November 2, 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
Southgate Elementary School, 3121 West 19th Avenue, Kennewick, Washington

Dear Keith:

On Wednesday, December 21, 2016, Fulcrum Environmental Consulting, Inc. (Fulcrum) collected 45 drinking water samples for lead and copper analysis from Southgate Elementary School (School) located at 3121 West 19th Avenue in Kennewick, Washington. Initial sampling identified 15 fixture locations with copper concentrations above guidance levels. Fulcrum returned to the School on January 21, January 28, and March 2, 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 December 21, 2016. Initial results identified 15 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 fixtures with cold water to clear the plumbing of copper construction debris. Fulcrum returned on January 21, January 28, and March 2, 2017 and collected samples to evaluate the success of the remediation. The follow-up samples yielded a result confirming the

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

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remediation was successful at reducing copper below the EPA action level. 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). Additionally, if WAC 246-366A-130 is enacted, the regulations would require testing of all remaining fixtures within two years of the effective date (July 1, 2017). See Figure 1 and Figure 2 in Attachment A for fixture locations and laboratory results.

Sampling Methodology

As a portion of this project, Fulcrum prepared a Sampling and Analysis Plan (SAP) intended to satisfy future initial sampling requirements under pending regulations.

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

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

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

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

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

Sampling Activities

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

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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.

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

Analytical Results

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

Initial Sampling

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

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

Remedial Sampling

Sample locations from the remedial sampling event are presented in Figure 2 in Attachment A of this letter. The remedial analytical results from this project are summarized in Table 3 located in Attachment C of this letter. Laboratory analytical results from the remedial sampling event are located in Attachment E of this letter.

Discussion

Initial Sampling

Analytical results identified 15 samples, with copper concentrations above the EPA action level of 1,300 micrograms per liter (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 and requested sampling of four additional fixtures not sampled during the initial event. Fulcrum returned on the morning following the aggressive flushes, January 21, January 28, and March 2, 2017, to collect follow-up samples.

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

Recommendations

No samples were found to contain lead concentrations above the EPA action level of 15 µg/L. A total of 15 initial samples contained copper above the EPA action level of 1,300 µg/L. The District completed an aggressive flush to reduce the copper concentration of the fixtures and follow-up sampling yielded results below the 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, Fulcrum does not recommend any additional sampling at this time. However, consistent with industry practice and the intent of WAC 246-366A, Fulcrum recommends that the District complete re-sampling of the building within the next five years (before December 2021). Additionally, if WAC 246-366A-130 is enacted, the regulations would require testing of all remaining fixtures within two years of the effective date (July 1, 2017).

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

Sincerely,

Amanda Enbysk, GIT
Environmental Geologist

Ryan K. Mathews, CIH, CHMM
Principal

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ATTACHMENT A

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

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LEGEND

KF-## - Kitchen faucet

CF-## - Classroom faucet

CDF-## - Classroom drinking fountain

OF-## - Office faucet

WC-## - Water cooler fountain

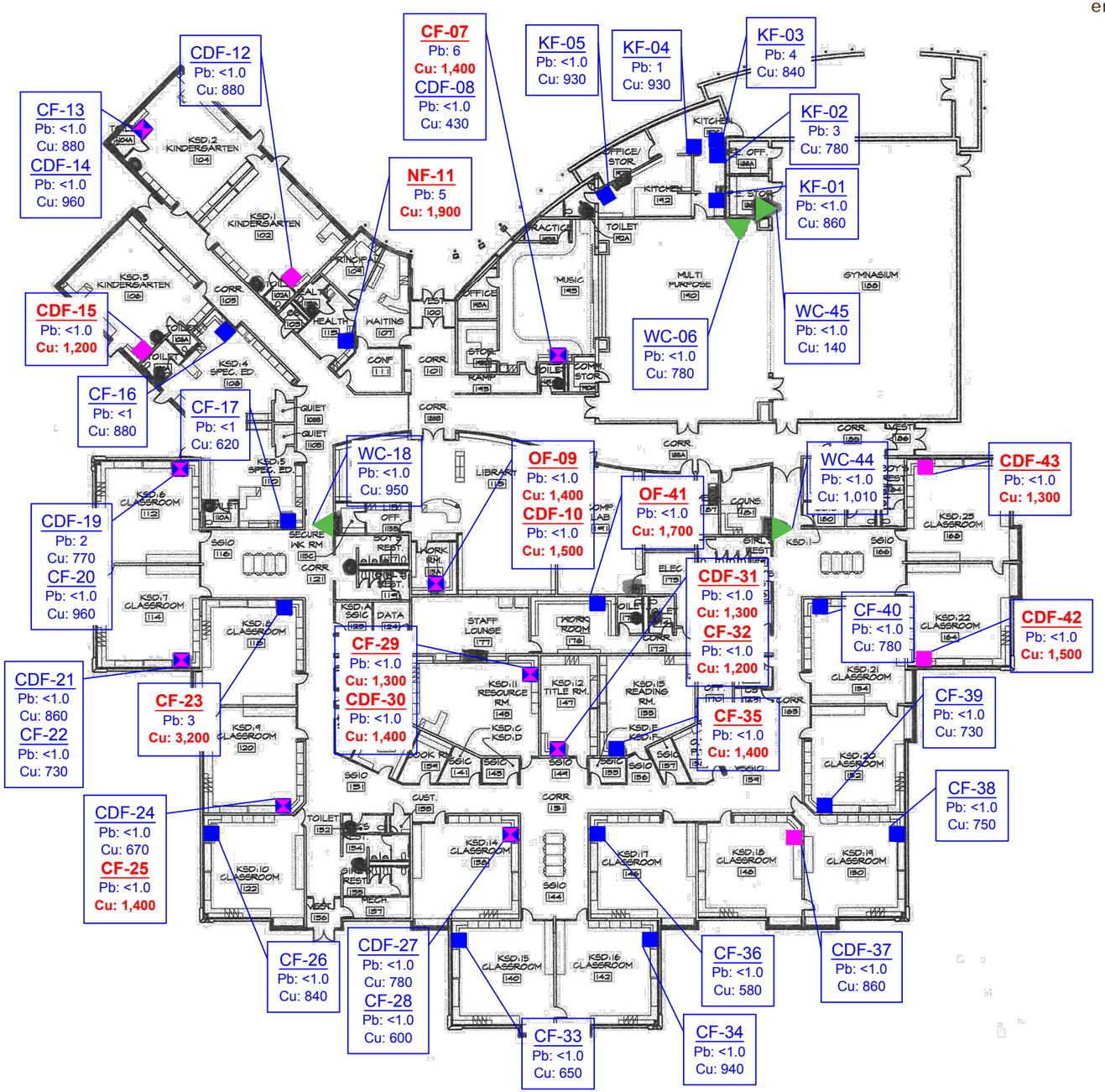
BF-## - Bottle filler fountain

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.



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Kennewick SD Drinking Water Sampling. 162017.00. AME. 10172017

Southgate Elementary School
3121 West 19th Avenue
Kennewick, Washington

Initial Sample Location Map

FIGURE 1

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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.

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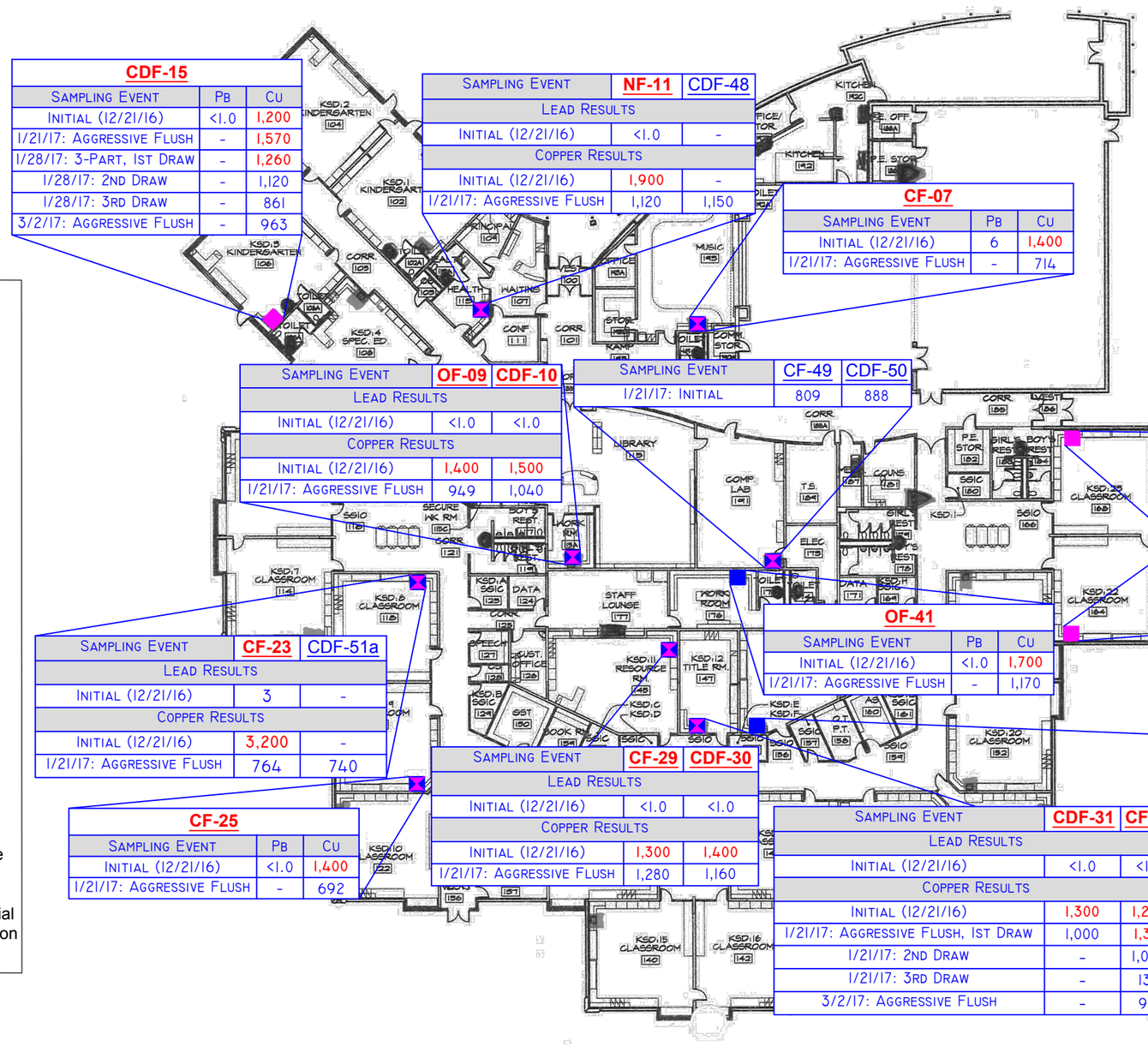

CDF-15

Sampling Event	Pb	Cu
Initial (12/21/16)	<1.0	1,200
1/21/17: Aggressive Flush	-	1,570
1/28/17: 3-Part, 1st Draw	-	1,260
1/28/17: 2nd Draw	-	1,120
1/28/17: 3rd Draw	-	861
3/2/17: Aggressive Flush	-	963

Sampling Event	NF-11	CDF-48
Lead Results		
Initial (12/21/16)	<1.0	-
Copper Results		
Initial (12/21/16)	1,900	-
1/21/17: Aggressive Flush	1,120	1,150

CF-07

Sampling Event	Pb	Cu
Initial (12/21/16)	6	1,400
1/21/17: Aggressive Flush	-	714

Sampling Event	OF-09	CDF-10
Lead Results		
Initial (12/21/16)	<1.0	<1.0
Copper Results		
Initial (12/21/16)	1,400	1,500
1/21/17: Aggressive Flush	949	1,040

Sampling Event	CF-49	CDF-50
1/21/17: Initial	809	888

CDF-43

Sampling Event	Pb	Cu
Initial (12/21/16)	<1.0	1,300
1/21/17: Aggressive Flush	-	1,050

CDF-42

Sampling Event	Pb	Cu
Initial (12/21/16)	<1.0	1,500
1/21/17: Aggressive Flush	-	1,010

OF-41

Sampling Event	Pb	Cu
Initial (12/21/16)	<1.0	1,700
1/21/17: Aggressive Flush	-	1,170

CF-35

Sampling Event	Pb	Cu
Initial (12/21/16)	<1.0	1,400
1/21/17: Aggressive Flush	-	1,920
1/28/17: 3-Part, 1st Draw	-	1,120
1/28/17: 2nd Draw	-	1,220
1/28/17: 3rd Draw	-	304
3/2/17: Aggressive Flush	-	1,070

Sampling Event	CF-23	CDF-51a
Lead Results		
Initial (12/21/16)	3	-
Copper Results		
Initial (12/21/16)	3,200	-
1/21/17: Aggressive Flush	764	740

Sampling Event	CF-29	CDF-30
Lead Results		
Initial (12/21/16)	<1.0	<1.0
Copper Results		
Initial (12/21/16)	1,300	1,400
1/21/17: Aggressive Flush	1,280	1,160

CF-25

Sampling Event	Pb	Cu
Initial (12/21/16)	<1.0	1,400
1/21/17: Aggressive Flush	-	692

Sampling Event	CDF-31	CF-32
Lead Results		
Initial (12/21/16)	<1.0	<1.0
Copper Results		
Initial (12/21/16)	1,300	1,200
1/21/17: Aggressive Flush, 1st Draw	1,000	1,310
1/21/17: 2nd Draw	-	1,090
1/21/17: 3rd Draw	-	130
3/2/17: Aggressive Flush	-	918

Drawing provided by Kennewick School District

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Southgate Elementary School
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Remedial Sample Location Map

FIGURE 2

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ATTACHMENT B

Site-Specific Sampling and Analysis Plan

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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: Southgate Elementary School Address: 3121 West 19th Avenue, Kennewick, WA

☑ Elementary ☐ Middle School ☐ High School ☐ Administration

Date of Construction: 1978 Modernizations: 2011

Fixture Type	Locations	Fixture Styles[1]	Samples	Ratio
Drinking fountain/water cooler (DF/WC)	4	2	4	100%
Kitchen Fixture (KF)	5	4	5	100%
Classroom faucet, including faucets in Food Labs and Life Sciences Classrooms (CF)	28	3	19	67%
Classroom drinking fountain at sink (CDF)	28	1	14	50%
Nurse's Office/Health Room (NF)	1	1	1	100%
Teacher's Lounges/Work Rooms (OF)	3	1	2	66%
TOTALS	**80**		**45**	**56%**

1 Fixture styles are approximate based on sampler's observations

Lead Sampler: Kyle Ames Date: 12/21/2016

Sample Prefix: SGE – 122116 – P (first-draw) – _____ – 01 to 47

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

Laboratory: R. J. Lee Group, Columbia Basin Analytical Delivery Date: December 21, 2016

Comments:

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ATTACHMENT C

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

Table 1: Initial Sampling Analytical Results

Sample Identification and Location	Fixture Type	Lead Results (µg/L)	Copper Results (µg/L)
SGE122116-P-KF-01: E. wall, S. fixture	Kitchen Faucet	<1.0	860
SGE122116-P-KF-02: E. wall, middle fixture	Kitchen Faucet	3	780
SGE122116-P-KF-03: E. wall, N. fixture	Kitchen Faucet	4	840
SGE122116-P-KF-04: Middle island	Kitchen Faucet	1	930
SGE122116-P-KF-05: N. wall, W. fixture	Kitchen Faucet	<1.0	930
SGE122116-P-WC-06: Multi-Purpose/Cafeteria, left fixture	Water Cooler Fountain	<1.0	780
SGE122116-P-CF-07: Music Room	**Classroom Faucet**	6	**1,400**
SGE122116-P-CDF-08: Music Room	Classroom Drinking Fountain	<1.0	430
SGE122116-P-OF-09: Library Work Room	**Office Faucet**	<1.0	**1,400**
SGE122116-P-CDF-10: Library Work Room	**Classroom Drinking Fountain**	<1.0	**1,500**
SGE122116-P-NF-11: Nurse's Office	**Nurse's Faucet**	5	**1,900**
SGE122116-P-CDF-12: Classroom 1	Classroom Drinking Fountain	<1.0	880
SGE122116-P-CF-13: Classroom 2	Classroom Faucet	<1.0	880
SGE122116-P-CDF-14: Classroom 2	Classroom Drinking Fountain	<1.0	960
SGE122116-P-CDF-15: Classroom 3	**Classroom Drinking Fountain**	<1.0	**1,200**
SGE122116-P-CF-16: Classroom 4	Classroom Faucet	<1.0	880
SGE122116-P-CF-17: Classroom 5	Classroom Faucet	<1.0	620
SGE122116-P-WC-18: Hallway opposite Classroom 5, left fixture	Water Cooler Fountain	<1.0	950
SGE122116-P-CDF-19: Classroom 6	Classroom Drinking Fountain	2	770
SGE122116-P-CF-20: Classroom 6	Classroom Faucet	<1.0	960
SGE122116-P-CDF-21: Classroom 7	Classroom Drinking Fountain	<1.0	860
SGE122116-P-CF-22: Classroom 7	Classroom Faucet	<1.0	730
SGE122116-P-CF-23: Classroom 8	**Classroom Faucet**	3	**3,200**
SGE122116-P-CDF-24: Classroom 9	Classroom Drinking Fountain	<1.0	670
SGE122116-P-CF-25: Classroom 9	**Classroom Faucet**	<1.0	**1,400**
SGE122116-P-CF-26: Classroom 10	Classroom Faucet	<1.0	840
SGE122116-P-CDF-27: Classroom 14	Classroom Drinking Fountain	<1.0	780
SGE122116-P-CF-28: Classroom 14	Classroom Faucet	<1.0	600
SGE122116-P-CF-29: Classroom 11	**Classroom Faucet**	<1.0	**1,300**
SGE122116-P-CDF-30: Classroom 11	**Classroom Drinking Fountain**	<1.0	**1,400**
SGE122116-P-CDF-31: Classroom 12	**Classroom Drinking Fountain**	<1.0	**1,300**
SGE122116-P-CF-32: Classroom 12	**Classroom Faucet**	<1.0	**1,200**
SGE122116-P-CF-33: Classroom 15	Classroom Faucet	<1.0	650
SGE122116-P-CF-34: Classroom 16	Classroom Faucet	<1.0	940
SGE122116-P-CF-35: Classroom 13	**Classroom Faucet**	<1.0	**1,400**
SGE122116-P-CF-36: Classroom 17	Classroom Faucet	<1.0	580
SGE122116-P-CDF-37: Classroom 18	Classroom Drinking Fountain	<1.0	860

Sample Identification and Location	Fixture Type	Lead Results (µg/L)	Copper Results (µg/L)
SGE122116-P-CF-38: Classroom 19	Classroom Faucet	<1.0	750
SGE122116-P-CF-39: Classroom 20	Classroom Faucet	<1.0	730
SGE122116-P-CF-40: Classroom 21	Classroom Faucet	<1.0	780
SGE122116-P-OF-41: Staff Work Room, Room 176	**Office Faucet**	<1.0	**1,700**
SGE122116-P-CDF-42: Classroom 22	**Classroom Drinking Fountain**	<1.0	**1,500**
SGE122116-P-CDF-43: Classroom 23	**Classroom Drinking Fountain**	<1.0	**1,300**
SGE122116-P-WC-44: Hallway opposite Classroom 23, left fixture	Water Cooler Fountain	<1.0	1,010
SGE122116-P-WC-45: Gymnasium, left fixture	Water Cooler Fountain	<1.0	140
SGE122116-P-WC-46: Laboratory Blank	*Distilled Water Blank*	*<1.0*	*<10*
SGE122116-P-WC-47: Laboratory Spike	*Lead and Copper Spike*	*12*	*1,200*
EPA Action Level		**15**	**1,300**

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

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

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

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

Table 2: pH and Temperature Data Summary

Sample Number	Fixture Type	pH Flush	pH Sample	Temperature (°C) Flush	Temperature (°C) Sample
SGE122116-P-KF-04: Middle island	Kitchen Faucet	7.84	7.98	16.8	17.8
SGE122116-P-CDF-08: Room 138	Classroom Drinking Fountain	7.78	8.01	16.5	19.1
SGE122116-P-CDF-12: Room 102	Classroom Drinking Fountain	7.70	7.82	19.6	20.4
SGE122116-P-CF-16: Room 108	Classroom Faucet	7.87	7.78	19.0	21.3
SGE122116-P-CF-20: Room 112	Classroom Faucet	7.88	7.95	18.9	16.9
SGE122116-P-CDF-24: Room 120	Classroom Drinking Fountain	7.91	7.76	15.5	21.3
SGE122116-P-CF-28: Room 138	Classroom Faucet	7.97	7.76	16.0	20.3
SGE122116-P-CF-32: Room 147	Classroom Faucet	7.78	7.67	16.8	20.3
SGE122116-P-CF-36: Room 146	Classroom Faucet	7.94	7.67	16.7	21.6
SGE122116-P-CF-40: Room 154	Classroom Faucet	7.95	7.77	17.0	20.8
SGE122116-P-WC-44: N. end of corridor 165	Water Cooler Fountain	8.03	7.78	14.8	20.5

Table 3: Remedial Sampling Analytical Results

Sampling Event	Sample Identification																				
	CF-07	OF-09	CDF-10	NF-11	CDF-15	CF-23	CF-25	CF-29	CDF-30	CDF-31	CF-32	CF-35	OF-41	CDF-42	CDF-43	CDF-48: Health Room drinking fountain	CF-49: Room 191	CDF-50: Room 191	CDF-51a: Classroom 8	*Laboratory Blank (-46, 51b)*	*Laboratory Spike(-47)*
Initial (12/21/2016)	**1,400**	**1,400**	**1,500**	**1,900**	**1,200**	**3,200**	**1,400**	**1,300**	**1,400**	**1,300**	**1,200**	**1,400**	**1,700**	**1,500**	**1,300**	-	-	-	-	*<10*	*1,200*
Aggressive Flush (1/21/2017)	714	949	1,040	1,120	**1,570**	764	692	1,280	1,160	1,000	**1,310**	**1,920**	1,170	1,010	1,050	1,150	809	888	740	*<0.5*	-
Second Draw (1/21/2017)	-	-	-	-	-	-	-	-	-	-	1,090	-	-	-	-	-	-	-	-	-	-
Third Draw (1/21/2017)	-	-	-	-	-	-	-	-	-	-	130	-	-	-	-	-	-	-	-	-	-
Three-Part Evaluation, 1st Draw (1/28/2017)	-	-	-	-	**1,260**	-	-	-	-	-	-	1,120	-	-	-	-	-	-	-	*<0.5*	*1,290*
Second Draw (1/28/2017)	-	-	-	-	1,120	-	-	-	-	-	-	1,220	-	-	-	-	-	-	-	-	-
Third Draw (1/28/2017)	-	-	-	-	861	-	-	-	-	-	-	304	-	-	-	-	-	-	-	-	-
Aggressive Flush (3/2/2017)	-	-	-	-	963	-	-	-	-	-	918	1,070	-	-	-	-	-	-	-	*<0.5*	*1,190*
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**

µg/L means microgram per liter or parts per billion (ppb).
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 47 sample(s) on 12/21/16 for analysis. These sample(s) have been assigned a login order number of W612106. Enclosed is the final report that consists of a summary report of the sample(s), and a copy of the chain of custody.

General Lab Comments

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

-Samples were analyzed on January 12, 2017 and samples requiring dilutions were analyzed on January 13, 2017.

All samples were diluted 1:10.
X - Samples that exceeded the instrument calibration range were rerun at a 1:100 dilution, necessitating a 10-fold increase in the PQL.
-Matrix Spike Failed for Copper. Failure a result of spiked sample concentration exceeding upper quantitation limit for target analyte.

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

01/17/17

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

Laboratory Report

Ryan Mathews

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

Client Project:

Fulcrum Kennewick

RJ Lee Group No.: W612106
COC No.: Kennewick
Samples Received: 12/21/16
Analysis/Prep Date: 01/12/17
Report Date: 01/17/17

Sample Name: SGE122116-P-KF-01 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-01 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.86	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-KF-02 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-02 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.78	0.01	
Lead	EPA 200.8	0.003	0.001	

Sample Name: SGE122116-P-KF-03 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-03 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.84	0.01	
Lead	EPA 200.8	0.004	0.001	

Sample Name: SGE122116-P-KF-04 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-04 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.93	0.01	
Lead	EPA 200.8	0.001	0.001	

Sample Name: SGE122116-P-KF-05 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-05 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.93	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

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Sample Name: SGE122116-P-WC-06 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-06 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.78	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CF-07 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-07 **Date Analyzed:** 01/13/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.4	0.1	X
Lead	EPA 200.8	0.006	0.001	

Sample Name: SGE122116-P-CDF-08 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-08 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.43	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-OF-09 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-09 **Date Analyzed:** 01/13/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.4	0.1	X
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CDF-10 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-10 **Date Analyzed:** 01/13/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.5	0.1	X
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-NF-11 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-11 **Date Analyzed:** 01/13/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.9	0.1	X
Lead	EPA 200.8	0.005	0.001	

RJ LEE GROUP

Sample Name: SGE122116-P-CDF-12 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-12 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.88	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CF-13 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-13 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.88	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CDF-14 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-14 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.96	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CDF-15 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-15 **Date Analyzed:** 01/13/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.2	0.1	X
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CF-16 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-16 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.88	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CF-17 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-17 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.62	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

RJ LEE GROUP

Sample Name: SGE122116-P-WC-18 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-18 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.95	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CDF-19 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-19 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.77	0.01	
Lead	EPA 200.8	0.002	0.001	

Sample Name: SGE122116-P-CF-20 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-20 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.96	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CDF-21 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-21 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.86	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CF-22 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-22 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.73	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CF-23 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-23 **Date Analyzed:** 01/13/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	3.2	0.1	X
Lead	EPA 200.8	0.003	0.001	

RJ LEE GROUP

Sample Name: SGE122116-P-CDF-24 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-24 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.67	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CF-25 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-25 **Date Analyzed:** 01/13/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.4	0.1	X
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CF-26 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-26 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.84	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CDF-27 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-27 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.78	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CF-28 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-28 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.60	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CF-29 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-29 **Date Analyzed:** 01/13/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.3	0.1	X
Lead	EPA 200.8	< 0.0010	0.001	

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Sample Name: SGE122116-P-CDF-30 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-30 **Date Analyzed:** 01/13/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.4	0.1	X
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CDF-31 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-31 **Date Analyzed:** 01/13/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.3	0.1	X
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CF-32 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-32 **Date Analyzed:** 01/13/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.2	0.1	X
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CF-33 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-33 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.65	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CF-34 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-34 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.94	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CF-35 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-35 **Date Analyzed:** 01/13/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.4	0.1	X
Lead	EPA 200.8	< 0.0010	0.001	

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Sample Name: SGE122116-P-CF-36 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-36 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.58	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CDF-37 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-37 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.86	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CF-38 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-38 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.75	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CF-39 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-39 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.73	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CF-40 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-40 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.78	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-OF-41 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-41 **Date Analyzed:** 01/13/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.7	0.1	X
Lead	EPA 200.8	< 0.0010	0.001	

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Sample Name: SGE122116-P-CDF-42 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-42 **Date Analyzed:** 01/13/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.5	0.1	X
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-CDF-43 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-43 **Date Analyzed:** 01/13/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.3	0.1	X
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-WC-44 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-44 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.01	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-WC-45 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-45 **Date Analyzed:** 01/12/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.14	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: SGE122116-P-WC-46 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-46 **Date Analyzed:** 01/12/17

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

Sample Name: SGE122116-P-WC-47 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612106-47 **Date Analyzed:** 01/13/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.2	0.1	X
Lead	EPA 200.8	0.012	0.001	

RJ LEE GROUP

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 III J Grissmerson

Request for Environmental and IH Laboratory Analytical Services

W612106

ATTENTION TO:	RYAN MATHEWS	Purchase Order No.:	Client Job No.: 162017

Lab Use Only	Project No.:	Client No:	
	Date Logged In:	Logged In By:	
Report Results To	Name: Amanda Enbysk, Ryan Mathews		
	Company: Fulcrum Environmental Consulting		
	Address: 406 North 2nd Street		
	City, State, Zip: Yakima, WA, 98901		
	Phone: (509) 574-0839	Fax: (509) 575-8453	
	Call with Verbal Results:		
	Email Results To: aenbysk@efulcrum.net, CC: rmathews@efulcrum.net		
	Fax Results To:		
Send Invoice To	Name: Lorrie Boutillier		
	Company: Fulcrum Environmental	Email: lboutillier@efulcrum.net	
	Address: 406 North 2nd Street		
	City, State, Zip: Yakima, WA, 98901		
	Phone: (509) 574-0839	Fax: (509) 575-8453	
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, Cu	Pres. Upon Receipt (Y/N)	Preservation	Matrix	Container Type	pH	No. Containers
SGE122116-P-Kf-01	Kitchen fixture	12-1				X	X	UNPR.	DW	P		15.4
SGE122116-P-Kf-02												16.0
SGE122116-P-Kf-03												15.4
SGE122116-P-Kf-04												16.3
SGE122116-P-Kf-05												15.7
SGE122116-P-WC-06	Water cooler											15.7
SGE122116-P-Cf-07	Classroom faucet											16.1
SGE122116-P-CDf-08	Class drink ft											16.3
SGE122116-P-Of-09	library faucet											16.2
SGE122116-P-CDf-10	library drink ft.											16.8
SGE122116P-NF-11	Nurse fixture											16.8

Chain of Custody	Relinquished By (Signature):	Date: 12-21-16	Time: 1320
	Relinquished By (Print Name): Kyle Ames	Relinquished To:	
	Company Name: Fulcrum	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: DEC 21 2016	Time: 12:10
	Received 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

Request for Environmental and IH Laboratory Analytical Services

W612106

ATTENTION TO:	**RYAN MATHEWS**	Purchase Order No.:	Client Job No.: **162017**

Lab Use Only	Project No.:	Client No:	
	Date Logged In:	Logged In By:	
Report Results To	Name: Amanda Enbysk, Ryan Mathews		
	Company: Fulcrum Environmental Consulting		
	Address: 406 North 2nd Street		
	City, State, Zip: Yakima, WA, 98901		
	Phone: (509) 574-0839	Fax: (509) 575-8453	
	Call with Verbal Results:		
	Email Results To: aenbysk@efulcrum.net, **CC:** rmathews@efulcrum.net		
	Fax Results To:		
Send Invoice To	Name: Lorrie Boutillier		
	Company: Fulcrum Environmental	Email: lboutillier@efulcrum.net	
	Address: 406 North 2nd Street		
	City, State, Zip: Yakima, WA, 98901		
	Phone: (509) 574-0839	Fax: (509) 575-8453	
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, Cu	Pres. Upon Receipt (Y/N)	Preservation	Matrix	Container Type	pH	No. Containers
SGE122116-P-CDF-12	class drink ft	12-21				X	X	UNPR	DW	P		16.9
SGE-122116-P-Cf-13	class faucet	↓				↓						16.3
SGE-122116-P-CDF-14	class drink ft											16.1
SGE-122116-P-CDF-15	class drink ft											15.5
SGE122116-P-Cf-16	class faucet											16.7
SGE122116-P-Cf-17	class faucet											15.8
SGE122116-P-WC-18	water cooler											15.8
SGE122116-P-CDF-19	class drink ft											16.8
SGE122116-P-Cf-20	class faucet											16.7
SGE122116-P-CDF-21	class ~~faucet~~ drink ft											15.9
SGE122116-P-Cf-22	class faucet	↓				↓						17.2

Chain of Custody	Relinquished By (Signature):	Date: 12-21-16	Time: 1320
	Relinquished By (Print Name): Kyle Ames	Relinquished To:	
	Company Name: Fulcrum	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): Stephanie Lopez	Date: DEC 21 2016	Time: 1210
	Received By (Print Name): Stephanie Lopez	Relinquished To:	
	Company Name: RJ Lee	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

Request for Environmental and IH Laboratory Analytical Services

W612106

ATTENTION TO:	**RYAN MATHEWS**	Purchase Order No.:	Client Job No.: **162017**

Lab Use Only	Project No.:	Client No:	
	Date Logged In:	Logged In By:	
Report Results To	Name: Amanda Enbysk, Ryan Mathews		
	Company: Fulcrum Environmental Consulting		
	Address: 406 North 2nd Street		
	City, State, Zip: Yakima, WA, 98901		
	Phone: (509) 574-0839	Fax: (509) 575-8453	
	Call with Verbal Results:		
	Email Results To: aenbysk@efulcrum.net, **CC:** rmathews@efulcrum.net		
	Fax Results To:		
Send Invoice To	Name: Lorrie Boutillier		
	Company: Fulcrum Environmental	Email: lboutillier@efulcrum.net	
	Address: 406 North 2nd Street		
	City, State, Zip: Yakima, WA, 98901		
	Phone: (509) 574-0839	Fax: (509) 575-8453	
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
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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, Cu	Pres. Upon Receipt (Y/N)	Preservation	Matrix	Container Type	pH	No. Containers
SGE122116-P-Cf-23	class faucet	12-21				X	X	UNPR	DW	P		16.6
SGE122116-P-CDf-24	class drink ft											17.1
SGE122116-P-Cf-25	class faucet											17.1
SGE122116-P-Cf-26	class faucet											16.8
SGE122116-P-CDf-27	class drink ft											16.9
SGE122116-P-Cf-28	class faucet											17.2
SGE122116-P-Cf-29	class faucet											17.7
SGE122116-P-CDf-30	class drink ft											17.3
SGE122116-P-CDf-31	class drink ft											17.3
SGE122116-P-Cf-32	class faucet											17.3
SGE122116-P-Cf-33	class faucet											16.5

Chain of Custody	Relinquished By (Signature):	Date: 12-21-16	Time: 1320	Received By (Signature):	Date: DEC 21 2016 Time: 12:10
	Relinquished By (Print Name): Kyle Ames	Relinquished To:		Received By (Print Name):	Relinquished To:
	Company Name: Fulcrum	Method of Shipment:		Company Name: RJ Lee	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:

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RJ LEE GROUP
DELIVERING SCIENTIFIC RESOLUTION

Request for Environmental and IH Laboratory Analytical Services

W612106

ATTENTION TO:	**RYAN MATHEWS**	Purchase Order No.:	Client Job No.: **162017**

Lab Use Only	Project No.:	Client No:	
	Date Logged In:	Logged In By:	
Report Results To	Name: Amanda Enbysk, Ryan Mathews		
	Company: Fulcrum Environmental Consulting		
	Address: 406 North 2nd Street		
	City, State, Zip: Yakima, WA, 98901		
	Phone: (509) 574-0839	Fax: (509) 575-8453	
	Call with Verbal Results:		
	Email Results To: aenbysk@efulcrum.net, **CC:** rmathews@efulcrum.net		
	Fax Results To:		
Send Invoice To	Name: Lorrie Boutillier		
	Company: Fulcrum Environmental	Email: lboutillier@efulcrum.net	
	Address: 406 North 2nd Street		
	City, State, Zip: Yakima, WA, 98901		
	Phone: (509) 574-0839	Fax: (509) 575-8453	
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, Cu	Pres. Upon Receipt (Y/N)	Preservation	Matrix	Container Type	pH	No. Containers
SGE122116-P-Cf-34	class faucet	12-21				X	X	UNPR.	DW	P		16.4
SGE122116-P-Cf-35	class faucet											17.4
SGE122116-P-Cf-36	class faucet											17.0
SGE122116-P-CDf-37	class drink ft											17.7
SGE122116-P-Cf-38	class faucet											15.6
SGE122116-P-Cf-39	class faucet											17.4
SGE122116-P-Cf-40	class faucet											17.3
SGE122116-P-Cf-41	work room											17.3
SGE122116-P-CDf-42	Class drink ft											16.6
SGE122116-P-CDf-43	class drink ft											16.1
SGE122116-P-WC-44	water cooler											15.2

Chain of Custody	Relinquished By (Signature):	Date: 12-21-16	Time: 1320	Received By (Signature):	Date: DEC 21 2016 Time: 12:10
	Relinquished By (Print Name): Kyle Awes	Relinquished To:		Received By (Print Name): Robert Lee	Relinquished To:
	Company Name: Fulcrum	Method of Shipment:		Company Name: RJLee	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
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RJ LEE GROUP
DELIVERING SCIENTIFIC RESOLUTION

Request for Environmental and IH Laboratory Analytical Services

W612106

ATTENTION TO:	**RYAN MATHEWS**	Purchase Order No.:	Client Job No.: **162017**

Lab Use Only	Project No.:	Client No:	
	Date Logged In:	Logged In By:	
Report Results To	Name: Amanda Enbysk, Ryan Mathews		
	Company: Fulcrum Environmental Consulting		
	Address: 406 North 2nd Street		
	City, State, Zip: Yakima, WA, 98901		
	Phone: (509) 574-0839	Fax: (509) 575-8453	
	Call with Verbal Results:		
	Email Results To: aenbysk@efulcrum.net, **CC:** rmathews@efulcrum.net		
	Fax Results To:		
Send Invoice To	Name: Lorrie Boutillier		
	Company: Fulcrum Environmental	Email: lboutillier@efulcrum.net	
	Address: 406 North 2nd Street		
	City, State, Zip: Yakima, WA, 98901		
	Phone: (509) 574-0839	Fax: (509) 575-8453	
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_3	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, Cu	Pres. Upon Receipt (Y/N)	Preservation	Matrix	Container Type	pH	No. Containers
SGE122116-P-WC-45	Gym water cooler	12-21				X	Y	UNPR	DW	P		145
SGE122116-P-WC-46	Water cooler	↓				↓	↓	↓	↓	↓		146
SGE122116-P-WC-47	water cooler											146

Chain of Custody	Relinquished By (Signature): Kyle Ames	Date: 12-21-16	Time: 1320	Received By (Signature): Hopes	Date: DEC 21 2016 Time: 12:10
	Relinquished By (Print Name): Kyle Ames	Relinquished To:		Received By (Print Name): Hopes	Relinquished To:
	Company Name: Fulcrum	Method of Shipment:		Company Name: RJLee	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:

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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 - Southgate Elementary
Work Order Number: 1701233

January 24, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 26 sample(s) on 1/23/2017 for the analyses presented in the following report.

Drinking Water Metals by EPA Method 200.8

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward
Project Manager

Date: *01/24/2017*

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Southgate
Work Order: 1701233

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1701233-001	SGE12117-P-CF-07	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-002	SGE12117-P-OF-09	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-003	SGE12117-P-CDF-10	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-004	SGE12117-S-CDF-10	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-005	SGE12117-T-CDF-10	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-006	SGE12117-P-NF-11	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-007	SGE12117-P-CDF-15	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-008	SGE12117-P-CF-23	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-009	SGE12117-P-CF-25	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-010	SGE12117-P-CF-29	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-011	SGE12117-S-CF-29	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-012	SGE12117-T-CF-29	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-013	SGE12117-P-CDF-30	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-014	SGE12117-P-CDF-31	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-015	SGE12117-P-CF-32	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-016	SGE12117-S-CF-32	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-017	SGE12117-T-CF-32	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-018	SGE12117-P-CF-35	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-019	SGE12117-P-OF-41	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-020	SGE12117-P-CDF-42	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-021	SGE12117-P-CDF-43	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-022	SGE12117-P-CF-49	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-023	SGE12117-P-CDF-50	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-024	SGE12117-P-CDF-51a	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-025	SGE12117-P-CDF-51b	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-026	SGE12117-P-CDF-48	01/21/2017 9:15 AM	01/23/2017 12:25 PM

Case Narrative

WO#: **1701233**
Date: **1/24/2017**

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Southgate Elementary

WorkOrder Narrative:
I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

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

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

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

Prep Sample Comments:
1701233-001A 202777: Prep Comments for EPA200.8, Sample 1701233-001A: Turbidity: 0.01 NTU
1701233-002A 202778: Prep Comments for EPA200.8, Sample 1701233-002A: Turbidity: 0.10 NTU
1701233-003A 202779: Prep Comments for EPA200.8, Sample 1701233-003A: Turbidity: 0.00 NTU
1701233-006A 202780: Prep Comments for EPA200.8, Sample 1701233-006A: Turbidity: 0.00 NTU
1701233-007A 202781: Prep Comments for EPA200.8, Sample 1701233-007A: Turbidity: 0.00 NTU
1701233-008A 202782: Prep Comments for EPA200.8, Sample 1701233-008A: Turbidity: 0.05 NTU
1701233-009A 202783: Prep Comments for EPA200.8, Sample 1701233-009A: Turbidity: 0.00 NTU
1701233-010A 202784: Prep Comments for EPA200.8, Sample 1701233-010A: Turbidity: 0.09 NTU
1701233-013A 202785: Prep Comments for EPA200.8, Sample 1701233-013A: Turbidity: 0.01 NTU
1701233-014A 202789: Prep Comments for EPA200.8, Sample 1701233-014A: Turbidity: 0.01 NTU
1701233-015A 202790: Prep Comments for EPA200.8, Sample 1701233-015A: Turbidity: 0.03 NTU
1701233-018A 202791: Prep Comments for EPA200.8, Sample 1701233-018A: Turbidity: 0.13 NTU
1701233-019A 202792: Prep Comments for EPA200.8, Sample 1701233-019A: Turbidity: 0.07 NTU
1701233-020A 202793: Prep Comments for EPA200.8, Sample 1701233-020A: Turbidity: 0.01 NTU
1701233-021A 202794: Prep Comments for EPA200.8, Sample 1701233-021A: Turbidity: 0.01 NTU
1701233-022A 202795: Prep Comments for EPA200.8, Sample 1701233-022A: Turbidity: 0.03 NTU
1701233-023A 202796: Prep Comments for EPA200.8, Sample 1701233-023A: Turbidity: 0.01 NTU
1701233-024A 202797: Prep Comments for EPA200.8, Sample 1701233-024A: Turbidity: 0.19 NTU
1701233-025A 202932: Prep Comments for EPA200.8, Sample 1701233-025A: Turbidity: 0.01 NTU
1701233-026A 202936: Prep Comments for EPA200.8, Sample 1701233-026A: 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 - Southgate Elementary

Lab ID: 1701233-001 **Collection Date:** 1/21/2017 9:15:00 AM
Client Sample ID: **SGE12117-P-CF-07** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 15996		Analyst: TN
Copper	714	0.500		µg/L	1	1/23/2017 5:38:46 PM

Lab ID: 1701233-002 **Collection Date:** 1/21/2017 9:15:00 AM
Client Sample ID: **SGE12117-P-OF-09** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 15996		Analyst: TN
Copper	949	0.500		µg/L	1	1/23/2017 5:42:23 PM

Lab ID: 1701233-003 **Collection Date:** 1/21/2017 9:15:00 AM
Client Sample ID: **SGE12117-P-CDF-10** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 15996		Analyst: TN
Copper	1,040	0.500		µg/L	1	1/23/2017 5:45:59 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Southgate Elementary

Lab ID: 1701233-006 **Collection Date:** 1/21/2017 9:15:00 AM
Client Sample ID: **SGE12117-P-NF-11** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 15996		Analyst: TN
Copper	1,120	0.500		µg/L	1	1/23/2017 5:49:35 PM

Lab ID: 1701233-007 **Collection Date:** 1/21/2017 9:15:00 AM
Client Sample ID: **SGE12117-P-CDF-15** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 15996		Analyst: TN
Copper	1,570	0.500		µg/L	1	1/23/2017 5:53:12 PM

Lab ID: 1701233-008 **Collection Date:** 1/21/2017 9:15:00 AM
Client Sample ID: **SGE12117-P-CF-23** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 15996		Analyst: TN
Copper	764	0.500		µg/L	1	1/23/2017 5:56:48 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Southgate Elementary

Lab ID: 1701233-009 **Collection Date:** 1/21/2017 9:15:00 AM
Client Sample ID: **SGE12117-P-CF-25** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 15996		Analyst: TN
Copper	692	0.500		µg/L	1	1/23/2017 6:00:24 PM

Lab ID: 1701233-010 **Collection Date:** 1/21/2017 9:15:00 AM
Client Sample ID: **SGE12117-P-CF-29** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 15996		Analyst: TN
Copper	1,280	0.500		µg/L	1	1/23/2017 6:04:00 PM

Lab ID: 1701233-013 **Collection Date:** 1/21/2017 9:15:00 AM
Client Sample ID: **SGE12117-P-CDF-30** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 15997		Analyst: TN
Copper	1,160	0.500		µg/L	1	1/23/2017 6:28:07 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Southgate Elementary

Lab ID: 1701233-014 **Collection Date:** 1/21/2017 9:15:00 AM
Client Sample ID: **SGE12117-P-CDF-31** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 15997		Analyst: TN
Copper	1,000	0.500		µg/L	1	1/23/2017 6:42:31 PM

Lab ID: 1701233-015 **Collection Date:** 1/21/2017 9:15:00 AM
Client Sample ID: **SGE12117-P-CF-32** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 15997		Analyst: TN
Copper	1,310	0.500		µg/L	1	1/23/2017 6:46:07 PM

Lab ID: 1701233-018 **Collection Date:** 1/21/2017 9:15:00 AM
Client Sample ID: **SGE12117-P-CF-35** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 15997		Analyst: TN
Copper	1,920	0.500		µg/L	1	1/23/2017 6:49:44 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Southgate Elementary

Lab ID: 1701233-019 **Collection Date:** 1/21/2017 9:15:00 AM
Client Sample ID: **SGE12117-P-OF-41** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 15997		Analyst: TN
Copper	1,170	0.500		µg/L	1	1/23/2017 6:53:20 PM

Lab ID: 1701233-020 **Collection Date:** 1/21/2017 9:15:00 AM
Client Sample ID: **SGE12117-P-CDF-42** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 15997		Analyst: TN
Copper	1,010	0.500		µg/L	1	1/23/2017 7:04:11 PM

Lab ID: 1701233-021 **Collection Date:** 1/21/2017 9:15:00 AM
Client Sample ID: **SGE12117-P-CDF-43** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 15997		Analyst: TN
Copper	1,050	0.500		µg/L	1	1/23/2017 7:07:48 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Southgate Elementary

Lab ID: 1701233-022 **Collection Date:** 1/21/2017 9:15:00 AM
Client Sample ID: **SGE12117-P-CF-49** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 15997		Analyst: TN
Copper	809	0.500		µg/L	1	1/23/2017 7:11:24 PM

Lab ID: 1701233-023 **Collection Date:** 1/21/2017 9:15:00 AM
Client Sample ID: **SGE12117-P-CDF-50** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 15997		Analyst: TN
Copper	888	0.500		µg/L	1	1/23/2017 7:15:00 PM

Lab ID: 1701233-024 **Collection Date:** 1/21/2017 9:15:00 AM
Client Sample ID: **SGE12117-P-CDF-51a** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 15997		Analyst: TN
Copper	740	0.500		µg/L	1	1/23/2017 7:18:37 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Southgate Elementary

Lab ID: 1701233-025 **Collection Date:** 1/21/2017 9:15:00 AM
Client Sample ID: **SGE12117-P-CDF-51b** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16006		Analyst: TN
Copper	ND	0.500		µg/L	1	1/23/2017 11:56:34 PM

Lab ID: 1701233-026 **Collection Date:** 1/21/2017 9:15:00 AM
Client Sample ID: **SGE12117-P-CDF-48** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16006		Analyst: TN
Copper	1,150	0.500	B	µg/L	1	1/24/2017 12:18:14 AM

Work Order: 1701233
CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Southgate

QC SUMMARY REPORT

Drinking Water Metals by EPA Method 200.8

Sample ID	**MB-16006**	SampType:	**MBLK**	Units:	**µg/L**	Prep Date:	**1/23/2017**	RunNo:	**34027**
Client ID:	**MBLKW**	Batch ID:	**16006**			Analysis Date:	**1/23/2017**	SeqNo:	**647625**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	1.99	0.500									

Sample ID	**LCS-16006**	SampType:	**LCS**	Units:	**µg/L**	Prep Date:	**1/23/2017**	RunNo:	**34027**
Client ID:	**LCSW**	Batch ID:	**16006**			Analysis Date:	**1/23/2017**	SeqNo:	**647626**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	92.5	0.500	100.0	0	92.5	85	115				

Sample ID	**1701233-025ADUP**	SampType:	**DUP**	Units:	**µg/L**	Prep Date:	**1/23/2017**	RunNo:	**34027**
Client ID:	**SGE12117-P-CDF-51b**	Batch ID:	**16006**			Analysis Date:	**1/24/2017**	SeqNo:	**647630**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.500						0		30	

Sample ID	**1701233-025AMS**	SampType:	**MS**	Units:	**µg/L**	Prep Date:	**1/23/2017**	RunNo:	**34027**
Client ID:	**SGE12117-P-CDF-51b**	Batch ID:	**16006**			Analysis Date:	**1/24/2017**	SeqNo:	**647631**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	167	0.500	200.0	0	83.7	70	130				

Sample ID	**1701233-025AMSD**	SampType:	**MSD**	Units:	**µg/L**	Prep Date:	**1/23/2017**	RunNo:	**34027**
Client ID:	**SGE12117-P-CDF-51b**	Batch ID:	**16006**			Analysis Date:	**1/24/2017**	SeqNo:	**647632**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	186	0.500	200.0	0	92.9	70	130	167.5	10.4	30	

Work Order: 1701233
CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Southgate

QC SUMMARY REPORT

Drinking Water Metals by EPA Method 200.8

Sample ID	**MB-15997**	SampType:	**MBLK**	Units:	**µg/L**	Prep Date:	**1/23/2017**	RunNo:	**34024**
Client ID:	**MBLKW**	Batch ID:	**15997**			Analysis Date:	**1/23/2017**	SeqNo:	**647478**

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

Sample ID	**LCS-15997**	SampType:	**LCS**	Units:	**µg/L**	Prep Date:	**1/23/2017**	RunNo:	**34024**
Client ID:	**LCSW**	Batch ID:	**15997**			Analysis Date:	**1/23/2017**	SeqNo:	**647479**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	87.4	0.500	100.0	0	87.4	85	115				

Sample ID	**1701233-013ADUP**	SampType:	**DUP**	Units:	**µg/L**	Prep Date:	**1/23/2017**	RunNo:	**34024**
Client ID:	**SGE12117-P-CDF-30**	Batch ID:	**15997**			Analysis Date:	**1/23/2017**	SeqNo:	**647481**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	1,130	0.500						1,157	2.37	30	

Sample ID	**1701233-013AMS**	SampType:	**MS**	Units:	**µg/L**	Prep Date:	**1/23/2017**	RunNo:	**34024**
Client ID:	**SGE12117-P-CDF-30**	Batch ID:	**15997**			Analysis Date:	**1/23/2017**	SeqNo:	**647482**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	1,230	0.500	200.0	1,157	35.0	70	130				S

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

Sample ID	**1701233-013AMSD**	SampType:	**MSD**	Units:	**µg/L**	Prep Date:	**1/23/2017**	RunNo:	**34024**
Client ID:	**SGE12117-P-CDF-30**	Batch ID:	**15997**			Analysis Date:	**1/23/2017**	SeqNo:	**647483**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	1,260	0.500	200.0	1,157	50.7	70	130	1,227	2.53	30	S

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

Work Order: 1701233
CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Southgate

QC SUMMARY REPORT

Drinking Water Metals by EPA Method 200.8

Sample ID	**MB-15996**	SampType:	**MBLK**			Units:	**µg/L**		Prep Date:	**1/23/2017**		RunNo:	**34023**	
Client ID:	**MBLKW**	Batch ID:	**15996**						Analysis Date:	**1/23/2017**		SeqNo:	**647430**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		ND	0.500											

Sample ID	**LCS-15996**	SampType:	**LCS**			Units:	**µg/L**		Prep Date:	**1/23/2017**		RunNo:	**34023**	
Client ID:	**LCSW**	Batch ID:	**15996**						Analysis Date:	**1/23/2017**		SeqNo:	**647431**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		90.6	0.500	100.0	0	90.6	85	115						

Sample ID	**1701204-001ADUP**	SampType:	**DUP**			Units:	**µg/L**		Prep Date:	**1/23/2017**		RunNo:	**34023**	
Client ID:	**BATCH**	Batch ID:	**15996**						Analysis Date:	**1/23/2017**		SeqNo:	**647433**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		21.1	0.500						22.00	4.04	30			

Sample ID	**1701204-001AMS**	SampType:	**MS**			Units:	**µg/L**		Prep Date:	**1/23/2017**		RunNo:	**34023**	
Client ID:	**BATCH**	Batch ID:	**15996**						Analysis Date:	**1/23/2017**		SeqNo:	**647434**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		207	0.500	200.0	22.00	92.5	70	130						

Sample ID	**1701204-001AMSD**	SampType:	**MSD**			Units:	**µg/L**		Prep Date:	**1/23/2017**		RunNo:	**34023**	
Client ID:	**BATCH**	Batch ID:	**15996**						Analysis Date:	**1/23/2017**		SeqNo:	**647435**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		207	0.500	200.0	22.00	92.7	70	130	207.0	0.202	30			

Sample Log-In Check List

Client Name:	**FE**	Work Order Number:	**1701233**
Logged by:	**Erica Silva**	Date Received:	**1/23/2017 12:25:00 PM**

Chain of Custody

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

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 ☐
	Samples received at appropriate temperature			
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
10.	Are samples properly preserved?	Yes ☑	No ☐	
11.	Was preservative added to bottles?	Yes ☑	No ☐	NA ☐
		HNO3 to 004A, 005A, 011A, 012A, 016A, 017A		
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:	Amanda Enbysk	Date	1/23/2017
By Whom:	Erica Silva	Via:	☑ eMail ☑ Phone ☐ Fax ☐ In Person
Regarding:	Two bottles labeled "51" received, one bottle labeled "P-CDF-48" received		
Client Instructions:	Designate one "51a" and one "51b" and run both, add "48" to COC and run		

19. Additional remarks:

Item Information

Item #	Temp ºC
Cooler	11.3
Sample	9.7

* 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.
Seattle, WA 98103

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

Date: 1/21/2017

Laboratory Project No (internal): 1701233

Page: 1 of: 3

Project Name: ~~Southgate~~ Kennewick SD Drinking Water - Southgate Elementary

Project No: 162017

Collected by: Amanda Enbysk & Nathan Bostrom

Location: Southgate Elementary, Kennewick, WA

Client: Fulcrum Environmental Consulting

Address: 406 North Second Street

City, State, Zip: Yakima, WA 98901

Report To (PM): Ryan Mathews

Telephone: 509.574.0839 Fax: 509.545.8453

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)	Comments
SGE12117-~~S~~P-CF-07	1/21/2017	0915	DW									X				HNO_3 preserved
SGE12117-P-OF-09												X				
SGE12117-P-COF-10												X				
SGE12117-S-COF-10																HOLD; unpreserved
SGE12117-T-COF-10																HOLD; unpreserved
SGE12117-P-NF-11												X				HNO_3 preserved
SGE12117-P-COF-15												X				
SGE12117-P-CF-23												X				
SGE12117-P-CF-25												X				
SGE12117-P-CF-29												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 samples

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 ~~Amanda MG~~	1/21/2017, 1600	x	
Relinquished	Date/Time	Received	Date/Time
x Amanda MG	1/23/2017, 1225	x	1/23/17 1225

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

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

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: 1/21/2017 | Laboratory Project No (internal): 1701233 | Page: 2 of: 3

Project Name: Kennewick SD Drinking Water – Southgate Elementary
Project No: 162017 | Collected by:
Location: Southgate Elementary, 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: 509.545.8453

*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)	Comments
SGE12117-S-CF-29	1/21/17	0915	DW														HOLD; unpreserved
SGE12117-T-CF-29	↓	↓	↓														HOLD; unpreserved
SGE12117-P-CDF-30												⊗					HNO_3 preserved
SGE12117-P-CDF-31												⊗					↓
SGE12117-P-CF-32												⊗					
SGE12117-S-CF-32																	HOLD; unpreserved
SGE12117-T-CF-32																	HOLD; unpreserved
SGE12117-P-CF-35												⊗					HNO_3 preserved
SGE12117-P-CF-41												⊗					↓
SGE12117-P-CDF-42	↓	↓	↓									⊗					↓

**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

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Special Remarks: Please preserve all unpr. samples

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 ~~Amanda M Eng~~	~~1/21/2017; 1600~~	x	
x Amanda M Eng	1/23/2017, 1225	x	1/23/17 1225

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

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

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: 1/21/2017

Laboratory Project No (internal): 1701233

Page: 3 of: 3

Client: Fulcrum Environmental Consulting
Address: 406 North Second Street
City, State, Zip: Yakima, WA 98901
Telephone: 509.574.0839 Fax: 509.545.8453

Project Name: Kennewick SD Drinking Water - Southgate Elementary
Project No: 162017 Collected by: Amanda Enbysk & Nathan Bostrom
Location: Southgate Elementary, 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)	Comments
SGE12117-P-COF-43	1/21/17	0915	DW									⊗					HNO_3 preserved
SGE12117-P-COF-49												⊗					
SGE12117-P-COF-50												⊗					
SGE12117-P-COF-51a												⊗					
SGE12117-P-COF-51b												⊗					
SGE12117-P-COF-48												⊗					1/23/17

**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.)

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TAT: ASAP

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

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
1st	x Amanda M Enbysk	1/21/2017; 1600	x	
2nd	x Amanda M Enbysk	1/23/2017, 1225	x	1/23/17 1225

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 - Southgate Elementary Follow-Up Sampling
Work Order Number: 1701342

February 08, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 8 sample(s) on 1/30/2017 for the analyses presented in the following report.

Drinking Water Metals by EPA Method 200.8

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward
Project Manager

CC:
Amanda Enbysk

Date: *02/08/2017*

CLIENT: Fulcrum Environmental
Project: Kennewick SD - Southgate Elementary Follo
Work Order: 1701342

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1701342-001	SGE12817-P-CDF-15	01/28/2017 9:00 AM	01/30/2017 9:44 AM
1701342-002	SGE12817-S-CDF-15	01/28/2017 9:00 AM	01/30/2017 9:44 AM
1701342-003	SGE12817-T-CDF-15	01/28/2017 9:00 AM	01/30/2017 9:44 AM
1701342-004	SGE12817-P-CF-35	01/28/2017 9:00 AM	01/30/2017 9:44 AM
1701342-005	SGE12817-S-CF-35	01/28/2017 9:00 AM	01/30/2017 9:44 AM
1701342-006	SGE12817-T-CF-35	01/28/2017 9:00 AM	01/30/2017 9:44 AM
1701342-007	SGE12817-P-CDF-51B	01/28/2017 9:00 AM	01/30/2017 9:44 AM
1701342-008	SGE12817-P-WC-47	01/28/2017 9:00 AM	01/30/2017 9:44 AM

Case Narrative

WO#: **1701342**
Date: **2/8/2017**

CLIENT: Fulcrum Environmental
Project: Kennewick SD - Southgate Elementary Follow-Up Sampling

WorkOrder Narrative:
I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

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

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

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

Prep Sample Comments:
1701342-003A 204409: Prep Comments for EPA200.8, Sample 1701342-003A: Turbidity: 0.03 NTU
1701342-006A 204410: Prep Comments for EPA200.8, Sample 1701342-006A: Turbidity: 0.09 NTU
1701342-001A 205368: Prep Comments for EPA200.8, Sample 1701342-001A: Turbidity: 0.01 NTU
1701342-002A 205369: Prep Comments for EPA200.8, Sample 1701342-002A: Turbidity: 0.15 NTU
1701342-004A 205370: Prep Comments for EPA200.8, Sample 1701342-004A: Turbidity: 0.06 NTU
1701342-005A 205371: Prep Comments for EPA200.8, Sample 1701342-005A: Turbidity: 0.09 NTU
1701342-007A 205372: Prep Comments for EPA200.8, Sample 1701342-007A: Turbidity: 0.02 NTU
1701342-008A 205373: Prep Comments for EPA200.8, Sample 1701342-008A: Turbidity: 0.16 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 - Southgate Elementary Follow-Up Sampling

Lab ID: 1701342-001 **Collection Date:** 1/28/2017 9:00:00 AM
Client Sample ID: **SGE12817-P-CDF-15** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16138		Analyst: TN
Copper	1,260	0.500		µg/L	1	2/6/2017 6:26:05 PM

Lab ID: 1701342-002 **Collection Date:** 1/28/2017 9:00:00 AM
Client Sample ID: **SGE12817-S-CDF-15** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16138		Analyst: TN
Copper	1,120	0.500		µg/L	1	2/6/2017 6:29:42 PM

Lab ID: 1701342-003 **Collection Date:** 1/28/2017 9:00:00 AM
Client Sample ID: **SGE12817-T-CDF-15** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16089		Analyst: TN
Copper	861	0.500		µg/L	1	1/31/2017 7:01:15 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD - Southgate Elementary Follow-Up Sampling

Lab ID: 1701342-004 **Collection Date:** 1/28/2017 9:00:00 AM
Client Sample ID: **SGE12817-P-CF-35** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16138		Analyst: TN
Copper	1,120	0.500		µg/L	1	2/6/2017 6:33:18 PM

Lab ID: 1701342-005 **Collection Date:** 1/28/2017 9:00:00 AM
Client Sample ID: **SGE12817-S-CF-35** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16138		Analyst: TN
Copper	1,220	0.500		µg/L	1	2/6/2017 6:36:55 PM

Lab ID: 1701342-006 **Collection Date:** 1/28/2017 9:00:00 AM
Client Sample ID: **SGE12817-T-CF-35** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16089		Analyst: TN
Copper	304	0.500		µg/L	1	1/31/2017 7:04:52 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD - Southgate Elementary Follow-Up Sampling

Lab ID: 1701342-007 **Collection Date:** 1/28/2017 9:00:00 AM
Client Sample ID: **SGE12817-P-CDF-51B** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16138		Analyst: TN
Copper	ND	0.500		µg/L	1	2/6/2017 6:47:46 PM

Lab ID: 1701342-008 **Collection Date:** 1/28/2017 9:00:00 AM
Client Sample ID: **SGE12817-P-WC-47** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16138		Analyst: TN
Copper	1,290	0.500		µg/L	1	2/6/2017 6:51:22 PM

Work Order: 1701342
CLIENT: Fulcrum Environmental
Project: Kennewick SD - Southgate Elementary Foll

QC SUMMARY REPORT

Drinking Water Metals by EPA Method 200.8

Sample ID	**MB-16138**	SampType:	**MBLK**			Units:	**µg/L**		Prep Date:	**2/6/2017**		RunNo:	**34292**	
Client ID:	**MBLKW**	Batch ID:	**16138**						Analysis Date:	**2/6/2017**		SeqNo:	**653845**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		ND	0.500											

Sample ID	**LCS-16138**	SampType:	**LCS**			Units:	**µg/L**		Prep Date:	**2/6/2017**		RunNo:	**34292**	
Client ID:	**LCSW**	Batch ID:	**16138**						Analysis Date:	**2/6/2017**		SeqNo:	**653846**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		98.7	0.500	100.0	0	98.7	85	115						

Sample ID	**1701297-003ADUP**	SampType:	**DUP**			Units:	**µg/L**		Prep Date:	**2/6/2017**		RunNo:	**34292**	
Client ID:	**BATCH**	Batch ID:	**16138**						Analysis Date:	**2/6/2017**		SeqNo:	**653848**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		17.3	0.500						17.01	1.58	30			

Sample ID	**1701297-003AMS**	SampType:	**MS**			Units:	**µg/L**		Prep Date:	**2/6/2017**		RunNo:	**34292**	
Client ID:	**BATCH**	Batch ID:	**16138**						Analysis Date:	**2/6/2017**		SeqNo:	**653849**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		222	0.500	200.0	17.01	102	70	130						

Sample ID	**1701297-003AMSD**	SampType:	**MSD**			Units:	**µg/L**		Prep Date:	**2/6/2017**		RunNo:	**34292**	
Client ID:	**BATCH**	Batch ID:	**16138**						Analysis Date:	**2/6/2017**		SeqNo:	**653850**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		204	0.500	200.0	17.01	93.3	70	130	222.0	8.60	30			

Work Order: 1701342
CLIENT: Fulcrum Environmental
Project: Kennewick SD - Southgate Elementary Foll

QC SUMMARY REPORT

Drinking Water Metals by EPA Method 200.8

Sample ID	**MB-16089**	SampType:	**MBLK**			Units:	**µg/L**	Prep Date:	**1/31/2017**	RunNo:	**34194**
Client ID:	**MBLKW**	Batch ID:	**16089**					Analysis Date:	**1/31/2017**	SeqNo:	**651595**

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

Sample ID	**LCS-16089**	SampType:	**LCS**			Units:	**µg/L**	Prep Date:	**1/31/2017**	RunNo:	**34194**
Client ID:	**LCSW**	Batch ID:	**16089**					Analysis Date:	**1/31/2017**	SeqNo:	**651596**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	112	0.500	100.0	0	112	85	115				

Sample ID	**1701340-033ADUP**	SampType:	**DUP**			Units:	**µg/L**	Prep Date:	**1/31/2017**	RunNo:	**34194**
Client ID:	**BATCH**	Batch ID:	**16089**					Analysis Date:	**1/31/2017**	SeqNo:	**651598**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	1,310	0.500						1,344	2.78	30	

Sample ID	**1701340-033AMS**	SampType:	**MS**			Units:	**µg/L**	Prep Date:	**1/31/2017**	RunNo:	**34194**
Client ID:	**BATCH**	Batch ID:	**16089**					Analysis Date:	**1/31/2017**	SeqNo:	**651599**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	1,570	0.500	200.0	1,344	111	70	130				

Sample ID	**1701340-033AMSD**	SampType:	**MSD**			Units:	**µg/L**	Prep Date:	**1/31/2017**	RunNo:	**34194**
Client ID:	**BATCH**	Batch ID:	**16089**					Analysis Date:	**1/31/2017**	SeqNo:	**651600**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	1,530	0.500	200.0	1,344	93.3	70	130	1,566	2.26	30	

Sample Log-In Check List

Client Name:	**FE**	Work Order Number:	**1701342**
Logged by:	**Clare Griggs**	Date Received:	**1/30/2017 9:44:00 AM**

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Most samples were in a cooler that was not delivered on-time. Remaining samples were received on 2/3/17.

Item Information

Item #	Temp ºC
Cooler	8.5
Sample	8.8

* 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: 1/28/2017 Laboratory Project No (internal): 1701342

Page: 1 of: 1

Client: Fulcrum Environmental Consulting
Address: 406 North Second Street
City, State, Zip: Yakima, WA 98901
Telephone: 509.574.0839 Fax: 509.545.8453

Project Name: Kennewick SD - Southgate Elementary Follow-Up Sampling
Project No: 162017 Collected by: Logan Lopez
Location: Southgate Elementary 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)	Comments
SGE 12817-P-CDF-15	1/28/2017	0900	DW										X				
SGE 12817-S-CDF-15													X				
SGE 12817-T-CDF-15													X				
SGE 12817-P-CF-35													X				
SGE 12817-S-CF-35													X				
SGE 12817-T-CF-35													X				
SGE 12817-P-CDF-51b													X				
(30) SGE 12817-P-CDF-48																	
SGE 12817-P-WC-47													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: All HNO_3 preserved

TAT: ASAP

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

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 McEx	1/28/2017; 1530	x	1/30/17 0944
x		x	

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

www.fremontanalytical.com

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 - Southgate Elementary
Work Order Number: 1703023

March 10, 2017

Attention Ryan Mathews:

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

Drinking Water Metals by EPA Method 200.8

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward
Project Manager

CC:
Amanda Enbysk

Date: *03/10/2017*

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Southgate
Work Order: 1703023

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1703023-001	SGE3217-P-CDF-15	03/02/2017 7:00 AM	03/03/2017 9:30 AM
1703023-002	SGE3217-S-CDF-15	03/02/2017 7:00 AM	03/03/2017 9:30 AM
1703023-003	SGE3217-T-CDF-15	03/02/2017 7:00 AM	03/03/2017 9:30 AM
1703023-004	SGE3217-P-CDF-32	03/02/2017 7:00 AM	03/03/2017 9:30 AM
1703023-005	SGE3217-S-CDF-32	03/02/2017 7:00 AM	03/03/2017 9:30 AM
1703023-006	SGE3217-T-CDF-32	03/02/2017 7:00 AM	03/03/2017 9:30 AM
1703023-007	SGE3217-P-CF-35	03/02/2017 7:00 AM	03/03/2017 9:30 AM
1703023-008	SGE3217-S-CF-35	03/02/2017 7:00 AM	03/03/2017 9:30 AM
1703023-009	SGE3217-T-CF-35	03/02/2017 7:00 AM	03/03/2017 9:30 AM
1703023-010	SGE3217-P-WC-46	03/02/2017 7:00 AM	03/03/2017 9:30 AM
1703023-011	SGE3217-P-WC-47	03/02/2017 7:00 AM	03/03/2017 9:30 AM

Case Narrative

WO#: **1703023**
Date: **3/10/2017**

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Southgate Elementary

WorkOrder Narrative:
I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

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

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

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

Prep Sample Comments:
1703023-001A 209595: Prep Comments for EPA200.8, Sample 1703023-001A: Turbidity: 0.00 NTU
1703023-004A 209596: Prep Comments for EPA200.8, Sample 1703023-004A: Turbidity: 0.00 NTU
1703023-007A 209597: Prep Comments for EPA200.8, Sample 1703023-007A: Turbidity: 0.00 NTU
1703023-010A 209598: Prep Comments for EPA200.8, Sample 1703023-010A: Turbidity: 0.00 NTU
1703023-011A 209599: Prep Comments for EPA200.8, Sample 1703023-011A: Turbidity: 0.00 NTU

Qualifiers:

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

Acronyms:

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

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Southgate Elementary

Lab ID: 1703023-001 **Collection Date:** 3/2/2017 7:00:00 AM
Client Sample ID: **SGE3217-P-CDF-15** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16420		Analyst: TN
Copper	963	0.500		µg/L	1	3/10/2017 11:24:01 AM

Lab ID: 1703023-004 **Collection Date:** 3/2/2017 7:00:00 AM
Client Sample ID: **SGE3217-P-CDF-32** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16420		Analyst: TN
Copper	918	0.500		µg/L	1	3/10/2017 11:29:32 AM

Lab ID: 1703023-007 **Collection Date:** 3/2/2017 7:00:00 AM
Client Sample ID: **SGE3217-P-CF-35** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16420		Analyst: TN
Copper	1,070	0.500		µg/L	1	3/10/2017 11:35:03 AM

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Southgate Elementary

Lab ID: 1703023-010 **Collection Date:** 3/2/2017 7:00:00 AM
Client Sample ID: **SGE3217-P-WC-46** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16420		Analyst: TN
Copper	ND	0.500		µg/L	1	3/10/2017 12:50:16 PM

Lab ID: 1703023-011 **Collection Date:** 3/2/2017 7:00:00 AM
Client Sample ID: **SGE3217-P-WC-47** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16420		Analyst: TN
Copper	1,190	0.500		µg/L	1	3/10/2017 12:54:18 PM

Work Order: 1703023
CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Southgate

QC SUMMARY REPORT

Drinking Water Metals by EPA Method 200.8

Sample ID	**MB-16420**	SampType:	**MBLK**			Units:	**µg/L**		Prep Date:	**3/6/2017**		RunNo:	**34873**	
Client ID:	**MBLKW**	Batch ID:	**16420**						Analysis Date:	**3/10/2017**		SeqNo:	**665786**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		ND	0.500											

Sample ID	**LCS-16420**	SampType:	**LCS**			Units:	**µg/L**		Prep Date:	**3/6/2017**		RunNo:	**34873**	
Client ID:	**LCSW**	Batch ID:	**16420**						Analysis Date:	**3/10/2017**		SeqNo:	**665787**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		89.3	0.500	100.0	0	89.3	85	115						

Sample ID	**1703021-001ADUP**	SampType:	**DUP**			Units:	**µg/L**		Prep Date:	**3/6/2017**		RunNo:	**34873**	
Client ID:	**BATCH**	Batch ID:	**16420**						Analysis Date:	**3/10/2017**		SeqNo:	**665789**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		16.6	0.500						18.64	11.8	30			

Sample ID	**1703021-001AMS**	SampType:	**MS**			Units:	**µg/L**		Prep Date:	**3/6/2017**		RunNo:	**34873**	
Client ID:	**BATCH**	Batch ID:	**16420**						Analysis Date:	**3/10/2017**		SeqNo:	**665790**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		200	0.500	200.0	18.64	90.5	70	130						

Sample ID	**1703021-001AMSD**	SampType:	**MSD**			Units:	**µg/L**		Prep Date:	**3/6/2017**		RunNo:	**34873**	
Client ID:	**BATCH**	Batch ID:	**16420**						Analysis Date:	**3/10/2017**		SeqNo:	**665791**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		202	0.500	200.0	18.64	91.8	70	130	199.6	1.32	30			

Sample Log-In Check List

Client Name:	**FE**	Work Order Number:	**1703023**
Logged by:	**Erica Silva**	Date Received:	**3/3/2017 9:30:00 AM**

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

19. Additional remarks:

HNO3 added to 002A, 003A, 005A, 006A, 008A, 009A

Item Information

Item #	Temp ºC
Cooler	2.7
Sample	1.3

* 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. Seattle, WA 98103
Tel: 206-352-3790 Fax: 206-352-7178

Date: 3/2/2017 Laboratory Project No (internal): 1703023

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: Kennewick SD Drinking Water - Southgate Elementary
Project No: 162017.02 Collected by: Amanda Enbysk
Location: Southgate Elementary, 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)			Preserved w/ HNO3	Comments
1	SGE3217-P-CDF-15	3-2-17	0700	DW									X						X	
2	SGE3217-S-CDF-15																			R Hold
3	SGE3217-T-CDF-15																			
4	SGE3217-P-CDF-32												X						X	
5	SGE3217-S-CDF-32																			Hold
6	SGE3217-T-CDF-32																			
7	SGE3217-P-CF-35												X						X	
8	SGE3217-S-CF-35																			Hold
9	SGF3217-T-CF-35																			
10	SGE3217-P-WC-46												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 pesere all impr. samples

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 Nathan B	3-2-17 - 4:00 PM	x	3/3/2017 0930
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: 3/2/2017

Laboratory Project No (internal): 1703023

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: Kennewick SD Drinking Water - Southgate Elementary
Project No: 162017.02 Collected by: Amanda Enbysk
Location: Southgate Elementary, 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

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1	SGE3217-P-WC-47	3-2-17	0700	DW									X							X	
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.)

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Special Remarks: see pg 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 3/2/17	4:00	x	3/3/2017 0930
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance