

November 3, 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
Ridge View Elementary School, 7001 West 13th Avenue, Kennewick, Washington

Dear Keith:

On Wednesday, December 21, 2016, Fulcrum Environmental Consulting, Inc. (Fulcrum) collected 40 drinking water samples for lead and copper analysis from Ridge View Elementary School (School) located at 7001 West 13th Avenue in Kennewick, Washington. Initial sampling identified three fixture locations with lead concentrations above guidance levels and one fixture location with a copper concentration above guidance levels. Fulcrum returned to the School on January 28, and May 2, 2017 to collect samples after remediation of the fixtures and found results below guidance levels. Sampling was completed as part of a District-wide project and all analysis was completed by Washington State Department of Ecology (Ecology) accredited laboratories.

Summary

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

Fulcrum completed initial sampling on December 21, 2016. Initial results identified three samples with lead concentrations above the Environmental Protection Agency (EPA) action level of 15 micrograms per liter (μ g/L), and one sample with a copper concentration above the EPA action level of 1,300 μ g/L. Upon receipt of results, the District removed the identified fixtures from service pending remediation and further testing.

The fixtures identified with an elevated lead concentration were replaced and preconditioned by running cold water continuously through the fixture for 24 hours, as specified in WAC 246-366A-130. Following replacement and preconditioning, Fulcrum returned to the School on January 28, and May 2, 2017 and

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



collected follow-up samples to confirm the success of fixture replacements. No other fixtures of like style were replaced. Follow-up samples yielded results below the EPA action level, confirming fixture replacements were successful.

Copper is not a significant component in fixtures, but is the primary material in the plumbing system. To remediate elevated copper, the District aggressively flushed the fixture, located in Classroom 38, with cold water to clear the plumbing of copper construction debris. Fulcrum returned on January 28, 2017 and collected samples to evaluate the success of the remediation. Follow-up samples found copper concentrations below the EPA action level, confirming the remediation was successful. Following sampling and review of laboratory results, Fulcrum recommended and the District elected to return the fixtures to service. Fulcrum recommended that the District replace all fixtures of like style to those initially identified with elevated lead.

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 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 occurred the following morning, after the fixture sat motionless for more than eight but no less than 18 hours, typically approximately 14 hours.

Initial Sampling

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

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

Fixture Replacement and Flushing

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

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

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



Remedial Sampling

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

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

Analytical Results

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

Initial Sampling

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

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

Remedial Sampling

Sample locations from remedial sampling events are presented in Figure 1 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 three samples with lead concentrations above the EPA action level of 15 μ g/L and one sample with a copper concentration above the EPA action level of 1,300 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 lead concentrations, the District replaced the identified fixtures. Fulcrum returned on January 28, and May 2, 2017 following fixture replacement and preconditioning to collect follow-up samples from the initially identified fixtures. No other fixtures of like style were replaced. See Attachment F for a photograph layout with the identified fixture styles.

To remediate elevated copper concentrations, the District completed an aggressive flush of the identified fixture. Fulcrum returned on the morning following the aggressive flush, January 28, 2017, to collect follow-up samples from the fixture.

Analytical results from remedial sampling indicated the fixture replacement and aggressive flushing were successful at reducing lead and copper concentrations below action levels for the fixtures in question.

Recommendations

Three initial samples contained lead above the EPA action level of $15 \mu g/L$ and one initial sample contained copper above the EPA action level of $1,300 \mu g/L$. The District replaced the identified fixtures with elevated lead and preconditioned the fixtures for 24 hours as specified in WAC 246-366A-130. The District completed an aggressive flush of the fixture identified with elevated copper. Follow-up sampling demonstrated that all lead and copper concentrations were below action levels. Following remedial sampling and review of laboratory results, Fulcrum recommended, and the District elected, to return the fixtures to service. Fulcrum recommends the District replace all fixtures of like style to those initially identified with elevated lead. See Attachment F for a photograph layout of the identified fixture styles.

As all samples now report concentrations below lead and copper action levels, Fulcrum does not recommend any additional sampling at this time. However, consistent with industry practice and the intent of WAC 246-366A, Fulcrum recommends that the District complete re-sampling of the building within the next five years (before 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

Cmanda Cupyste

Ryan K. Mathews, CIH, CHMM

Principal

9916 CP

EXPIRES

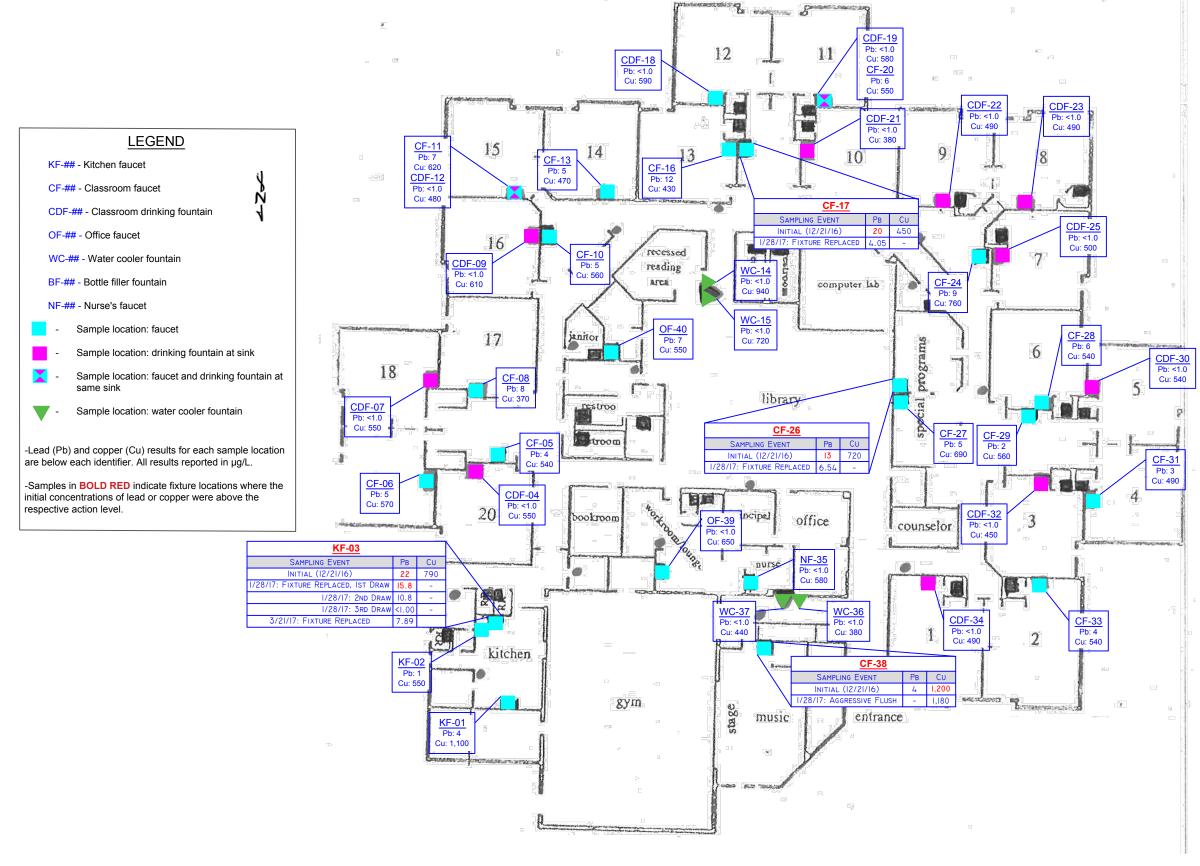


ATTACHMENT A

Figure 1: Sample Location Map







DRAWING PROVIDED BY KENNEWICK SCHOOL DISTRICT



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 specific summary of the location, number		= =		=
Campus/Building: Ridge View Elem	entary A	ddress: 7001 West	13 th Avenue, Ker	newick, WA
☑ Elementary ☐ Middle Scho	ool 🗆 H	ligh School	☐ Administration	on
Date of Construction: 1993		Modernizations:	N/A	
Fixture Type	Locations	Fixture Styles ¹	Samples	Ratio
Drinking fountain/water cooler (DF/WC)	4	1	4	100%
Kitchen Fixture (KF)	3	3	3	100%
Classroom faucet, including faucets in Food Labs and Life Sciences Classrooms (CF)	29	1	17	59%
Classroom drinking fountain at sink (CDF)	20	1	13	65%
Nurse's Office/Health Room (NF)	1	1	1	100%
Teacher's Lounges/Work Rooms (OF)	2	2	2	100%
TOTALS	59		40	68%
Fixture styles are approximate base	d on sampler's	observations		
Lead Sampler: Levi W	yatt		Date: <u>12/21/2</u>	2016
Sample Prefix: RVE - 12211 School Code Date	•	raw) – Type Fixture Type	– <u>01-42</u> e Sample Numb	er
Laboratory: R. J. Lee Group, Colum	bia Basin Ana	<u>llytical</u> Deliver	y Date: <u>Decem</u>	ber 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

Table 1: Initial Sampling Analytical Results		Lead	Copper
Sample Identification and Location	Fixture Type	Results	Results
•		(µg/L)	(µg/L)
RVE122116-P-KF-01: Kitchen, N. Fixture	Kitchen Faucet	4	1,100
RVE122116-P-KF-02: Kitchen, E. wall, N. Fixture	Kitchen Faucet	1	550
RVE122116-P-KF-03: Kitchen, S. Fixture	Kitchen Faucet	22	790
RVE122116-P-CDF-04: Room 20	Classroom Drinking Fountain	<1.0	550
RVE122116-P-CF-05: Outside room 20	Classroom Faucet	4	540
RVE122116-P-CF-06: Room 19	Classroom Faucet	5	570
RVE122116-P-CDF-07: Room 18	Classroom Drinking Fountain	<1.0	550
RVE122116-P-CF-08: Room 17	Classroom Faucet	8	370
RVE122116-P-CDF-09: Room 16	Classroom Drinking Fountain	<1.0	610
RVE122116-P-CF-10: Outside room 16	Classroom Faucet	5	560
RVE122116-P-CF-11: Room 15	Classroom Faucet	7	620
RVE122116-P-CDF-12: Room 15	Classroom Drinking Fountain	<1.0	480
RVE122116-P-CF-13: Room 14	Classroom Faucet	5	470
RVE122116-P-WC-14: Outside recessed reading room, S. fixture	Water Cooler Fountain	<1.0	940
RVE122116-P-WC-15: Outside recessed reading room, N. fixture	Water Cooler Fountain	<1.0	720
RVE122116-P-CF-16: Room 13	Classroom Faucet	12	430
RVE122116-P-CF-17: Corridor adjacent Room 13	Classroom Faucet	20	450
RVE122116-P-CDF-18: Room 12	Classroom Drinking Fountain	<1.0	590
RVE122116-P-CDF-19: Room 11	Classroom Drinking Fountain	<1.0	580
RVE122116-P-CF-20: Room 11	Classroom Faucet	6	550
RVE122116-P-CDF-21: Room 10	Classroom Drinking Fountain	<1.0	380
RVE122116-P-CDF-22: Room 09	Classroom Drinking Fountain	<1.0	490
RVE122116-P-CDF-23: Room 08	Classroom Drinking Fountain	<1.0	490
RVE122116-P-CF-24: Corridor adjacent Room 07	Classroom Faucet	9	760
RVE122116-P-CDF-25: Room 07	Classroom Drinking Fountain	<1.0	500
RVE122116-P-CF-26: Support Services 2	Classroom Faucet	13	720
RVE122116-P-CF-27: Support Services	Classroom Faucet	5	690
RVE122116-P-CF-28: Room 06	Classroom Faucet	6	540
RVE122116-P-CF-29: Corridor adjacent Room 06	Classroom Faucet	2	560
RVE122116-P-CDF-30: Room 05	Classroom Drinking Fountain	<1.0	540
RVE122116-P-CF-31: Room 04	Classroom Faucet	3	490
RVE122116-P-CDF-32: Room 03	Classroom Drinking Fountain	<1.0	450
RVE122116-P-CF-33: Room 02	Classroom Faucet	4	540
RVE122116-P-CDF-34: Room 01	Classroom Drinking Fountain	<1.0	490
RVE122116-P-NF-35: Nurse's office	Nurse's Faucet	<1.0	580
RVE122116-P-WC-36: Corridor adjacent Nurse's Office, right fixture	Water Cooler Fountain	<1.0	380
RVE122116-P-WC-37: Corridor adjacent Nurse's Office, left fixture	Water Cooler Fountain	<1.0	440



Sample Identification and Location	Fixture Type	Lead Results (µg/L)	Copper Results (µg/L)
RVE122116-P-CF-38: Music Room	Classroom Faucet	4	1,200
RVE122116-P-OF-39: Staff Workroom/Lounge	Office Faucet	<1.0	650
RVE122116-P-OF-40: Library Workroom	Office Faucet	7	550
RVE122116-P-CF-41: Laboratory Spike	Lead and Copper Spike	13	1,200
RVE122116-P-CF-42: Laboratory Blank	Distilled Water Blank	<1.0	<10
EPA Action Level		15	1,300

- 1 μg/L means microgram per liter or parts per billion (ppb).
- 2 Action levels based on the U.S. EPA's Lead and Copper Rule.
 Results in **bold** indicate concentrations above the action levels of 15 μg/L for lead and 1,300 μg/L for copper.
 Results in *italics* are quality assurance spike and blank samples.

Table 2: pH and Temperature Data Summary

Sample Number	Fixture Type	pH Flush	pH Sample	Temperature (°C) Flush	Temperature (°C) Sample
RVE122116-P-KF-01: Kitchen, N. Fixture	Kitchen Faucet	7.86	7.90	19.7	18.0
RVE122116-P-CDF-04: Room 20	Classroom Drinking Fountain	7.71	7.78	20.5	19.6
RVE122116-P-CF-08: Room 17	Classroom Faucet	7.83	7.86	17.4	20.4
RVE122116-P-CDF-12: Room 15	Classroom Drinking Fountain	7.74	7.76	16.1	20.9
RVE122116-P-CF-16: Room 13	Classroom Faucet	7.81	7.80	15.9	20.7
RVE122116-P-CF-20: Room 11	Classroom Faucet	7.85	7.91	17.7	20.7
RVE122116-P-CF-24: Outside room 07	Classroom Faucet	7.87	7.81	18.8	20.8
RVE122116-P-CF-28: Room 06	Classroom Faucet	7.76	7.86	18.6	20.9
RVE122116-P-CDF-32: Room 03	Classroom Drinking Fountain	7.60	7.84	21.4	22.0
RVE122116-P-WC-36: Outside Nurse's Office, W. fixture	Water Cooler Fountain	7.68	7.89	12.7	13.0
RVE122116-P-OF-40: Library Work room	Office Fountain	7.78	7.53	18.5	17.4





Table 3: Remedial Sampling Analytical Results Summary

		Sample Identification					
Sampling Event	KF-03	CF-17	CF-26	CF-38	Laboratory Spike (-41)	Laboratory Blank (-42)	
	Lead	Results					
Initial (12/21/16)	22	20	13	4	13	<1.0	
Fixture Replaced, First Draw (1/28/17)	15.8	4.05	6.54	-	15.6	<1.0	
Second Draw (1/28/17)	10.8	-	-	-	-	-	
Third Draw (1/28/17)	<1.0	-	-	-	-	-	
Aggressive Flush (3/21/17)	7.89	-	-	-	16.7	<1.0	
EPA Action Level	15	15	15	15	15	15	
Copper Results							
Initial (12/21/16)	790	450	720	1,200	1,200	<10	
Aggressive Flush (1/28/17)	=	-	-	1,180	1,320	< 0.5	
EPA Action Level	1,300	1,300	1,300	1,300	1,300	1,300	

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



² Action levels based on the U.S. EPA's Lead and Copper Rule. Results indicated in **bold** indicate concentrations above the action 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.



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 42 sample(s) on 12/21/16 for analysis. These sample(s) have been assigned a login order number of W612105. 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 analyzed on January 11, 2017 were run on separate instrumentation runs and remaining samples 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.

Report Template: GenMetalReportFull v12.rpt

Approved: 01/13/17 10:01

Report Time Stamp: 01/13/17 12:30



Laboratory Report

Ryan Mathews

RJ Lee Group No.:W612105

Fulcrum Environmental

COC No.: Kennewick Samples Received: 12/21/16

406 N. 2nd St.

Analysis/Prep Date: 01/12/17

Yakima, WA 98901

Report Date: 01/13/17

Client Project:

Fulcrum Kennewick

Date Received: 12/21/16 Sample Name: RVE122116-P-KF-01 Matrix: Potable Water RJ Lee Grp. ID: W612105-01 **Date Analyzed:** 01/12/17

Result Analyte Method **POL Oualifiers** (mg/L)(mg/L)EPA 200.8 1.1 0.1 Copper Χ EPA 200.8 0.004 0.001 Lead

Date Received: 12/21/16 Sample Name: RVE122116-P-KF-02 Matrix: Potable Water W612105-02 Date Analyzed: 01/11/17 RJ Lee Grp. ID:

Method Result **PQL** Analyte Qualifiers (mg/L)(mg/L)Copper EPA 200.8 0.55 0.01 Lead EPA 200.8 0.001 0.001

Sample Name: Date Received: 12/21/16 RVE122116-P-KF-03 Matrix: Potable Water RJ Lee Grp. ID: W612105-03 Date Analyzed: 01/11/17

Analyte Method Result **PQL Qualifiers** (mg/L)(mg/L)EPA 200.8 0.79 0.01 Copper Lead EPA 200.8 0.022 0.001

Date Received: 12/21/16 Sample Name: RVE122116-P-CDF-04 Matrix: Potable Water RJ Lee Grp. ID: W612105-04 Date Analyzed: 01/11/17

Result **POL Analyte** Method **Qualifiers** (mg/L)(mg/L)Copper 0.55 0.01 EPA 200.8 Lead EPA 200.8 < 0.001 0.001

Date Received: 12/21/16 Sample Name: RVE122116-P-CF-05 Matrix: Potable Water RJ Lee Grp. ID: W612105-05 Date Analyzed: 01/11/17

Result Method **Analyte PQL** Qualifiers (mg/L)(mg/L)0.54 EPA 200.8 0.01 Copper Lead EPA 200.8 0.004 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 12:30



Report Template: GenMetalReportFull_v12.rpt

Analyt	te	M	Iethod	Result	PQL	Qualifiers
RJ Lee Grp. ID:	W612105-		atrix. Totable we		Date Analyzed	1: 01/11/17
Sample Name:	RVE12211	6-P-CF-06 M	atrix: Potable Wa	ter	Date Received	1: 12/21/16

Analyte	Method	(mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.57	0.01	
Lead	EPA 200.8	0.005	0.001	

Sample Name: RVE122116-P-CDF-07 Matrix: Potable Water BJ Lee Grp. ID: W612105-07 Matrix: Potable Water Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.55	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: RVE122116-P-CF-08 Matrix: Potable Water

RJ Lee Grp. ID: W612105-08

Matrix: Potable Water

Date Received: 12/21/16

Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.37	0.01	
Lead	EPA 200.8	0.008	0.001	

Sample Name: RVE122116-P-CDF-09 Matrix: Potable Water W612105-09 Matrix: Potable Water Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.61	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: RVE122116-P-CF-10 Matrix: Potable Water

RJ Lee Grp. ID: W612105-10 Matrix: Potable Water

Date Received: 12/21/16

Date Analyzed: 01/12/17

	- I ·				_
	Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	r	EPA 200.8	0.56	0.01	
Lead		EPA 200.8	0.005	0.001	

Sample Name: RVE122116-P-CF-11 Matrix: Potable Water

RJ Lee Grp. ID: W612105-11

Matrix: Potable Water

Date Received: 12/21/16

Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.62	0.01	_
Lead	EPA 200.8	0.007	0.001	

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



Sample Name: RVE122116-P-CDF-12 Matrix: Potable Water

RJ Lee Grp. ID: W612105-12

Matrix: Potable Water

Date Received: 12/21/16

Date Analyzed: 01/12/17

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

Sample Name: RVE122116-P-CF-13 Matrix: Potable Water Date Received: 12/21/16

RJ Lee Grp. ID: W612105-13 Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.47	0.01	_
Lead	EPA 200.8	0.005	0.001	

Sample Name: RVE122116-P-WC-14 Matrix: Potable Water Date Received: 12/21/16

RJ Lee Grp. ID: W612105-14 Date Analyzed: 01/12/17

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

Sample Name: RVE122116-P-WC-15 Matrix: Potable Water Date Received: 12/21/16 W612105-15 Date Analyzed: 01/12/17

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

Sample Name: RVE122116-P-CF-16 Matrix: Potable Water

RJ Lee Grp. ID: W612105-16

Matrix: Potable Water

Date Received: 12/21/16

Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.43	0.01	
Lead	EPA 200.8	0.012	0.001	

Sample Name: RVE122116-P-CF-17 Matrix: Potable Water

RJ Lee Grp. ID: W612105-17

Matrix: Potable Water

Date Received: 12/21/16

Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.45	0.01	_
Lead	EPA 200.8	0.020	0.001	

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Report Template: GenMetalReportFull_v12.rpt



Sample Name: RVE122116-P-CDF-18 Matrix: Potable Water

RJ Lee Grp. ID: W612105-18

RVE122116-P-CDF-18 Matrix: Potable Water

Date Received: 12/21/16

Date Analyzed: 01/12/17

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

Sample Name: RVE122116-P-CDF-19 Matrix: Potable Water

RJ Lee Grp. ID: W612105-19

Matrix: Potable Water

Date Received: 12/21/16

Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.58	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: RVE122116-P-CF-20 Matrix: Potable Water

RJ Lee Grp. ID: W612105-20

Matrix: Potable Water

Date Received: 12/21/16

Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.55	0.01	
Lead	EPA 200.8	0.006	0.001	

Sample Name: RVE122116-P-CDF-21 Matrix: Potable Water

RJ Lee Grp. ID: W612105-21

Matrix: Potable Water

Date Received: 12/21/16

Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.38	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: RVE122116-P-CDF-22 Matrix: Potable Water

RJ Lee Grp. ID: W612105-22 Matrix: Potable Water

Date Received: 12/21/16

Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.49	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: RVE122116-P-CDF-23 Matrix: Potable Water

RJ Lee Grp. ID: W612105-23

Matrix: Potable Water

Date Received: 12/21/16

Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.49	0.01	_
Lead	EPA 200.8	< 0.001	0.001	

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Sample Name:	RVE122116-P-CF-24	Matrix: Potable Water	Date Received:	12/21/16
RJ Lee Grp. ID:	W612105-24	TVILLIA: 1 Ottole Vittel	Date Analyzed:	01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.76	0.01	
Lead	EPA 200.8	0.009	0.001	

Sample Name: RVE122116-PC-CDF-25 Matrix: Potable Water BJ Lee Grp. ID: W612105-25 Matrix: Potable Water Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.50	0.01	_
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: RVE122116-PC-CF-26 Matrix: Potable Water

RJ Lee Grp. ID: W612105-26

Matrix: Potable Water

Date Received: 12/21/16

Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.72	0.01	
Lead	EPA 200.8	0.013	0.001	

Sample Name: RVE122116-PC-CF-27 Matrix: Potable Water Date Received: 12/21/16

RJ Lee Grp. ID: W612105-27 Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.69	0.01	
Lead	EPA 200.8	0.005	0.001	

Sample Name: RVE122116-P-CF-28 Matrix: Potable Water

RJ Lee Grp. ID: W612105-28 Matrix: Potable Water

Date Received: 12/21/16

Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.54	0.01	
Lead	EPA 200.8	0.006	0.001	

Sample Name: RVE122116-P-CF-29 Matrix: Potable Water

RJ Lee Grp. ID: W612105-29

Matrix: Potable Water

Date Received: 12/21/16

Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.56	0.01	_
Lead	EPA 200.8	0.002	0.001	

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Sample Name:	RVE122116-P-CDF-30 Matrix: P	Potable Water	Date Received:	12/21/16
RJ Lee Grp. ID:	W612105-30		Date Analyzed:	01/12/17

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

Sample Name: RVE122116-P-CF-31 Matrix: Potable Water Date Received: 12/21/16

RJ Lee Grp. ID: W612105-31 Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.49	0.01	
Lead	EPA 200.8	0.003	0.001	

Sample Name: RVE122116-P-CDF-32 Matrix: Potable Water

RJ Lee Grp. ID: W612105-32

Date Received: 12/21/16

Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.45	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: RVE122116-P-CF-33 Matrix: Potable Water Date Received: 12/21/16

RJ Lee Grp. ID: W612105-33 Matrix: Potable Water Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.54	0.01	
Lead	EPA 200.8	0.004	0.001	

Sample Name: RVE122116-P-CDF-34 Matrix: Potable Water

RJ Lee Grp. ID: W612105-34

Date Received: 12/21/16

Date Analyzed: 01/12/17

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Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.49	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: RVE122116-P-NF-35 Matrix: Potable Water

RJ Lee Grp. ID: W612105-35

Matrix: Potable Water

Date Received: 12/21/16

Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.58	0.01	
Lead	EPA 200.8	< 0.001	0.001	

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Report Template: GenMetalReportFull_v12.rpt

Sample Name:	RVE122116-P-WC-36	Matrix	Potable Water	Date Received:	12/21/16
		matrix.	Totable Water	Date Analyzed:	01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.38	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: RVE122116-P-WC-37 Matrix: Potable Water BJ Lee Grp. ID: W612105-37 Matrix: Potable Water Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.44	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: RVE122116-P-CF-38 Matrix: Potable Water

RJ Lee Grp. ID: W612105-38 Matrix: Potable Water

Date Received: 12/21/16

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	0.004	0.001	

Sample Name: RVE122116-P-OF-39 Matrix: Potable Water Date Received: 12/21/16 Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.65	0.01	
Lead	EPA 200.8	< 0.001	0.001	

Sample Name: RVE122116-P-OF-40 Matrix: Potable Water

RJ Lee Grp. ID: W612105-40

Matrix: Potable Water

Date Received: 12/21/16

Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.55	0.01	
Lead	EPA 200.8	0.007	0.001	

Sample Name: RVE122116-P-CF-41 Matrix: Potable Water

RJ Lee Grp. ID: W612105-41

Matrix: Potable Water

Date Received: 12/21/16

Date Analyzed: 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.20	0.01	X
Lead	EPA 200.8	0.013	0.001	

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Sample Name: RVE122116-P-CF-42 Matrix: Potable Water Date Received: 12/21/16 W612105-42 Date Analyzed: 01/12/17

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

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

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Report Time Stamp: 01/13/17 12:30

Request for Environmental and IH Laboratory Analytical Services N 612105

W612105, Page 10 of 13

ATTENTION TO: Send Invoice RUGIZZIII6-P-OF-OT Instructions ENERZYIG-P-CF-CO KVE122116-P-CF-05 RVEIZZIIN FIKE ON PUEDAIN-PKF-03 RVE122116-2-KF-02 QVEDZIN-POF-04 RNE722116-P-CF-08 Chain of Custody Chain of が行りのやらい NEIZIL - POF-09 Special Lab Use Custody Results RVEDUIL-PCF-10 Report 5 Client Sample ID Relinquished By (Signature):
Relinquished By (Print Name)
Company Name: Address: Name: Amanda Enbysk, Ryan Mathews Date Logged In: Project No.: Phone: Name: Lorrie Boutillier Company Name: City, State, Zip: Company: Fulcrum Environmental ax Results To: Email Results To: Call with Verbal Results: Phone: City, State, Zip: Company: Relinquished By (Print Name): Relinquished By (Signature): ddress: 406 North 2nd Street Fulcrum Environmental Consulting (509) 574-0839 406 North 2nd Street (509) 574-0839 **RYAN MATHEWS** aenbysk@efulcrum.net, CC: rmathews@efulcrum.net Yakima, WA, 98901 Yakima, WA, 98901 Outside room 16 Octavle Room 20 Roomle Room 18 J. mood Room 19 ROOM 17 1200m 62 Kitchein Kitchen Kitchen Sample Description Par Cart Email: lboutillier@efulcrum.net Fax: Fax: Client No: Logged In By: Date: Date: Method of Shipment: Relinquished To: Method of Shipment: Relinquished To: 509) 575-8453 509) 575-8453 Sample Date 221 421/16 Start Time: Time: Stop 3 Wipe Area / Air Volume Sample Only Multiple Sources #s: Purchase Order No.: EPA 200.8: Pb, Cu Analysis Key | HNO3 Turnaround Chemistry Request Drinking Chain of Water Custody Chain of Custody Received By (Printy Names) (4) Unpres Standard: Preservation: DOH Source #: System ID #: Received By (Print Name): Company Name Sample Purpose: A Company Name: Received By (Signature): ample Purpose: Information X Regulatory H₂SO₄ Analysis Requested Na₂SO, NaOH HCI Yes B - Other ö WW=Wastewater GW=Groudwater S=Soil/Sludge Matrix: If 'No,' No. of Business Days 0=0il Accreditation (please list below): Client Job No.: SW=Surface Water DW=Drinking Water Date: Relinquished To: Method of Shipment: Method of Shipment: Relinquished To: DEC 2 1 2016 Time: Pres. Upon Receipt (Y/N) Preservation Matrix G=Glass P=Plastic A=Air (filter or tube) W=Wipe Container: 162017 Time: **Container Type** pΗ 8 No. Containers 190 2 19.0 2 2 5

Pennsylvania - HQ 350 Hochberg Road Monroeville, PA 15146

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

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724.325.1776 Phone

724.733.1799 Fax

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DELIVERING SCIENTIFIC RESOLUTION

Request for Environmental and IH Laboratory Analytical Services

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DELIVERING SCIENTIFIC RESOLUTION R4_12032015

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Washington

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Request for Environmental and IH Laboratory Analytical Services

al 122116

ATTENTION TO: Send Invoice Instructions RVE122116-P-CF-42 NE122116-P-CF41 Lab Use Chain of Chain of N612116-P-CDF-34 Special Results Custody Report CHOLING PRICE RVEDDING PROF-36 RNED2116-PLOX-37 RVEIZINGPOFTE (1E122116-P-0F-39 8/15/12/16-P-100-3 ᇬ ᇹ Client Sample ID Address: Company: Fulcrum Environmental Phone: City, State, Zip: Name: Amanda Enbysk, Ryan Mathews Project No.: Phone: City, State, Zip: Company: Fulcrum Environmental Consulting Date Logged In: Relinquished By (Signature) Name: Lorrie Boutillier Fax Results To: Email Results To: Company Name: Relinquished By (Signature): Relinquished By (Print Name): Address: Relinquished By (Print Name): Company Name: Call with Verbal Results: 406 North 2nd Street 406 North 2nd Street (509) 574-0839 **RYAN MATHEWS** (509) 574-0839 aenbysk@efulcrum.net, CC: rmathews@efulcrum.net Yakima, WA, 98901 Yakima, WA, 98901 toucher work room Recom! ano GMM QUIND JACONO MINI ROM RESOURE TOOM mography mind! SENO Sample Description 150 HWW Email: lboutillier@efulcrum.net Fax: Client No: Fax: Logged In By: Date: Method of Shipment: Relinquished To: Method of Shipment: Relinquished To: 509) 575-8453 509) 575-8453 Sample Date 124 212/16 Start Time: Time: Stop 5 Wlpe Area / Air Sample Only Multiple Sources #s: Purchase Order No.: EPA 200.8: Pb, Cu Analysis Key | HNO3 Turnaround Chemistry Drinking Request Chain of Custody Chain of Custody Water 4°C Standard: Received By (Print Name) Company Name: Received By (Signature): 2 Unpres Preservation: Sample Purpose: A DOH Source #: System ID #: Sample Purpose: Received By (Print Name): Received By (Signature) Analysis Requested H₂SO₄ NaOH Na₂SO₄ HCI Yes Information X **B** No S=Soil/Sludge GW=Groudwater WW=Wastewater Other o 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: Method of Shipment: Relinquished To: 服 2 1 2016 Pres. Upon Receipt (Y/N) Preservation Matrix P=Plastic G=Glass W=Wipe A=Air (filter or tube) Container Time: 2: U Time: Container Type pΗ No. Containers

509.544.6010 Fax 509.545.4989 Phone

724.733.1799 Fax 724.325,1776 Phone Monroeville, PA 15146 350 Hochberg Road Pennsylvania - HQ

Pasco, WA 99301 2710 North 20th Avenue

Columbia Basin Analytical Laboratories

Washington

DELIVERING SCIENTIFIC RESOLUTION LEE GROUP



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

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

RE: Kennewick SD - Ridgeview Elementary Follow-Up Sampling

Work Order Number: 1702038

February 07, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 14 sample(s) on 2/3/2017 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

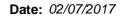
All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

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 - Ridgeview Elementary Follo

Work Order: 1702038

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1702038-001	RVE12817-P-KF-03	01/28/2017 10:00 AM	02/03/2017 3:12 PM
1702038-002	RVE12817-S-KF-03	01/28/2017 10:00 AM	02/03/2017 3:12 PM
1702038-003	RVE12817-T-KF-03	01/28/2017 10:00 AM	02/03/2017 3:12 PM
1702038-004	RVE12817-P-CF-17	01/28/2017 10:00 AM	02/03/2017 3:12 PM
1702038-005	RVE12817-S-CF-17	01/28/2017 10:00 AM	02/03/2017 3:12 PM
1702038-006	RVE12817-T-CF-17	01/28/2017 10:00 AM	02/03/2017 3:12 PM
1702038-007	RVE12817-P-CF-26	01/28/2017 10:00 AM	02/03/2017 3:12 PM
1702038-008	RVE12817-S-CF-26	01/28/2017 10:00 AM	02/03/2017 3:12 PM
1702038-009	RVE12817-T-CF-26	01/28/2017 10:00 AM	02/03/2017 3:12 PM
1702038-010	RVE12817-P-CF-38	01/28/2017 10:00 AM	02/03/2017 3:12 PM
1702038-011	RVE12817-S-CF-38	01/28/2017 10:00 AM	02/03/2017 3:12 PM
1702038-012	RVE12817-T-CF-38	01/28/2017 10:00 AM	02/03/2017 3:12 PM
1702038-013	RVE12817-P-CF-41	01/28/2017 10:00 AM	02/03/2017 3:12 PM
1702038-014	RVE12817-P-CF-42	01/28/2017 10:00 AM	02/03/2017 3:12 PM



Case Narrative

WO#: **1702038**Date: **2/7/2017**

CLIENT: Fulcrum Environmental

Project: Kennewick SD - Ridgeview 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:

1702038-001A 205387: Prep Comments for EPA200.8, Sample 1702038-001A: Turbidity: 0.05 NTU 1702038-002A 205388: Prep Comments for EPA200.8, Sample 1702038-002A: Turbidity: 0.01 NTU 1702038-003A 205389: Prep Comments for EPA200.8, Sample 1702038-003A: Turbidity: 0.01 NTU 1702038-004A 205390: Prep Comments for EPA200.8, Sample 1702038-004A: Turbidity: 0.07 NTU 1702038-005A 205391: Prep Comments for EPA200.8, Sample 1702038-005A: Turbidity: 0.01 NTU 1702038-006A 205392: Prep Comments for EPA200.8, Sample 1702038-006A: Turbidity: 0.01 NTU 1702038-007A 205393: Prep Comments for EPA200.8, Sample 1702038-007A: Turbidity: 0.08 NTU 1702038-008A 205394: Prep Comments for EPA200.8, Sample 1702038-008A: Turbidity: 0.01 NTU 1702038-009A 205395: Prep Comments for EPA200.8, Sample 1702038-010A: Turbidity: 0.01 NTU 1702038-010A 205396: Prep Comments for EPA200.8, Sample 1702038-010A: Turbidity: 0.05 NTU 1702038-011A 205397: Prep Comments for EPA200.8, Sample 1702038-011A: Turbidity: 0.01 NTU 1702038-012A 205398: Prep Comments for EPA200.8, Sample 1702038-011A: Turbidity: 0.08 NTU 1702038-013A 205399: Prep Comments for EPA200.8, Sample 1702038-013A: Turbidity: 0.03 NTU 1702038-013A 205399: Prep Comments for EPA200.8, Sample 1702038-013A: Turbidity: 0.03 NTU 1702038-014A 205400: Prep Comments for EPA200.8, Sample 1702038-014A: Turbidity: 0.01 NTU



Qualifiers & Acronyms

WO#: **1702038**

Date Reported: 2/7/2017

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

Batch ID: 16139

Work Order: 1702038

Date Reported: 2/7/2017

Analyst: TN

CLIENT: Fulcrum Environmental

Project: Kennewick SD - Ridgeview Elementary Follow-Up Sampling

Collection Date: 1/28/2017 10:00:00 AM Lab ID: 1702038-001

Client Sample ID: RVE12817-P-KF-03 Matrix: Drinking Water

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

Batch ID: 16139 Analyst: TN **Drinking Water Metals by EPA Method 200.8**

Lead 15.8 1.00 μg/L 2/6/2017 4:08:57 PM

Lab ID: 1702038-004 Collection Date: 1/28/2017 10:00:00 AM

Client Sample ID: RVE12817-P-CF-17 Matrix: Drinking Water

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

Drinking Water Metals by EPA Method 200.8

Lead 4.05 1.00 μg/L 2/6/2017 4:19:46 PM

Lab ID: 1702038-007 Collection Date: 1/28/2017 10:00:00 AM

Client Sample ID: RVE12817-P-CF-26 Matrix: Drinking Water

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

Drinking Water Metals by EPA Method 200.8 Batch ID: 16139 Analyst: TN

Lead 6.54 1.00 μg/L 2/6/2017 4:37:51 PM



Analytical Report

Work Order: **1702038**

Date Reported: 2/7/2017

CLIENT: Fulcrum Environmental

Project: Kennewick SD - Ridgeview Elementary Follow-Up Sampling

Lab ID: 1702038-010 **Collection Date:** 1/28/2017 10:00:00 AM

Client Sample ID: RVE12817-P-CF-38 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 16139
Analyst: TN

Copper 1,180 0.500 µg/L 1 2/6/2017 4:48:40 PM

Lab ID: 1702038-013 **Collection Date:** 1/28/2017 10:00:00 AM

Client Sample ID: RVE12817-P-CF-41 Matrix: Drinking Water

DF **Analyses** Result **RL Qual Units Date Analyzed Drinking Water Metals by EPA Method 200.8** Batch ID: 16139 Analyst: TN Copper 1,320 0.500 μg/L 2/6/2017 4:59:29 PM 1 Lead 15.6 1.00 μg/L 2/6/2017 4:59:29 PM

Lab ID: 1702038-014 Collection Date: 1/28/2017 10:00:00 AM

Client Sample ID: RVE12817-P-CF-42 Matrix: Drinking Water

Result **RL Qual Units** DF **Date Analyzed Analyses** Batch ID: 16139 Analyst: TN **Drinking Water Metals by EPA Method 200.8** ND 0.500 2/6/2017 5:03:05 PM Copper μg/L 1 Lead ND 1.00 μg/L 2/6/2017 5:03:05 PM





Work Order: 1702038

QC SUMMARY REPORT

CLIENT: Fulcrum Environmental

Drinking Water Metals by EPA Method 200.8

Project: Kennewick SD - Ridgeview Elementary Foll

110,000	22											
Sample ID MB-16139	SampType: MBLK			Units: µg/L		Prep Date	: 2/6/20 1	17	RunNo: 34 2	291		
Client ID: MBLKW	Batch ID: 16139					Analysis Date	e: 2/6/20 1	7	SeqNo: 65	3797		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Copper	ND	0.500										
Lead	ND	1.00										
Sample ID LCS-16139	SampType: LCS			Units: µg/L	Prep Date: 2/6/2017				RunNo: 34291			
Client ID: LCSW	Batch ID: 16139					Analysis Date	: 2/6/20 1	17	SeqNo: 65	3798		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Copper	100	0.500	100.0	0	100	85	115					
Lead	52.7	1.00	50.00	0	105	85	115					
Sample ID 1702037-001ADUP	SampType: DUP			Units: µg/L	Prep Date: 2/6/2017			RunNo: 34291				
Client ID: BATCH	Batch ID: 16139				Analysis Date: 2/6/2017			SeqNo: 653800				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Copper	1,680	0.500						1,726	2.81	30		
Lead	1.68	1.00						1.735	2.94	30		
Sample ID 1702037-001AMS	SampType: MS			Units: µg/L	Prep Date: 2/6/2017			RunNo: 34291				
Client ID: BATCH	Batch ID: 16139					Analysis Date	e: 2/6/20 1	17	SeqNo: 65	3801		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Copper	1,880	0.500	200.0	1,726	78.8	70	130					
Lead	100	1.00	100.0	1.735	98.7	70	130					
Sample ID 1702037-001AMSD	SampType: MSD			Units: µg/L	Prep Date: 2/6/2017			RunNo: 34291				
Client ID: BATCH	Batch ID: 16139				Analysis Date: 2/6/2017 SeqNo: 653				3802			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Copper	1,860	0.500	200.0	1,726	67.3	70	130	1,883	1.22	30	S	

Original Page 7 of 11

Date: 2/7/2017



Work Order: 1702038

QC SUMMARY REPORT

CLIENT: Fulcrum Environmental

Drinking Water Metals by EPA Method 200.8

Sample ID 1702037-001AMSD	SampType: MSD			Units: µg/L		Prep Da	te: 2/6/201	7	RunNo: 342	291	
Client ID: BATCH	Batch ID: 16139					Analysis Da	te: 2/6/201	7	SeqNo: 653	3802	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	98.1	1.00	100.0	1.735	96.3	70	130	100.4	2.37	30	

NOTES:

Project:

Kennewick SD - Ridgeview Elementary Foll

Original Page 8 of 11

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



Sample Log-In Check List

CI	ient Name:	FE	Work Order Numb	oer: 1702038	
Lo	gged by:	Erica Silva	Date Received:	2/3/2017	3:12:00 PM
Cha	in of Custo	ody			
		ustody complete?	Yes 🗸	No 🗌	Not Present
2.	How was the	sample delivered?	<u>FedEx</u>		
<u>Log</u>	In				
_	 Coolers are p	iresent?	Yes 🗸	No 🗆	NA 🗆
ა.	Oddicis are p	resent:	103	140	IVA 🗀
4.	Shipping cont	tainer/cooler in good condition?	Yes 🗸	No \square	
5.		s present on shipping container/cooler? iments for Custody Seals not intact)	Yes	No 🗹	Not Required
6.	Was an attem	npt made to cool the samples?	Yes	No 🗸	NA \square
		<u>Me</u>	tals in water, pres	erved	_
7.	Were all item	s received at a temperature of >0°C to 10.0°C*	Yes 📙	No 🗀	NA 🗸
8.	Sample(s) in	proper container(s)?	Yes 🗹	No 🗌	
9.	Sufficient san	nple volume for indicated test(s)?	Yes 🗸	No 🗌	
10.	Are samples	properly preserved?	Yes 🗸	No 🗌	
11.	Was preserva	ative added to bottles?	Yes 🗸	No \square	NA 🗌
					HNO3
		space in the VOA vials?	Yes 🗌	No 🗌	NA 🗸
13.	Did all sample	es containers arrive in good condition(unbroken)?	Yes 🗹	No 🗆	
14.	Does paperw	ork match bottle labels?	Yes 🗸	No 🗀	
15.	Are matrices	correctly identified on Chain of Custody?	Yes 🗸	No \square	
16.	Is it clear wha	at analyses were requested?	Yes 🗹	No \square	
17.	Were all hold	ing times able to be met?	Yes 🗸	No \square	
Spe	cial Handli	ing (if applicable)			
-		otified of all discrepancies with this order?	Yes	No 🗌	NA 🗸
	Person I	Notified: Date			
	By Who	m: Via:	eMail Pho	one Fax	In Person
	Regardi	·			
	_	structions:			
19.	Additional ren	narks:			
		dded to: 002A, 003A, 005A, 006A, 008A, 009A, 011A	A, 012A		
ltem I	nformation				

Item #	Temp ºC
Cooler	9.4
Sample	10.3

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

Original

3600 Fre	
3600 Fremont Ave N.	1
	en en
Tel: 206-352-3790	
52-3790	

Chain of Custody Record and Laboratory Services Agreement

TAT → SameDay^ NextDay^ 2 Day 3 Day STD	Date/Time		Received			Date/Time	9	Relinquished
TAT: ASAP	Date/Time 2/3/17 /5/7	JAN J	Received	Southern Arthur	1530	Date/Time	MA	Relinquished
	bove, 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.	Analytical on beha	ith Fremont Agreement.	Agreement w	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.	I am authorize ch of the terms	I represent that agreement to ear
Please present all unpr. comples	on the following business day.	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.)	Disposal by Lab (Samples will be held for 30 days assessed if samples are retained after 30 days.)	_ab (Samples w amples are ret:	Disposal by assessed if s	Return to Client	Re	Sample Disposal:
Special Remarks:		Fluoride Nitrate	O-Phosphate	Bromide		Nitrite Chloride): Nitrate	***Anions (Circle):
Mg Mn Mo Na Ni 🚱 Sb Se Sr Sn Ti TI U V Zn	Cr Cu)Fe Hg K	I As B Ba Be Ca Cd Co	Individual: Ag Al	ints TAL	Priority Pollutants	MTCA-5 RCRA-8	1.00	**Metals Analysis (Circle):
HINDS pres; analyze for Cu only			au costas poetavos	<	~	-CF-581	1417-P-	RVEI
The many grants and property of the property of the state	¥				17.400	-c[-16]	1-1-18	KVER
HOLD -ung.	×					- CF-76	817-5-	KVEZ
thoogors; analyze to Ponly	<u> </u>	The Silver and the Si	70 A 24 A 2			CF-76	817-1-	KV [= 12
and giverbilling our of the mental in our in science.	×					4	817-T-	LVE 12
HOLD-unp.	X					CF-17	67-5-	5111A
HNO3 pres; Cray tefor though	(A)					(F-17)	817-8-1	KVE 12
HOLD-unpr.	X					CLB.	817-1-4	WE 12
HOW - unpor.	X					1937	817-5-	KVE/2
thus preserved; analyteta Pbanly	10			DW	7 /000	5-0) 1/28/2017	817-1-1	KVED
Comments	Control of the contro	Signa Singe Commission	TOS TERN SERVER	Sample Type (Matrix)*	Sample Time	Sample Date		Sample Name
SW = Storm Water, WW = Waste Water	ing Water, GW = Ground Water,	SL = Solid, W = Water, DW =	SD = Sediment, SL =	P = Product, S = Soil,	O = Other, P = Pro	AQ = Aqueous, B = Bulk, O = (*Matrix Codes: A = Air,
efulcrum.net	rmathews@efulcrum.net; cc: aenbysk@efulcrum.net	PM Email:		Fax: 509.545.8453	Fax:	509.574.0839	5(Telephone:
The second secon	Ryan Mathews	Report To (PM):	Special participation of		6	Yakima, WA 98901		City, State, Zip:
k, WA	nentary School, Kenne	Location:			reet	406 North Second Street	41	Address:
collected by: Losun Logu-t		Project No:	Charles and A constituted in	δά	tal Consultir	Fulcrum Environmental Consulting		Client:
ery Follow. In Campling	Kennewick SD - Ridgeview Floments	Project Name:			178	Fax: 206-352-7178	98103	Seattle, WA 98103
Page: 1 of: 2					790	Tel: 206-352-3790	nt Ave N.	3600 Fremont Ave N.
Laboratory Project No (Internal): 1707638	Date: 1/28/2017					Analytica		

^Please coordinate with the lab in advance

agreement to each of the terms on the front and backside of this Agreement. ***Anions (Circle): **Metals Analysis (Circle): MTCA-5 sample Disposal: *Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, 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 Sample Name RVI City, State, Zip: Client: Telephone: Address: Seattle, WA 98103 quished 3600 Fremont Ave N. 7 Nitrate Return to Client Yakima, WA 98901 406 North Second Street **Fulcrum Environmental Consulting** Nitrite CE-421 18/20 F30 Fax: 206-352-7178 Tel: 206-352-3790 Date/Time Date/Time RCRA-8 1/28/2017 Sample Date Chloride **Priority Pollutants** 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. 1000 Sample Time P = Product, S = Soil, SD = Sediment, SL = Solid, Sulfate Fax: 509.545.8453 (Matrix)* Sample Type DW Bromide TAL Received Individual: Ag Al As B Ba Be Received CHOTE O-Phosphate **Chain of Custody Record and Laboratory Services Agreement** Fluoride PM Email: Report To (PM): Project No: W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water Location: Project Name: Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Nitrate+Nitrite Date/Time rmathews@efulcrum.net; cc: aenbysk@efulcrum.net Ryan Mathews 8 Kennewick SD - Ridgeview Elementary Follow-Up Sampling Ridgeview Elementary School, Kennewick, WA Date: 162017 received after 4:00pm will begin Turn-around times for samples 1/28/2017 15/2 Collected by: TAT → SameDay^ NextDay^ 2 Day 3 Day STD please present all impresent simples Special Remarks: Page: Please coordinate with the lab in advance Laboratory Project No (internal): HOLD, wyer. thoughes; analyte for Portin this processed; analyse to pool HOLD; wher. I U

Page 11 of 11



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 - Ridge View Elementary

Work Order Number: 1703027

March 10, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 5 sample(s) on 3/3/2017 for the analyses presented in the following report.

Drinking Water Metals by EPA Method 200.8

This report consists of the following:

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

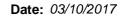
All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward Project Manager CC:

Amanda Enbysk





CLIENT: Fulcrum Environmental Work Order Sample Summary

Project: Kennewick SD Drinking Water - Ridge View

Work Order: 1703027

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1703027-001	RVE3217-P-KF-08	03/02/2017 6:00 AM	03/03/2017 9:30 AM
1703027-002	RVE3217-S-KF-08	03/02/2017 6:00 AM	03/03/2017 9:30 AM
1703027-003	RVE3217-T-KF-09	03/02/2017 6:00 AM	03/03/2017 9:30 AM
1703027-004	RVE3217-P-CF-41	03/02/2017 6:00 AM	03/03/2017 9:30 AM
1703027-005	RVE3217-P-CF-42	03/02/2017 6:00 AM	03/03/2017 9:30 AM



Case Narrative

WO#: **1703027**Date: **3/10/2017**

CLIENT: Fulcrum Environmental

Project: Kennewick SD Drinking Water - Ridge View 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:

1703027-001A 209611: Prep Comments for EPA200.8, Sample 1703027-001A: Turbidity: 0.00 NTU 1703027-004A 209612: Prep Comments for EPA200.8, Sample 1703027-004A: Turbidity: 0.00 NTU 1703027-005A 209613: Prep Comments for EPA200.8, Sample 1703027-005A: Turbidity: 0.00 NTU



Qualifiers & Acronyms

WO#: **1703027**

Date Reported: 3/10/2017

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: 1703027

Date Reported: 3/10/2017

CLIENT: Fulcrum Environmental

Project: Kennewick SD Drinking Water - Ridge View Elementary

Lab ID: 1703027-001 Collection Date: 3/2/2017 6:00:00 AM

Client Sample ID: RVE3217-P-KF-08 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

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

Batch ID: 16420

Analyst: TN

Lead 7.89 1.00 μg/L 1 3/10/2017 1:51:06 PM

Lab ID: 1703027-004 **Collection Date:** 3/2/2017 6:00:00 AM

Client Sample ID: RVE3217-P-CF-41 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 16420 Analyst: TN

Lead 16.7 1.00 $\mu g/L$ 1 3/10/2017 1:55:07 PM

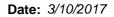
Lab ID: 1703027-005 **Collection Date:** 3/2/2017 6:00:00 AM

Client Sample ID: RVE3217-P-CF-42 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 16420 Analyst: TN

Lead ND 1.00 μg/L 1 3/10/2017 1:59:09 PM





Work Order: 1703027

QC SUMMARY REPORT

CLIENT: Fulcrum Environmental

	ivironmental SD Drinking Water - F	Ridge Vie	W		Drinking Water Metals by EPA Method 200.
Sample ID MB-16420	SampType: MBLK			Units: µg/L	Prep Date: 3/6/2017 RunNo: 34873
Client ID: MBLKW	Batch ID: 16420				Analysis Date: 3/10/2017 SeqNo: 665786
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead	ND	1.00			
Sample ID LCS-16420	SampType: LCS			Units: µg/L	Prep Date: 3/6/2017 RunNo: 34873
Client ID: LCSW	Batch ID: 16420				Analysis Date: 3/10/2017 SeqNo: 665787
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead	52.4	1.00	50.00	0	105 85 115
Sample ID 1703021-001ADUP	SampType: DUP			Units: µg/L	Prep Date: 3/6/2017 RunNo: 34873
Client ID: BATCH	Batch ID: 16420				Analysis Date: 3/10/2017 SeqNo: 665789
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead	ND	1.00			0 30
Sample ID 1703021-001AMS	SampType: MS			Units: µg/L	Prep Date: 3/6/2017 RunNo: 34873
Client ID: BATCH	Batch ID: 16420				Analysis Date: 3/10/2017 SeqNo: 665790
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead	102	1.00	100.0	0.6172	101 70 130
Sample ID 1703021-001AMSD	SampType: MSD			Units: µg/L	Prep Date: 3/6/2017 RunNo: 34873
Client ID: BATCH	Batch ID: 16420				Analysis Date: 3/10/2017 SeqNo: 665791
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead	103	1.00	100.0	0.6172	102 70 130 101.8 0.919 30

Original Page 6 of 8



Sample Log-In Check List

C	lient Name:	FE				Work O	rder Num	nber: 170302 7	7	
Lo	ogged by:	Erica Silva				Date Re	ceived:	3/3/2017	7 9:30:00 AM	
<u>Cha</u>	in of Custo	od <u>y</u>								
1.	Is Chain of C	ustody comp	lete?			Yes	✓	No 🗌	Not Present	
2.	How was the	sample deliv	vered?			<u>UPS</u>				
1.00	ı İn									
<u>Log</u>		. •				.,		\Box		
3.	Coolers are p	oresent?				Yes	V	No 🗀	NA L	
4.	Shipping con	tainer/cooler	in good condition	n?		Yes	✓	No 🗌		
5.			shipping contain ustody Seals not			Yes		No 🗹	Not Required	
6.	Was an atten	npt made to	cool the samples	?		Yes	✓	No \square	NA 🗌	
7.	Were all item	s received a	t a temperature o	f >0°C to 10.0	°C*	Yes	✓	No 🗆	na 🗆	
8.	Sample(s) in	proper conta	niner(s)?			Yes	✓	No 🗌		
9.	Sufficient san	nple volume	for indicated test	(s)?		Yes	✓	No 🗌		
10.	Are samples	properly pres	served?			Yes	✓	No 🗌		
11.	Was preserva	ative added t	o bottles?			Yes	✓	No \square	NA \square	
									HNO3	
	Is there head					Yes		No 🗆	NA 🗸	
13.	Did all sample	es containers	s arrive in good c	ondition(unbrol	ken)?	Yes	✓	No 🗆		
14.	Does paperw	ork match bo	ottle labels?			Yes	✓	No 🗀		
15.	Are matrices	correctly ide	ntified on Chain o	of Custody?		Yes	✓	No 🗌		
16.	Is it clear wha	at analyses w	vere requested?			Yes	✓	No 🗌		
17.	Were all hold	ing times ab	le to be met?			Yes	✓	No 🗌		
Spe	cial Handli	ing (if app	olicable)							
18.	Was client no	otified of all d	iscrepancies with	this order?		Yes		No \square	NA 🗹	
	Person	Notified:			Date					
	By Who	m:			Via:	eMa	il 🗌 Pł	hone Fax	☐ In Person	
	Regardi	ng:								
	Client In	structions:								
19.	Additional rer	marks:								
	HNO3 a	dded to 002	A, 003A							
<u>Item</u>	<u>Information</u>									
		Item #		Temp ⁰C						
	Cooler			2.7						

Sample

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

	Fre
Analyi	
ical	
	Analytical

Chain of Custody Record and Laboratory Services Agreement

T =	*							_
vidurix codes: A = Air, AQ =,	Telephone:	City, State, Zip:	Address:	Client:		3600 Fremont Ave N. Seattle, WA 98103		
watrix codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Soild, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water	509.574.0839 Fax: 509.575,8453	Yakima, WA, 98901	406 North Second Street	Fulcrum Environmental Consulting		Tel: 206-352-3790 Fax: 206-352-7178	Analytical	
L = Solid, W = Water, DW =	PM Email:	Report To (PM):	Location:	Project No:	Project Name:			
id, W = Water, DW = Drinking Water, GW = Ground Water,	rmathews@efulcrum.net; cc: aenbysk@efulcrum.net	Ryan Mathews	Ridge View Elementary, Kennewick, WA	162017.20	Kennewick SD DW Sampling - Ridge View Elementary		Date: 3/2/2017	
SW = Storm Water, WW = Waste Water	nbysk@efulcrum.net		ick, WA	Collected by: Amanda Enbysk	Ridge View Elementary	Page:of:	Laboratory Project No (internal):	
					Pa	age 8	1703027 of 8	

X	× Oothou	agreement to	Sample Disposal:	***Anions (Circle):	**Metals Analysis (Circle):	10	9	00	7	6	5 RUF3:	ARVE3	3 RVE32	2 RVE 32	1 RUES	Sample Name
	y Bes	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.	l: Ret	cle): Nitrate	ysis (Circle): MTCA-5	A MAN SA A MAN	O See Miller State				5 RNF3217-P-CF-42	4 RVF3217-P-CF-41	3 RUE3217-T-KF-09	RVE 3217 - S-KE-08	1 RUE 3217 - P-KF-08	ē
Date/ Ilme	5-2	on the front a	Return to Client	Nitrite	CA-5 RCRA-8						1	19-4	PO-3	F-08		_ s
	2-2-17 HODO	o this Agreen nd backside	Dispos	Chloride							2			1 /	3-21-70600	Sample Sample
	CO (0.)	nent with Front of this Agree	al by Lab (Sam ed if samples a	Sulfate B	Priority Pollutants	70.00					6	3 0		_	000	Sample Type (Matrix)*
Received	Received	emont Analy ment.	Disposal by Lab (Samples will be held for 30 da assessed if samples are retained after 30 days.	Bromide (TAL Indiv	TOTAL SOUTH	120	The state of the s								
ived	ived	tical on behal	d for 30 days un er 30 days.)	O-Phosphate	Individual: Ag Al	15 Lates 141 34										Story
		f of the Clien	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.)	Fluoride	As B Ba Be											Solite State Committee Solite
Date/Time	O Date/Time	t named abov	noted. A fee ma	Nitrate+Nitrite	Ca Cd Co Cr							N.				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
ime	J	e, that I have	y be on the		Cu Fe Hg K											[8] [1] [8] [8]
	0920	verified Client's	on the following business day.	Turn-around times for samples								2				1003 (03:038 - 30) (03:03:03:05) (03:05)
TA			5		Na Ni Pb S		2				X	X		1	X	
\T → SameDa	TAT		olone mas	Special Remarks:	Mg Mn Mo Na Ni 倒 Sb Se Sr Sn Ti				3-2		x Land only	x Lead only	513	Hold	× Lend only	Parcel 1-3 miles
TAT → SameDay^ NextDay^ 2 Day 3 Day STD	TAT: ASAP		plant mesons all more summer		II U V Zn						γ)	434				
2 Day 3 Day	0	And one	A CONTRACTOR													Comments
STD		2	(0)									A Comment of the Artificial				



ATTACHMENT F

Fixture Style Photographs







Sample RVE122116-P-KF-03: **22** µg/L initial lead concentration. Fixture style above is identified producing elevated lead concentrations.



Sample RVE122116-P-CF-26: **13 µg/L** initial lead concentration. Fixture style above is identified producing elevated lead concentrations.