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
Chinook Middle School, 4891 West 27th Avenue, Kennewick, Washington

Dear Keith:

On Friday, April 7, 2017, Fulcrum Environmental Consulting, Inc. (Fulcrum) collected 34 drinking water samples for lead and copper analysis from Chinook Middle School (School) located at 4891 West 27th Avenue in Kennewick, Washington. Initial sampling identified 19 fixture locations with copper concentrations above guidance levels. Fulcrum returned to the School on May 20, and August 15, 2017, to collect samples after remediation of the fixtures and laboratory results found concentrations to be below guidance levels. Sampling was completed as part of a District-wide project and all analysis was completed by Washington State Department of Ecology (Ecology) accredited laboratories.

Summary

The purpose of initial sampling was to evaluate current drinking water quality conditions with respect to lead and copper as a result of the increased national and local interest related to lead in drinking water. The intent of sampling was to meet the requirements of the pending regulations set forth in Washington Administrative Code (WAC) 246-366A-130 and 246-366A-135[1]. 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 April 7, 2017. Initial results identified 19 samples with copper concentrations above the Environmental Protection Agency (EPA) action level of 1,300 micrograms per liter (µg/L). Upon receipt of results, the District removed the identified fixtures from service pending remediation and further testing.

Copper is not a significant component in fixtures, but is the primary material in the plumbing system. To remediate elevated copper, the District aggressively flushed the fixtures with cold water to clear the plumbing of copper construction debris and installed filters on fixtures that did not respond to the aggressive flush. Fulcrum returned on May 20, and August 15, 2017 and collected samples to evaluate the success of

[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

P. 509.574.0839 F. 509.575.8453
406 North 2nd Street
Yakima, Washington 98901
efulcrum.net

the remediation. Follow-up samples yielded results 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.

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). See Figure 1-A and 1-B in Attachment A for fixture locations and laboratory results.

Sampling Methodology

As a portion of this project, Fulcrum prepared a Sampling and Analysis Plan (SAP) 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.

P. 509.574.0839 F. 509.575.8453
406 North 2nd Street
Yakima, Washington 98901
efulcrum.net

Initial Sampling

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

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

Fixture Replacement and Flushing

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

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

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

Remedial Sampling

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

P. 509.574.0839 F. 509.575.8453
406 North 2nd Street
Yakima, Washington 98901
efulcrum.net

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

Analytical Results

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

Initial Sampling

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

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

Remedial Sampling

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

Discussion

Initial Sampling

Analytical results identified 19 samples with copper concentrations above the EPA action level of 1,300 µg/L. No samples were identified with lead concentrations above the EPA action level of 15 µg/L.

Remedial Sampling

Immediately following receipt of initial sampling results, the District removed the identified fixtures from service pending remediation and further testing. To remediate elevated copper concentrations, the District completed aggressive flushes of the fixtures. The District installed filters on fixtures that did not respond to an aggressive flush. Fulcrum returned on the morning following the aggressive flush and filter installation, May 20, and August 15, 2017, to collect follow-up samples.

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

P. 509.574.0839 F. 509.575.8453
406 North 2nd Street
Yakima, Washington 98901
efulcrum.net

Recommendations

No samples were found to contain lead concentrations above the EPA action level of 15 µg/L. A total of 19 initial samples contained copper above the EPA action level of 1,300 µg/L. The District completed an aggressive flush of the fixtures identified with elevated copper and installed filters on fixtures that did not respond to aggressive flushing Follow-up sampling yielded results below the action level, confirming the remediation was successful. Following remedial sampling and review of laboratory results, Fulcrum recommended, and the District elected, to return the fixtures to service.

As all samples now report concentrations below lead and copper action levels, Fulcrum does not recommend any additional sampling at this time. However, consistent with industry practice and the intent of WAC 246-366A, Fulcrum recommends that the District complete re-sampling of the building within the next five years (before November 2021).

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

P. 509.574.0839 F. 509.575.8453
406 North 2nd Street
Yakima, Washington 98901
efulcrum.net

FULCRUM environmental consulting

ATTACHMENT A

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

P. 509.574.0839 F. 509.575.8453
406 North 2nd Street
Yakima, Washington 98901
efulcrum.net

FULCRUM environmental consulting

LEGEND

KF-## - Kitchen faucet

CF-## - Classroom faucet

CDF-## - Classroom drinking fountain

OF-## - Office faucet

WC-## - Water cooler fountain

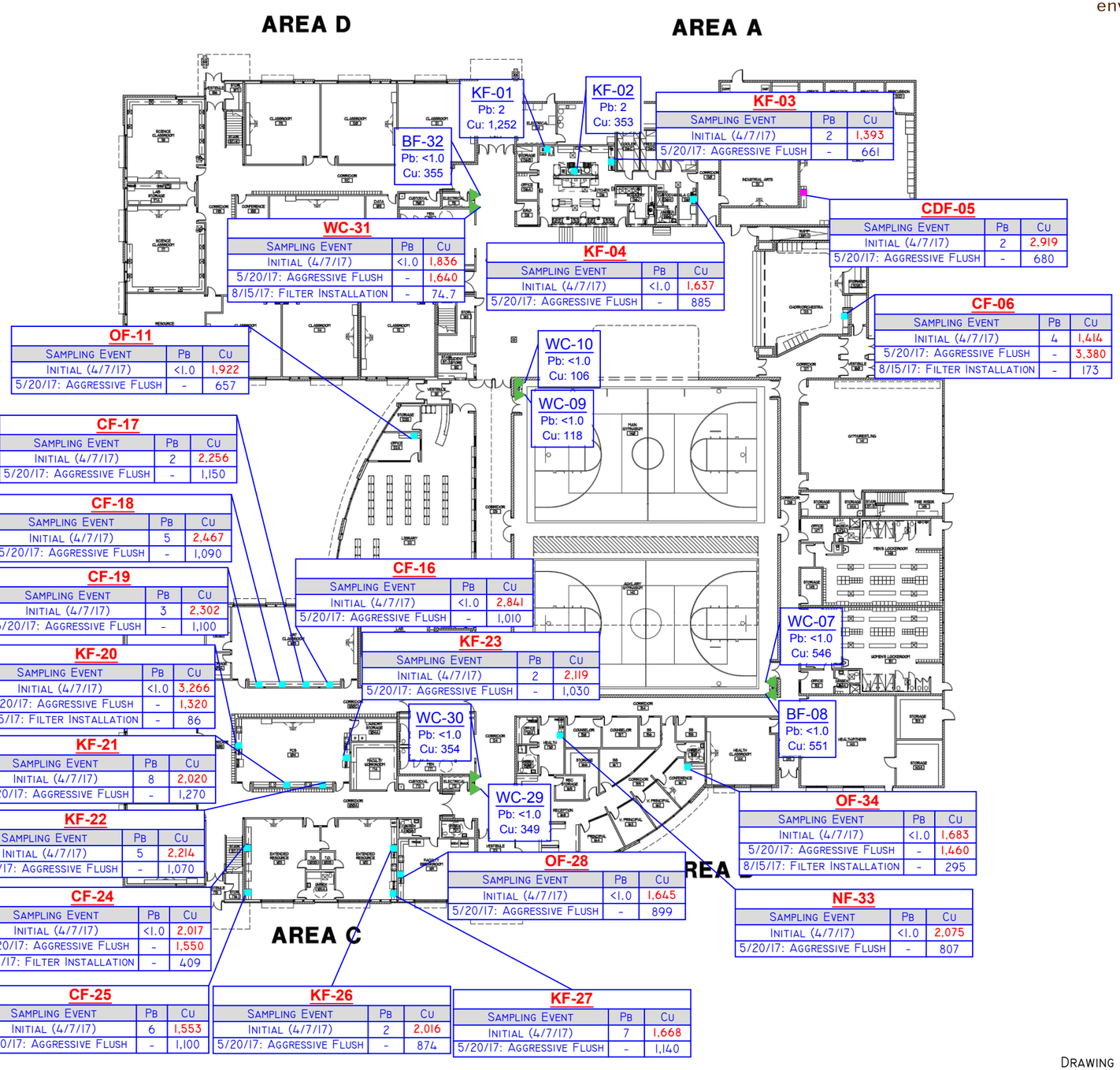
BF-## - Bottle filler fountain

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

Fulcrum Environmental Consulting, Inc.
406 North Second Street, Yakima, Washington 98901
p: 509.574.0839 f: 509.575.8453 efulcrum.net
Kennewick SD Drinking Water Sampling. 162017.00. AME. 10302017

Chinook Middle School
4891 West 27th Avenue
Kennewick, Washington

Sample Location Map - First Floor

FIGURE
1-A

LEGEND

KF-## - Kitchen faucet

CF-## - Classroom faucet

CDF-## - Classroom drinking fountain

OF-## - Office faucet

WC-## - Water cooler fountain

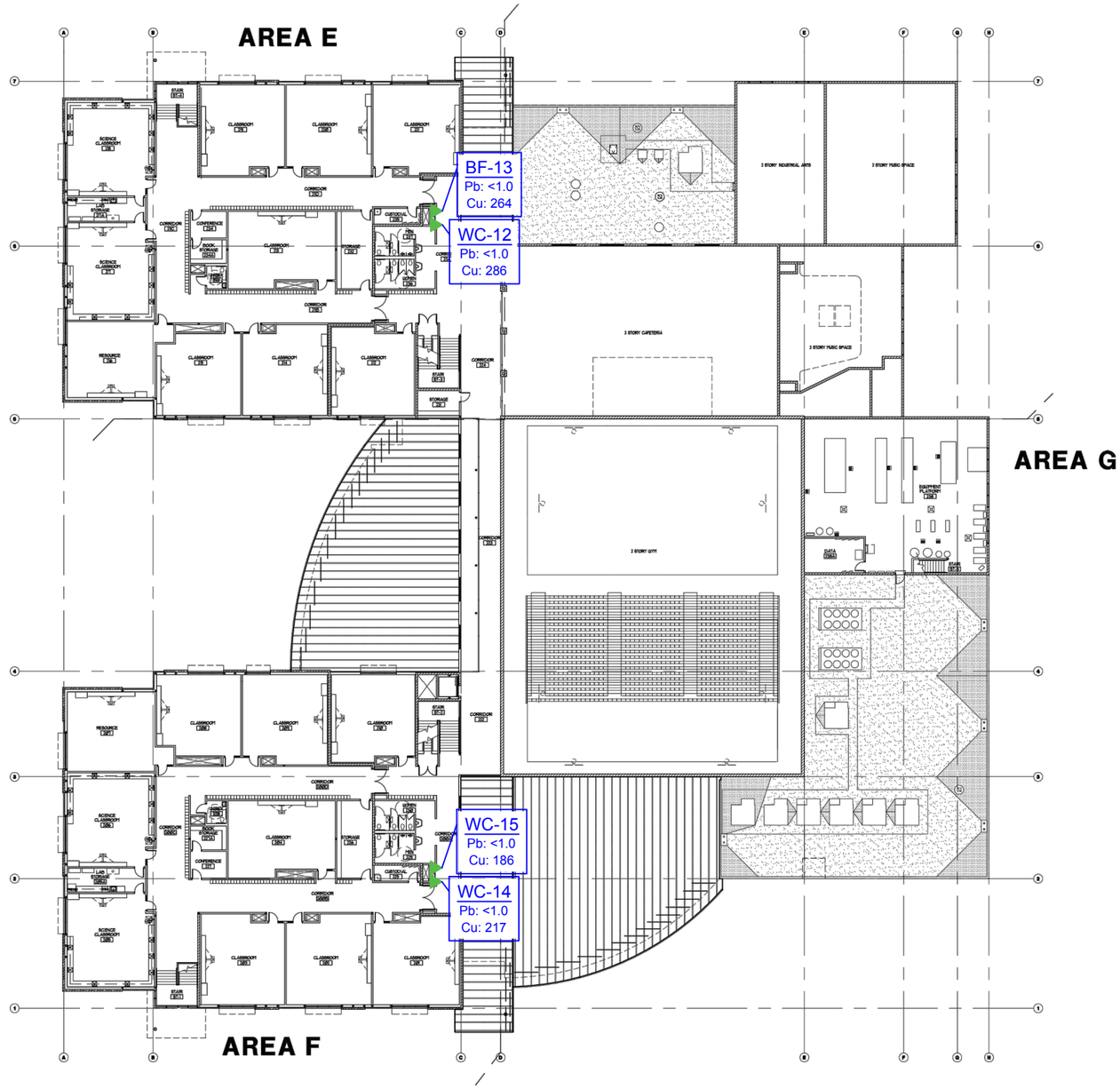
BF-## - Bottle filler fountain

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

Fulcrum Environmental Consulting, Inc.
406 North Second Street, Yakima, Washington 98901
p: 509.574.0839 f: 509.575.8453 efulcrum.net
Kennewick SD Drinking Water Sampling. 162017.00. AME. 10302017

Chinook Middle School
4891 West 27th Avenue
Kennewick, Washington

Sample Location Map - Second Floor

FIGURE
1-B

FULCRUM environmental consulting

ATTACHMENT B

Site-Specific Sampling and Analysis Plan

P. 509.574.0839 F. 509.575.8453
406 North 2nd Street
Yakima, Washington 98901
efulcrum.net

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/Building: Chinook Middle School Address: 6011 West 10th Place, Kennewick, WA

☐ Elementary ☑ Middle School ☐ High School ☐ Administration

Date of Construction: 2017 Modernizations: _____

Fixture Type	Locations	Fixture Styles[1]	Samples	Ratio
Drinking fountain/water cooler (DF/WC)	12	2	12	100%
Kitchen Fixture (KF)	4	4	4	100%
Classroom faucet, including faucets in Food Labs and Life Sciences Classrooms (CF)	14	3	13	93%
Classroom drinking fountain at sink (CDF)	1	1	1	100%
Nurse's Office/Health Room (NF)	1	1	1	100%
Teacher's Lounges/Work Rooms (OF)	3	1	3	100%
TOTALS	**35**		**34**	**97%**

1 Fixture styles are approximate based on sampler's observations

Lead Sampler: Amanda Enbysk Date: 4/7/2017

Sample Prefix: CHK – 4717 – P (first-draw) – _____ – 01-36

School Code *Date* *Sample Type* *Fixture Type* *Sample Number*

Laboratory: R. J. Lee Group, Columbia Basin Analytical Delivery Date: April 7, 2017

Comments:

P. 509.574.0839 F. 509.575.8453
406 North 2nd Street
Yakima, Washington 98901
efulcrum.net

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

P. 509.574.0839 F. 509.575.8453
406 North 2nd Street
Yakima, Washington 98901
efulcrum.net

Table 1: Initial Sampling Analytical Results

Sample Identification and Location	Fixture Type	Lead Results (µg/L)	Copper Results (µg/L)
CHK4717-P-KF-01: Kitchen, south wall vat fill hook	Kitchen Faucet	2	1,252
CHK4717-P-KF-02: Kitchen, vat fill center	Kitchen Faucet	2	353
CHK4717-P-KF-03: Kitchen, West wall food prep sink	**Kitchen Faucet**	2	**1,393**
CHK4717-P-KF-04: Kitchen, à la carte	**Kitchen Faucet**	<1.0	**1,637**
CHK4717-P-CDF-05: Band Room	**Classroom Drinking Fountain**	2	**2,919**
CHK4717-P-CF-06: Choir Room	**Classroom Faucet**	4	**1,414**
CHK4717-P-WC-07: Auxiliary Gym, left fixture	Water Cooler Fountain	<1.0	546
CHK4717-P-BF-08: Auxiliary gym, right fixture	Bottle Filler Fountain	<1.0	551
CHK4717-P-WC-09: Main gym, left fixture	Water Cooler Fountain	<1.0	118
CHK4717-P-WC-10: Main gym, right fixture	Water Cooler Fountain	<1.0	106
CHK4717-P-OF-11: Library Workroom	**Office Faucet**	<1.0	**1,922**
CHK4717-P-WC-12: Area E, 2nd floor, left	Water Cooler Fountain	<1.0	286
CHK4717-P-BF-13: Area E, 2nd floor, right	Bottle Filler Fountain	<1.0	264
CHK4717-P-WC-14: Area F, 2nd floor, left	Water Cooler Fountain	<1.0	217
CHK4717-P-WC-15: Area F, 2nd floor, right	Water Cooler Fountain	<1.0	186
CHK4717-P-CF-16: Room 109, leftmost fixture	**Classroom Faucet**	<1.0	**2,841**
CHK4717-P-CF-17: Room 109, left of center	**Classroom Faucet**	2	**2,256**
CHK4717-P-CF-18: Room 109, right of center	**Classroom Faucet**	5	**2,467**
CHK4717-P-CF-19: Room 109, rightmost fixture	**Classroom Faucet**	3	**2,302**
CHK4717-P-KF-20: Room 104, east wall	**Classroom Faucet**	<1.0	**3,266**
CHK4717-P-KF-21: Room 104, north wall, right fixture	**Classroom Faucet**	8	**2,020**
CHK4717-P-KF-22: Room 104, north wall, left fixture	**Classroom Faucet**	5	**2,214**
CHK4717-P-KF-23; Room 104, west wall	**Classroom Faucet**	2	**2,119**
CHK4717-P-CF-24: Room 103, right fixture	**Classroom Faucet**	<1.0	**2,017**
CHK4717-P-CF-25: Room 103 left fixture	**Classroom Faucet**	6	**1,553**
CHK4717-P-KF-26: Room 102, left fixture	**Classroom Faucet**	2	**2,016**
CHK4717-P-KF-27: Room 102, right fixture	**Classroom Faucet**	7	**1,668**
CHK4717-P-OF-28: Faculty Breakroom	**Office Faucet**	<1.0	**1,645**
CHK4717-P-WC-29: Main Entrance, left fixture	Water Cooler Fountain	<1.0	349
CHK4717-P-WC-30: Main Entrance, right fixture	Water Cooler Fountain	<1.0	354
CHK4717-P-WC-31: South Entrance, left fixture	**Water Cooler Fountain**	<1.0	**1,836**
CHK4717-P-BF-32: South Entrance, right fixture	Bottle Filler Fountain	<1.0	355
CHK4717-P-NF-33: Health Room/Nurse's Office	**Nurses Faucet**	<1.0	**2,075**
CHK4717-P-OF-34: Main Office, Conference Room	**Office Faucet**	<1.0	**1,683**
CHK4717-P-WC-35: Laboratory Blank	*Distilled Water Blank*	*<1.0*	*<10*
CHK4717-P-WC-36: Laboratory Spike	*Lead and Copper Spike*	*15*	*1,339*
EPA Action Level		**15**	**1,300**

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

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

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

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

P. 509.574.0839 F. 509.575.8453
406 North 2nd Street
Yakima, Washington 98901
efulcrum.net

Table 2: pH and Temperature Data Summary

Sample Identification and Location	Fixture Type	pH Flush	Temperature Flush(°C)	pH Sample	Temperature Sample(°C)
CHK4717-P-KF-04: Kitchen, à la carte	Kitchen Faucet	7.48	21.0	7.65	21.9
CHK4717-P-BF-08: Auxiliary gym, right fixture	Bottle Filler Fountain	7.46	20.6	7.62	18.7
CHK4717-P-OF-11: Library Workroom	Office Faucet	7.54	20.8	7.52	20.0
CHK4717-P-CF-16: Room 109, leftmost fixture	Classroom Faucet	7.52	23.6	7.49	21.1
CHK4717-P-KF-20: Room 104, east wall	Classroom Faucet	7.58	24.4	7.73	21.6
CHK4717-P-CF-24: Room 103, right fixture	Classroom Faucet	7.63	23.8	7.82	21.0
CHK4717-P-OF-28: Faculty Breakroom	Office Faucet	7.68	24.3	7.8	21.4
CHK4717-P-BF-32: South Entrance, right fixture	Bottle Filler Fountain	7.76	20.9	7.58	21.0

P. 509.574.0839 F. 509.575.8453
406 North 2nd Street
Yakima, Washington 98901
efulcrum.net

Sampling Event	Sample Identification																						
	KF-03	KF-04	CDF-05	CF-06	OF-11	CF-16	CF-17	CF-18	CF-19	KF-20	KF-21	KF-22	KF-23	CF-24	CF-25	KF-26	KF-27	OF-28	WC-31	NF-33	OF-34	*Laboratory Blank (-35)*	*Laboratory Spike (-36)*
Initial (4/7/2017)	**1,393**	**1,637**	**2,919**	**1,414**	**1,922**	**2,841**	**2,256**	**2,467**	**2,302**	**3,266**	**2,020**	**2,214**	**2,119**	**2,017**	**1,553**	**2,016**	**1,668**	**1,645**	**1,836**	**2,075**	**1,683**	*<1.00*	*1,339*
Aggressive Flush (5/20/2017)	661	885	680	**3,380**	657	1,010	1,150	1,090	1,100	**1,320**	1,270	1,070	1,030	**1,550**	1,100	874	1,140	899	**1,640**	807	**1,460**	*4.70*	*1,300*
Filter Installation (8/15/2017)	-	-	-	173	-	-	-	-	-	86	-	-	-	409	-	-	-	-	74.7	-	295	*<0.500*	*1,400*
EPA Action Level	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**

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

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

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

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

FULCRUM environmental consulting

ATTACHMENT D

Initial Analytical Results

P. 509.574.0839 F. 509.575.8453
406 North 2nd Street
Yakima, Washington 98901
efulcrum.net

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 36 sample(s) on 04/07/17 for analysis. These sample(s) have been assigned a login order number of W704042. 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 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 initially analyzed at a 1:10 dilution.

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:

04/21/17

Project Coordinator II, M. Fernanda Pincheira — Date

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

RJ LEE GROUP

Ryan Mathews
Fulcrum Environmental

406 N. 2nd St.
Yakima, WA 98901

Client Project:No Project

Laboratory Report

RJ Lee Group No.: W704042
COC No.: 162017
Samples Received: 04/07/17
Analysis/Prep Date: 04/20/17
Report Date: 04/21/17

Sample Name: CHK4717-P-KF-01 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-01 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	1.252	0.100	100	D
Lead	EPA 200.8	0.002	0.001	10	D

Sample Name: CHK4717-P-KF-02 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-02 **Matrix:** Potable Water **Date Analyzed:** 04/19/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	0.353	0.010	10	D
Lead	EPA 200.8	0.002	0.001	10	D

Sample Name: CHK4717-P-KF-03 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-03 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	1.393	0.100	100	D
Lead	EPA 200.8	0.002	0.001	10	D

Sample Name: CHK4717-P-KF-04 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-04 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	1.637	0.100	100	D
Lead	EPA 200.8	< 0.001	0.001	10	D

Sample Name: CHK4717-P-CDF-05 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-05 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	2.919	0.100	100	D
Lead	EPA 200.8	0.002	0.001	10	D

RJ LEE GROUP

Sample Name: CHK4717-P-CF-06 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-06 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	1.414	0.100	100	D
Lead	EPA 200.8	0.004	0.001	10	D

Sample Name: CHK4717-P-WC-07 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-07 **Matrix:** Potable Water **Date Analyzed:** 04/19/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	0.546	0.010	10	D
Lead	EPA 200.8	< 0.001	0.001	10	D

Sample Name: CHK4717-P-BF-08 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-08 **Matrix:** Potable Water **Date Analyzed:** 04/19/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	0.551	0.010	10	D
Lead	EPA 200.8	< 0.001	0.001	10	D

Sample Name: CHK4717-P-WC-09 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-09 **Matrix:** Potable Water **Date Analyzed:** 04/19/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	0.118	0.010	10	D
Lead	EPA 200.8	< 0.001	0.001	10	D

Sample Name: CHK4717-P-WC-10 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-10 **Matrix:** Potable Water **Date Analyzed:** 04/19/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	0.106	0.010	10	D
Lead	EPA 200.8	< 0.001	0.001	10	D

Sample Name: CHK4717-P-OF-11 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-11 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	1.922	0.100	100	D
Lead	EPA 200.8	< 0.001	0.001	10	D

RJ LEE GROUP

Sample Name: CHK4717-P-WC-12 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-12 **Matrix:** Potable Water **Date Analyzed:** 04/19/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	0.286	0.010	10	D
Lead	EPA 200.8	< 0.001	0.001	10	D

Sample Name: CHK4717-P-BF-13 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-13 **Matrix:** Potable Water **Date Analyzed:** 04/19/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	0.264	0.010	10	D
Lead	EPA 200.8	< 0.001	0.001	10	D

Sample Name: CHK4717-P-WC-14 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-14 **Matrix:** Potable Water **Date Analyzed:** 04/19/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	0.217	0.010	10	D
Lead	EPA 200.8	< 0.001	0.001	10	D

Sample Name: CHK4717-P-WC-15 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-15 **Matrix:** Potable Water **Date Analyzed:** 04/19/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	0.186	0.010	10	D
Lead	EPA 200.8	< 0.001	0.001	10	D

Sample Name: CHK4717-P-CF-16 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-16 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	2.841	0.100	100	D
Lead	EPA 200.8	< 0.001	0.001	10	D

Sample Name: CHK4717-P-CF-17 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-17 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	2.256	0.100	100	D
Lead	EPA 200.8	0.002	0.001	10	D

RJ LEE GROUP

Sample Name: CHK4717-P-CF-18 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-18 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	2.467	0.100	100	D
Lead	EPA 200.8	0.005	0.001	10	D

Sample Name: CHK4717-P-CF-19 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-19 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	2.302	0.100	100	D
Lead	EPA 200.8	0.003	0.001	10	D

Sample Name: CHK4717-P-KF-20 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-20 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	3.266	0.100	100	D
Lead	EPA 200.8	< 0.001	0.001	10	D

Sample Name: CHK4717-P-KF-21 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-21 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	2.020	0.100	100	D
Lead	EPA 200.8	0.008	0.001	10	D

Sample Name: CHK4717-P-KF-22 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-22 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	2.214	0.100	100	D
Lead	EPA 200.8	0.005	0.001	10	D

Sample Name: CHK4717-P-KF-23 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-23 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	2.119	0.100	100	D
Lead	EPA 200.8	0.002	0.001	10	D

RJ LEE GROUP

Sample Name: CHK4717-P-CF-24 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-24 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	2.017	0.100	100	D
Lead	EPA 200.8	< 0.001	0.001	10	D

Sample Name: CHK4717-P-CF-25 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-25 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	1.553	0.100	100	D
Lead	EPA 200.8	0.006	0.001	10	D

Sample Name: CHK4717-P-KF-26 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-26 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	2.016	0.100	100	D
Lead	EPA 200.8	0.002	0.001	10	D

Sample Name: CHK4717-P-KF-27 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-27 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	1.668	0.100	100	D
Lead	EPA 200.8	0.007	0.001	10	D

Sample Name: CHK4717-P-OF-28 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-28 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	1.645	0.100	100	D
Lead	EPA 200.8	< 0.001	0.001	10	D

Sample Name: CHK4717-P-WC-29 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-29 **Matrix:** Potable Water **Date Analyzed:** 04/19/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	0.349	0.010	10	D
Lead	EPA 200.8	< 0.001	0.001	10	D

RJ LEE GROUP

Sample Name: CHK4717-P-WC-30 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-30 **Matrix:** Potable Water **Date Analyzed:** 04/19/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	0.354	0.010	10	D
Lead	EPA 200.8	< 0.001	0.001	10	D

Sample Name: CHK4717-P-WC-31 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-31 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	1.836	0.100	100	D
Lead	EPA 200.8	< 0.001	0.001	10	D

Sample Name: CHK4717-P-BF-32 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-32 **Matrix:** Potable Water **Date Analyzed:** 04/19/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	0.355	0.010	10	D
Lead	EPA 200.8	< 0.001	0.001	10	D

Sample Name: CHK4717-P-NF-33 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-33 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	2.075	0.100	100	D
Lead	EPA 200.8	< 0.001	0.001	10	D

Sample Name: CHK4717-P-OF-34 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-34 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	1.683	0.100	100	D
Lead	EPA 200.8	< 0.001	0.001	10	D

Sample Name: CHK4717-P-WC-35 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-35 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	< 0.010	0.010	10	D
Lead	EPA 200.8	< 0.001	0.001	10	D

RJ LEE GROUP

Sample Name: CHK4717-P-WC-36 **Date Received:** 04/07/17
RJ Lee Grp. ID: W704042-36 **Matrix:** Potable Water **Date Analyzed:** 04/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Dilution Factor	Qualifiers
Copper	EPA 200.8	1.339	0.100	100	D
Lead	EPA 200.8	0.015	0.001	10	D

Report Qualifiers:

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

Scientist II DeNomy Dage

W704042

Request for Environmental and IH Laboratory Analytical Services

18.4°C

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: RYAN MATHEWS		
	Company: Fulcrum Environmental Consulting		
	Address: 406 N 2nd Street		
	City, State, Zip: Yakima, WA, 98901		
	Phone: (509) 574-0839	Fax: (509) 575-8453	
	Call with Verbal Results:		
	Email Results To: rmathews@efulcrum.net, cc: aenbysk@efulcrum.net		
	Fax Results To:		
Send Invoice To	Name:		
	Company: Kennewick School District	Email:	
	Address:		
	City, State, Zip: Kennewick, WA		
	Phone:	Fax:	
Special Instructions			

Turnaround Request: Standard: Yes / No — If 'No,' No. of Business Days:

Drinking Water Sample Only: Sample Purpose: Information X, Regulatory □, Accreditation (please list below): | System ID #: | DOH Source #: | Multiple Sources #s: | Sample Purpose: A □ B □ Other □

Chemistry Analysis Key

Preservation:		Matrix:		Container:
Unpres	H_2SO_4	WW=Wastewater	SW=Surface Water	P=Plastic
4°C	HCl	GW=Groudwater	DW=Drinking Water	G=Glass
HNO_3	NaOH	S=Soil/Sludge	O=Oil	W=Wipe
Other	Na_2SO_4	E=Extract	X=Other	A=Air (filter or tube)

Client Sample ID	Sample Description	Sample Date	Sample Time Start	Sample Time Stop	Wipe Area / Air Volume	Analysis Requested: EPA 200.8, Pb and Cu	Pres. Upon Receipt (Y/N)	Preservation	Matrix	Container Type	pH	No. Containers
CHK4717-P-KF-01	vat fill hook on S wall Kitchen	4/7/17	0900			X	N		DW	PE		
CHK4717-P-KF-02	Kitchen, vat fill center											
CHK4717-P-KF-03	Kitchen, west wall food prep											
CHK4717-P-KF-04	a la carte food prep											
CHK4717-P-CF-05	Band room drink. fountain											
CHK4717-P-CF-06	Choir room faucet											
CHK4717-P-WC-07	Auxiliary gym, left											
CHK4717-P-BF-08	Auxiliary gym, BF (right)											
CHK4717-P-WC-09	main gym, left											
CHK4717-P-WC-10	Main gym, right											
CHK4717-P-OF-11	Library office											

Chain of Custody	Relinquished By (Signature):	Date: 4/7/17	Time: 1050	Received By (Signature):	Date: 04/07/17 Time: 10:50
	Relinquished By (Print Name): Amanda Enbysk	Relinquished To:		Received By (Print Name): Anna Wehle	Relinquished To:
	Company Name: Fulcrum Environmental	Method of Shipment:		Company Name: RJ Lee Group	Method of Shipment:
Chain of Custody	Relinquished By (Signature):	Date:	Time:	Received By (Signature):	Date: Time:
	Relinquished By (Print Name):	Relinquished To:		Received By (Print Name):	Relinquished To:
	Company Name:	Method of Shipment:		Company Name:	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**

RJ LEE GROUP
DELIVERING SCIENTIFIC RESOLUTION

W704042

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: | Date Logged In: | Logged In By:

Turnaround Request — Standard: Yes (No) | If 'No,' No. of Business Days:

Report Results To
- Name: RYAN MATHEWS
- Company: Fulcrum Environmental Consulting
- Address: 406 N 2nd Street
- City, State, Zip: Yakima, WA, 98901
- Phone: (509) 574-0839 Fax: (509) 575-8453
- Call with Verbal Results:
- Email Results To: rmathews@efulcrum.net, cc: aenbysk@efulcrum.net
- Fax Results To:

Drinking Water Sample Only
- Sample Purpose: Information ☐ Regulatory ☐ Accreditation (please list below):
- System ID #:
- DOH Source #:
- Multiple Sources #s:
- Sample Purpose: A ☐ B ☐ Other ☐

Send Invoice To
- Name:
- Company: Kennewick School District Email:
- Address:
- City, State, Zip: Kennewick, WA
- Phone: Fax:

Special Instructions

Chemistry Analysis Key

Preservation: (Unpres) H_2SO_4 | 4°C | HCl | HNO_3 | NaOH | Other | Na_2SO_4

Matrix: WW=Wastewater, GW=Groudwater, S=Soil/Sludge, E=Extract, SW=Surface Water, DW=Drinking Water, O=Oil, X=Other

Container: P=Plastic, G=Glass, W=Wipe, A=Air (filter or tube)

Client Sample ID	Sample Description	Sample Date	Sample Time Start	Sample Time Stop	Wipe Area / Air Volume	Analysis Requested: EPA 200.8, Pb and Cu	Pres. Upon Receipt (Y/N)	Preservation	Matrix	Container Type	pH	No. Containers
CHK4717-P-WC-12	2nd floor S(AreaE), left	4/7/17	0900			X	N		DW	PE		
CHK4717-P-BF-13	2nd floor (AreaE), BF right											
CHK4717-P-WC-14	2nd floor, AreaF left											
CHK4717-P-BF-15	2nd floor, AreaF BF right											
CHK4717-P-CF-16	Room 109, westernmost											
CHK4717-P-CF-17	Room 109, west of center											
CHK4717-P-CF-18	Room 109, east of center											
CHK4717-P-CF-19	Room 109, easternmost											
CHK4717-P-KF-20	Room 104, E wall											
CHK4717-P-KF-21	Room 104, N wall E first.											
CHK4717-P-KF-22	Room 104, N. wall, W.											

Chain of Custody
- Relinquished By (Signature): [signature] Date: 4/7/17 Time: 1050
- Relinquished By (Print Name): Amanda Enbysk Relinquished To:
- Company Name: Fulcrum Environmental Method of Shipment:

Chain of Custody
- Received By (Signature): [signature] Date: 4/07/17 Time: 10:50
- Received By (Print Name): Anna Wehe Relinquished To:
- Company Name: RJ Lee Group Method of Shipment:

Chain of Custody
- Relinquished By (Signature): Date: Time:
- Relinquished By (Print Name): Relinquished To:
- Company Name: Method of Shipment:

Chain of Custody
- Received By (Signature): Date: Time:
- Received By (Print Name): Relinquished To:
- Company Name: Method of Shipment:

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**

RJ LEE GROUP
DELIVERING SCIENTIFIC RESOLUTION

W704042

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:
Date Logged In: | Logged In By:

Report Results To
Name: RYAN MATHEWS
Company: Fulcrum Environmental Consulting
Address: 406 N 2nd Street
City, State, Zip: Yakima, WA, 98901
Phone: (509) 574-0839 Fax: (509) 575-8453
Call with Verbal Results:
Email Results To: rmathews@efulcrum.net, cc: aenbysk@efulcrum.net
Fax Results To:

Send Invoice To
Name:
Company: Kennewick School District Email:
Address:
City, State, Zip: Kennewick, WA
Phone: Fax:

Special Instructions

Turnaround Request
Standard: Yes No If 'No,' No. of Business Days:

Drinking Water Sample Only
Sample Purpose: Information □ Regulatory □ Accreditation (please list below):
System ID #:
DOH Source #:
Multiple Sources #s:
Sample Purpose: A □ B □ Other □

Chemistry Analysis Key
Preservation: Unpres, 4 °C, HNO_3, Other; H_2SO_4, HCl, NaOH, Na_2SO_4
Matrix: WW=Wastewater, GW=Groudwater, S=Soil/Sludge, E=Extract, SW=Surface Water, DW=Drinking Water, O=Oil, X=Other
Container: P=Plastic, G=Glass, W=Wipe, A=Air (filter or tube)

Client Sample ID	Sample Description	Sample Date	Sample Time Start	Sample Time Stop	Wipe Area / Air Volume	Analysis Requested: EPA 200.8, Pb and Cu	Pres. Upon Receipt (Y/N)	Preservation	Matrix	Container Type	pH	No. Containers
CHK4717-P-KF-23	Room 104, west wall	4/7/17	0900			X	Y		PW	P		
CHK4717-P-CF-24	Room 103, S. fixture											
CHK4717-P-CF-25	Room 103, N. fixture											
CHK4717-P-KF-26	Room 102, S. fixture											
CHK4717-P-KF-27	Room 102, N. fixture											
CHK4717-P-OF-28	Faculty breakroom, Area C											
CHK4717-P-WC-29	Main entrance, left											
CHK4717-P-WC-30	Main entrance, right											
CHK4717-P-WC-31	S. entrance, left											
CHK4717-P-BF-32	S. entrance, right BF											
CHK4717-P-NF-33	Health/nurse's office											

Chain of Custody
Relinquished By (Signature): Amanda M Erbysk | Date: 4/7/17 | Time: 1050
Relinquished By (Print Name): Amanda Erbysk | Relinquished To:
Company Name: Fulcrum Environmental | Method of Shipment:

Chain of Custody
Received By (Signature): Ryan Wade | Date: 04/07/17 | Time: 10:50
Received By (Print Name): Anna Hoehn | Relinquished To:
Company Name: RJ Lee Group | Method of Shipment:

Chain of Custody
Relinquished By (Signature): | Date: | Time:
Relinquished By (Print Name): | Relinquished To:
Company Name: | Method of Shipment:

Chain of Custody
Received By (Signature): | Date: | Time:
Received By (Print Name): | Relinquished To:
Company Name: | Method of Shipment:

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**

RJ LEE GROUP
DELIVERING SCIENTIFIC RESOLUTION

W704042

Request for Environmental and IH Laboratory Analytical Services

ATTENTION TO:

Purchase Order No.:

Client Job No.:

Lab Use Only
Project No.: Client No:
Date Logged In: Logged In By:

Turnaround Request
Standard: Yes No If 'No,' No. of Business Days:

Report Results To
Name: RYAN MATHEWS
Company: Fulcrum Environmental Consulting
Address: 406 N 2nd Street
City, State, Zip: Yakima, WA, 98901
Phone: (509) 574-0839 Fax: (509) 575-8453
Call with Verbal Results:
Email Results To: rmathews@efulcrum.net, cc: aenbysk@efulcrum.net
Fax Results To:

Drinking Water Sample Only
Sample Purpose: Information □ Regulatory □ Accreditation (please list below):
System ID #:
DOH Source #:
Multiple Sources #s:
Sample Purpose: A □ B □ Other □

Send Invoice To
Name:
Company: Kennewick School District Email:
Address:
City, State, Zip: Kennewick, WA
Phone: Fax:

Chemistry Analysis Key

Preservation:		Matrix:		Container:
Unpres	H_2SO_4	WW=Wastewater	SW=Surface Water	P=Plastic
4°C	HCl	GW=Groudwater	DW=Drinking Water	G=Glass
HNO_3	NaOH	S=Soil/Sludge	O=Oil	W=Wipe
Other	Na_2SO_4	E=Extract	X=Other	A=Air (filter or tube)

Special Instructions

Client Sample ID	Sample Description	Sample Date	Sample Time Start	Sample Time Stop	Wipe Area / Air Volume	Analysis Requested: EPA 200.8, Pb and Cu	Pres. Upon Receipt (Y/N)	Preservation	Matrix	Container Type	pH	No. Containers
CHK4717-P-OF-34	Main office, conference room	4/7/17	0906			X	N		aw	P		
CHK4717-P-WC-35	2nd floor, staff breakroom	↓	↓			↓	↓		↓	↓		
CHK4717-P-WC-36	2nd floor, room 201	↓	↓			↓	↓		↓	↓		

Chain of Custody
Relinquished By (Signature): Date: 4/7/17 Time: 1050
Relinquished By (Print Name): Amanda Enbysk Relinquished To:
Company Name: Fulcrum Environmental Method of Shipment:

Chain of Custody
Received By (Signature): Date: 04/07/17 Time: 10:50
Received By (Print Name): Anna Weeks Relinquished To:
Company Name: RJ Lee Group Method of Shipment:

Chain of Custody
Relinquished By (Signature): Date: Time:
Relinquished By (Print Name): Relinquished To:
Company Name: Method of Shipment:

Chain of Custody
Received By (Signature): Date: Time:
Received By (Print Name): Relinquished To:
Company Name: Method of Shipment:

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**

RJ LEE GROUP
DELIVERING SCIENTIFIC RESOLUTION

FULCRUM environmental consulting

ATTACHMENT E

Remedial Analytical Results

P. 509.574.0839 F. 509.575.8453
406 North 2nd Street
Yakima, Washington 98901
efulcrum.net

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-Chinook MS
Work Order Number: 1705257

May 22, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 31 sample(s) on 5/22/2017 for the analyses presented in the following report.

Drinking Water Metals by EPA Method 200.8

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward
Project Manager

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water-Chinook MS
Work Order: 1705257

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1705257-001	CHK52017-P-KF-03	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-002	CHK52017-P-KF-04	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-003	CHK52017-S-KF-04	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-004	CHK52017-T-KF-04	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-005	CHK52017-P-CDF-05	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-006	CHK52017-P-CF-06	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-007	CHK52017-P-OF-11	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-008	CHK52017-S-OF-11	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-009	CHK52017-T-OF-11	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-010	CHK52017-P-CF-16	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-011	CHK52017-P-CF-17	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-012	CHK52017-P-CF-18	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-013	CHK52017-P-CF-19	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-014	CHK52017-P-KF-20	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-015	CHK52017-S-KF-20	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-016	CHK52017-T-KF-20	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-017	CHK52017-P-KF-21	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-018	CHK52017-P-KF-22	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-019	CHK52017-P-KF-23	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-020	CHK52017-P-CF-24	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-021	CHK52017-P-CF-25	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-022	CHK52017-P-KF-26	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-023	CHK52017-P-KF-27	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-024	CHK52017-P-OF-28	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-025	CHK52017-P-WC-31	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-026	CHK52017-P-NF-33	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-027	CHK52017-P-OF-34	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-028	CHK52017-S-OF-34	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-029	CHK52017-T-OF-34	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-030	CHK52017-P-WC-35	05/20/2017 8:30 AM	05/22/2017 9:56 AM
1705257-031	CHK52017-P-WC-36	05/20/2017 8:30 AM	05/22/2017 9:56 AM

Case Narrative

WO#: **1705257**
Date: **5/22/2017**

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water-Chinook MS

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:
1705257-001A 220412: Prep Comments for EPA200.8, Sample 1705257-001A: Turbidity: 0.03 NTU
1705257-002A 220413: Prep Comments for EPA200.8, Sample 1705257-002A: Turbidity: 0.01 NTU
1705257-005A 220414: Prep Comments for EPA200.8, Sample 1705257-005A: Turbidity: 0.16 NTU
1705257-006A 220415: Prep Comments for EPA200.8, Sample 1705257-006A: Turbidity: 0.23 NTU
1705257-007A 220416: Prep Comments for EPA200.8, Sample 1705257-007A: Turbidity: 0.25 NTU
1705257-010A 220417: Prep Comments for EPA200.8, Sample 1705257-010A: Turbidity: 0.13 NTU
1705257-011A 220418: Prep Comments for EPA200.8, Sample 1705257-011A: Turbidity: 0.19 NTU
1705257-012A 220419: Prep Comments for EPA200.8, Sample 1705257-012A: Turbidity: 0.06 NTU
1705257-013A 220420: Prep Comments for EPA200.8, Sample 1705257-013A: Turbidity: 0.08 NTU
1705257-014A 220421: Prep Comments for EPA200.8, Sample 1705257-014A: Turbidity: 0.06 NTU
1705257-017A 220422: Prep Comments for EPA200.8, Sample 1705257-017A: Turbidity: 0.16 NTU
1705257-018A 220423: Prep Comments for EPA200.8, Sample 1705257-018A: Turbidity: 0.27 NTU
1705257-019A 220426: Prep Comments for EPA200.8, Sample 1705257-019A: Turbidity: 0.12 NTU
1705257-020A 220430: Prep Comments for EPA200.8, Sample 1705257-020A: Turbidity: 0.18 NTU
1705257-021A 220431: Prep Comments for EPA200.8, Sample 1705257-021A: Turbidity: 0.22 NTU
1705257-022A 220432: Prep Comments for EPA200.8, Sample 1705257-022A: Turbidity: 0.30 NTU
1705257-023A 220433: Prep Comments for EPA200.8, Sample 1705257-023A: Turbidity: 0.13 NTU
1705257-024A 220434: Prep Comments for EPA200.8, Sample 1705257-024A: Turbidity: 0.59 NTU
1705257-025A 220435: Prep Comments for EPA200.8, Sample 1705257-025A: Turbidity: 0.33 NTU
1705257-026A 220436: Prep Comments for EPA200.8, Sample 1705257-026A: Turbidity: 0.81 NTU
1705257-027A 220437: Prep Comments for EPA200.8, Sample 1705257-027A: Turbidity: 0.26 NTU
1705257-030A 220438: Prep Comments for EPA200.8, Sample 1705257-030A: Turbidity: 0.01 NTU
1705257-031A 220439: Prep Comments for EPA200.8, Sample 1705257-031A: Turbidity: 0.01 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-Chinook MS

Lab ID: 1705257-001 **Collection Date:** 5/20/2017 8:30:00 AM
Client Sample ID: **CHK52017-P-KF-03** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17121		Analyst: TN
Copper	661	0.500		µg/L	1	5/22/2017 11:56:44 AM

Lab ID: 1705257-002 **Collection Date:** 5/20/2017 8:30:00 AM
Client Sample ID: **CHK52017-P-KF-04** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17121		Analyst: TN
Copper	885	0.500		µg/L	1	5/22/2017 12:00:46 PM

Lab ID: 1705257-005 **Collection Date:** 5/20/2017 8:30:00 AM
Client Sample ID: **CHK52017-P-CDF-05** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17121		Analyst: TN
Copper	680	0.500		µg/L	1	5/22/2017 12:04:47 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water-Chinook MS

Lab ID: 1705257-006 **Collection Date:** 5/20/2017 8:30:00 AM
Client Sample ID: **CHK52017-P-CF-06** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17121		Analyst: TN
Copper	3,380	0.500		µg/L	1	5/22/2017 12:08:49 PM

Lab ID: 1705257-007 **Collection Date:** 5/20/2017 8:30:00 AM
Client Sample ID: **CHK52017-P-OF-11** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17121		Analyst: TN
Copper	657	0.500		µg/L	1	5/22/2017 12:12:50 PM

Lab ID: 1705257-010 **Collection Date:** 5/20/2017 8:30:00 AM
Client Sample ID: **CHK52017-P-CF-16** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17121		Analyst: TN
Copper	1,010	0.500		µg/L	1	5/22/2017 12:24:57 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water-Chinook MS

Lab ID: 1705257-011 **Collection Date:** 5/20/2017 8:30:00 AM
Client Sample ID: **CHK52017-P-CF-17** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17121		Analyst: TN
Copper	1,150	0.500		µg/L	1	5/22/2017 12:28:58 PM

Lab ID: 1705257-012 **Collection Date:** 5/20/2017 8:30:00 AM
Client Sample ID: **CHK52017-P-CF-18** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17121		Analyst: TN
Copper	1,090	0.500		µg/L	1	5/22/2017 12:32:59 PM

Lab ID: 1705257-013 **Collection Date:** 5/20/2017 8:30:00 AM
Client Sample ID: **CHK52017-P-CF-19** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17121		Analyst: TN
Copper	1,100	0.500		µg/L	1	5/22/2017 12:37:01 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water-Chinook MS

Lab ID: 1705257-014 **Collection Date:** 5/20/2017 8:30:00 AM
Client Sample ID: **CHK52017-P-KF-20** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17121		Analyst: TN
Copper	1,320	0.500		µg/L	1	5/22/2017 12:41:02 PM

Lab ID: 1705257-017 **Collection Date:** 5/20/2017 8:30:00 AM
Client Sample ID: **CHK52017-P-KF-21** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17121		Analyst: TN
Copper	1,270	0.500		µg/L	1	5/22/2017 12:45:03 PM

Lab ID: 1705257-018 **Collection Date:** 5/20/2017 8:30:00 AM
Client Sample ID: **CHK52017-P-KF-22** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17121		Analyst: TN
Copper	1,070	0.500		µg/L	1	5/22/2017 12:49:05 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water-Chinook MS

Lab ID: 1705257-019 **Collection Date:** 5/20/2017 8:30:00 AM
Client Sample ID: **CHK52017-P-KF-23** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17128		Analyst: TN
Copper	1,030	0.500		µg/L	1	5/22/2017 3:50:32 PM

Lab ID: 1705257-020 **Collection Date:** 5/20/2017 8:30:00 AM
Client Sample ID: **CHK52017-P-CF-24** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17128		Analyst: TN
Copper	1,550	0.500		µg/L	1	5/22/2017 4:06:36 PM

Lab ID: 1705257-021 **Collection Date:** 5/20/2017 8:30:00 AM
Client Sample ID: **CHK52017-P-CF-25** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17128		Analyst: TN
Copper	1,100	0.500		µg/L	1	5/22/2017 4:10:37 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water-Chinook MS

Lab ID: 1705257-022 **Collection Date:** 5/20/2017 8:30:00 AM
Client Sample ID: **CHK52017-P-KF-26** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17128		Analyst: TN
Copper	874	0.500		µg/L	1	5/22/2017 4:14:38 PM

Lab ID: 1705257-023 **Collection Date:** 5/20/2017 8:30:00 AM
Client Sample ID: **CHK52017-P-KF-27** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17128		Analyst: TN
Copper	1,140	0.500		µg/L	1	5/22/2017 4:18:39 PM

Lab ID: 1705257-024 **Collection Date:** 5/20/2017 8:30:00 AM
Client Sample ID: **CHK52017-P-OF-28** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17128		Analyst: TN
Copper	899	0.500		µg/L	1	5/22/2017 4:30:45 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water-Chinook MS

Lab ID: 1705257-025 **Collection Date:** 5/20/2017 8:30:00 AM
Client Sample ID: **CHK52017-P-WC-31** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17128		Analyst: TN
Copper	1,640	0.500		µg/L	1	5/22/2017 4:34:47 PM

Lab ID: 1705257-026 **Collection Date:** 5/20/2017 8:30:00 AM
Client Sample ID: **CHK52017-P-NF-33** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17128		Analyst: TN
Copper	807	0.500		µg/L	1	5/22/2017 4:38:48 PM

Lab ID: 1705257-027 **Collection Date:** 5/20/2017 8:30:00 AM
Client Sample ID: **CHK52017-P-OF-34** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17128		Analyst: TN
Copper	1,460	0.500		µg/L	1	5/22/2017 4:42:49 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water-Chinook MS

Lab ID: 1705257-030 **Collection Date:** 5/20/2017 8:30:00 AM
Client Sample ID: **CHK52017-P-WC-35** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17128		Analyst: TN
Copper	4.70	0.500		µg/L	1	5/22/2017 4:46:51 PM

Lab ID: 1705257-031 **Collection Date:** 5/20/2017 8:30:00 AM
Client Sample ID: **CHK52017-P-WC-36** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17128		Analyst: TN
Copper	1,300	0.500		µg/L	1	5/22/2017 4:50:52 PM

Work Order: 1705257
CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water-Chinook MS

QC SUMMARY REPORT

Drinking Water Metals by EPA Method 200.8

Sample ID	**MB-17128**	SampType:	**MBLK**			Units:	**µg/L**		Prep Date:	**5/22/2017**		RunNo:	**36319**	
Client ID:	**MBLKW**	Batch ID:	**17128**						Analysis Date:	**5/22/2017**		SeqNo:	**696099**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		ND	0.500											

Sample ID	**LCS-17128**	SampType:	**LCS**			Units:	**µg/L**		Prep Date:	**5/22/2017**		RunNo:	**36319**	
Client ID:	**LCSW**	Batch ID:	**17128**						Analysis Date:	**5/22/2017**		SeqNo:	**696100**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		98.3	0.500	100.0	0	98.3	85	115						

Sample ID	**1705257-019ADUP**	SampType:	**DUP**			Units:	**µg/L**		Prep Date:	**5/22/2017**		RunNo:	**36319**	
Client ID:	**CHK52017-P-KF-23**	Batch ID:	**17128**						Analysis Date:	**5/22/2017**		SeqNo:	**696102**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		1,020	0.500						1,029	0.430	30			

Sample ID	**1705257-019AMS**	SampType:	**MS**			Units:	**µg/L**		Prep Date:	**5/22/2017**		RunNo:	**36319**	
Client ID:	**CHK52017-P-KF-23**	Batch ID:	**17128**						Analysis Date:	**5/22/2017**		SeqNo:	**696103**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		1,220	0.500	200.0	1,029	96.8	70	130						

Sample ID	**1705257-019AMSD**	SampType:	**MSD**			Units:	**µg/L**		Prep Date:	**5/22/2017**		RunNo:	**36319**	
Client ID:	**CHK52017-P-KF-23**	Batch ID:	**17128**						Analysis Date:	**5/22/2017**		SeqNo:	**696104**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		1,180	0.500	200.0	1,029	75.0	70	130	1,223	3.63	30			

Work Order: 1705257
CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water-Chinook MS

QC SUMMARY REPORT

Drinking Water Metals by EPA Method 200.8

Sample ID	**MB-17121**	SampType:	**MBLK**	Units:	**µg/L**	Prep Date:	**5/22/2017**	RunNo:	**36308**
Client ID:	**MBLKW**	Batch ID:	**17121**			Analysis Date:	**5/22/2017**	SeqNo:	**695842**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.500									

Sample ID	**LCS-17121**	SampType:	**LCS**	Units:	**µg/L**	Prep Date:	**5/22/2017**	RunNo:	**36308**
Client ID:	**LCSW**	Batch ID:	**17121**			Analysis Date:	**5/22/2017**	SeqNo:	**695843**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	101	0.500	100.0	0	101	85	115				

Sample ID	**1705251-001ADUP**	SampType:	**DUP**	Units:	**µg/L**	Prep Date:	**5/22/2017**	RunNo:	**36308**
Client ID:	**BATCH**	Batch ID:	**17121**			Analysis Date:	**5/22/2017**	SeqNo:	**695845**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	134	0.500						137.0	2.29	30	

Sample ID	**1705251-001AMS**	SampType:	**MS**	Units:	**µg/L**	Prep Date:	**5/22/2017**	RunNo:	**36308**
Client ID:	**BATCH**	Batch ID:	**17121**			Analysis Date:	**5/22/2017**	SeqNo:	**695846**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	343	0.500	200.0	137.0	103	70	130				

Sample ID	**1705251-001AMSD**	SampType:	**MSD**	Units:	**µg/L**	Prep Date:	**5/22/2017**	RunNo:	**36308**
Client ID:	**BATCH**	Batch ID:	**17121**			Analysis Date:	**5/22/2017**	SeqNo:	**695847**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	328	0.500	200.0	137.0	95.7	70	130	342.5	4.19	30	

Sample Log-In Check List

Client Name:	**FE**	Work Order Number:	**1705257**
Logged by:	**Erica Silva**	Date Received:	**5/22/2017 9:56:00 AM**

Chain of Custody

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

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: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

HNO3 to 003A, 004A, 008A, 009A, 015A, 016A, 018A, 019A

Item Information

Item #	Temp ºC
Cooler	6.4
Sample	6.0

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

Chain of Custody Record and Laboratory Services Agreement

Fremont Analytical

3600 Fremont Ave N. *Tel: 206-352-3790*
Seattle, WA 98103 *Fax: 206-352-7178*

Date: 5/20/2017 *Laboratory Project No (internal):* 1705257

Page: 1 of: 4

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

Project Name: Kennewick SD Drinking water - Chinook MS
Project No: 162017.28 **Collected by:** Amanda Enbysk
Location: Chinook Middle School, Kennewick, WA
Report To (PM): Ryan Mathews
PM Email: rmathews@efulcrum.net; cc: aenbysk@efulcrum.net

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

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T)	Dissolved (D)	Anions (IC)***	EDB (8011)		HNO_3 preserved	Comments
1 CHK52017-P-KF-03	5/20/2017	0830	DW									X							X	
2 CHK52017-P-KF-04												X							X	
3 CHK52017-S-KF-04																				HOLD; unpreserved
4 CHK52017-T-KF-04																				HOLD; unpreserved
5 CHK52017-P-COF-05												X							X	
6 CHK52017-P-CF-06												X							X	
7 CHK52017-P-OF-11												X							X	
8 CHK52017-S-OF-11																				HOLD; unpreserved
9 CHK52017-T-OF-11																				HOLD; unpreserved
10 CHK52017-P-CF-16												X							X	

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

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

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.)

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks: Please preserve all unpreserved

TAT: ASAP

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

Relinquished	Date/Time	Received	Date/Time
x [signature]	5/20/2017; 1200	x [signature]	5/22/2017 0956
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Fremont Analytical

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

Chain of Custody Record and Laboratory Services Agreement

Date: 5/20/2017

Laboratory Project No (internal): 1705257

Page: 2 of: 4

Client: Fulcrum Environmental Consulting

Address: 406 North Second Street

City, State, Zip: Yakima, WA, 98901

Telephone: 509.574.0839 Fax: 509.575.8453

Project Name: KSD Drinky water- Chinook MS

Project No: 162017.28

Collected by: Amanda Enbysk

Location: Chinook MS, Kennewick, WA

Report To (PM): Ryan Mathews

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

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

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)***	EDB (8011)	HNO3 preserved	Comments
1	CHK52017-P-CF-17	5/20/2017	0830	DW										⊗				⊗	
2	CHK52017-P-CF-18	↓	↓	↓										⊗				⊗	
3	CHK52017-P-CF-19	↓	↓	↓										⊗				⊗	
4	CHK52017-P-KF-20	↓	↓	↓										⊗				⊗	
5	CHK52017-S-KF-20	↓	↓	↓															HOLD; inapr.
6	CHK52017-T-KF-20	↓	↓	↓															↓
7	CHK52017-P-KF-21	↓	↓	↓										⊗				⊗	
8	CHK52017-P-KF-22	↓	↓	↓										⊗				⊗	
9	CHK52017-P-KF-23	↓	↓	↓										⊗				⊗	
10	CHK52017-P-CF-24	↓	↓	↓										⊗				⊗	

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

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

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.)

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks: see page 2

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

Relinquished	Date/Time	Received	Date/Time
x [signature]	5/20/2017; 1200	x [signature]	5/22/2017 0956
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

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

www.fremontanalytical.com

COC 1.1 - 4.5.16 - 1 of 2

Chain of Custody Record and Laboratory Services Agreement

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

Date: 5/20/2017

Laboratory Project No (internal): 1705257

Page: 3 of: 4

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

Project Name: KSD Drinking Water - Chinook MS
Project No: 162017.28 Collected by: Amanda Enbysk
Location: Chinook Middle School, Kennewick, WA
Report To (PM): Ryan Mathews
PM Email: rmathews@efulcrum.net; cc: aenbysk@efulcrum.net

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

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	HNO3 preserved	Comments
1	CHK52017-P-CF-25	5/20/2017	0830	DW									⊗					⊗	
2	CHK52017-P-KF-26												⊗					⊗	
3	CHK52017-P-KF-27												⊗					⊗	
4	CHK52017-P-OF-28												⊗					⊗	
5	CHK52017-P-WC-31												⊗					⊗	
6	CHK52017-P-NF-33												⊗					⊗	
7	CHK52017-P-OF-34												⊗					⊗	
8	CHK52017-S-OF-34																		HOLD; unpr.
9	CHK52017-T-OF-34																		↓
10	CHK52017-P-WC-35	↓	↓	↓									⊗					⊗	

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

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

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.)

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks: see page 1

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

Relinquished	Date/Time	Received	Date/Time
x [signature]	5/20/2017; 1200	x [signature]	5/22/2017 0956
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Chain of Custody Record and Laboratory Services Agreement

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

Date: 5/20/2017

Laboratory Project No (internal): 1705257

Page: 4 of: 4

Project Name: KSD Drinking Water - Chenook MS

Project No: 162017.28

Collected by: Amanda Enbysk

Location: Chenook Middle School, Kennewick, WA

Report To (PM): Ryan Mathews

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

Client: Fulcrum Environmental Consulting

Address: 406 North Second Street

City, State, Zip: Yakima, WA, 98901

Telephone: 509.574.0839 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)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	HNO3 preserved	Comments
1	CHK52017-P-WC-36	5/20/2017	0830	DW										⊗				⊗	
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

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

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

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.)

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks: See page 1

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

Relinquished	Date/Time	Received	Date/Time
x [signature]	5/20/2017; 1200	x [signature]	5/22/2017 0956
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

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

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

RE: KSD Drinking Water - Chinook MS
Work Order Number: 1708167

August 16, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 17 sample(s) on 8/16/2017 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: *08/16/2017*

CLIENT: Fulcrum Environmental
Project: KSD Drinking Water - Chinook MS
Work Order: 1708167

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1708167-001	CHK81517-P-CF-06	08/15/2017 7:30 AM	08/16/2017 9:26 AM
1708167-002	CHK81517-S-CF-06	08/15/2017 7:30 AM	08/16/2017 9:26 AM
1708167-003	CHK81517-T-CF-06	08/15/2017 7:30 AM	08/16/2017 9:26 AM
1708167-004	CHK81517-P-KF-20	08/15/2017 7:30 AM	08/16/2017 9:26 AM
1708167-005	CHK81517-S-KF-20	08/15/2017 7:30 AM	08/16/2017 9:26 AM
1708167-006	CHK81517-T-KF-20	08/15/2017 7:30 AM	08/16/2017 9:26 AM
1708167-007	CHK81517-P-CF-24	08/15/2017 7:30 AM	08/16/2017 9:26 AM
1708167-008	CHK81517-S-CF-24	08/15/2017 7:30 AM	08/16/2017 9:26 AM
1708167-009	CHK81517-T-CF-24	08/15/2017 7:30 AM	08/16/2017 9:26 AM
1708167-010	CHK81517-P-WC-31	08/15/2017 7:30 AM	08/16/2017 9:26 AM
1708167-011	CHK81517-S-WC-31	08/15/2017 7:30 AM	08/16/2017 9:26 AM
1708167-012	CHK81517-T-WC-31	08/15/2017 7:30 AM	08/16/2017 9:26 AM
1708167-013	CHK81517-P-OF-34	08/15/2017 7:30 AM	08/16/2017 9:26 AM
1708167-014	CHK81517-S-OF-34	08/15/2017 7:30 AM	08/16/2017 9:26 AM
1708167-015	CHK81517-T-OF-34	08/15/2017 7:30 AM	08/16/2017 9:26 AM
1708167-016	CHK81517-P-WC-35	08/15/2017 7:30 AM	08/16/2017 9:26 AM
1708167-017	CHK81517-P-WC-36	08/15/2017 7:30 AM	08/16/2017 9:26 AM

Case Narrative

WO#: **1708167**
Date: **8/16/2017**

CLIENT: Fulcrum Environmental
Project: KSD Drinking Water - Chinook MS

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:
1708167-001A 231898: Prep Comments for EPA200.8, Sample 1708167-001A: Turbidity: 0.57 NTU
1708167-004A 231902: Prep Comments for EPA200.8, Sample 1708167-004A: Turbidity: 0.01 NTU
1708167-007A 231903: Prep Comments for EPA200.8, Sample 1708167-007A: Turbidity: 0.06 NTU
1708167-010A 231904: Prep Comments for EPA200.8, Sample 1708167-010A: Turbidity: 0.01 NTU
1708167-013A 231905: Prep Comments for EPA200.8, Sample 1708167-013A: Turbidity: 0.18 NTU
1708167-016A 231906: Prep Comments for EPA200.8, Sample 1708167-016A: Turbidity: 0.01 NTU
1708167-017A 231907: Prep Comments for EPA200.8, Sample 1708167-017A: Turbidity: 0.01 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: KSD Drinking Water - Chinook MS

Lab ID: 1708167-001 **Collection Date:** 8/15/2017 7:30:00 AM
Client Sample ID: **CHK81517-P-CF-06** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17922		Analyst: TN
Copper	173	0.500		µg/L	1	8/16/2017 2:49:38 PM

Lab ID: 1708167-004 **Collection Date:** 8/15/2017 7:30:00 AM
Client Sample ID: **CHK81517-P-KF-20** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17922		Analyst: TN
Copper	85.9	0.500		µg/L	1	8/16/2017 2:33:32 PM

Lab ID: 1708167-007 **Collection Date:** 8/15/2017 7:30:00 AM
Client Sample ID: **CHK81517-P-CF-24** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17922		Analyst: TN
Copper	409	0.500		µg/L	1	8/16/2017 2:53:39 PM

CLIENT: Fulcrum Environmental
Project: KSD Drinking Water - Chinook MS

Lab ID: 1708167-010 **Collection Date:** 8/15/2017 7:30:00 AM
Client Sample ID: **CHK81517-P-WC-31** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17922		Analyst: TN
Copper	74.7	0.500		µg/L	1	8/16/2017 3:05:44 PM

Lab ID: 1708167-013 **Collection Date:** 8/15/2017 7:30:00 AM
Client Sample ID: **CHK81517-P-OF-34** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17922		Analyst: TN
Copper	295	0.500		µg/L	1	8/16/2017 3:09:46 PM

Lab ID: 1708167-016 **Collection Date:** 8/15/2017 7:30:00 AM
Client Sample ID: **CHK81517-P-WC-35** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17922		Analyst: TN
Copper	ND	0.500		µg/L	1	8/16/2017 3:13:47 PM

Analytical Report

Work Order: **1708167**
Date Reported: **8/16/2017**

CLIENT: Fulcrum Environmental
Project: KSD Drinking Water - Chinook MS

Lab ID: 1708167-017 **Collection Date:** 8/15/2017 7:30:00 AM
Client Sample ID: **CHK81517-P-WC-36** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 17922		Analyst: TN
Copper	1,400	0.500		µg/L	1	8/16/2017 3:17:49 PM

Work Order: 1708167
CLIENT: Fulcrum Environmental
Project: KSD Drinking Water - Chinook MS

QC SUMMARY REPORT

Drinking Water Metals by EPA Method 200.8

Sample ID	**MB-17922**	SampType:	**MBLK**	Units:	**µg/L**	Prep Date:	**8/16/2017**	RunNo:	**38041**
Client ID:	**MBLKW**	Batch ID:	**17922**			Analysis Date:	**8/16/2017**	SeqNo:	**731139**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.500									

Sample ID	**LCS-17922**	SampType:	**LCS**	Units:	**µg/L**	Prep Date:	**8/16/2017**	RunNo:	**38041**
Client ID:	**LCSW**	Batch ID:	**17922**			Analysis Date:	**8/16/2017**	SeqNo:	**731140**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	103	0.500	100.0	0	103	85	115				

Sample ID	**1708167-004ADUP**	SampType:	**DUP**	Units:	**µg/L**	Prep Date:	**8/16/2017**	RunNo:	**38041**
Client ID:	**CHK81517-P-KF-20**	Batch ID:	**17922**			Analysis Date:	**8/16/2017**	SeqNo:	**731142**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	82.4	0.500						85.90	4.11	30	

Sample ID	**1708167-004AMS**	SampType:	**MS**	Units:	**µg/L**	Prep Date:	**8/16/2017**	RunNo:	**38041**
Client ID:	**CHK81517-P-KF-20**	Batch ID:	**17922**			Analysis Date:	**8/16/2017**	SeqNo:	**731143**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	290	0.500	200.0	85.90	102	70	130				

Sample ID	**1708167-004AMSD**	SampType:	**MSD**	Units:	**µg/L**	Prep Date:	**8/16/2017**	RunNo:	**38041**
Client ID:	**CHK81517-P-KF-20**	Batch ID:	**17922**			Analysis Date:	**8/16/2017**	SeqNo:	**731144**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	279	0.500	200.0	85.90	96.4	70	130	290.1	4.03	30	

Sample Log-In Check List

Client Name:	**FE**	Work Order Number:	**1708167**
Logged by:	**Clare Griggs**	Date Received:	**8/16/2017 9:26:00 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: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Cooler	2.2
Sample	2.4

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

Fremont Analytical

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

Chain of Custody Record and Laboratory Services Agreement

Date: 8/15/2017
Laboratory Project No (internal): 1708167
Page: 1 of: 2

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

Project Name: KSD Drinking Water - Chinook MS
Project No: 162017.28 Collected by: Amanda Enbysk
Location: Chinook Middle School, Kennewick, WA
Report To (PM): Ryan Mathews
PM Email: rmathews@efulcrum.net; cc: aenbysk@efulcrum.net

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

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	HNO3 Preserved	Comments
1	CHK81517-P-CF-06	8/15/2017	730	DW										⊗				⊗	
2	CHK81517-S-CF-06																		HOLD; unpr.
3	CHK81517-T-CF-06																		↓
4	CHK81517-P-KF-20													⊗				⊗	
5	CHK81517-S-KF-20																		HOLD; unpr.
6	CHK81517-T-KF-20																		↓
7	CHK81517-P-CF-24													⊗				⊗	
8	CHK81517-S-CF-24																		HOLD; unpr.
9	CHK81517-T-CF-24																		↓
10	CHK81517-P-WC-31	↓	↓	↓										⊗				⊗	

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr (Cu, circled) 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

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.)

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks: please preserve all unpreserved

TAT: ASAP

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

Relinquished	Date/Time	Received	Date/Time
x [signature]	8/15/17; 1600	x [signature]	8/16/2017 0926
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Chain of Custody Record and Laboratory Services Agreement

Fremont Analytical

3600 Fremont Ave N. *Tel: 206-352-3790*
Seattle, WA 98103 *Fax: 206-352-7178*

Date: 8/15/2017 *Laboratory Project No (internal):* _____

Page: 2 of: 2

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

Project Name: KSD Drinking Water - Chinook MS
Project No: 162017.28 **Collected by:** Amanda Enbysk
Location: Chinook Middle School, Kennewick, WA
Report To (PM): Ryan Mathews
PM Email: rmathews@efulcrum.net; cc: aenbysk@efulcrum.net

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

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)				HNO3 Preserved	Comments
1	CHK81517-S-WC-31	8/15/2017	730	DW																		HOLD; unpr.
2	CHK81517-T-WC-31																					↓
3	CHK81517-P-OF-34												⊗								⊗	
4	CHK81517-S-OF-34																					HOLD; unpr.
5	CHK81517-T-OF-34																					↓
6	CHK81517-P-WC-35												⊗								⊗	
7	CHK81517-P-WC-36	↓	↓	↓									⊗								⊗	
8																						
9																						
10																						

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

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

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks: see page 1

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

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

Relinquished	Date/Time	Received	Date/Time
x Amanda Enbysk	8/15/17; 1600	x	8/16/2017 0926
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance