	7.64	7.95	15.0	18.1
LE122116-P-BF-44: Gymnasium, left fixture	Bathroom Faucet	7.73	7.83	16.6	15.9
LE122116-P-CDF-48: Staff Work Room 176	Classroom Drinking Fountain	7.81	7.98	15.8	19.9



Table 3: Remedial Sampling Analytical Results Summary

												Sample	e Identii	fication											
Sampling Event	KF-01	KF-02	KF-03	KF-05	CF-14	CDF-15	CF-16	CDF-17	CDF-19	OF-21	CDF-23	OF-24	CDF-26	CDF-28	CDF-32	CDF-34	CDF-36	CDF-40	CDF-42	OF-47	CDF-48	CDF-49	CDF-51	WC-53	WC-54
Initial (12/21/2016)	1,700	1,300	1,500	1,400	1,600	1,300	1,500	1,200	1,200	1,400	1,400	1,200	1,300	1,300	1,200	1,700	1,200	1,200	1,300	1,600	2,200	1,200	1,200	<10	1,200
1/21/2017: Aggressive Flush	1,520	1,300	1,410	1,160	1,190	1,140	960	1,180	1,260	1,450	1,170	971	1,090	1,230	1,330	1,230	1,170	1,190	1,100	1,220	1,680	959	1,150	< 0.5	-
3/4/2017: Aggressive Flush	1,160	1,190	1,210	-	-	-	-	-	1,260	1,290	-	-	-	-	1,300	-	-	-	-	-	1,870	-	-	< 0.5	1,230
3/18/2017: Aggressive Flush	-	-	-	-	-	-	-	-	1,020	1,090	-	-	-	-	1,070	-	-	-	-	-	1,500	-	-	< 0.5	1,370
EPA Action Level	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300

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

Results indicated in **bold** indicate concentrations above the action levels of 15 μ g/L for lead and 1,300 μ g/L for copper Results indicated in *italics* are quality assurance spike and blank samples

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



ATTACHMENT D

Initial Analytical Results





RJ Lee Group, 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 54 sample(s) on 12/21/16 for analysis. These sample(s) have been assigned a login order number of W612104. 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.

-Samples were analyzed on January 11, 2017 and samples requiring dilutions were analyzed on January 12, 2017.

All samples were diluted 1:10.

X - Samples that exceeded the instrument calibration range were rerun at a 1:100 dilution, necessitating a 10-fold increase in the PQL.

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:

01/13/17

Project Coordinator II, M. Fernanda Pincheira

Date

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

RJ Lee Group No.:W612104

COC No.: Kennewick



Laboratory Report

Ryan Mathews

Fulcrum Environmental

Samples Received: 12/21/16 406 N. 2nd St. Analysis/Prep Date: 01/11/17

Yakima, WA 98901 Report Date: 01/13/17

Client Project:

Fulcrum Kennewick

Date Received: 12/21/16 Sample Name: LE122116-P-KF-01 Matrix: Potable Water RJ Lee Grp. ID: W612104-01 **Date Analyzed:** 01/11/17

Result Analyte Method **POL Oualifiers** (mg/L)(mg/L)EPA 200.8 1.7 0.1 Copper Χ EPA 200.8 0.001 0.001 Lead

Date Received: 12/21/16 Sample Name: LE122116-P-KF-02 Matrix: Potable Water W612104-02 Date Analyzed: 01/11/17 RJ Lee Grp. ID:

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

Sample Name: Date Received: 12/21/16 LE122116-P-KF-03 Matrix: Potable Water RJ Lee Grp. ID: W612104-03 Date Analyzed: 01/11/17

Analyte Method Result **PQL Qualifiers** (mg/L)(mg/L)EPA 200.8 1.5 0.1 X Copper Lead EPA 200.8 0.003 0.001

Date Received: 12/21/16 Sample Name: LE122116-P-KF-04 Matrix: Potable Water RJ Lee Grp. ID: W612104-04 Date Analyzed: 01/11/17

Analyte Method Result POL **Oualifiers** (mg/L)(mg/L)Copper EPA 200.8 1.1 0.1 Χ Lead EPA 200.8 < 0.001 0.001

Date Received: 12/21/16 Sample Name: LE122116-P-KF-05 Matrix: Potable Water RJ Lee Grp. ID: W612104-05 Date Analyzed: 01/11/17

Result Method **Analyte PQL** Qualifiers (mg/L)(mg/L)X EPA 200.8 1.4 0.1 Copper 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

01/13/17 10:01 Approved: Report Template: GenMetalReportFull v12.rpt Report Time Stamp: 01/13/17 12:28



Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	Maurix: P	otable Water		Date Received	
Analyt		Method		esult 1g/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8		1.0	0.1	X
Lead		EPA 200.8	< 0	0.001	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	viautx: r	otable Water		Date Received Date Analyzed	
Analyt	te	Method		esult ng/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8		0.86	0.01	
Lead		EPA 200.8	< 0	0.001	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	Viality, 1	otable Water		Date Received Date Analyzed	
Analyt	te	Method		esult ng/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8		1.0	0.1	X
Lead		EPA 200.8	< 0	0.001	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	VIALUX	otable Water		Date Received Date Analyzed	
Analyt	te	Method		esult ng/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	- (0.98	0.01	
Lead		EPA 200.8	0	0.001	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	-P-CDF-10 Matrix: P	otable Water	_	Date Received Date Analyzed	
Analyt	te	Method		esult ng/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8		1.1	0.1	X
Lead		EPA 200.8	< 0	0.001	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	Viality, 1	otable Water		Date Received Date Analyzed	
			D	esult	DOL	Qualifians
Analyt	te	Method		ng/L)	PQL (mg/L)	Qualifiers
Analyt Copper Lead	te	EPA 200.8 EPA 200.8	(n			X

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Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	Matrix. Fola	ble Water	Date Received Date Analyzed	
Analyt		Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	0.70	0.01	
Lead		EPA 200.8	< 0.001	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	VIALLIX. 10ta	ble Water	Date Received	
Analyt	re	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.1	0.1	X
Lead		EPA 200.8	< 0.001	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	VIALLIX. 10ta	ble Water	Date Received Date Analyzed	
Analyt	re .	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.6	0.1	X
Lead		EPA 200.8	< 0.001	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	VIALUX: FOLA	ble Water	Date Received Date Analyzed	
Analyt	e	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.3	0.1	X
Lead		EPA 200.8	< 0.001	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	Wiatrix: Fola	ble Water	Date Received Date Analyzed	
Analyt	r e	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.5	0.1	X
Lead		EPA 200.8	0.002	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	Wiatrix: Fola	ble Water	Date Received Date Analyzed	
Analyt	e	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.2	0.1	X
Lead		EPA 200.8	< 0.001	0.001	

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Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	Manix. FC	otable Water	Date Received Date Analyzed	
Analy	te	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.0	0.1	X
Lead		EPA 200.8	0.001	0.001	
ample Name: LJ Lee Grp. ID:	LE122116- W612104-	Wiatrix: rc	otable Water	Date Received Date Analyzed	
Analy	te	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.2	0.1	X
Lead		EPA 200.8	< 0.001	0.001	
ample Name: IJ Lee Grp. ID:	LE122116- W612104-	VIALLIX. I C	otable Water	Date Received Date Analyzed	
Analy	te	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.1	0.1	X
Lead		EPA 200.8	< 0.001	0.001	
ample Name: RJ Lee Grp. ID:	LE122116- W612104-	Matrix: PC	otable Water	Date Received Date Analyzed	
Analy	te	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.4	0.1	X
Lead		EPA 200.8	< 0.001	0.001	
ample Name: 3J Lee Grp. ID:	LE122116- W612104-	Matrix: PC	otable Water	Date Received Date Analyzed	
Analy	te	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	0.92	0.01	
Lead		EPA 200.8	< 0.001	0.001	
ample Name: 3J Lee Grp. ID:	LE122116- W612104-	VIALLIX. I C	otable Water	Date Received Date Analyzed	
Analy	te	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.4	0.1	X

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Sample Name: RJ Lee Grp. ID:	LE122116- W612104-2	VIALLIX.	Potable Water		Date Received Date Analyzed	
Analyt	te	Method		esult ng/L)	PQL (mg/L)	Qualifiers
Copper Lead		EPA 200.8 EPA 200.8		1.2	0.1 0.001	X
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-2	-P-CF-25 Matrix:	Potable Water		Date Received Date Analyzed	
Analyt	te	Method		esult ng/L)	PQL (mg/L)	Qualifiers
Copper Lead		EPA 200.8 EPA 200.8		0.96 .001	0.01 0.001	
ample Name: RJ Lee Grp. ID:	LE122116- W612104-2	VIALLIX	Potable Water	_	Date Received Date Analyzed	
Analyt	te	Method		esult ng/L)	PQL (mg/L)	Qualifiers
Copper Lead		EPA 200.8 EPA 200.8		1.3 .001	0.1 0.001	X
sample Name: RJ Lee Grp. ID:	LE122116- W612104-2	Vialitix:	Potable Water		Date Received Date Analyzed	
Analyt	te	Method		esult ng/L)	PQL (mg/L)	Qualifiers
Copper Lead		EPA 200.8 EPA 200.8		1.0 .001	0.1 0.001	X
ample Name: ² ³ ⁴ ⁵ ⁶ ⁶ ⁷ ⁷ ⁷ ⁸ ⁸ ⁸ ⁸ ⁹	LE122116- W612104-2	Wiallix.	Potable Water		Date Received Date Analyzed	
Analyt	te	Method		esult ng/L)	PQL (mg/L)	Qualifiers
Copper Lead		EPA 200.8 EPA 200.8		1.3	0.1 0.001	X
ample Name: RJ Lee Grp. ID:	LE122116- W612104-2	Wiallix.	Potable Water		Date Received Date Analyzed	
Analyt	te	Method		esult ng/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8).91	0.01	

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Sample Name:	LE122116	VIALLIX. FOLAL	le Water	Date Received	
RJ Lee Grp. ID:	W612104-			Date Analyzed	
Analyt	te	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Conner		EPA 200.8	1.0	0.1	X
Copper		EPA 200.8	< 0.001	0.001	Λ
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	-P-CF-31 Matrix: Potab		Date Received	
-		Method	Result		
Analyt	ie	Wiethod	(mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.1	0.1	X
Lead		EPA 200.8	< 0.001	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	vialrix: Folat	le Water	Date Received Date Analyzed	
Analyt	te	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.2	0.1	X
Lead		EPA 200.8	< 0.001	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	VIALUX: FOLAL	le Water	Date Received Date Analyzed	
Analyt	te	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.1	0.1	X
Lead		EPA 200.8	< 0.001	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	VIALLIX. I OLAC	le Water	Date Received Date Analyzed	
Analyt	te	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.7	0.1	X
Lead		EPA 200.8	< 0.001	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	VIALLIX. I OLAC	le Water	Date Received Date Analyzed	
Analyt	te	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.0	0.1	X

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Sample Name:	LE122116- W612104-	-P-CDF-36 Matrix: Pota	ble Water	Date Received	
RJ Lee Grp. ID:			D 14	Date Analyze	
Analyt	te	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.2	0.1	X
Lead		EPA 200.8	< 0.001	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	VIALITY. 1 Ota	ble Water	Date Received Date Analyzed	
Analyt	te	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.0	0.1	X
Lead		EPA 200.8	< 0.001	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	WIALTIX: FOLA	ble Water	Date Received Date Analyzed	
Analyt	te	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.1	0.1	X
Lead		EPA 200.8	< 0.001	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	VIAITIX: FULA	ble Water	Date Received Date Analyzed	
Analyt	te	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.0	0.1	X
Lead		EPA 200.8	< 0.001	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	Matrix: Fola	ble Water	Date Received Date Analyzed	
Analyt	te	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.2	0.1	X
Lead		EPA 200.8	< 0.001	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	VIALITY. 1 Ota	ble Water	Date Received Date Analyzed	
Analyt	te	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.1	0.1	X

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Sample Name:	LE122116	Manix. FC	otable Water	Date Received	
RJ Lee Grp. ID:	W612104-			Date Analyze	
Analyt	te	Method	Resul		Qualifiers
			(mg/L	(mg/L)	
Copper		EPA 200.8	1.3	0.1	X
Lead		EPA 200.8	< 0.001	0.001	
Sample Name:	LE122116	-P-WC-43 Matrix: Po	otable Water	Date Received	d: 12/21/16
RJ Lee Grp. ID:	W612104-	43	hable water	Date Analyze	d: 01/11/17
Analyt	te	Method	Resul	t PQL	Qualifiers
			(mg/L		
Copper		EPA 200.8	0.73	0.01	
Lead		EPA 200.8	< 0.001	0.001	
					10/01/16
Sample Name:	LE122116	Manix. 10	otable Water	Date Received	
RJ Lee Grp. ID:	W612104-			Date Analyze	d: 01/12/17
Analyt	te	Method	Resul		Qualifiers
			(mg/L	(mg/L)	
Copper		EPA 200.8	0.9	0.1	X
Lead		EPA 200.8	< 0.001	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	VIALUX: FO	otable Water	Date Received Date Analyzed	
-		Method	Resul	·	Qualifiers
Analyt	ie	Method	(mg/L		Quanners
Copper		EPA 200.8	1.1	0.1	X
Lead		EPA 200.8	< 0.001	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	Matrix. 10	otable Water	Date Received Date Analyzed	
Analyt	e	Method	Resul	t PQL	Qualifiers
rinary		Wittind	(mg/L		Qualifiers
Copper		EPA 200.8	0.74	0.01	
Lead		EPA 200.8	< 0.001	0.001	
			₹ 0.001		
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	Manix. 10	otable Water	Date Received Date Analyzed	
Analyt	e	Method	Resul	t PQL	Qualifiers
Tallaly		Withou	(mg/L		Quantities
			(8, -	/ (
Copper		EPA 200.8	1.6	0.1	X

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Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	VIALITY. FOLIABLE VV	ater	Date Received Date Analyzed	
Analyt		Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	2.2	0.1	X
Lead		EPA 200.8	0.002	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	VIALLIX. I GLADIC VV	ater	Date Received Date Analyzed	
Analyt	ce .	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.2	0.1	X
Lead		EPA 200.8	< 0.001	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	VIALTIX: FOLIABLE W	ater	Date Received Date Analyzed	
Analyt	e	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.0	0.1	X
Lead		EPA 200.8	< 0.001	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	VIAITIX: FOLADIC VV	ater	Date Received Date Analyzed	
Analyt	e	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper		EPA 200.8	1.2	0.1	X
Lead		EPA 200.8	< 0.001	0.001	
Sample Name: RJ Lee Grp. ID:	LE122116- W612104-	VIALLIX. I GLADIC VV	ater	Date Received Date Analyzed	
Analyt	re	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: RJ Lee Grp. ID:	LE122116- W612104-	VIALTIX: FOLIABLE W	ater	Date Received Date Analyzed	
Analyt	re e	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper Lead		EPA 200.8 EPA 200.8	< 0.010 < 0.001	0.01 0.001	



Sample Name: LE122116-P-WC-54 Matrix: Potable Water Date Received: 12/21/16 W612104-54 Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.2	0.1	X
Lead	EPA 200.8	0.014	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

QA Officer/Organic Analytical SME John Coddington

Report Template: GenMetalReportFull v12.rpt

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These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under ORELAP Lab Code 4061 AIHA-LAP, LLC Lab ID 178656 EPA ID WA01195 and WA DOE Lab ID C859. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or to the sample(s) as received by the laboratory. Any reproduction of this document must be in full for the report to be valid. Quality control data is available upon request.

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W612104, Page 12 of 16

ATTENTION TO: Send Invoice LE122/16-P-KF-01 Instructions LE 122116-P-CDF-08 LE 122116-P-CF-07 LE122116-P-KF-06 LE 122116-P-CDF-10 LE122116-P-CF-09 LE122116-P-KF-03 LE 122116- P-KF-05 HO-3X - J-911761 37 E122116-P-KF-02 Chain of 11-32-9-31-121 3. Chain of Custody Custody Lab Use Special Results Report only 7 7 Client Sample ID Project No.: Relinquished By (Print Name): /
Company Name: Fulcrum City, State, Zip: Address: Company: Name: Lorrie Boutillier Phone: City, State, Zip: Company: Name: Amanda Enbysk, Ryan Mathews Date Logged In: Relinquished By (Signature): Relinquished By (Signature): Email Results To: Address: Relinquished By (Print Name): ax Results To: Call with Verbal Results: Fulcrum Environmental **Fulcrum Environmental Consulting** 406 North 2nd Street (509) 574-0839 406 North 2nd Street **RYAN MATHEWS** (509) 574-0839 aenbysk@efulcrum.net, CC: rmathews@efulcrum.net Yakima, WA, 98901 Yakima, WA, 98901 Classing in toxict 100 m 12 TCTES Sample Description ナンメンフ (0000 111 mon 100 m 118 ATION C) 12000 Fax: Fax: Logged In By: Client No: Email: lboutillier@efulcrum.net 50 Date: 121-16 Method of Shipment: Relinquished To: Method of Shipment: Relinquished To: 509) 575-8453 509) 575-8453 Sample Date Start Sample Time Time: I Ime: Stop Wipe Area / Air Volume Purchase Order No.: EPA 200.8: Pb, Cu Sample Only Analysis Key Turnaround Chemistry Drinking Request Custody Chain of Custody Chain of Water FONH 4°C Multiple Sources #s: DOH Source #: Standard: Received By (Prime Warne) Unpres H₂SO₄ Preservation: System ID #: Received By (Signature): Sample Purpose: A 🗆 Received By (Print Name): Company Name: K ample Purpose: Analysis Requested NaOH HCI Yes No WW=Wastewater GW=Groudwater S=Soil/Sludge Other Regulatory -If 'No,' No, of Business Days Accreditation (please list below): Client Job No.: DW=Drinking Water SW=Surface Water Method of Shipment: Relinquished To: Relinquished To: Method of Shipment: Pres. Upon Receipt (Y/N) 2"1 2016 Time: Preservation Matrix W=Wipe G=Glass P=Plastic Container: A=Air (filter or tube) 162017 Time: Container Type 0761 앜 pΗ No. Containers 56 5.6 i

350 Hochberg Road Pennsylvania - HQ

Monroeville, PA 15146

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Washington

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W612104, Page 13 of 16

ATTENTION TO: Send Invoice LE122-16-P-CDF-17 nstructions E122-16-P-CDF-19 E122116-P-COF-13 Chain of E122116-P-BF-21 1. brosy E122116-P-CF-18 E122116-P-CF-22 E12116-1-CF-16 Lab Use Chain of Custody E12116-6-NF-20 E122116-P-COF-15 E122116-P-WC-12 Special Custody 6122116-P-CF-14 Results Report ᇹ Client Sample ID Phone: Address: Project No.: Company Name: Relinquished By (Signature): Relinquished By (Print Name): City, State, Zip: Company: Fulcrum Environmental Name: Lorrie Boutillier Fax Results To: Email Results To: Phone: City, State, Zip: Address: Company: Name: Amanda Enbysk, Ryan Mathews Date Logged In: Relinquished By (Print Name): Relinquished By (Signature): Company Name: all with Verbal Results: 406 North 2nd Street 406 North 2nd Street **Fulcrum Environmental Consulting** (509) 574-0839 **RYAN MATHEWS** (509) 574-0839 aenbysk@efulcrum.net, CC: rmathews@efulcrum.net Yakima, WA, 98901 Yakima, WA, 98901 FULCTUM COR Sample Description 4 WICH R FOOM 500 m 108 100 m 106 DOW LLO 100m 113 461 moor 1981 moon Y00m 104 100m102 4500 Email: lboutillier@efulcrum.net Fax: Fax: Logged In By: Client No: Date: Date: 12-21-16 Method of Shipment: Relinquished To: Method of Shipment: Relinquished To: 509) 575-8453 509) 575-8453 Sample Date Start Time: Time: Stop 1200 Wlpe Area / Air Sample Only Multiple Sources #s: Purchase Order No.: Analysis Key | HNO3 EPA 200.8: Pb, Cu Turnaround Chemistry Drinking Request Chain of Custody Chain of Custody Water 4°C DOH Source #: Unpres H₂SO₄ Standard: Received By (Signature) Company Name: Received By (Frint Name) 20 Preservation: Sample Purpose: A System ID #: ample Purpose: Company Name: Received By (Print Name): Analysis Requested Na₂SO₄ NaOH HC Yes B o Other o S GW=Groudwater S=Soil/Sludge WW=Wastewater Regulatory -If 'No,' No. of Business Days Client Job No.: Accreditation (please list below): DW=Drinking Water SW=Surface Water Method of Shipment: Method of Shipment: Relinquished To: Relinquished To: OEC 2 1 ZUID Time: Pres. Upon Receipt (Y/N) Preservation Matrix G=Glass A=Air (filter or tube) W=Wipe P=Plastic Container 162017 Time: Container Type 12:10 pΗ No. Containers 5 SIS 3.0 8,4

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W612104, Page 14 of 16

Transchort Dz. RYAN MATHEWS Clerk No. Clerk No	Custody	Chain of		Custody	Chain of	LE122116-	16231	11(1) 37	TE137 116-	1197	15037	LE1221	16122	TE133	1E121	LEDZI	<u>C</u>		Special Instructions		ō	To To	Cond Invoice	W612104, Page 14			Only	Lab Use	ATTENTION TO:							
Cilient No:	Company Name:	Relinquished By (Signatu		Relinquished By (Print N	Relinquished By (Signatu	p- Cf-	16-P-CDF-32	6-P-CF-31	16-P-Cpf-30	16- P-CF-29	16-P-CDF-18	16-P-Cf-27	116-P-CDF-26	116-P-CF-25	H6-30-0-9-9	16-P-CDF-23	ent Sample ID		-	(509) 574		Address:	Company:	Name: Lorrie Boutillier	Fax Results To:		Call with Verbal Results:					Name: Amanda Enbysk,	Date Logged In:	Project No.:		
Pauchase Order No.: Turnaround Fandard: Yes No If 'No.' No. of Business Days:	allie).	ire):	TICORA	Kyle	ire): M			_	l								Sample Description				akima, WA, 98901	2nd Street				enbysk@efulcrum.net, CC: rmathev			akima, WA, 98901	2nd Street	vironmental Consulting	Ryan Mathews	Logged in E	Client No:	ATHEWS	
Pauchase Order No.: Furnase Order No.:	Method of	Date:	Method of	Relinquishe	Date: 12	4				01						12-16	Sample Date			(509) 575-			tillier@efulcr			vs@efulcrum		(509) 575-					3у:			
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RJ LEE GROUP

350 Hochberg Road Monroeville, PA 15146

Pasco, WA 99301 509.545.4989 **Phone** 509.544.6010 **Fax** 2710 North 20th Avenue

Columbia Basin Analytical Laboratories

WashIngton

Pennsylvania - HQ

724.325.1776 Phone 724.733.1799 Fax

W612104, Page 15 of 16 ATTENTION TO: LE 122116-P-CF-37 Send Invoice Instructions 1E122116-10-18F-44 LE122/16-P-G-39 E122116-P-COF-38 F12216-P-CDF-34 Chain of Custody Lab Use LE 122116-P-CDF-40 E 122116- P-CDF-40 E122116-P-CDF-36 18-13-18- P- Cf-41 E122116-P-CF-35 Chain of Special Results Report Custody E122116-P-WC-43 7 Client Sample ID Address: Phone: Company: Fulcrum Environmental Phone: City, State, Zip: Name: Amanda Enbysk, Ryan Mathews Date Logged In: Project No.: City, State, Zip: Email Results To: Company: Fulcrum Environmental Consulting Name: Lorrie Boutillier Fax Results To: Company Name: Relinquished By (Print Name): / Relinquished By (Signature): Call with Verbal Results: Relinquished By (Print Name): Relinquished By (Signature): Company Name: ddress: 406 North 2nd Street (509) 574-0839 406 North 2nd Street **RYAN MATHEWS** (509) 574-0839 Yakima, WA, 98901 aenbysk@efulcrum.net, CC: rmathews@efulcrum.net Yakima, WA, 98901 FULCTUM CAN. Sample Description MAROS 100m COOW W00) 100 m 100m 100 m 10cm 68 Ames 00m168 165 Fax: Fax: Email: lboutillier@efulcrum.net Logged In By: Client No: 150 151 154 25 152 191 Date: Date: Method of Shipment: Relinquished To: 12-4 Method of Shipment: Relinquished To: 509) 575-8453 509) 575-8453 Sample Date 12-21-16 Start Time: Time: Stop 000 Wipe Area / Air Sample Only Multiple Sources #s: Purchase Order No.: EPA 200,8: Pb, Cu Analysis Key | HNO3 Turnaround Chemistry Drinking Request Water Chain of Custody Chain of Custody Received By (Print Name)

Company Name: 4°C Standard: Unpres Sample Purpose: A DOH Source #: System ID #: Preservation: Sample Purpose: Received By (Signature): Company Name: Received By (Print Name): H₂SO₄ Analysis Requested NaOH ÜH Na₂SO₄ Yes Information X Regulatory

Accreditation (please list below): 8 0 8 WW=Wastewater GW=Groudwater S=Soil/Sludge Other -If 'No,' No. of Business Days 0=0il Client Job No.: DW=Drinking Water SW=Surface Water Relinquished To: Date: Relinquished To: Method of Shipment: Method of Shipment: Pres. Upon Receipt (Y/N) 2 1 2016 Preservation Matrix G=Glass P=Plastic 162017 W=Wipe Container: A=Air (filter or tube) Time: Time: Container Type 91:61 pН No. Containers 17

Monroeville, PA 15146

724.733.1799 Fax 724.325.1776 Phone 350 Hochberg Road

Pennsylvania - HQ

Washington

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

509.544.6010 Fax 509.545.4989 Phone

> DELIVERING SCIENTIFIC RESOLUTION LEE GROUP

W612104, Page 16 of 16

ATTENTION TO: Send Invoice LE122116-1-10x-54 LE122116-P. WC-53 LE122116-P-CDF-49 1702116-P-W-45 LE122116-P-COF-48 Instructions 75 DTILG-6-CE-20 E 12116-P-0F-47 F122116-P-WC-46 Special Lab Use 1 Custody Chain of Custody Chain of Results Report ᅙ ᇬ 122116- P-W-52 122116-P-CRES Client Sample ID Address: Phone: Phone: City, State, Zip: Name: Amanda Enbysk, Ryan Mathews Date Logged In: Project No.: City, State, Zip: Company: Fulcrum Environmental Name: Lorrie Boutillier Fax Results To: Company: Fulcrum Environmental Consulting Relinquished By (Print Name): Relinquished By (Signature): Email Results To: Call with Verbal Results: Company Name: Relinquished By (Print Name): Relinquished By (Signature): Company Name: ddress: 406 North 2nd Street 406 North 2nd Street (509) 574-0839 **RYAN MATHEWS** (509) 574-0839 Yakima, WA, 98901 Yakima, WA, 98901 aenbysk@efulcrum.net, CC: rmathews@efulcrum.net Water cooles GYM Later codes (00 m 190) 100W Fulcom Corr W00V Sample Description 170 ms 170 170 moor 100m 118 Anres Logged In By: Email: lboutillier@efulcrum.net Fax: Client No: 7 Fax: Date: Date: Method of Shipment: Relinquished To: Method of Shipment: Relinquished To: 12-21 (509) 575-8453 509) 575-8453 Sample Date 12-21-16 Start Time: Time: Stop 00 Wipe Area / Alr Volume Sample Only Multiple Sources #s: Purchase Order No.: EPA 200.8: Pb, Cu Analysis Key | HNO3 Turnaround X Chemistry Request Drinking Chain of Custody Chain of Custody Water Received By Print Na 4°C Standard: Unpres H₂SO₄ System ID #: Sample Purpose: Information X Received By (Signature) Company Name Preservation: Sample Purpose: A DOH Source #: Received By (Print Name): Company Name: Analysis Requested NaOH 프 Na₂SO₄ Yes B 🗆 Other 🗆 N_o WW=Wastewater GW=Groudwater S=Soil/Sludge Regulatory -If 'No,' No. of Business Days Accreditation (please list below): 0=0il Client Job No.: DW=Drinking Water SW=Surface Water Relinquished To: Method of Shipment: Method of Shipment: Relinquished To: DEC 2 1 2016 Time: Pres. Upon Receipt (Y/N) Preservation Page Matrix G=Glass P=Plastic A=Air (filter or tube) W=Wipe Container 162017 Time: S Container Type pН S No. Containers 12 7.8 6.5 67 C

DELIVERING SCIENTIFIC RESOLUTION

LEE

724.733.1799 Fax

724.325.1776 Phone

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

Washington

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Pennsylvania - HQ 350 Hochberg Road Monroeville, PA 15146



ATTACHMENT E

Remedial Analytical Results





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: Kennewick School District Drinking Water - Lincoln Elementary Work Order Number: 1701235

January 24, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 41 sample(s) on 1/23/2017 for the analyses presented in the following report.

Drinking Water Metals by EPA Method 200.8

This report consists of the following:

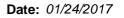
- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

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





CLIENT: Fulcrum Environmental Work Order Sample Summary

Project: Kennewick School District Drinking Water -

Work Order: 1701235

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1701235-001	LE12117-P-KF-01	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-002	LE12117-S-KF-01	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-003	LE12117-T-KF-01	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-004	LE12117-P-KF-02	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-005	LE12117-P-KF-03	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-006	LE12117-P-KF-05	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-007	LE12117-P-CF-14	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-008	LE12117-S-CF-14	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-009	LE12117-T-CF-14	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-010	LE12117-P-CDF-15	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-011	LE12117-P-CF-16	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-012	LE12117-S-CF-16	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-013	LE12117-T-CF-16	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-014	LE12117-P-CDF-17	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-015	LE12117-P-CDF-19	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-016	LE12117-P-OF-21	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-017	LE12117-P-CDF-23	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-018	LE12117-P-OF-24	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-019	LE12117-P-CDF-26	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-020	LE12117-S-CDF-26	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-021	LE12117-T-CDF-26	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-022	LE12117-P-CDF-28	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-023	LE12117-P-CDF-32	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-024	LE12117-P-CDF-34	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-025	LE12117-S-CDF-34	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-026	LE12117-T-CDF-34	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-027	LE12117-P-CDF-36	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-028	LE12117-P-CDF-40	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-029	LE12117-P-CDF-42	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-030	LE12117-S-CDF-42	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-031	LE12117-T-CDF-42	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-032	LE12117-P-OF-47	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-033	LE12117-P-CDF-48	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-034	LE12117-S-CDF-48	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-035	LE12117-T-CDF-48	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-036	LE12117-P-CDF-49	01/21/2017 8:00 AM	01/23/2017 12:25 PM

CLIENT: Fulcrum Environmental Work Order Sample Summary

Project: Kennewick School District Drinking Water -

Work Order: 1701235

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1701235-037	LE12117-S-CDF-49	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-038	LE12117-T-CDF-49	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-039	LE12117-P-CF-50	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-040	LE12117-P-CF-35	01/21/2017 8:00 AM	01/23/2017 12:25 PM
1701235-041	LE12117-P-CDF-51	01/21/2017 8:00 AM	01/23/2017 12:25 PM



Case Narrative

WO#: **1701235**Date: **1/24/2017**

CLIENT: Fulcrum Environmental

Project: Kennewick School District Drinking Water - Lincoln 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:

1701235-001A 202798: Prep Comments for EPA200.8, Sample 1701235-001A: Turbidity: 0.06 NTU 1701235-004A 202799: Prep Comments for EPA200.8, Sample 1701235-004A: Turbidity: 0.02 NTU 1701235-005A 202800: Prep Comments for EPA200.8, Sample 1701235-005A: Turbidity: 0.32 NTU 1701235-006A 202801: Prep Comments for EPA200.8, Sample 1701235-006A: Turbidity: 0.01 NTU 1701235-007A 202802: Prep Comments for EPA200.8, Sample 1701235-007A: Turbidity: 0.05 NTU 1701235-010A 202803: Prep Comments for EPA200.8, Sample 1701235-010A: Turbidity: 0.01 NTU 1701235-011A 202804: Prep Comments for EPA200.8, Sample 1701235-011A: Turbidity: 0.03 NTU 1701235-014A 202805: Prep Comments for EPA200.8, Sample 1701235-014A: Turbidity: 0.01 NTU 1701235-015A 202806: Prep Comments for EPA200.8, Sample 1701235-015A: Turbidity: 0.05 NTU 1701235-016A 202807: Prep Comments for EPA200.8, Sample 1701235-016A: Turbidity: 0.15 NTU 1701235-017A 202808: Prep Comments for EPA200.8, Sample 1701235-017A: Turbidity: 0.09 NTU 1701235-018A 202812: Prep Comments for EPA200.8, Sample 1701235-018A: Turbidity: 0.02 NTU 1701235-019A 202813: Prep Comments for EPA200.8, Sample 1701235-019A: Turbidity: 0.01 NTU 1701235-022A 202814: Prep Comments for EPA200.8, Sample 1701235-022A: Turbidity: 0.01 NTU 1701235-023A 202815: Prep Comments for EPA200.8, Sample 1701235-023A: Turbidity: 0.01 NTU 1701235-024A 202816: Prep Comments for EPA200.8, Sample 1701235-024A: Turbidity: 0.01 NTU 1701235-027A 202817: Prep Comments for EPA200.8, Sample 1701235-027A: Turbidity: 0.01 NTU 1701235-028A 202818: Prep Comments for EPA200.8, Sample 1701235-028A: Turbidity: 0.01 NTU 1701235-029A 202819: Prep Comments for EPA200.8, Sample 1701235-029A: Turbidity: 0.01 NTU 1701235-032A 202820: Prep Comments for EPA200.8, Sample 1701235-032A: Turbidity: 0.06 NTU 1701235-033A 202821: Prep Comments for EPA200.8, Sample 1701235-033A: Turbidity: 0.01 NTU 1701235-036A 202822: Prep Comments for EPA200.8, Sample 1701235-036A: Turbidity: 0.01 NTU 1701235-039A 202823: Prep Comments for EPA200.8, Sample 1701235-039A: Turbidity: 0.01 NTU 1701235-041A 202937: Prep Comments for EPA200.8, Sample 1701235-041A: Turbidity: 0.01 NTU



Qualifiers & Acronyms

WO#: **1701235**

Date Reported: 1/24/2017

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



Work Order: 1701235

Date Reported: 1/24/2017

CLIENT: Fulcrum Environmental

Project: Kennewick School District Drinking Water - Lincoln Elementary

Lab ID: 1701235-001 **Collection Date:** 1/21/2017 8:00:00 AM

Client Sample ID: LE12117-P-KF-01 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 15997 Analyst: TN

Copper 1,520 0.500 μg/L 1 1/23/2017 7:22:13 PM

Lab ID: 1701235-004 **Collection Date:** 1/21/2017 8:00:00 AM

Client Sample ID: LE12117-P-KF-02 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>

Batch ID: 15997

Analyst: TN

Copper 1,300 0.500 μ g/L 1 1/23/2017 7:25:49 PM

Lab ID: 1701235-005 **Collection Date:** 1/21/2017 8:00:00 AM

Client Sample ID: LE12117-P-KF-03 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

Drinking Water Metals by EPA Method 200.8 Batch ID: 15997 Analyst: TN

Copper 1,410 0.500 µg/L 1 1/23/2017 7:29:26 PM



Work Order: 1701235

Date Reported: 1/24/2017

CLIENT: Fulcrum Environmental

Project: Kennewick School District Drinking Water - Lincoln Elementary

Client Sample ID: LE12117-P-KF-05 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>

Batch ID: 15997

Analyst: TN

Copper 1,160 0.500 μg/L 1 1/23/2017 7:33:02 PM

Lab ID: 1701235-007 **Collection Date:** 1/21/2017 8:00:00 AM

Client Sample ID: LE12117-P-CF-14 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 15997
Analyst: TN

Copper 1,190 0.500 μ g/L 1 1/23/2017 7:36:39 PM

Lab ID: 1701235-010 **Collection Date:** 1/21/2017 8:00:00 AM

Client Sample ID: LE12117-P-CDF-15 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

Drinking Water Metals by EPA Method 200.8 Batch ID: 15997 Analyst: TN

Copper 1,140 0.500 µg/L 1 1/23/2017 7:47:29 PM



Work Order: 1701235

Date Reported: 1/24/2017

CLIENT: Fulcrum Environmental

Project: Kennewick School District Drinking Water - Lincoln Elementary

Lab ID: 1701235-011 **Collection Date:** 1/21/2017 8:00:00 AM

Client Sample ID: LE12117-P-CF-16 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 15997 Analyst: TN

Copper 960 0.500 μg/L 1 1/23/2017 7:51:06 PM

Lab ID: 1701235-014 **Collection Date:** 1/21/2017 8:00:00 AM

Client Sample ID: LE12117-P-CDF-17 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 15997 Analyst: TN

Copper 1,180 0.500 μ g/L 1 1/23/2017 7:54:42 PM

Lab ID: 1701235-015 **Collection Date:** 1/21/2017 8:00:00 AM

Client Sample ID: LE12117-P-CDF-19 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>

Batch ID: 15997

Analyst: TN

Copper 1,260 0.500 µg/L 1 1/23/2017 7:58:19 PM



Work Order: 1701235

Date Reported: 1/24/2017

CLIENT: Fulcrum Environmental

Project: Kennewick School District Drinking Water - Lincoln Elementary

Lab ID: 1701235-016 **Collection Date:** 1/21/2017 8:00:00 AM

Client Sample ID: LE12117-P-OF-21 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 15997 Analyst: TN

Copper 1,450 0.500 µg/L 1 1/23/2017 8:01:55 PM

Lab ID: 1701235-017 **Collection Date:** 1/21/2017 8:00:00 AM

Client Sample ID: LE12117-P-CDF-23 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>

Batch ID: 15998

Analyst: TN

Copper 1,170 0.500 μ g/L 1 1/23/2017 8:16:22 PM

Client Sample ID: LE12117-P-OF-24 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>

Batch ID: 15998

Analyst: TN

Copper 971 0.500 μg/L 1 1/23/2017 8:38:03 PM



Work Order: 1701235

Date Reported: 1/24/2017

CLIENT: Fulcrum Environmental

Project: Kennewick School District Drinking Water - Lincoln Elementary

Lab ID: 1701235-019 **Collection Date:** 1/21/2017 8:00:00 AM

Client Sample ID: LE12117-P-CDF-26 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>

Batch ID: 15998

Analyst: TN

Copper 1,090 0.500 µg/L 1 1/23/2017 8:41:40 PM

Lab ID: 1701235-022 **Collection Date:** 1/21/2017 8:00:00 AM

Client Sample ID: LE12117-P-CDF-28 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>

Batch ID: 15998

Analyst: TN

Copper 1,230 0.500 μ g/L 1 1/23/2017 8:45:16 PM

Lab ID: 1701235-023 **Collection Date:** 1/21/2017 8:00:00 AM

Client Sample ID: LE12117-P-CDF-32 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>

Batch ID: 15998

Analyst: TN

Copper 1,330 0.500 µg/L 1 1/23/2017 8:48:52 PM



Work Order: 1701235

Date Reported: 1/24/2017

CLIENT: Fulcrum Environmental

Project: Kennewick School District Drinking Water - Lincoln Elementary

Lab ID: 1701235-024 **Collection Date:** 1/21/2017 8:00:00 AM

Client Sample ID: LE12117-P-CDF-34 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 15998 Analyst: TN

Copper 1,230 0.500 μg/L 1 1/23/2017 8:52:28 PM

Lab ID: 1701235-027 **Collection Date:** 1/21/2017 8:00:00 AM

Client Sample ID: LE12117-P-CDF-36 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>

Batch ID: 15998

Analyst: TN

Copper 1,170 0.500 μ g/L 1 1/23/2017 8:56:05 PM

Client Sample ID: LE12117-P-CDF-40 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 15998
Analyst: TN

Copper 1,190 0.500 µg/L 1 1/23/2017 8:59:41 PM



Work Order: 1701235

Date Reported: 1/24/2017

CLIENT: Fulcrum Environmental

Project: Kennewick School District Drinking Water - Lincoln Elementary

Client Sample ID: LE12117-P-CDF-42 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 15998 Analyst: TN

Copper 1,100 0.500 μg/L 1 1/23/2017 9:03:18 PM

Lab ID: 1701235-032 **Collection Date:** 1/21/2017 8:00:00 AM

Client Sample ID: LE12117-P-OF-47 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 15998 Analyst: TN

Copper 1,220 0.500 μ g/L 1 1/23/2017 9:14:09 PM

Lab ID: 1701235-033 **Collection Date:** 1/21/2017 8:00:00 AM

Client Sample ID: LE12117-P-CDF-48 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>

Batch ID: 15998

Analyst: TN

Copper 1,680 0.500 µg/L 1 1/23/2017 9:17:46 PM



Work Order: 1701235

Date Reported: 1/24/2017

CLIENT: Fulcrum Environmental

Project: Kennewick School District Drinking Water - Lincoln Elementary

Client Sample ID: LE12117-P-CDF-49 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 15998 Analyst: TN

Copper 959 0.500 µg/L 1 1/23/2017 9:21:22 PM

Client Sample ID: LE12117-P-CF-50 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 15998 Analyst: TN

Copper ND 0.500 $\mu g/L$ 1 1/23/2017 9:24:58 PM

Lab ID: 1701235-041 **Collection Date:** 1/21/2017 8:00:00 AM

Client Sample ID: LE12117-P-CDF-51 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>

Batch ID: 16006

Analyst: TN

Copper 1,150 0.500 B µg/L 1 1/24/2017 12:21:51 AM





Work Order: 1701235

QC SUMMARY REPORT

CLIENT: Fulcrum Environmental

Project:		School District Drinkir	ng Water	-		Drinking Water Metals by EPA Method 200
Sample ID	MB-16006 MBLKW	SampType: MBLK Batch ID: 16006			Units: µg/L	Prep Date: 1/23/2017 RunNo: 34027 Analysis Date: 1/23/2017 SeqNo: 647625
Analyte	WIDERW	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Copper		1.99	0.500			
Sample ID	LCS-16006	SampType: LCS			Units: µg/L	Prep Date: 1/23/2017 RunNo: 34027
Client ID:	LCSW	Batch ID: 16006				Analysis Date: 1/23/2017 SeqNo: 647626
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Copper		92.5	0.500	100.0	0	92.5 85 115
Sample ID	1701233-025ADUP	SampType: DUP			Units: µg/L	Prep Date: 1/23/2017 RunNo: 34027
Client ID:	BATCH	Batch ID: 16006				Analysis Date: 1/24/2017 SeqNo: 647630
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Copper		ND	0.500			0 30
Sample ID	1701233-025AMS	SampType: MS			Units: µg/L	Prep Date: 1/23/2017 RunNo: 34027
Client ID:	ВАТСН	Batch ID: 16006				Analysis Date: 1/24/2017 SeqNo: 647631
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Copper		167	0.500	200.0	0	83.7 70 130
Sample ID	1701233-025AMSD	SampType: MSD			Units: µg/L	Prep Date: 1/23/2017 RunNo: 34027
Client ID:	BATCH	Batch ID: 16006				Analysis Date: 1/24/2017 SeqNo: 647632
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Copper		186	0.500	200.0	0	92.9 70 130 167.5 10.4 30

Page 14 of 22 Original





Work Order: 1701235

QC SUMMARY REPORT

CLIENT: Fulcrum Environmental

Drinking Water Metals by EPA Method 200.8

Project:	Kennewick	School District Drinki	ng Water	-			D	rinking W	ater Me	tals by EP	'A Metho	d 200.8
Sample ID	MB-15998	SampType: MBLK			Units: µg/L		Prep Date:	1/23/2017		RunNo: 340)25	
Client ID:	MBLKW	Batch ID: 15998					Analysis Date:	1/23/2017		SeqNo: 647	7526	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RP[D Ref Val	%RPD	RPDLimit	Qual
Copper		ND	0.500									
Sample ID	LCS-15998	SampType: LCS			Units: µg/L		Prep Date:	1/23/2017		RunNo: 340)25	
Client ID:	LCSW	Batch ID: 15998					Analysis Date:	1/23/2017		SeqNo: 647	7527	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RPI	D Ref Val	%RPD	RPDLimit	Qual
Copper		94.1	0.500	100.0	0	94.1	85	115				
Sample ID	1701235-017ADUP	SampType: DUP			Units: µg/L		Prep Date:	1/23/2017		RunNo: 340)25	
Client ID:	LE12117-P-CDF-23	Batch ID: 15998					Analysis Date:	1/23/2017		SeqNo: 647	7529	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RP[D Ref Val	%RPD	RPDLimit	Qual
Copper		1,090	0.500						1,167	6.49	30	
Sample ID	1701235-017AMS	SampType: MS			Units: µg/L		Prep Date:	1/23/2017		RunNo: 340)25	
Client ID:	LE12117-P-CDF-23	Batch ID: 15998					Analysis Date:	1/23/2017		SeqNo: 647	7532	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RP[D Ref Val	%RPD	RPDLimit	Qual
Copper		1,360	0.500	200.0	1,167	94.9	70	130				
Sample ID	1701235-017AMSD	SampType: MSD			Units: µg/L		Prep Date:	1/23/2017		RunNo: 340)25	
Client ID:	LE12117-P-CDF-23	Batch ID: 15998					Analysis Date:	1/23/2017		SeqNo: 647	7533	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RP[O Ref Val	%RPD	RPDLimit	Qual
Copper		1,400	0.500	200.0	1,167	115	70	130	1,357	2.89	30	

Original Page 15 of 22

Date: 1/24/2017



Work Order: 1701235

QC SUMMARY REPORT

%RPD RPDLimit

2.53

Qual

S

30

CLIENT: Fulcrum Environmental

Project:	Kennewick	School District Drinkir	ng Water	-			Dr	inking Water Me	tals by EPA Metho	od 200.
Sample ID N	MB-15997	SampType: MBLK			Units: µg/L		Prep Date:	1/23/2017	RunNo: 34024	
Client ID:	MBLKW	Batch ID: 15997					Analysis Date:	1/23/2017	SeqNo: 647478	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit Hiç	ghLimit RPD Ref Val	%RPD RPDLimit	Qual
Copper		ND	0.500							
Sample ID L	LCS-15997	SampType: LCS			Units: µg/L		Prep Date:	1/23/2017	RunNo: 34024	
Client ID: L	LCSW	Batch ID: 15997					Analysis Date:	1/23/2017	SeqNo: 647479	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit Hiç	ghLimit RPD Ref Val	%RPD RPDLimit	Qual
Copper		87.4	0.500	100.0	0	87.4	85	115		
Sample ID 1	1701233-013ADUP	SampType: DUP			Units: µg/L		Prep Date:	1/23/2017	RunNo: 34024	
Client ID:	ВАТСН	Batch ID: 15997					Analysis Date:	1/23/2017	SeqNo: 647481	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit Hig	ghLimit RPD Ref Val	%RPD RPDLimit	Qual
Copper		1,130	0.500					1,157	2.37 30	
Sample ID 1	1701233-013AMS	SampType: MS			Units: µg/L		Prep Date:	1/23/2017	RunNo: 34024	
Client ID: E	ВАТСН	Batch ID: 15997					Analysis Date:	1/23/2017	SeqNo: 647482	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit Hig	ghLimit RPD Ref Val	%RPD RPDLimit	Qual
Copper NOTES: S - Outlyin	ng spike recovery(ies)	1,230	0.500	200.0	1,157	35.0	70	130		S
	1701233-013AMSD	SampType: MSD	, s.s mas po		Units: µg/L		Prep Date:		RunNo: 34024	
Client ID:		Batch ID: 15997			Olino. Pg/E		Analysis Date:		SeqNo: 647483	
					00110 1111					

NOTES:

Analyte

Copper

0.500

RL

Result

1,260

Page 16 of 22 Original

1,157

50.7

%REC LowLimit HighLimit RPD Ref Val

130

1,227

70

SPK value SPK Ref Val

200.0

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.



Sample Log-In Check List

CI	ient Name:	FE		1	Work Oı	rder Nur	mber: 1701235	3	
Lo	gged by:	Erica Silv	a	I	Date Re	ceived:	1/23/201	7 12:25:00 PM	
<u>Cha</u>	in of Custo	<u>ody</u>							
1.	Is Chain of C	ustody com	plete?		Yes	✓	No 🗌	Not Present	
2.	How was the	sample del	vered?		Clien	<u>ıt</u>			
Log	In								
_	Coolers are p	resent?			Yes	✓	No 🗌	NA 🗆	
0.									
4.	Shipping conf	tainer/coole	r in good condition?		Yes	✓	No \square		
5.	•	•	n shipping container/cooler? Custody Seals not intact)		Yes		No 🗌	Not Required 🗹	
6.	Was an atten	npt made to	cool the samples?		Yes	✓	No 🗌	NA 🗌	
7.	Were all item	s received	at a temperature of >0°C to 10.0°C		Yes		No 🗸	NA \square	
	• • • • • •			oles rece			riate temperat	<u>ure</u>	
•	Sample(s) in		, ,		Yes		No □		
٠.		•	e for indicated test(s)?		Yes	✓	No □		
	Are samples				Yes	✓	No □		
11.	Was preserva	ative added	to bottles?		Yes	✓	No \square	NA L HNO3	
12	Is there head	space in the	e VOA vials?		Yes		No 🗌	NA 🗹	
			rs arrive in good condition(unbroke	en)?	Yes	✓	No 🗌		
_	Does paperw			,	Yes	✓	No 🗆		
15.	Are matrices	correctly ide	entified on Chain of Custody?		Yes	✓	No 🗌		
16.	Is it clear wha	at analyses	were requested?		Yes	✓	No 🗌		
17.	Were all hold	ing times al	ole to be met?		Yes	✓	No 🗌		
Spe	cial Handli	ing (if ap	plicable)						
-		•	discrepancies with this order?		Yes	✓	No 🗌	NA 🗆	_
	Person	Notified:	Amanda Enbysk	Date [1/23/2017		
	By Who	m:	Erica Silva	Via:	✓ eMa	il 🗸 P	Phone Fax	☐ In Person	
	Regardi	ng:	"P-CF-35" received, "P-CDF-51"	received					
	Client In	structions:	Add to COC and hold, add to CC	OC and ar	nalyze				
19.	Additional ren	narks:							<u> </u>
	HNO3 to	o 002A, 003	A, 008A, 009A, 011A, 012A, 020A	A, 021A, (025A, 0	26A, 030	0A, 031A, 034 <i>A</i>	A, 035A, 037A, 038A	
ltem l	nformation								

item imormation

	Item #	Temp ºC
С	ooler	10.9
S	ample	9.4

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

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3600 Fremont Ave N.	Tel: 206-352-3790 Fax: 206-352-7178	deficies or post	Page:of:01
AND GENERAL PROTEST SEC. S. C.		ne: Knynuwick school (), stric	Drinkin water - chain tun
Address:	406 North Second Street	muntay,	NWA
City, State, Zip:	Yakima, WA 98901	(PM):	The state of the s
Telephone:	509.574.0839 Fax: 509.545.8453	PM Email: rmathews@efulcrum.net; cc: aenbysk@efulcrum.net	efulcrum.net
A = Air,	AQ = Aqueous, $B = Bulk$, $O = Other$, $P = Product$, $S = Soil$, $SD = Sediment$, $SL = Soil$	ng Water,	GW = Ground Water, SW = Storm Water, WW = Waste Water
944 5210778 57778777787777877777777777777777777	Sol Can	Control of the Contro	And the second s
Sample Name		Alto Co.	Comments
上月11十-1-11日刊	1/21/17 0800 OW	⊗	thospers.
LEIDITS-14-01	1 1/2/17		HOLD; unpr.
10-42-1-411代1年1			HOLD; wypr
たりコメーターナートコ		⊗	HNO3 pres
1年13117-8-15-03	-03	8	80
LE12114-8-KF-05	105	8	THE ASSESSMENT OF THE ASSESSMENT OF THE STREET OF THE STRE
ナー・コノーターナートレーゴー		⊗	Difference of 1 5% product and 281Acc quality on make
H-37-5-4/16/37	C-14 - 30 00 01 - 30 00 00 00 00 00 00 00 00 00 00 00 00		HOLD; WAP.
カル・コンーナーナルのヨア			HOLD, wypr.
TE 12117-9-40F-15	F-15 Y V V	⊗ ————————————————————————————————————	thus pres.
**Metals Analysis (Circle): MTCA-5	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	te Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be	Fluoride Nitrate+Nitrite Turn-around times for samples received after 4:00pm will begin on the following business day.	Please preserve all unpreserved samples
I represent that I am auth	I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have	alf of the Client named above, that I have verified Client's	
Reliaquished	Date/Time Received	Cater as Lobert supply Date/Time Laplace and a concept a concept and the Cater and Cat	T&T: 45.4°
Relinquished	Date/Time Received	Date/Time	TAT → SameDay^ NextDay^ 2 Day 3 Day STD
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	Date/Time	×	7, 1600	Date/Time	Relinquished Well
TXT: 4540	ed above, that I have verified Client's	I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have agreement to each of the terms on the front and backside of this Agreement.	I represent that I am authorized to enter into this Agreement with Fremont A agreement to each of the terms on the front and backside of this Agreement.	e terms on the front and	I represent that I am a agreement to each of th
place program with program of the	A tee may be on the following business day.	Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A ree may be assessed if samples are retained after 30 days.)	Disposal by Lab (Samples will be held for 30 days.) assessed if samples are retained after 30 days.	Return to Client	Sample Disposal:
Special Remarks:	Nitrate+Nitrite Turn-around times for samples received after 4:00pm will begin	O-Phosphate Fluoride Nitra	Chloride Sulfate Bromide	Nitrate Nitrite Chlo	***Anions (Circle): Ni
b Sb Se Sr Sn Ti Tl U V Zn	co cr (cu) Fe	Individual: Ag Al As B Ba Be Ca Cd	Priority Pollutants TAL): MTCA-5 RCRA-8	**Metals Analysis (Circle):
HDLD; impreserved			4	DF-26 4	15-400-5-4116137
at Co. So on 1887 Office washing fact Schooling team south 8 observed)F-26	12-4-COF-26
) (S)			OF-24	上三は117-8-05-24
The state of the s	8			DF-23	LE12117-P-CDF-23
A medical property of the control of	8			٢- ١١	LE12117-P-0F-21
	8			b1-2	[E12114-8-COF-19
HNO3 preserved) &			0F-17	H-200-9-4116137
HOLD whor.	X			-16	レミルコーナーナーノー
HOW; unpreserved				-16	LE12117-5-CF-16
HNDs preserved	(2)		0800 pm	F-16 1/17	1-40-6-CF-16
Comments	\$\frac{\cappa_{\text{off}} \text{\text{off}} \\ \text{off}	Colling to the Colling Colling Colling to the Colling to the Colling C	Sample Sample Type Time (Matrix)*	Sample Date	Sample Name
SW = Storm Water, WW = Waste Water	ng Water, GW = Ground Water,	SD = Sediment, SL = Solid, W = Water, DW =	O = Other, P = Product, S = Soil, SD	AQ = Aqueous, B = Bulk, O =	A = Air,
fulcrum.net	rmathews@efulcrum.net; cc: aenbysk@efulcrum.net	PM Email:	Fax: 509.545.8453	509.574.0839	Telephone:
	Ryan Mathews	Report To (PM):		Yakima, WA 98901	City, State, Zip:
wick, wit	Lincoln Elementary, Kymeworks	Location:	street	406 North Second Street	Address:
da Entysk P	162017 Colle	Project No:	ental Consulting	Fulcrum Environmental Consulting	Client:
water Lincoln Glementing a	Kennewick SO D, mkin water	Project Name:	7178		Seattle, WA 98103
Page: 0 of:			3790	Tel: 206-352-3790	3600 Fremont Ave N
Laboratory Project No (internal):	Date: 1/21/2017			Analytical	
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3600 Fremont Ave N. Seattle, WA 98103	Tel: 206-352-3790 Fax: 206-352-7178		boardwick SO Dont: 1 state	Dink: Water - I work Clause to
Client:	Fulcrum Environmental Consulting	Project No:		x+ Nathunboston
Address:	406 North Second Street	Location:	Lincoln Elimentary, Kenner	Kennewick, wx
City, State, Zip:	Yakima, WA 98901	Report To (PM):	Ryan Mathews	Recipies (Advance Control of the control of the second of the control of the cont
Telephone:	509.574.0839 Fax: 509.545.8453	PM Email:	rmathews@efulcrum.net; cc: aenbysk@efulcrum.net	fulcrum.net
A = Air, AQ =	Aqueous, $B = Bulk$, $O = Other$, $P = Product$, $S = Soil$, $SD = Sediment$,	SL = Solid, W = Water, DW =	DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water	rm Water, WW = Waste Water
pro makatas, katalogo 1900 na Rosson populandajnica	\$JEG COM	The Charles Co.	1	
Sample Name	- CDF-2/0 /21/17. /200 0W	15 OF S.	75	HOLD; unpreserved
15-1011-1-CDF-28	721/12			HNO3 preserved
LE12117-P-00F-32			(X)	
48-300-8-41181371	F-34		8	The state of the s
15-700-S-4116131	1-34			HOLD; impreserved
12-17-17-01-34	2-34	Section of the sectio		HOLD, impressived
15- 700-4-111617	0F-36		8	4NO3 preserved
17-100-8-411R1 I	E-40		(S)	
Ch-200-9-211/137	F-40	100	8	The second section of the property of the second second
C4-700-5-4/15/37	20F-42 & V			HOLD; unpreserved
**Metals Analysis (Circle): MTCA-5	RCRA-8 Priority Pollutants TAL Individual: Ag	Al As B Ba Be Ca Cd	co cr Cu)Fe	b Sb Se Sr Sn Ti Ti U V Zn
***Anions (Circle): Nitrate	Nitrite Chloride	e Fluoride Nitr	Nitrate+Nitrite Turn-around times for samples received after 4:00pm will begin	Special Remarks:
Sample Disposal:	Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A tee may be assessed if samples are retained after 30 days.)	s unless otherwise noted.		Place preserve all impressives semple
I represent that I am auth	I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have agreement to each of the terms on the front and backside of this Agreement.	chalf of the Client name	ed above, that I have verified Client's	,
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Resinguished Date/Time Date/Time No. 1, 2017 - 1600 × 1 1 1 1 1 1 1 1 1 1		ound times for samples d after 4:00pm will begin following business day.	s (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	- 0-(- 35 + + + + + + + + + + + + + + + + + +	LE19117 - P-CF-50 V V V V V TILE1311	LE12117-T-COF-49 / HOW; unpres-	(E)2117-5-COF-49 HDD; wpcs.	(E) 1117-10-40 (A) HND3 preserved	LE12117-T-CDF-48 +DLD; mpr.	LE12417-5-CDF-48 HOLD; Wypn.	LE 13117-12-CDF-48	LEIZIIT-10-0F-47 MNOS proserved		Sample Name Sample Sample Type CS-Strate Color Strate Col	ing Water, GW	Telephone: 509,574,0839 Fax: 509,545,8453 PM Email: rmathews@efulcrum.net; cc: aenbysk@efulcrum.net	(PM): Ryan Mathews	1 Lincoln Glementa	Client: Fulcrum Environmental Consulting Project No: 162017 Collected by: () White Chip's Kd	Kennenty Sona	Date: 1/21/2017	
	ASAP	pecial Remarks: Please preserve all impreserved simple	TI U Z		preserved) wypas.); wpris.	preserved); whor.	Uppr.	-	proserved	impreserved	Comments	WW = Waste Water	let		TICK, WA	Cyrunda Erley-Ko Kolthan Boston	- 1 mills 61 menta	Laboratory Project No (internal): 76 1235 22	

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, **Metals Analysis (Circle): MTCA-5 ***Anions (Circle): Sample Name Relinquished agreement to each of the terms on the front and backside of this Agreement Sample Disposal: Relinquished 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 Telephone: City, State, Zip: Address: Client: Seattle, WA 98103 3600 Fremont Ave N. Fremont Nitrate Return to Client Nitrite Fax: 206-352-7178 Tel: 206-352-3790 Date/Time RCRA-8 Sample O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid,Chloride Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be **Priority Pollutants** Sample Time Fax: Sulfate Type (Matrix)* Sample Bromide TAL Received Individual: Ag Al Received O-Phosphate **Chain of Custody Record and Laboratory Services Agreement** As B Project No: Project Name: W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water PM Email: Report To (PM): Location: Ba Ве Ca Cd Co Cr Nitrate+Nitrite Date/Time Date/Time Ch Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr on the following business day received after 4:00pm will begin Turn-around times for samples Laboratory Project No (internal): TAT → SameDay^ NextDay^ 2 Day 3 Day STD Special Remarks ^Please coordinate with the lab in advance Sn Ti = \subset < Zn

Page 22 of 22



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

Fulcrum Environmental
Ryan Mathews

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

RE: Kennewick SD - Lincoln Elementary Follow-Up Sampling

Work Order Number: 1701341

February 01, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 17 sample(s) on 1/30/2017 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

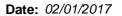
All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

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 Work Order Sample Summary

Project: Kennewick SD - Lincoln Elementary Follow-

Work Order: 1701341

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1701341-001	LE12817-P-KF-02	01/28/2017 10:50 AM	01/30/2017 9:10 AM
1701341-002	LE12817-S-KF-02	01/28/2017 10:50 AM	01/30/2017 9:10 AM
1701341-003	LE12817-T-KF-02	01/28/2017 10:50 AM	01/30/2017 9:10 AM
1701341-004	LE12817-P-KF-03	01/28/2017 10:50 AM	01/30/2017 9:10 AM
1701341-005	LE12817-S-KF-03	01/28/2017 10:50 AM	01/30/2017 9:10 AM
1701341-006	LE12817-T-KF-03	01/28/2017 10:50 AM	01/30/2017 9:10 AM
1701341-007	LE12817-P-CDF-10	01/28/2017 10:50 AM	01/30/2017 9:10 AM
1701341-008	LE12817-S-CDF-19	01/28/2017 10:50 AM	01/30/2017 9:10 AM
1701341-009	LE12817-T-CDF-19	01/28/2017 10:50 AM	01/30/2017 9:10 AM
1701341-010	LE12817-P-OF-21	01/28/2017 10:50 AM	01/30/2017 9:10 AM
1701341-011	LE12817-S-OF-21	01/28/2017 10:50 AM	01/30/2017 9:10 AM
1701341-012	LE12817-T-OF-21	01/28/2017 10:50 AM	01/30/2017 9:10 AM
1701341-013	LE12817-P-CDF-32	01/28/2017 10:50 AM	01/30/2017 9:10 AM
1701341-014	LE12817-S-CDF-32	01/28/2017 10:50 AM	01/30/2017 9:10 AM
1701341-015	LE12817-T-CDF-32	01/28/2017 10:50 AM	01/30/2017 9:10 AM
1701341-016	LE12817-P-WC-53	01/28/2017 10:50 AM	01/30/2017 9:10 AM
1701341-017	LE12817-P-WC-54	01/28/2017 10:50 AM	01/30/2017 9:10 AM



Case Narrative

WO#: **1701341**Date: **2/1/2017**

CLIENT: Fulcrum Environmental

Project: Kennewick SD - Lincoln Elementary Follow-Up 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:

1701341-003A 204405: Prep Comments for EPA200.8, Sample 1701341-003A: Turbidity: 0.01 NTU 1701341-006A 204406: Prep Comments for EPA200.8, Sample 1701341-006A: Turbidity: 0.23 NTU 1701341-012A 204407: Prep Comments for EPA200.8, Sample 1701341-012A: Turbidity: 0.02 NTU 1701341-015A 204408: Prep Comments for EPA200.8, Sample 1701341-015A: Turbidity: 0.05 NTU



Qualifiers & Acronyms

WO#: **1701341**

Date Reported: 2/1/2017

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



Work Order: 1701341

Date Reported: 2/1/2017

CLIENT: Fulcrum Environmental

Project: Kennewick SD - Lincoln Elementary Follow-Up Sampling

Lab ID: 1701341-003 **Collection Date:** 1/28/2017 10:50:00 AM

Client Sample ID: LE12817-T-KF-02 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 16089 Analyst: TN

Copper 1,110 0.500 µg/L 1 1/31/2017 6:39:35 PM

Lab ID: 1701341-006 **Collection Date:** 1/28/2017 10:50:00 AM

Client Sample ID: LE12817-T-KF-03 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 16089
Analyst: TN

Copper 1,010 0.500 $\mu g/L$ 1 1/31/2017 6:50:26 PM

Lab ID: 1701341-012 Collection Date: 1/28/2017 10:50:00 AM

Client Sample ID: LE12817-T-OF-21 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>

Batch ID: 16089

Analyst: TN

Copper 556 0.500 µg/L 1 1/31/2017 6:54:02 PM



Work Order: 1701341

Date Reported: 2/1/2017

CLIENT: Fulcrum Environmental

Project: Kennewick SD - Lincoln Elementary Follow-Up Sampling

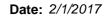
Lab ID: 1701341-015 Collection Date: 1/28/2017 10:50:00 AM

Client Sample ID: LE12817-T-CDF-32 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 16089 Analyst: TN

Copper 693 0.500 μg/L 1 1/31/2017 6:57:39 PM





Work Order: 1701341

QC SUMMARY REPORT

CLIENT: Fulcrum Environmental

Project:	Kennewick	SD - Lincoln Element	ary Follov	N-				Orinking Water N	letals by EF	A Metho	d 200.8
Sample ID M	B-16089	SampType: MBLK			Units: µg/L		Prep Date:	: 1/31/2017	RunNo: 34	194	
Client ID: M	BLKW	Batch ID: 16089					Analysis Date	1/31/2017	SeqNo: 65	1595	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit RPD Ref Va	al %RPD	RPDLimit	Qual
Copper		ND	0.500								
Sample ID LO	CS-16089	SampType: LCS			Units: µg/L		Prep Date:	: 1/31/2017	RunNo: 34	194	
Client ID: LO	csw	Batch ID: 16089					Analysis Date	1/31/2017	SeqNo: 65	1596	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit RPD Ref Va	al %RPD	RPDLimit	Qual
Copper		112	0.500	100.0	0	112	85	115			
Sample ID 17	701340-033ADUP	SampType: DUP			Units: µg/L		Prep Date:	: 1/31/2017	RunNo: 34	194	
Client ID: B	ATCH	Batch ID: 16089					Analysis Date	1/31/2017	SeqNo: 65	1598	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit RPD Ref Va	al %RPD	RPDLimit	Qual
Copper		1,310	0.500					1,34	4 2.78	30	
Sample ID 17	701340-033AMS	SampType: MS			Units: µg/L		Prep Date:	: 1/31/2017	RunNo: 34	194	
Client ID: BA	ATCH	Batch ID: 16089					Analysis Date	1/31/2017	SeqNo: 65	1599	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD Ref Va	al %RPD	RPDLimit	Qual
Copper		1,570	0.500	200.0	1,344	111	70	130			
Sample ID 17	701340-033AMSD	SampType: MSD			Units: µg/L		Prep Date:	: 1/31/2017	RunNo: 34	194	
Client ID: BA	ATCH	Batch ID: 16089					Analysis Date	1/31/2017	SeqNo: 65	1600	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit RPD Ref Va	al %RPD	RPDLimit	Qual
Copper		1,530	0.500	200.0	1,344	93.3	70	130 1,56	6 2.26	30	

Page 7 of 10 Original



Sample Log-In Check List

С	lient Name:	FE				Work Order	Number: '	1701341	1	
L	ogged by:	Erica Silva	l			Date Receiv	ved:	1/30/201	17 9:10:00 AM	
Cha	ain of Cust	od <u>y</u>								
1.	Is Chain of C	ustody comp	olete?			Yes 🗹	N	No 🗌	Not Present	
2.	How was the	sample deliv	vered?			<u>FedEx</u>				
Log	ı İn									
_	Coolers are p	oresent?				Yes 🗹	N	No 🗌	NA 🗆	
٥.	000.0.0 0.0 p									
4.	Shipping con	tainer/cooler	in good condition	1?		Yes 🗸	١	No 🗆		
5.			shipping contain ustody Seals not			Yes	٨	√	Not Required	
6.	Was an atter	npt made to	cool the samples	?		Yes 🗹	N	No 🗌	NA \square	
7.	Were all item	is received a	t a temperature o	f >0°C to 10	.0°C*	Yes 🗸	N	No 🗆	na 🗆	
8.	Sample(s) in	proper conta	ainer(s)?			Yes 🗸	N	No 🗌		
9.			for indicated test	(s)?		Yes 🗸	N	No 🗌		
10.	Are samples					Yes 🗹	N	No 🗌		
11.	Was preserva	ative added t	o bottles?			Yes \square	N	No 🗸	NA \square	
40	la thora haad	langas in the	VOA violo?			Yes 🗌			NA 🗹	
	Is there head Did all sampl		s arrive in good c	ondition(unbr	oken)?	Yes ✓		10 □ 10 □	NA 🛡	
	Does paperw			orialition (aribi	onony.	Yes 🗹		10 <u> </u>		
15.	Are matrices	correctly ide	ntified on Chain o	of Custody?		Yes 🗹	N	ا oo		
16.	Is it clear who	at analyses v	vere requested?			Yes 🔽		ا ov		
17.	Were all hold	ling times ab	le to be met?			Yes 🗸	١	No L		
Spe	ecial Handl	ing (if app	olicable)							
-		•	liscrepancies with	this order?		Yes	N	No 🗌	NA 🗸	
	Person	Notified:			Date					
	By Who				Via:	eMail	Phone	Fax	In Person	
	Regardi	ing:								
	Client Ir	nstructions:								
19.	Additional rer	marks:								_
Item	<u>Information</u>									
		Item #		Temp ⁰C						
	Cooler			4.5						

8.1

Original

Sample

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

3600 Fren	
3600 Fremont Ave N.	17
Tel:	e 3
Tel: 206-352-3790	
790	

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TAT → SameDay [^] NextDay [^] 2 Day 3 Day STD	Date/fime		Received		Date/Time	Relinquished
TAT: ASAP	Soll 200	1 1	Received	1530	138/36/Time	Relinquished XX
	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.	alf of the Client named	ont Analytical on beh	Agreement with Frem	ed to enter into this A	I represent that I am authorized to enter into this Agreement with Fremont agreement to each of the terms on the front and backside of this Agreement.
CM surfice 41/12 beginned	on the following business day.	Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A tee may be assessed if samples are retained after 30 days.)	retained after 30 days.)	Disposal by Lab (Samples will be held for 30 days, assessed if samples are retained after 30 days.	Return to Client	Sample Disposal: Re
10	Nitrate+Nitrite Turn-around times for samples received after 4:00pm will begin	Fluoride Nitrat	Bromide O-Phosphate		Nitrite Chloride	***Anions (Circle): Nitrate
Pb Sb Se Sr Sn Ti Tl U V Zn	Co Cr (Cu) Fe Hg K Mg Mn Mo Na Ni Pi	Al As B Ba Be Ca Cd	Individual: Ag	Priority Pollutants TAL	A-5 RCRA-8	**Metals Analysis (Circle): MT
	<u> </u>	6 - 4 - 4		X	4	LE12817-8-08-21
				Total ay ay as an		LE12817-T-CDF-19
				ingst Subject Western	Total or the street	16-202-5-4198137
9.0		See A		10 00 00 pt 10 pt	Chemina the sheet along	LE12817-8-COF-19
	8	STORY STORY STORY STORY			The state of the second	LE12817-T-KF-03
	8					LE17817-5-KF-03
	8					LE17817-P-KF-03
	<u></u>					1日8日-1-156日1
	(S)	STATE SELECT SECTION OF THE SECTION	260 To 80 To 10 To			LE12817-8-KF-02
	0			1050 DW	1/28/2017	LE12817-8-KF-02
Comments	\$\frac{\cappa_{\text{total}} \cappa_{\text{total}} \cappa_{t	Cacillo da la como de	Sec. lipa seed seed seed seed seed seed seed see	Sample Sample Type (Matrix)*	Sample Date	Sample Name
= Ground Water, SW = Storm Water, WW = Waste Water	ing Water, GW	SL = Solid, W = Water, DW = Drinking Water,	S = Soil, SD = Sediment, SL =	P = Product,	eous, B = Bulk, O = Other,	A = Air, AQ = A
fulcrum.net	rmathews@efulcrum.net; cc: aenbysk@efulcrum.net	PM Email:	453	Fax: 509.545.8453	509.574.0839	Telephone: 50
報題の方式を表示を含む。 CD いませいかい に関 内容が あるらぎ からしていかばない エー・アー・アー・アー・アー・アー・アー・アー・アー・アー・アー・アー・アー・アー	Ryan Mathews	Report To (PM):	APTO PROGRESSION OF	to the relation and a final	Yakima, WA 98901	City, State, Zip:
'A	Lincoln Elementary School, Kennewick, WA	Location:	4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4	et	406 North Second Street	Address: 40
Collected by: Umada Entysk	162017 Colle	Project No:		l Consulting	Fulcrum Environmental Consulting	Client: Fu
ollow-Up Sampling	Page:or Page:	Project Name:		0	Tel: 206-352-3790 Fax: 206-352-7178	3600 Fremont Ave N. Seattle, WA 98103
Laboratory Project No (Internal): 1701341	Date: 1/28/2017				Analytical	

3600 Fremont Ave N.		
ont Ave N.		Fre
Tel: 206-352-3790	Analy	30
352-3790	tical	3

	remon	2			4/20/2013	17/12/11
	Analyti	cal			Date: 1/28/201/ Laboratory Project No (internal):	1501011
3600 Fremont Ave N.		2-3790			Page: Q of: Q	
Seattle, WA 98103	Fax: 206-352-7178	52-7178		Project Name:	Kennewick SD - Lincoln Elementary Follow-Up Sampling	
Client:	Fulcrum Environ	Fulcrum Environmental Consulting	0.00	Project No:	162017 Collected by: Agrenda Entrsk	
Address:	406 North Second Street	d Street		Location:	Lincoln Elementary School, Kennewick, WA	
City, State, Zip:	Yakima, WA 98901	01		Report To (PM):	Ryan Mathews	
Telephone:	509.574.0839	Fax: 50	Fax: 509.545.8453	PM Email:	rmathews@efulcrum.net; cc: aenbysk@efulcrum.net	
A = Air,	AQ = Aqueous, B = Bulk,	O = Other, P = Product,	S = Soil, SD = Sediment,	SL = Solid, W = Water, DW =	S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water	
	W	Sample	Sample Sign Sign Sign Sign Sign Sign Sign Sign	The to the control of		
12-30-2-4186137		1/28/2017 (050	DW		0	
LE12817-T-0F-21	06-21				8	
LE12817-8-505-32	OF-32					
LE12817-5-CDF-32	COF-32				8	
LE12817-T-CDF-32	(pF-32)					
LE12817-8-WC-53	WC-53				8	
1E12817-8-WC-54	WC-54	R	2			
		100	38000			
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**Metals Analysis (Circle):): MTCA-5 RCRA-8	Priority Pollutants	s TAL Individual: Ag	Al As B Ba Be Ca Cd	P	
***Anions (Circle): Ni	Nitrate Nitrite C	Chloride Sulfate	Bromide O-Phosphate	hate Fluoride Nitra	Turn-around times for samples received after 4:00pm will begin	rseved
Sample Disposal:	Return to Client	Disposal by Lab assessed if san	Disposal by Lab (Samples will be held for 30 day assessed if samples are retained after 30 days.)	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 agreement to each of the terms on the front and backside of this Agreement.	uthorized to enter into e terms on the front a	this Agreement wit nd backside of this A	h Fremont Analytical on greement.	behalf of the Client named	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	Date/Time 1536	Received x	7	Date/Time O 1 THI AS LE	
					(

Relinquished

Date/Time

Received

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance



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: Kennewick SD Drinking Water - Lincoln Elementary

Work Order Number: 1703046

March 13, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 13 sample(s) on 3/6/2017 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

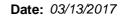
All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

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 Work Order Sample Summary

Project: Kennewick SD Drinking Water - Lincoln Ele

Work Order: 1703046

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1703046-001	LE3417-P-KF-01	03/04/2017 8:00 AM	03/06/2017 8:54 AM
1703046-002	LE3417-S-KF-01	03/04/2017 8:00 AM	03/06/2017 8:54 AM
1703046-003	LE3417-T-KF-01	03/04/2017 8:00 AM	03/06/2017 8:54 AM
1703046-004	LE3417-P-CDF-19	03/04/2017 8:00 AM	03/06/2017 8:54 AM
1703046-005	LE3417-P-OF-21	03/04/2017 8:00 AM	03/06/2017 8:54 AM
1703046-006	LE3417-P-CDF-32	03/04/2017 8:00 AM	03/06/2017 8:54 AM
1703046-007	LE3417-P-CDF-48	03/04/2017 8:00 AM	03/06/2017 8:54 AM
1703046-008	LE3417-S-CDF-48	03/04/2017 8:00 AM	03/06/2017 8:54 AM
1703046-009	LE3417-T-CDF-48	03/04/2017 8:00 AM	03/06/2017 8:54 AM
1703046-010	LE3417-P-WC-53	03/04/2017 8:00 AM	03/06/2017 8:54 AM
1703046-011	LE3417-P-WC-54	03/04/2017 8:00 AM	03/06/2017 8:54 AM
1703046-012	LE3417-P-KF-02	03/04/2017 8:00 AM	03/06/2017 8:54 AM
1703046-013	LE3417-P-KF-03	03/04/2017 8:00 AM	03/06/2017 8:54 AM



Case Narrative

WO#: **1703046**Date: **3/13/2017**

CLIENT: Fulcrum Environmental

Project: Kennewick SD Drinking Water - Lincoln 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:

1703046-001A 209820: Prep Comments for EPA200.8, Sample 1703046-001A: Turbidity: 0.00 NTU 1703046-004A 209821: Prep Comments for EPA200.8, Sample 1703046-004A: Turbidity: 0.00 NTU 1703046-005A 209822: Prep Comments for EPA200.8, Sample 1703046-005A: Turbidity: 0.01 NTU 1703046-006A 209823: Prep Comments for EPA200.8, Sample 1703046-006A: Turbidity: 0.00 NTU 1703046-007A 209824: Prep Comments for EPA200.8, Sample 1703046-007A: Turbidity: 0.00 NTU 1703046-010A 209825: Prep Comments for EPA200.8, Sample 1703046-010A: Turbidity: 0.00 NTU 1703046-011A 209826: Prep Comments for EPA200.8, Sample 1703046-011A: Turbidity: 0.01 NTU 1703046-012A 209829: Prep Comments for EPA200.8, Sample 1703046-012A: Turbidity 0.00 NTU 1703046-013A 209833: Prep Comments for EPA200.8, Sample 1703046-013A: Turbidity 0.09 NTU



Qualifiers & Acronyms

WO#: **1703046**

Date Reported: 3/13/2017

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



Work Order: 1703046

Date Reported: 3/13/2017

CLIENT: Fulcrum Environmental

Project: Kennewick SD Drinking Water - Lincoln Elementary

Lab ID: 1703046-001 **Collection Date:** 3/4/2017 8:00:00 AM

Client Sample ID: LE3417-P-KF-01 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 16430 Analyst: TN

Copper 1,160 0.500 μg/L 1 3/10/2017 9:54:54 PM

Lab ID: 1703046-004 **Collection Date:** 3/4/2017 8:00:00 AM

Client Sample ID: LE3417-P-CDF-19 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

Drinking Water Metals by EPA Method 200.8 Batch ID: 16430 Analyst: TN

Copper 1,260 0.500 $\mu g/L$ 1 3/10/2017 9:58:56 PM

Lab ID: 1703046-005 **Collection Date:** 3/4/2017 8:00:00 AM

Client Sample ID: LE3417-P-OF-21 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>

Batch ID: 16430

Analyst: TN

Copper 1,290 0.500 µg/L 1 3/10/2017 10:02:57 PM



Work Order: 1703046

Date Reported: 3/13/2017

CLIENT: Fulcrum Environmental

Project: Kennewick SD Drinking Water - Lincoln Elementary

Lab ID: 1703046-006 Collection Date: 3/4/2017 8:00:00 AM

Client Sample ID: LE3417-P-CDF-32 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 16430 Analyst: TN

Copper 1,300 0.500 μg/L 1 3/10/2017 10:06:59 PM

Lab ID: 1703046-007 **Collection Date:** 3/4/2017 8:00:00 AM

Client Sample ID: LE3417-P-CDF-48 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 16430 Analyst: TN

Copper 1,870 0.500 μg/L 1 3/10/2017 10:11:01 PM

Lab ID: 1703046-010 **Collection Date:** 3/4/2017 8:00:00 AM

Client Sample ID: LE3417-P-WC-53 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>

Batch ID: 16430

Analyst: TN

Copper ND 0.500 µg/L 1 3/10/2017 10:15:02 PM



Drinking Water Metals by EPA Method 200.8

Analytical Report

Work Order: 1703046

Date Reported: 3/13/2017

CLIENT: Fulcrum Environmental

Project: Kennewick SD Drinking Water - Lincoln Elementary

Collection Date: 3/4/2017 8:00:00 AM Lab ID: 1703046-011

Client Sample ID: LE3417-P-WC-54 Matrix: Drinking Water

Date Analyzed Analyses RL Qual Units DF Result

Batch ID: 16430 Analyst: TN **Drinking Water Metals by EPA Method 200.8**

Copper 1,230 0.500 μg/L 3/10/2017 10:19:04 PM

Lab ID: 1703046-012 Collection Date: 3/4/2017 8:00:00 AM

Client Sample ID: LE3417-P-KF-02 Matrix: Drinking Water

DF **Analyses** Result **RL Qual** Units **Date Analyzed** Batch ID: 16431 Analyst: TN

Copper 1,190 0.500 μg/L 3/10/2017 10:39:15 PM

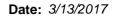
Lab ID: 1703046-013 Collection Date: 3/4/2017 8:00:00 AM

Client Sample ID: LE3417-P-KF-03 Matrix: Drinking Water

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

Drinking Water Metals by EPA Method 200.8 Batch ID: 16431 Analyst: TN

Copper 1,210 0.500 μg/L 3/10/2017 10:55:21 PM





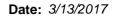
Work Order: 1703046

QC SUMMARY REPORT

CLIENT: Fulcrum Environmental

Project:	Kennewick	SD Drinking Water -	Lincoln E	le			D	rinking Water	Metals by EF	PA Metho	d 200.8
Sample ID	MB-16431	SampType: MBLK			Units: µg/L		Prep Date:	3/10/2017	RunNo: 34	878	
Client ID:	MBLKW	Batch ID: 16431					Analysis Date:	3/10/2017	SeqNo: 66	6039	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RPD Ref \	/al %RPD	RPDLimit	Qual
Copper		ND	0.500								
Sample ID	LCS-16431	SampType: LCS			Units: µg/L		Prep Date:	3/10/2017	RunNo: 34	878	
Client ID:	LCSW	Batch ID: 16431					Analysis Date:	3/10/2017	SeqNo: 66	6040	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RPD Ref \	/al %RPD	RPDLimit	Qual
Copper		91.0	0.500	100.0	0	91.0	85	115			
Sample ID	1703046-012ADUP	SampType: DUP			Units: µg/L		Prep Date:	3/10/2017	RunNo: 34	878	
Client ID:	LE3417-P-KF-02	Batch ID: 16431				į	Analysis Date:	3/10/2017	SeqNo: 66	6042	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RPD Ref \	/al %RPD	RPDLimit	Qual
Copper		1,190	0.500					1,1	95 0.223	30	
Sample ID	1703046-012AMS	SampType: MS			Units: µg/L		Prep Date:	3/10/2017	RunNo: 34	878	
Client ID:	LE3417-P-KF-02	Batch ID: 16431					Analysis Date:	3/10/2017	SeqNo: 66	6043	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RPD Ref \	/al %RPD	RPDLimit	Qual
Copper		1,350	0.500	200.0	1,195	75.9	70	130			
Sample ID	1703046-012AMSD	SampType: MSD			Units: µg/L		Prep Date:	3/10/2017	RunNo: 34	878	
Client ID:	LE3417-P-KF-02	Batch ID: 16431				•	Analysis Date:	3/10/2017	SeqNo: 66	6044	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RPD Ref \	/al %RPD	RPDLimit	Qual
Copper		1,380	0.500	200.0	1,195	93.8	70	130 1,3	46 2.63	30	

Page 8 of 14 Original





1703046 Work Order:

Copper

1,060

0.500

200.0

QC SUMMARY REPORT

4.66

30

CLIENT: Fulcrum Environmental

Project:	Kennewick	SD Drinking Water - I	_incoln El	e			D	rinking Water Me	etals by EPA Method	d 200.8
Sample ID	MB-16430	SampType: MBLK			Units: µg/L		Prep Date:	3/6/2017	RunNo: 34877	
Client ID:	MBLKW	Batch ID: 16430					Analysis Date:	3/10/2017	SeqNo: 665991	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RPD Ref Val	%RPD RPDLimit	Qual
Copper		ND	0.500							
Sample ID	LCS-16430	SampType: LCS			Units: µg/L		Prep Date:	3/6/2017	RunNo: 34877	
Client ID:	LCSW	Batch ID: 16430					Analysis Date:	3/10/2017	SeqNo: 665992	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RPD Ref Val	%RPD RPDLimit	Qual
Copper		91.3	0.500	100.0	0	91.3	85	115		
Sample ID	1703045-001ADUP	SampType: DUP			Units: µg/L		Prep Date:	3/6/2017	RunNo: 34877	
Client ID:	BATCH	Batch ID: 16430					Analysis Date:	3/10/2017	SeqNo: 665994	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RPD Ref Val	%RPD RPDLimit	Qual
Copper		821	0.500					881.8	7.10 30	
Sample ID	1703045-001AMS	SampType: MS			Units: µg/L		Prep Date:	3/6/2017	RunNo: 34877	
Client ID:	ВАТСН	Batch ID: 16430					Analysis Date:	3/10/2017	SeqNo: 665995	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RPD Ref Val	%RPD RPDLimit	Qual
Copper NOTES:		1,010	0.500	200.0	881.8	66.6	70	130		S
S - Outlyii	ng spike recovery(ies)	observed. A duplicate anal	ysis was pe	erformed and r	ecovered within ran	ge.				
Sample ID	1703045-001AMSD	SampType: MSD			Units: µg/L		Prep Date:	3/6/2017	RunNo: 34877	
Client ID:	ВАТСН	Batch ID: 16430					Analysis Date:	3/10/2017	SeqNo: 665998	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RPD Ref Val	%RPD RPDLimit	Qual

Page 9 of 14 Original

881.8

70

90.8

130

1,015



Sample Log-In Check List

С	lient Name:	FE			Work Or	der Num	nber: 1703046	•	
Lo	ogged by:	Erica Silva			Date Re	ceived:	3/6/2017	8:54:00 AM	
<u>Ch</u> a	nin of Custo	ody							
	Is Chain of C	-	lete?		Yes	✓	No 🗌	Not Present	
2.	How was the	sample deliv	ered?		FedE	X			
Log	ı İn								
_	Coolers are p	resent?			Yes	✓	No 🗆	NA 🗆	
Ο.	,								
4.	Shipping conf	tainer/cooler	in good condition?		Yes	✓	No 🗌		
5.			shipping container/cooler? ustody Seals not intact)		Yes		No 🗸	Not Required	
6.	Was an atten	npt made to	cool the samples?		Yes	✓	No 🗌	NA 🗌	
7.	Were all item	s received at	t a temperature of >0°C to 10.0°C	C*	Yes	✓	No 🗆	na 🗆	
8.	Sample(s) in	proper conta	iner(s)?		Yes	✓	No 🗌		
9.	Sufficient san	nple volume	for indicated test(s)?		Yes	✓	No \square		
10.	Are samples	properly pres	served?		Yes	✓	No \square		
11.	Was preserva	ative added t	o bottles?		Yes	✓	No \square	NA \square	
			VOA : 1.0		.,			HNO3	
	Is there head			~~\?	Yes		No □	NA 🗸	
	_		s arrive in good condition(unbroke	2 11) ?	Yes Yes	✓	No □ No □		
14.	Does paperw	OIK Match be	ottle labels!		165	•	INO L		
15.	Are matrices	correctly ide	ntified on Chain of Custody?		Yes	✓	No 🗌		
16.	Is it clear wha	at analyses w	vere requested?		Yes	✓	No 🗌		
17.	Were all hold	ling times abl	e to be met?		Yes	✓	No 🗌		
Spe	cial Handli	ing (if app	licable)						
-		•	iscrepancies with this order?		Yes		No 🗌	NA 🗸	
	Person	Notified:		Date					
	By Who	m:		Via:	eMai	il 🗌 Pl	hone Fax	☐ In Person	
	Regardi	ng:	·						
	Client In	structions:							
19.	Additional ren	marks:							<u>_1</u>
	HNO3 a	dded to 002/	A, 003A, 008A, 009A						
ltem	<u>Information</u>								
		Item #	Temp °C						

4.3

2.8

Cooler

Sample

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

3600 Fremont Ave N. Seattle, WA 98103	
nt Ave N. 98103	Fre
Tel: 206-352-3790 Fax: 206-352-7178	Analya
52-3790 52-7178	

Chain of Custody Record and Laboratory Services Agreement

TAT → SameDay^ NextDay^ 2 Day 3 Day 51D		Date/Time		Received			Date/Time		Relinquished
	1580	617	67	×		7	Sold Sold Sold Sold Sold Sold Sold Sold	K	× Norman
TAT - 4547	I have verified Client's	amed above, that	alf of the Client n	I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have agreement to each of the terms on the front and backside of this Agreement.	t with Fremont his Agreement.	his Agreement backside of t	I represent that I am authorized to enter into this Agreement with Fremont agreement to each of the terms on the front and backside of this Agreement.	t I am authorize the of the terms	I represent that agreement to ea
reserve an universal	on the following business day.	ted. A fee may be	inless otherwise not	Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A tee may be assessed if samples are retained after 30 days.)	Lab (Samples wil samples are retai	Disposal by assessed if	Return to Client	Re	Sample Disposal:
Special Remarks:	Turn-around times for samples received after 4:00pm will begin	Nitrate+Nitrite	Fluoride	O-Phosphate	ate Bromide	Chloride Sulfate	Nitrite Chl	e): Nitrate	***Anions (Circle):
b Sb Se Sr Sn Ti Tl U V Zn	e Hg K Mg Mn Mo Na Ni Pb	Cd Co Cr Cu)Fe	As B Ba Be Ca	Individual: Ag Al	utants TAL	Priority Pollutants	MTCA-5 RCRA-8		**Metals Analysis (Circle):
	X	×			6	2	53	P-wc-	10
Hald				6			18	T-CDF-48	9 ,,,
Hold	-1						84-	S-COPF -1	8
	X	>		5 % 84, 8			-48 W-	P-00F-4	7
	X	X					12	P-COF-32	6 11 -
	×	X					21	p-08-21	5
The second secon	×	×					9	P-008-1	4 1.
400								T-17F-01	3
Hold	-/							3-15-01	2
	*	×			DW	017 8AM	3/4/2017	KF-01	1/13417-8
Comments	\$5 (E2 \$ 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	14, 13 2, 180 0 1910 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Sacilie Rather Charlis (Sacilies Sacrates Charles Char	CCS TEST SEED SEAR SEED SEAR SEED SEAR SEED SEAR SEED SEAR SEED SEAR SEED SEAR SEED SEAR SEED SEAR SEED SEAR SEED SEAR SEED SEAR SEED SEAR SEED SEAR SEED SEAR SEED SEAR SEED SEAR SEED SEAR SEAR SEED SEAR SEED SEAR SEED SEAR SEED SEAR SEED SEAR SEAR SEED SEAR SEAR SEAR SEAR SEAR SEAR SEAR SEAR	Sample Type (Matrix)*	le Sample	Sample Date		Sample Name
SW = Storm Water, WW = Waste Water	GW = Ground Water,	DW = Drinking Water,	765 32	S = Soil, $SD = Sediment$, $SL = Solid$, $W = Water$,	oduct, S = Soil, S	O = Other, P = Product,	B = Bulk,	A = Air, AQ = Aqueous,	*Matrix Codes: A
<u>llcrum.net</u>	rmathews@efulcrum.net; cc:aenbysk@efulcrum.net	rmathews	PM Email:		Fax: 509.575.8453	Fax	509.574.0839	50	Telephone:
	news	M): Ryan Mathews	Report To (PM):			1	Yakima, WA, 98901		City, State, Zip:
	ementary, Kennewick, WA	Lincoln Elementa	Location:	STATE OF THE STATE		Street	406 North Second Street	40	Address:
Collected by: P	162017.01 Colle	1620	Project No:			ntal Consulting	Fulcrum Environmental Consulting	Fu	Client:
Page: of: of: ge 11 of	Page Kennewick SD Drinking Water - Lincoln Elementary	1	Project Name:			3790 -7178	Tel: 206-352-3790 Fax: 206-352-7178	t Ave N. 98103	3600 Fremont Ave N. Seattle, WA 98103
Laboratory Project No (internal): 1703046 4	3/4/2017	Date:				al	Analytical		E

^Please coordinate with the lab in advance

Client:	3600 Fremont Ave N. Seattle, WA 98103	
Fulcrum Environmental Consulting	Tel: 206-352-3790 Fax: 206-352-7178	Analytical

Chain of Custody Record and Laboratory Services Agreement

*Matr	Te	Q	Ad	CI:		Se	36	
ix Codes: A = Air, AQ = /	Telephone:	City, State, Zip:	Address:	Client:		Seattle, WA 98103	3600 Fremont Ave N.	
*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 = Waster Water	509.574.0839	Yakima, WA, 98901	406 North Second Street	Fulcrum Environmental Consulting		Fax: 206-352-7178	Tel: 206-352-3790	Analytical
D = Droduct S = Soil SD = Sedim	Fax: 509.575.8453			ulting				
Control of the Contro	PM E	Repo	Location:	Proje	Proje			
200 (Mag)	PM Email:	Report To (PM):	tion:	Project No:	Project Name:			
A CONTRACTOR OF THE PARTY OF TH	rmathews@efulcru	Ryan Mathews	Lincoln Elementar	162017.01	Kennewick SD I			Date:
		S	ntary, Kennewick, WA	1	Kennewick SD Drinking Water - Lincoln Elementary			3/4/2017
	ım.net; cc:aenbysk@efulcrum.net	37 37 5 2 2 3 8 1 July 1	WA	Collected by:	ncoln Elementary		Page:	Labora
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AL NO. COLLEGE A							1	ernal):
								74080
				Р	ag	e 1	2 (of 14

x	Relinquished x / / / / / / / /	A represent that I am authorized to enter into this Agreement with Fremont agreement to each of the terms on the front and backside of this Agreement.	Sample Disposal:	***Anions (Circle):	**Metals Analysis (Circle):	10	9	00	7	6	5	4	ω	2	1 LE3417-P-WC-54	Sample Name
	B	am authorized of the terms o	Retu	Nitrate	(Circle): MTCA-5	8			1 115 015 115 1						5-M-2	
Date/ Ilme	Pate/Time	n the front and	Return to Client	Nitrite Ch	1-5 RCRA-8		3		100							Sample
	7 / 121/	this Agreement d backside of th	Disposal by assessed if	Chloride Sulfate	Priority Pollutants										3/4/2017 CAM	Sample Sample Date Time
	2	with Fremont nis Agreement.	Lab (Samples will samples are retain	ite Bromide	utants TAL										DW	Sample Type (Matrix)*
Received	Received	Analytical on be	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.)	O-Phosphate	Individual: Ag				288.2							105 (6) 4 000 (6) 4 (6) 60 (6)
	1 2	half of the Clien	s unless otherwise	Fluoride	Al As B Ba Be	80.00	100		7					200 Sec. 200		120 1 1
' Date/Time	Date/Time	t named above,	noted. A fee may k	Nitrate+Nitrite	Ca Cd Co Cr 🖓				38 20 20 20 20 20 20 20 20 20 20 20 20 20			Open and the second		#0°	X	14, (6, 25, 26, 26, 14, 16) 1, (6, 25, 25, 25, 25, 25, 25, 25, 25, 25, 25
ē	4550 a	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.	on the following business day.	Turn-around times for samples	Fe Hg K Mg Mn Mo Na											15 (5 1 5 2 5 6 0 6 1 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Τŧ	16.5	ent's	begin day.		Ni Pb											
TAT → SameDay^ NextDay^ 2 Day 3 Day STD			See lage 1	Special Remarks:	Sb Se Sr Sn Ti Tl U V Zn											Comments
							N.									

^Please coordinate with the lab in advance

agreement to each of the terms on the front and backside of this Agreement.

Date/Time

Date/Time 11/2/

Received

Return to Client

Server

l 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

assessed if samples are retained after 30 days.

Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be

on the following business day.

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ana
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<u>a</u>
8
3

PM Email: mathews@efulcrum.net_oc:aenbysk@efulcrum.net	509.575.8453	
Report To (PM): Ryan Mathews	Yakima, WA, 98901	-
Location: Lincoln Elementary, Kennewick, WA	406 North Second Street	
Project No: 162017.01 Collected by:	Fulcrum Environmental Consulting	
Project Name: Kennewick SD Drinking Water - Lincoln Elementary	3 Fax: 206-352-7178	8103
Page:of:	N. Tel: 206-352-3790	Ave N.
Date: 3/4/2017 Laboratory Project No (internal): 17030 He	Analytical	
Chain of Custody Record and Laboratory Services Agreement	romont	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

TAT - ASAF

APlease coordinate with the lab in advance

TAT → SameDay ^A NextDay ^A 2 Day 3 Day STD
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
on the following business day.
Turn-around times for samples
Fe Hg K Mg Mn Mo Na Ni

tanomt o	Chain of Cu	Chain of Custody Record and Laboratory Services Agreement
Analytical		Date: 3/4/2017 Laboratory Project No (internal): 1703046
Tel: 206-352-3790		Page: 4 of:
Fax: 206-352-7178		
	Project Name:	Kennewick SD Drinking Water - Lincoln Elementary
Fulcrum Environmental Consulting	Project No:	162017.01 Collected by:
406 North Second Street	Location:	Lincoln Elementary, Kennewick, WA
Yakima, WA, 98901	Report To (PM):	I): Ryan Mathews
509.574.0839 Fax: 509.575.8453	PM Email:	rmathews@efukrum.net; cc.aenbysk@efukrum.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

City, State, Zip:

3600 Fremont Ave N. Seattle, WA 98103

COC 1.1 - 4.5.16 - 1 of 2



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

Fulcrum Environmental Ryan Mathews

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

RE: Kennewick SD Drinking Water - Lincoln Elementary

Work Order Number: 1703211

March 21, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 8 sample(s) on 3/20/2017 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

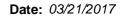
All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

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 Work Order Sample Summary

Project: Kennewick SD Drinking Water - Lincoln Ele

Work Order: 1703211

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1703211-001	LE31817-P-CDF-19	03/18/2017 9:00 AM	03/20/2017 9:00 AM
1703211-002	LE31817-P-OF-21	03/18/2017 9:00 AM	03/20/2017 9:00 AM
1703211-003	LE31817-P-CDF-32	03/18/2017 9:00 AM	03/20/2017 9:00 AM
1703211-004	LE31817-P-CDF-48	03/18/2017 9:00 AM	03/20/2017 9:00 AM
1703211-005	LE31817-S-CDF-48	03/18/2017 9:00 AM	03/20/2017 9:00 AM
1703211-006	LE31817-T-CDF-48	03/18/2017 9:00 AM	03/20/2017 9:00 AM
1703211-007	LE31817-P-WC-53	03/18/2017 9:00 AM	03/20/2017 9:00 AM
1703211-008	LE31817-P-WC-54	03/18/2017 9:00 AM	03/20/2017 9:00 AM



Case Narrative

WO#: **1703211**Date: **3/21/2017**

CLIENT: Fulcrum Environmental

Project: Kennewick SD Drinking Water - Lincoln 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:

1703211-001A 211549: Prep Comments for EPA200.8, Sample 1703211-001A: 0.34 NTU 1703211-002A 211550: Prep Comments for EPA200.8, Sample 1703211-002A: 0.00 NTU 1703211-003A 211551: Prep Comments for EPA200.8, Sample 1703211-003A: 0.04 NTU 1703211-004A 211552: Prep Comments for EPA200.8, Sample 1703211-004A: 0.10 NTU 1703211-007A 211555: Prep Comments for EPA200.8, Sample 1703211-007A: 0.01 NTU 1703211-008A 211559: Prep Comments for EPA200.8, Sample 1703211-008A: 0.01 NTU



Qualifiers & Acronyms

WO#: 1703211

Date Reported: 3/21/2017

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: 1703211

Date Reported: 3/21/2017

CLIENT: Fulcrum Environmental

Project: Kennewick SD Drinking Water - Lincoln Elementary

Lab ID: 1703211-001 **Collection Date:** 3/18/2017 9:00:00 AM

Client Sample ID: LE31817-P-CDF-19 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>

Batch ID: 16538

Analyst: MW

Copper 1,020 0.500 µg/L 1 3/20/2017 4:49:28 PM

Lab ID: 1703211-002 **Collection Date:** 3/18/2017 9:00:00 AM

Client Sample ID: LE31817-P-OF-21 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>

Batch ID: 16538

Analyst: MW

Copper 1,090 0.500 $\mu g/L$ 1 3/20/2017 4:53:29 PM

Lab ID: 1703211-003 **Collection Date:** 3/18/2017 9:00:00 AM

Client Sample ID: LE31817-P-CDF-32 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 16538 Analyst: MW

Copper 1,070 0.500 µg/L 1 3/20/2017 4:57:30 PM

Original



Analytical Report

Work Order: 1703211

Date Reported: 3/21/2017

CLIENT: Fulcrum Environmental

Project: Kennewick SD Drinking Water - Lincoln Elementary

Lab ID: 1703211-004 **Collection Date:** 3/18/2017 9:00:00 AM

Client Sample ID: LE31817-P-CDF-48 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>

Batch ID: 16538

Analyst: MW

Copper 1,500 0.500 μg/L 1 3/20/2017 5:01:31 PM

Lab ID: 1703211-007 **Collection Date:** 3/18/2017 9:00:00 AM

Client Sample ID: LE31817-P-WC-53 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 16542 Analyst: TN

Copper ND 0.500 µg/L 1 3/21/2017 11:28:16 AM

Lab ID: 1703211-008 Collection Date: 3/18/2017 9:00:00 AM

Client Sample ID: LE31817-P-WC-54 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

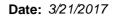
<u>Drinking Water Metals by EPA Method 200.8</u>

Batch ID: 16542

Analyst: TN

Copper 1,370 0.500 µg/L 1 3/21/2017 11:44:21 AM

Original





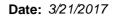
Work Order: 1703211

QC SUMMARY REPORT

CLIENT: Fulcrum Environmental

Project:	Kennewick S	SD Drinking Water -	Lincoln E	le		Drinking Water Metals by EPA Method 200
Sample ID N	MB-16542 MBLKW	SampType: MBLK Batch ID: 16542			Units: µg/L	Prep Date: 3/20/2017 RunNo: 35065 Analysis Date: 3/21/2017 SeqNo: 670309
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Copper		ND	0.500			
Sample ID L	_CS-16542	SampType: LCS			Units: µg/L	Prep Date: 3/20/2017 RunNo: 35065
Client ID: L	_CSW	Batch ID: 16542				Analysis Date: 3/21/2017 SeqNo: 670310
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Copper		105	0.500	100.0	0	105 85 115
Sample ID 1	1703211-007ADUP	SampType: DUP			Units: µg/L	Prep Date: 3/20/2017 RunNo: 35065
Client ID: L	_E31817-P-WC-53	Batch ID: 16542				Analysis Date: 3/21/2017 SeqNo: 670312
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Copper		0.689	0.500			0 200 30
Sample ID 1	1703211-007AMS	SampType: MS			Units: µg/L	Prep Date: 3/20/2017 RunNo: 35065
Client ID: L	_E31817-P-WC-53	Batch ID: 16542				Analysis Date: 3/21/2017 SeqNo: 670313
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Copper		200	0.500	200.0	0	100 70 130
Sample ID 1	1703211-007AMSD	SampType: MSD			Units: µg/L	Prep Date: 3/20/2017 RunNo: 35065
Client ID: L	_E31817-P-WC-53	Batch ID: 16542				Analysis Date: 3/21/2017 SeqNo: 670314
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Copper		213	0.500	200.0	0	106 70 130 200.1 6.16 30

Page 7 of 10 Original





Work Order: 1703211

QC SUMMARY REPORT

CLIENT: Fulcrum Environmental

Project:		SD Drinking Water - I	Lincoln E	le		Drinking Water Metals by EPA Method 200
Sample ID	MB-16538 MBLKW	SampType: MBLK Batch ID: 16538			Units: µg/L	Prep Date: 3/20/2017 RunNo: 35047 Analysis Date: 3/20/2017 SeqNo: 669901
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Copper		ND	0.500			
Sample ID	LCS-16538	SampType: LCS			Units: µg/L	Prep Date: 3/20/2017 RunNo: 35047
Client ID:	LCSW	Batch ID: 16538				Analysis Date: 3/20/2017 SeqNo: 669902
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Copper		201	0.500	200.0	0	100 85 115
Sample ID	1703147-001ADUP	SampType: DUP			Units: µg/L	Prep Date: 3/20/2017 RunNo: 35047
Client ID:	BATCH	Batch ID: 16538				Analysis Date: 3/20/2017 SeqNo: 669904
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Copper		8.90	0.500			9.003 1.17 30
Sample ID	1703147-001AMS	SampType: MS			Units: µg/L	Prep Date: 3/20/2017 RunNo: 35047
Client ID:	ВАТСН	Batch ID: 16538				Analysis Date: 3/20/2017 SeqNo: 669905
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Copper		215	0.500	200.0	9.003	103 70 130
Sample ID	1703147-001AMSD	SampType: MSD			Units: µg/L	Prep Date: 3/20/2017 RunNo: 35047
Client ID:	BATCH	Batch ID: 16538				Analysis Date: 3/20/2017 SeqNo: 669906
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Copper		199	0.500	200.0	9.003	95.2 70 130 214.7 7.38 30

Original Page 8 of 10



Sample Log-In Check List

CI	ient Name:	FE			Work Or	der Number	: 1703211		
Lo	gged by:	Erica Silva	ı		Date Red	ceived:	3/20/201	7 9:00:00 AM	
Cha	in of Custo	od <u>v</u>							
	Is Chain of C	-	olete?		Yes	✓	No 🗌	Not Present	
2.	How was the	sample deliv	vered?		FedE:	X			
Log	In								
_		rocont?			Yes	J	No 🗌	na 🗆	
3.	Coolers are p	nesent!			162	<u>v</u>	NO L	INA 🗀	
4.	Shipping con	tainer/cooler	in good condition?		Yes	✓	No \square		
5.			n shipping container/cooler? custody Seals not intact)		Yes		No 🗹	Not Required	
6.	Was an atten	npt made to	cool the samples?		Yes	✓	No \square	NA \square	
7.	Were all item	s received a	at a temperature of >0°C to 10	0.0°C*	Yes	✓	No \square	NA \square	
8.	Sample(s) in	proper conta	ainer(s)?		Yes	✓	No 🗌		
9.	Sufficient sar	nple volume	for indicated test(s)?		Yes	✓	No \square		
10.	Are samples	properly pre	served?		Yes	✓	No \square		
11.	Was preserva	ative added t	to bottles?		Yes	✓	No \square	NA \square	
							_ ⊦	HNO3 to 005A - 006A	
	Is there head				Yes		No \square	NA 🗸	
13.	Did all sample	es container	s arrive in good condition(unb	roken)?		✓	No 📙		
14.	Does paperw	ork match be	ottle labels?		Yes	✓	No \square		
15.	Are matrices	correctly ide	entified on Chain of Custody?		Yes	✓	No \square		
16.	Is it clear wha	at analyses v	were requested?		Yes	✓	No \square		
17.	Were all hold	ling times ab	le to be met?		Yes	✓	No \square		
Sno	<u>cial Handlı</u>	ina (if anr	nlicable)						
-			discrepancies with this order?		Yes		No 🗌	NA 🗸	
10.			uiscrepancies with this order:					INA 🗷]
	Person			Date	μ.			_	
	By Who			Via:	eMai	I Phone	e 🗌 Fax	☐ In Person	
	Regardi	-							
	Client In	structions:							
19.	Additional rer	marks:							
<u>ltem l</u>	nformation								
		Item #	Temp °C						

2.9

1.9

Original

Cooler

Sample

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

		 		Chain of Cu	istody Re	cord and La	Chain of Custody Record and Laboratory Services Agreement
	remonu Analytical				Date: 3/	3/18/2017	Laboratory Project No (internal): 1703211
3600 Fremont Ave N. Seattle, WA 98103	l. Tel: 206-352-3790 Fax: 206-352-7178	3790 7178					Page:of:
Client:	Fulcrum Environmental Consulting	al Consulting		Project Name: Project No:	103017.01	Collected by: Aman	0
Address:	406 North Second Street	treet		Location:	Lincoln Ele	Elementary, Ker	Kennewick, wit
City, State, Zip:	Yakima, WA, 98901			Report To (PM):	Ryan Mat	1 3	ALCOHOLOGICA CONTRACTOR CONTRACTO
Telephone:	509.574.0839	Fax: 509.575.8453	75.8453	PM Email:	rmathews@efu	rmathews@efulcrum.net; cc: aenbysk@efulcrum.net	@efulcrum.net
A = Air,	ulk,	O = Other, P = Product, S	P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water,		ng Water,	/ = Ground Water, SW = 9	GW = Ground Water, SW = Storm Water, WW = Waste Water
Sample Name	Sample Date	Sample Time	Sample GRAGIO CONTROL Type (Matrix)*	\$50 [in to 12 to 1	4/8/0/0		Comments
1/E3/8/7-CDF-19	160				8		tho3 preserved
2LE31812-POI	(8		
JE31817-P-WF-32	OF-32				8		
1 LE 31817 P-WF-48	DF-48				⊗ \		P
SLE31817-5-CDF-40)F-46						HOLD; impreserved
6 E31812-T-CDF-48	84-30						
7 LE31817-J-WC-53	10-63				\otimes		HND, preserved
45-2m-8-4/812718.	10-54	+			8		
9							The second secon
**Metals Analysis (Circle):): MTCA-5 RCRA-8	Priority Pollutants	TAL Individual: Ag Al	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): Nitr	Nitrate Nitrite Chloride	1 1	Bromide O-Phosphate	Fluoride Nitr		Turn-around times for samples received after 4:00pm will begin	
Sample Disposal:	Sample Disposal: Return to Client sessessed 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	assessed if sample as Agreement with F	assessed if samples are retained after 30 days.) reement with Fremont Analytical on behalf of the Client named above, that	nalf of the Client name	d above, that I have	the following business day. ve verified Client's	Mease present all urprious to
Relinquished	Relinquished x Name of the state of the st	260	Received		Date/Time	Capo	741: 45AP
Relinquished ×	Date		Received ×	Springs 3	Date/Time	and allows - Work	TAT → SameDay^ NextDay^ 2 Day 3 Day STD ^Please coordinate with the lab in advance