

November 6, 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
Fruitland Building, 201 South Garfield Street, Kennewick, Washington**

Dear Keith:

On Thursday, December 22, 2016, Fulcrum Environmental Consulting, Inc. (Fulcrum) collected 15 drinking water samples for lead and copper analysis from the Fruitland Building (School) located at 201 South Garfield Street in Kennewick, Washington. Initial sampling identified one fixture location with a lead concentration above guidance levels. Fulcrum returned to the School to collect samples after replacement of the fixture 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 22, 2016. Initial results identified one sample with a lead concentration of 30 micrograms per liter ($\mu\text{g/L}$), above the Environmental Protection Agency (EPA) action level of 15 $\mu\text{g/L}$. Upon receipt of results, the District removed the identified fixture from service pending remediation and further testing.

The fixture identified with an elevated lead concentration was 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 March 2, and March 31, 2017 and collected follow-up samples to confirm the success of fixture replacement. No other fixtures of like style

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

were identified in the building. Follow-up samples yielded results below the EPA action level, confirming fixture replacement was successful. Following sampling and review of laboratory results, Fulcrum recommended, and the District elected, to return the fixture 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 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.

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 2 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 one sample, located in the office inside Room 16, with a lead concentration of 30 µg/L, above the EPA action level of 15 µg/L. No samples were identified with copper concentrations above the EPA action level of 1,300 µg/L.

Remedial Sampling

Immediately following receipt of initial sampling results, the District removed the identified fixture from service pending remediation and further testing. To remediate elevated lead concentrations, the District replaced the identified fixtures. Fulcrum returned on March 2, and March 31, 2017 following fixture replacement and preconditioning to collect follow-up samples from the initially identified fixture. No other fixtures of like style were identified in the building.

Analytical results from remedial sampling indicated the fixture replacement was successful at reducing lead concentrations below the action level for the fixture in question.

Recommendations

No samples were found to contain copper concentrations above guidance levels. One initial sample contained lead above the EPA action level of 15 µg/L. The District replaced the identified fixture with elevated lead and preconditioned the fixture for 24 hours as specified in WAC 246-366A-130. No other fixtures of like style were identified in the building. Follow-up sampling demonstrated that all lead concentrations were below the action level. Following fixture replacement sampling and review of laboratory results, Fulcrum recommended, and the District elected, to return the fixture to service.


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



ATTACHMENT A

Figure 1: Sample Location Map



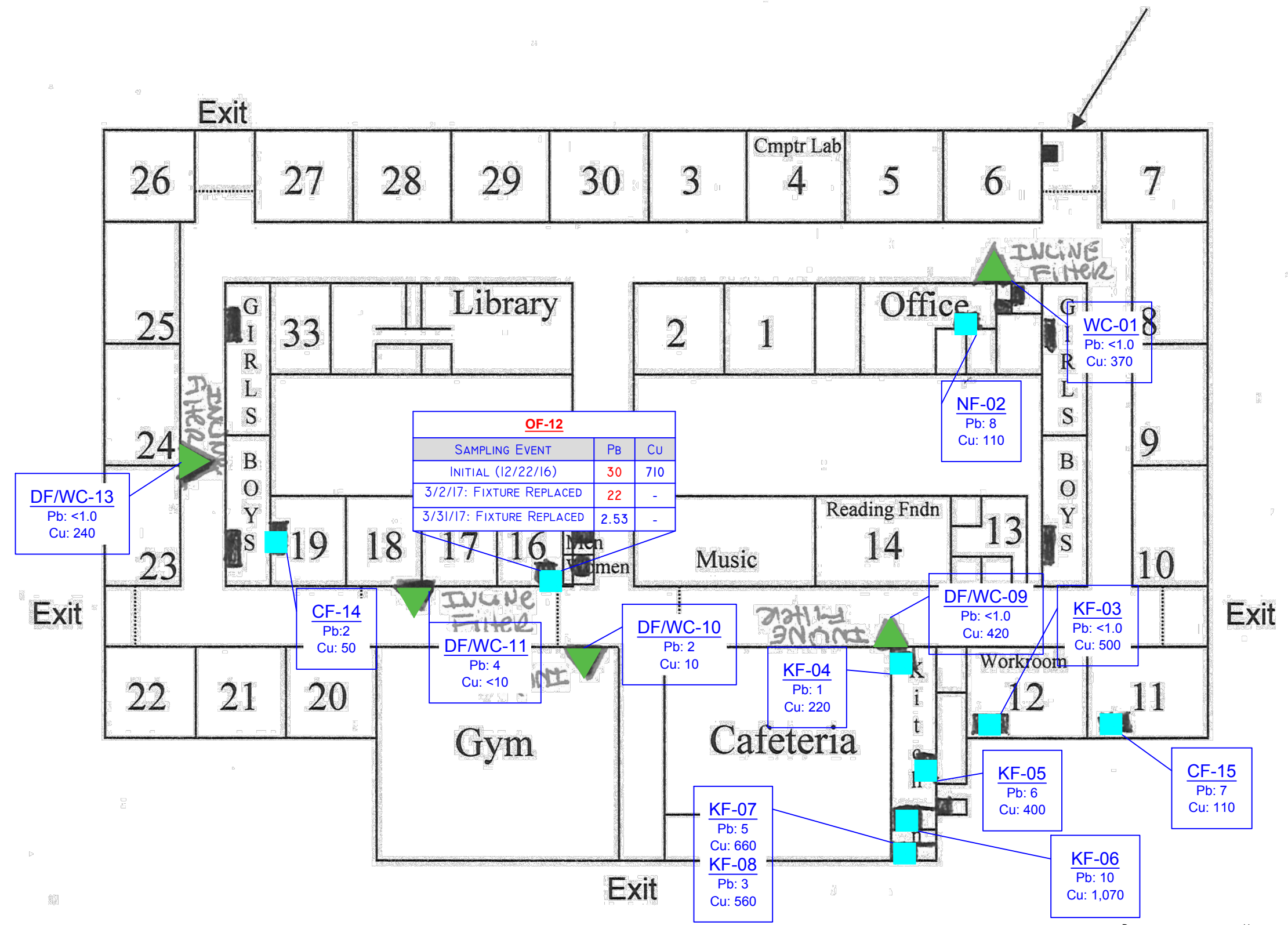
Main Entrance

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 same sink
- ▼ - 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.

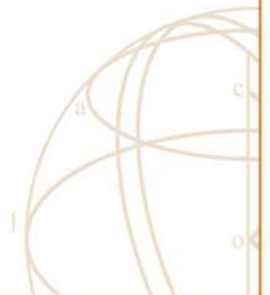
-Samples in **BOLD RED** indicate fixture locations where the initial concentrations of lead or copper were above the respective action level.



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 a supplement to the project SAP/QAPP and provide a building specific summary of the location, number, and sampling frequency of water fixture locations.

Campus: Fruitland Building Address: 201 South Garfield St, Kennewick, WA

Elementary Middle School High School Administration

Date of Construction: _____ Modernizations: _____

Fixture Type	Locations	Fixture Styles¹	Samples	Ratio
Drinking fountain/water cooler (DF/WC)	5	3	5	100%
Kitchen Fixture (KF)	5	5	5	100%
Classroom faucet, including faucets in Food Labs and Life Sciences Classrooms (CF)	2	2	2	100%
Classroom drinking fountain at sink (CDF)	-	-	-	-
Nurse's Office/Health Room (NF)	1	1	1	100%
Teacher's Lounges/Work Rooms (OF)	2	2	2	100%
TOTALS	15		15	100%

¹ Fixture styles are approximate based on sampler's observations

Lead Sampler: Nathan Bostrom Date: 12/22/2016

Sample Prefix: FLB – 122216 – P (first-draw) – _____ – 01-17
School Code Date Sample Type Fixture Type Sample Number

Laboratory: R. J. Lee Group, Columbia Basin Analytical Delivery Date: December 22, 2016

Comments:

ATTACHMENT C

Table 1: Initial Sampling Analytical Results Summary Table
Table 2: Remedial Sampling Analytical Results Summary Table

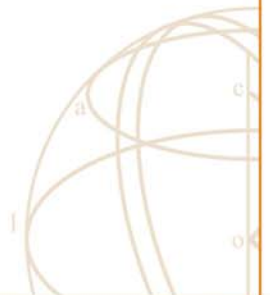


Table 1: Initial Sampling Analytical Results Summary

Sample Identification and Location	Fixture Type	Lead Results (µg/L)	Copper Results (µg/L)
FLB122216-P-DF/WC-01: Main Entrance corridor, opposite Classroom 6	Drinking Fountain/Water Cooler	<1.0	370
FLB122216-P-NF-02: Nurse's Office	Nurse's Faucet	8	110
FLB122216-P-KF-03: Workroom 12	Kitchen Faucet	<1.0	500
FLB122216-P-KF-04: Kitchen, Northwest corner	Kitchen Faucet	1	220
FLB122216-P-KF-05: Kitchen, East wall center fixture	Kitchen Faucet	6	400
FLB122216-P-KF-06: Kitchen, West wall	Kitchen Faucet	10	1,070
FLB122216-P-KF-07: Kitchen Southwest corner, right fixture	Kitchen Faucet	5	660
FLB122216-P-KF-08: Kitchen Southwest corner, left fixture	Kitchen Faucet	3	560
FLB122216-P-DF/WC-09: Corridor adjacent Cafeteria	Drinking Fountain/Water Cooler	<1.0	420
FLB122216-P-DF/WC-10: Gymnasium	Drinking Fountain/Water Cooler	2	10
FLB122216-P-DF/WC-11: Corridor adjacent Room 18	Drinking Fountain/Water Cooler	4	<10
FLB122216-P-OF-12: Office inside Room 16	Office Faucet	30	710
FLB122216-P-DF/WC-13: Corridor adjacent Room 24	Drinking Fountain/Water Cooler	<1.0	240
FLB122216-P-CF-14: Room 19	Classroom Faucet	2	50
FLB122216-P-CF-15: Room 11	Classroom Faucet	7	110
<i>FLB122216-P-CF-16: Laboratory Blank</i>	<i>Distilled Water Blank</i>	<1.0	<10
<i>FLB122216-P-CF-17: Laboratory Spike</i>	<i>Lead and Copper Spike</i>	15	1,290
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: Remedial Sampling Analytical Results Summary

Sampling Event	Sample Identification		
	OF-12	Laboratory Blank (-16)	Laboratory Spike (-17)
Initial (12/22/2016)	30	<1.0	15
Fixture Replaced (3/2/2017)	22	<1.0	17.5
Fixture Replaced (3/31/2017)	2.53	<1.0	16.1
EPA Action Level	15	15	15

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

ATTACHMENT D

Initial Analytical Results





RJ LeeGroup, Inc. | Columbia Basin Analytical Laboratories

2710 North 20th Avenue, Pasco WA 99301

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

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

Subject: Chemical Analysis Report

Columbia Basin Analytical Laboratories received 17 sample(s) on 12/22/16 for analysis. These sample(s) have been assigned a login order number of W612116. 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.

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:

A handwritten signature in black ink, appearing to read "Fernanda Pincheira". The signature is written in a cursive style with a large initial "F" and "P".

02/02/17

Project Coordinator II, M. Fernanda Pincheira

Date

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



Laboratory Report

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

RJ Lee Group No.: W612116
COC No.: Kennewick
Samples Received: 12/22/16
Analysis/Prep Date: 01/25/17
Report Date: 02/02/17

Client Project:

Fulcrum Kennewick

Sample Name: FLB122216-P-DF/WC-01 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612116-01 **Date Analyzed:** 01/25/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.37	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: FLB122216-P-NF-02 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612116-02 **Date Analyzed:** 01/25/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.11	0.01	
Lead	EPA 200.8	0.008	0.001	

Sample Name: FLB122216-P-KF-03 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612116-03 **Date Analyzed:** 01/25/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.50	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: FLB122216-P-KF-04 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612116-04 **Date Analyzed:** 01/25/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.22	0.01	
Lead	EPA 200.8	0.001	0.001	

Sample Name: FLB122216-P-KF-05 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612116-05 **Date Analyzed:** 01/25/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.40	0.01	
Lead	EPA 200.8	0.006	0.001	

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

WWW.RJLEEGROUP.COM

Report Template: GenMetalReportFull_v12.rpt

Approved: 02/2/17 16:12
Report Time Stamp: 02/02/17 17:02



Sample Name: FLB122216-P-KF-06 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612116-06 **Date Analyzed:** 01/25/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.07	0.01	
Lead	EPA 200.8	0.010	0.001	

Sample Name: FLB122216-P-KF-07 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612116-07 **Date Analyzed:** 01/25/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.66	0.01	
Lead	EPA 200.8	0.005	0.001	

Sample Name: FLB122216-P-KF-08 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612116-08 **Date Analyzed:** 01/25/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.56	0.01	
Lead	EPA 200.8	0.003	0.001	

Sample Name: FLB122216-P-DF/WC-09 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612116-09 **Date Analyzed:** 01/25/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.42	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: FLB122216-P-DF-10 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612116-10 **Date Analyzed:** 01/25/17

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

Sample Name: FLB122216-P-DF-11 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612116-11 **Date Analyzed:** 01/25/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	< 0.010	0.01	
Lead	EPA 200.8	0.004	0.001	



Sample Name: FLB122216-P-OF-12 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612116-12 **Date Analyzed:** 01/25/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.71	0.01	
Lead	EPA 200.8	0.030	0.001	

Sample Name: FLB122216-P-DF/WC-13 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612116-13 **Date Analyzed:** 01/25/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.24	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: FLB122216-P-CF-14 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612116-14 **Date Analyzed:** 01/25/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.05	0.01	
Lead	EPA 200.8	0.002	0.001	

Sample Name: FLB122216-P-CF-15 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612116-15 **Date Analyzed:** 01/25/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.11	0.01	
Lead	EPA 200.8	0.007	0.001	

Sample Name: FLB122216-P-CF-16 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612116-16 **Date Analyzed:** 01/25/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	< 0.010	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: FLB122216-P-CF-17 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612116-17 **Date Analyzed:** 01/25/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.29	0.01	
Lead	EPA 200.8	0.015	0.001	



Report Qualifiers:

A = Target Analyte media breakthrough suspect, see analytical report

D = Analyte analyzed in a dilution

E = Report concentration was above the instrument calibration range

J = Analyte detected below quantitation limits, concentration is estimated

P = Library spectrum match, $rsd > 90\%$ w RT match

Q = Result out of method specific acceptance QC criteria

S = Spike Recovery outside accepted recovery limits

Z = Not ELAP accredited analyte

ND = Not Detected

B = Analyte detected in the associated blank

d = Data that exceeds the RSD criteria set by the SOP

H = Holding times for preparation or analysis exceeded

L = Sample condition at receipt out of compliance with method defined conditions

R = RPD (relative percent difference) outside accepted recovery limits

U = Analyte analyzed for but not detected

N/A = Not Applicable

Scientist II DeNomy Dage

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.

Request for Environmental and IH Laboratory Analytical Services

Wd2116

ATTENTION TO: RYAN MATHEWS		Purchase Order No.:		Client Job No.:		162017	
Lab Use Only	Project No.:	Client No.:	Date Logged In:		Logged In By:		
Report Results To	Name:	Amanda Ebyusk, Ryan Mathews					
	Company:	Fulcrum Environmental Consulting					
	Address:	406 North 2nd Street					
	City, State Zip:	Yakima, WA, 98901					
Phone:	(509) 574-0839	Fax:	(509) 575-8453				
Call with Verbal Results:							
Email Results To:	aenbyusk@fulcrum.net, CC: rmathews@fulcrum.net						
Fax Results To:							
Name:	Lorrie Boutillier						
Company:	Fulcrum Environmental						
Address:	406 North 2nd Street						
City, State Zip:	Yakima, WA, 98901						
Phone:	(509) 574-0839	Fax:	(509) 575-8453				
Special Instructions							
Client Sample ID	Sample Description	Sample Date	Sample Time		Wipe Area / Air Volume	Chemistry Analysis Key	Analysis Requested
FLB 122216-P-DFloc-01	Entrance	12-22-16				EPA 200.8: Pb, Cu Matrix: WW=Wastewater, GW=Groundwater, S=Soil/Sludge, E=Extract Preservation: A <input type="checkbox"/> B <input type="checkbox"/> Other <input type="checkbox"/> Matrix: SW=Surface Water, DW=Drinking Water, O=Oil, X=Other Container: P=Plastic, G=Glass, W=Wipe, A=Air (filter or tube)	Standard: Yes No Sample Purpose: Information X Regulatory <input type="checkbox"/> Accreditation (please list below): System ID #: _____ DOH Source #: _____ Multiple Sources #: _____
FLB 122216-P-NF-02	Nurses office						
FLB 122216-P-KF-03	WDrkroom						
FLB 122216-P-KF-04	Kitchen faucet						
FLB 122216-P-KF-05							
FLB 122216-P-KF-06							
FLB 122216-P-KF-07							
FLB 122216-P-KF-08							
FLB 122216-P-DFloc-09	outside cafe						
FLB 122216-P-DF-10	Gym						
FLB 122216-P-DF-11	drillings outside NH18						
Chain of Custody	Relinquished By (Signature):	Date:	Relinquished To:	Time:	Chain of Custody	Received By (Signature):	Date:
	Relinquished By (Print Name):		Relinquished To:			Received By (Print Name):	
	Company Name:		Method of Shipment:			Company Name:	
Chain of Custody	Relinquished By (Signature):	Date:	Relinquished To:	Time:	Chain of Custody	Received By (Signature):	Date:
	Relinquished By (Print Name):		Relinquished To:			Received By (Print Name):	
	Company Name:		Method of Shipment:			Company Name:	

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

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



Request for Environmental and IH Laboratory Analytical Services

ATTENTION TO: RYAN MATHEWS		Purchase Order No.:		Client Job No.:		162017				
Lab Use Only	Project No.:	Client No.:	Turnaround Request	Standard: Yes	No	If 'No,' No. of Business Days:				
	Date Logged In:	Logged In By:	Sample Purpose: Information X	Regulatory	<input type="checkbox"/>	Accreditation (please list below):				
Report Results To	Name: Amanda Embysk, Ryan Mathews	Company: Fulcrum Environmental Consulting	System ID #:	DOH Source #:	Multiple Sources #:	Sample Purpose: A <input type="checkbox"/> B <input type="checkbox"/> Other <input type="checkbox"/>				
	Address: 406 North 2nd Street	City, State, Zip: Yakima, WA, 98901	Phone: (509) 574-0839	Fax: (509) 575-8433	Call with Verbal Results:	Preservation: Unpres H ₂ SO ₄ 4°C HCl NaOH Na ₂ SO ₄ Other	Matrix: WW=Wastewater GW=Groundwater S=Soil/Sludge E=Extract			
Send Invoice To	Name: Lorrie Boutillier	Company: Fulcrum Environmental	Email: lboutillier@fulcrum.net	Analysis Requested						
	Address: 406 North 2nd Street	City, State, Zip: Yakima, WA, 98901	Phone: (509) 574-0839	Fax: (509) 575-8433	Pres. Upon Receipt (Y/N)					
Special Instructions	Client Sample ID	Sample Description	Sample Date	Sample Time	Wipe Area / Air Volume	Preservation	Matrix	Container Type	pH	No. Containers
	FLB122216-P-05-12	RM 1L	12-22-16			UNPR	DW	P		
	FLB122216-P-DIPE-13	13 Halls, outside RM 19								
	FLB122216-P-CP-14	RM 19								
	FLB122216-P-CP-15	RM 19								
	FLB122216-P-CP-16	RM 2E								
	FLB122216-P-CP-17	RM 27								
Chain of Custody	Relinquished By (Signature): <i>Nathan Ross</i>	Date: 12-22-16	Time: 2:26	Received By (Signature): <i>Nathan Ross</i>	Date: DEC 22 2016	Time: 14:20				
	Relinquished By (Print Name): <i>Nathan Ross</i>	Relinquished To:	Method of Shipment:	Received By (Print Name): <i>Nathan Ross</i>	Relinquished To:	Method of Shipment:				
Chain of Custody	Relinquished By (Signature):	Date:	Time:	Received By (Signature):	Date:	Time:				
	Relinquished By (Print Name):	Relinquished To:	Method of Shipment:	Received By (Print Name):	Relinquished To:	Method of Shipment:				

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

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



ATTACHMENT E

Remedial Analytical Results





Fulcrum Environmental

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

RE: Kennewick SD Drinking Water - Fruitland Building
Work Order Number: 1703026

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



Date: 03/10/2017

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Fruitland Bu
Work Order: 1703026

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1703026-001	FLB3217-P-OF-12	03/02/2017 7:30 AM	03/03/2017 9:30 AM
1703026-002	FLB3217-S-OF-12	03/02/2017 7:30 AM	03/03/2017 9:30 AM
1703026-003	FLB3217-T-OF-12	03/02/2017 7:30 AM	03/03/2017 9:30 AM
1703026-004	FLB3217-P-CF-16	03/02/2017 7:30 AM	03/03/2017 9:30 AM
1703026-005	FLB3217-P-CF-17	03/02/2017 7:30 AM	03/03/2017 9:30 AM

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Fruitland Building

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:

1703026-001A 209608: Prep Comments for EPA200.8, Sample 1703026-001A: Turbidity: 0.00 NTU

1703026-004A 209609: Prep Comments for EPA200.8, Sample 1703026-004A: Turbidity: 0.00 NTU

1703026-005A 209610: Prep Comments for EPA200.8, Sample 1703026-005A: Turbidity: 0.00 NTU

Qualifiers:

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

Acronyms:

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



CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Fruitland Building

Lab ID: 1703026-001 **Collection Date:** 3/2/2017 7:30:00 AM
Client Sample ID: FLB3217-P-OF-12 **Matrix:** Drinking Water

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

Batch ID: 16420 Analyst: TN

Lead	22.0	1.00		µg/L	1	3/10/2017 1:39:01 PM
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Lab ID: 1703026-004 **Collection Date:** 3/2/2017 7:30:00 AM
Client Sample ID: FLB3217-P-CF-16 **Matrix:** Drinking Water

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

Batch ID: 16420 Analyst: TN

Lead	ND	1.00		µg/L	1	3/10/2017 1:43:03 PM
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Lab ID: 1703026-005 **Collection Date:** 3/2/2017 7:30:00 AM
Client Sample ID: FLB3217-P-CF-17 **Matrix:** Drinking Water

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

Batch ID: 16420 Analyst: TN

Lead	17.5	1.00		µg/L	1	3/10/2017 1:47:04 PM
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Work Order: 1703026
CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Fruitland B

QC SUMMARY REPORT
Drinking Water Metals by EPA Method 200.8

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

Client Name: **FE**

 Work Order Number: **1703026**

 Logged by: **Erica Silva**

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

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

HNO3 added to 002A, 003A

Item Information

Item #	Temp °C
Cooler	2.7
Sample	1.3

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



3600 Fremont Ave N.
Seattle, WA 98103

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

Chain of Custody Record and Laboratory Services Agreement

Date: 3/2/2017

Laboratory Project No (Internal):

17030846

Page: 1 of 1

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

Project Name: Kennewick SD Drinking Water - Fruitland Building
Project No: 162017.19
Location: Fruitland Building, Kennewick, WA
Report To (PM): Ryan Mathews
PM Email: rmathews@fulcrum.net; cc: aenbysk@fulcrum.net

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

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	Analytes											Comments					
				VOCs (EPA 8260 / 624)	GV/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DH)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)		Anions (IC)***	EDB (801)			
1 FLB3217-P-OF-12	3-2-17	0730	DW																X	Analyze lead only
2 FLB3217-S-OF-12																				Hold
3 FLB3217-T-OF-12																				Hold
4 FLB3217-P-CF-16																				X Lead only
5 FLB3217-P-CG-17																				X Lead only
6																				
7																				
8																				
9																				
10																				

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

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

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

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

Reinquisitioned: Date/Time: 3/2/17 4:00 Received: Date/Time: 3/13/17 0930

Special Remarks: Please preserve all upper samples

TAT: SameDay NextDay 2 Day 3 Day STD

*Please coordinate with the lab in advance



Fulcrum Environmental

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

**RE: Kennewick SD Drinking Water-Fruitland Building
Work Order Number: 1704002**

April 03, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 5 sample(s) on 4/3/2017 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



Date: 04/03/2017

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water-Fruitland Buil
Work Order: 1704002

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1704002-001	FLB33117-P-OF-12	03/31/2017 7:00 AM	04/03/2017 9:22 AM
1704002-002	FLB33117-S-OF-12	03/31/2017 7:00 AM	04/03/2017 9:22 AM
1704002-003	FLB33117-T-OF-12	03/31/2017 7:00 AM	04/03/2017 9:22 AM
1704002-004	FLB33117-P-CF-16	03/31/2017 7:00 AM	04/03/2017 9:22 AM
1704002-005	FLB33117-P-CF-17	03/31/2017 7:00 AM	04/03/2017 9:22 AM

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water-Fruitland Building

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:

1704002-001A 213709: Prep Comments for EPA200.8, Sample 1704002-001A: Turbidity: 0.05 NTU

1704002-004A 213710: Prep Comments for EPA200.8, Sample 1704002-004A: Turbidity: 0.00 NTU

1704002-005A 213711: Prep Comments for EPA200.8, Sample 1704002-005A: Turbidity: 0.06 NTU

Qualifiers:

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

Acronyms:

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



CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water-Fruitland Building

Lab ID: 1704002-001 **Collection Date:** 3/31/2017 7:00:00 AM
Client Sample ID: FLB33117-P-OF-12 **Matrix:** Drinking Water

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

Batch ID: 16676 Analyst: TN

Lead	2.53	1.00		µg/L	1	4/3/2017 1:47:42 PM
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Lab ID: 1704002-004 **Collection Date:** 3/31/2017 7:00:00 AM
Client Sample ID: FLB33117-P-CF-16 **Matrix:** Drinking Water

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

Batch ID: 16676 Analyst: TN

Lead	ND	1.00		µg/L	1	4/3/2017 1:51:44 PM
------	----	------	--	------	---	---------------------

Lab ID: 1704002-005 **Collection Date:** 3/31/2017 7:00:00 AM
Client Sample ID: FLB33117-P-CF-17 **Matrix:** Drinking Water

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

Batch ID: 16676 Analyst: TN

Lead	16.1	1.00		µg/L	1	4/3/2017 1:55:45 PM
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Work Order: 1704002
CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water-Fruitland Buil

QC SUMMARY REPORT
Drinking Water Metals by EPA Method 200.8

Sample ID MB-16676	SampType: MBLK	Units: µg/L	Prep Date: 4/3/2017	RunNo: 35295							
Client ID: MBLKW	Batch ID: 16676	Analysis Date: 4/3/2017	SeqNo: 675377								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 1.00

Sample ID LCS-16676	SampType: LCS	Units: µg/L	Prep Date: 4/3/2017	RunNo: 35295							
Client ID: LCSW	Batch ID: 16676	Analysis Date: 4/3/2017	SeqNo: 675378								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 55.6 1.00 50.00 0 111 85 115

Sample ID 1704001-001ADUP	SampType: DUP	Units: µg/L	Prep Date: 4/3/2017	RunNo: 35295							
Client ID: BATCH	Batch ID: 16676	Analysis Date: 4/3/2017	SeqNo: 675380								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 1.90 1.00 2.037 7.05 30

Sample ID 1704001-001AMS	SampType: MS	Units: µg/L	Prep Date: 4/3/2017	RunNo: 35295							
Client ID: BATCH	Batch ID: 16676	Analysis Date: 4/3/2017	SeqNo: 675381								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 103 1.00 100.0 2.037 101 70 130

Sample ID 1704001-001AMSD	SampType: MSD	Units: µg/L	Prep Date: 4/3/2017	RunNo: 35295							
Client ID: BATCH	Batch ID: 16676	Analysis Date: 4/3/2017	SeqNo: 675384								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 104 1.00 100.0 2.037 102 70 130 102.8 1.24 30

Client Name: **FE**
 Logged by: **Erica Silva**

Work Order Number: **1704002**
 Date Received: **4/3/2017 9:22:00 AM**

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Item Information

Item #	Temp °C
Cooler	5.4
Sample	1.1

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



3600 Fremont Ave N.
Seattle, WA 98103

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

Chain of Custody Record and Laboratory Services Agreement

Date: 3/31/2017

Laboratory Project No (Internal):

1704002

Page: 1 of: 1

Client: Fulcrum Environmental Consulting

Project Name: Kennecott 500 Drinking Water - Fruitland Building

Address: 406 North Second Street

Project No: 142017.19
Collected by: Amanda Enbysk

City, State, Zip: Yakima, WA, 98901

Location: Fruitland Building, Kennecott, WA

Telephone: 509.574.0839

Report To (PM): Ryan Mathews
PM Email: rmathews@fulcrum.net

Fax: 509.575.8453

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

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	Analytes												Comments			
				VOCs (EPA 8260 / 624)	GYBTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heav Oil Range Organics (DX)	SVOCs (EPA 8270 - SIM)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (IC)***		EDB (8011)		
1 FLB33117-P-OF-12	3/31/17	0700	DW																HWs preserved
2 FLB33117-S-OF-12																			HOI; unp.
3 FLB33117-T-OF-1B																			↓
4 FLB33117-P-CF-1L																			HWs pres.
5 FLB33117-P-CF-1Z																			↓
6																			
7																			
8																			
9																			
10																			

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

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

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

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.

Special Remarks: Please preserve all preserved samples

Relinquished 3/31/2017, 1400 Date/Time

Received 4/3/17 Date/Time

Retainment 0922 Date/Time

TAT: ASAR
TAI → SameDay^ NextDay^ 2 Day 3 Day STD

*Please coordinate with the lab in advance

x

x

x

x

x

Distribution: White - Lab, Yellow - File, Pink - Originator

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