November 3, 2017

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

RE: Winter 2016 Drinking Water Sampling Results
Desert Hills Middle School, 1701 South Clodfelter Road, Kennewick, Washington

Dear Keith:

On Wednesday, December 21, 2016, Fulcrum Environmental Consulting, Inc. (Fulcrum) collected 42 drinking water samples for lead and copper analysis from Desert Hills Middle School (School) located at 1701 South Clodfelter Road in Kennewick, Washington. Initial sampling identified 20 fixture locations with copper concentrations above the guidance levels. Fulcrum returned to the School on January 28, March 4, and March 18, 2017 to collect samples after remediation of the fixtures and laboratory results found concentrations to be below guidance levels. Sampling was completed as part of a District-wide project and all analysis was completed by Washington State Department of Ecology (Ecology) accredited laboratories.

Summary

The purpose of initial sampling was to evaluate current drinking water quality conditions with respect to lead and copper as a result of the increased national and local interest related to lead in drinking water. The intent of sampling was to meet the requirements of the pending regulations set forth in Washington Administrative Code (WAC) 246-366A-130 and 246-366A-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 20 samples with copper concentrations above the Environmental Protection Agency (EPA) action level of 1,300 micrograms per liter (µg/L). Upon receipt of results, the District removed the identified fixtures from service pending remediation and further testing.

Copper is not a significant component in fixtures, but is the primary material in the plumbing system. To remediate elevated copper, the District aggressively flushed the fixtures with cold water to clear the plumbing of copper construction debris. Fulcrum returned on January 28, March 4, and March 18, and collected samples to evaluate the success of the remediation. Most follow-up samples yielded results below

[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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the EPA action level, confirming the remediation was successful. Two fixtures, both located in Classroom 109, did not respond to remediation and remained above the action level. Fulcrum recommended and the District elected to install signage indicating the fixtures should be used only for handwashing. Following sampling and review of laboratory results, Fulcrum recommended, and District elected to, return all fixtures reporting below action levels to service.

As all samples now report concentrations below lead and copper action levels, at this time Fulcrum does not recommend any additional sampling. However, consistent with industry practice and the intent of WAC 246-366A, Fulcrum recommends that the District complete re-sampling of the building within the next five years (before December 2021). See Figure 1-A and 1-B in Attachment A for fixture locations and laboratory results.

Sampling Methodology

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

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

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

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

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

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

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Sampling Activities

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

Initial Sampling

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

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

Fixture Replacement and Flushing

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

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

All fixtures with elevated copper were flushed aggressively by running water through the fixture at high flow with the aerator removed for approximately 30 minutes to clear the plumbing of any debris potentially causing elevated copper concentrations. Following an aggressive flush, fixtures were resampled to evaluate the effectiveness at reducing copper concentrations. The District elected to install filters, install signage indicating the fixtures should be used only for handwashing, or permanently removed 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

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unpreserved polyethylene container immediately following the first draw. No water was lost between collection of the first and second draw samples. The third draw water volume is a 1,000 mL sample collected into a one liter unpreserved polyethylene container after the fixture has been flushed for about three to five minutes.

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

Analytical Results

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

Initial Sampling

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

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

Remedial Sampling

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

Discussion

Initial Sampling

Analytical results identified 20 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

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completed an aggressive flush of the fixtures. Fulcrum returned on the morning following the aggressive flush, January 28, March 4, and March 18, 2017, to collect follow-up samples.

Analytical results from remedial sampling indicated the aggressive flush was successful at reducing copper concentrations below the action level for all but two of the fixtures. Fulcrum recommended the District install signage indicating the fixtures, both located in Room 109, should be used only for handwashing.

Recommendations

No samples were found to contain lead concentrations above the EPA action level of 15 µg/L. A total of 20 initial samples contained copper above the EPA action level of 1,300 µg/L. The District completed aggressive flushes to reduce the copper concentration of the fixture and a follow-up sampling yielded results below the EPA action level for all but two fixtures. Fulcrum recommended, and the District elected, to install signage indicating the fixtures, both located in Room 109, should be used only for handwashing. Following sampling and review of laboratory results, Fulcrum recommended, and the District elected, to return all fixtures reporting below action levels to service.

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

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

Sincerely,

Amanda Enbysk, GIT
Environmental Geologist

Ryan K. Mathews, CIH, CHMM
Principal

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ATTACHMENT A

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

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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.

KF-01

Sampling Event	Pb	Cu
Initial (12/21/16)	<1.0	2,000
1/28/17: Aggressive Flush, 1st Draw	-	1,960
1/28/17: 2nd Draw	-	1,680
1/28/17: 3rd Draw	-	958
3/4/17: Aggressive Flush	-	1,720

KF-02

Sampling Event	Pb	Cu
Initial (12/21/16)	4	2,000
1/28/17: Aggressive Flush	-	1,650
3/4/17: Aggressive Flush	-	2,020

KF-03

Sampling Event	Pb	Cu
Initial (12/21/16)	5	1,200
1/28/17: Aggressive Flush	-	747

KF-04

Sampling Event	Pb	Cu
Initial (12/21/16)	1	1,300
1/28/17: Aggressive Flush	-	1,100

KF-05

Sampling Event	Pb	Cu
Initial (12/21/16)	<1.0	2,000
1/28/17: Aggressive Flush	-	2,040
3/4/17: Aggressive Flush	-	1,650

KF-06

Sampling Event	Pb	Cu
Initial (12/21/16)	2	1,900
1/28/17: Aggressive Flush	-	1,710
3/4/17: Aggressive Flush	-	1,460

Sampling Event	CF-35	CDF-36
Lead Results		
Initial (12/21/16)	<1.0	<1.0
Copper Results		
Initial (12/21/16)	1,500	1,600
3/4/17: Aggressive Flush	859	659

CF-28

Sampling Event	Pb	Cu
Initial (12/21/16)	1	1,700
1/28/17: Aggressive Flush	-	1,180

CF-37

Sampling Event	Pb	Cu
Initial (12/21/16)	<1.0	1,300
3/4/17: Aggressive Flush	-	3,070
3/18/17: Aggressive Flush	-	1,360

CF-17

Sampling Event	Pb	Cu
Initial (12/21/16)	<1.0	1,200
1/28/17: Aggressive Flush	-	1,220

CF-38

Sampling Event	Pb	Cu
Initial (12/21/16)	<1.0	1,500
3/4/17: Aggressive Flush	-	1,400
3/18/17: Aggressive Flush	-	1,720

CF-16

Sampling Event	Pb	Cu
Initial (12/21/16)	<1.0	1,300
1/28/17: Aggressive Flush	-	1,080

CF-39

Sampling Event	Pb	Cu
Initial (12/21/16)	3	1,300
1/28/17: Aggressive Flush	-	1,340
3/4/17: Aggressive Flush	-	993

CF-21

Sampling Event	Pb	Cu
Initial (12/21/16)	<1.0	1,400
1/28/17: Aggressive Flush	-	855

CF-40

Sampling Event	Pb	Cu
Initial (12/21/16)	1	1,400
1/28/17: Aggressive Flush	-	1,420
3/4/17: Aggressive Flush	-	1,030

CF-20

Sampling Event	Pb	Cu
Initial (12/21/16)	<1.0	1,500
1/28/17: Aggressive Flush	-	904

OF-22

Sampling Event	Pb	Cu
Initial (12/21/16)	<1.0	1,800
1/28/17: Aggressive Flush	-	1,240

NF-23

Sampling Event	Pb	Cu
Initial (12/21/16)	<1.0	1,200
1/28/17: Aggressive Flush	-	1,070

OF-24

Sampling Event	Pb	Cu
Initial (12/21/16)	<1.0	1,300
1/28/17: Aggressive Flush	-	1,040

WC-08 Pb: <1.0 Cu: 910

WC-09 Pb: <1.0 Cu: 1,100

BF-10 Pb: <1.0 Cu: 1,100

KF-07 Pb: <1.0 Cu: 760

KF-41 Pb: 1 Cu: 1,100

WC-11 Pb: <1.0 Cu: 570

WC-12 Pb: <1.0 Cu: 470

BF-13 Pb: <1.0 Cu: 430

WC-14 Pb: <1.0 Cu: 710

WC-15 Pb: <1.0 Cu: 820

BF-42 Pb: <1.0 Cu: 560

WC-26 Pb: <1.0 Cu: 1,000

BF-27 Pb: <1.0 Cu: 1,000

CF-19 Pb: <1.0 Cu: 1,100

CF-18 Pb: <1.0 Cu: 940

WC-25 Pb: <1.0 Cu: 1,100

Drawing provided by Kennewick School District

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Kennewick SD Drinking Water Sampling. 162017.00. AME. 10302017

Desert Hills Middle School
1701 South Clodfelter Road
Kennewick, Washington

Sample Location Map - First Floor

FIGURE 1-A

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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

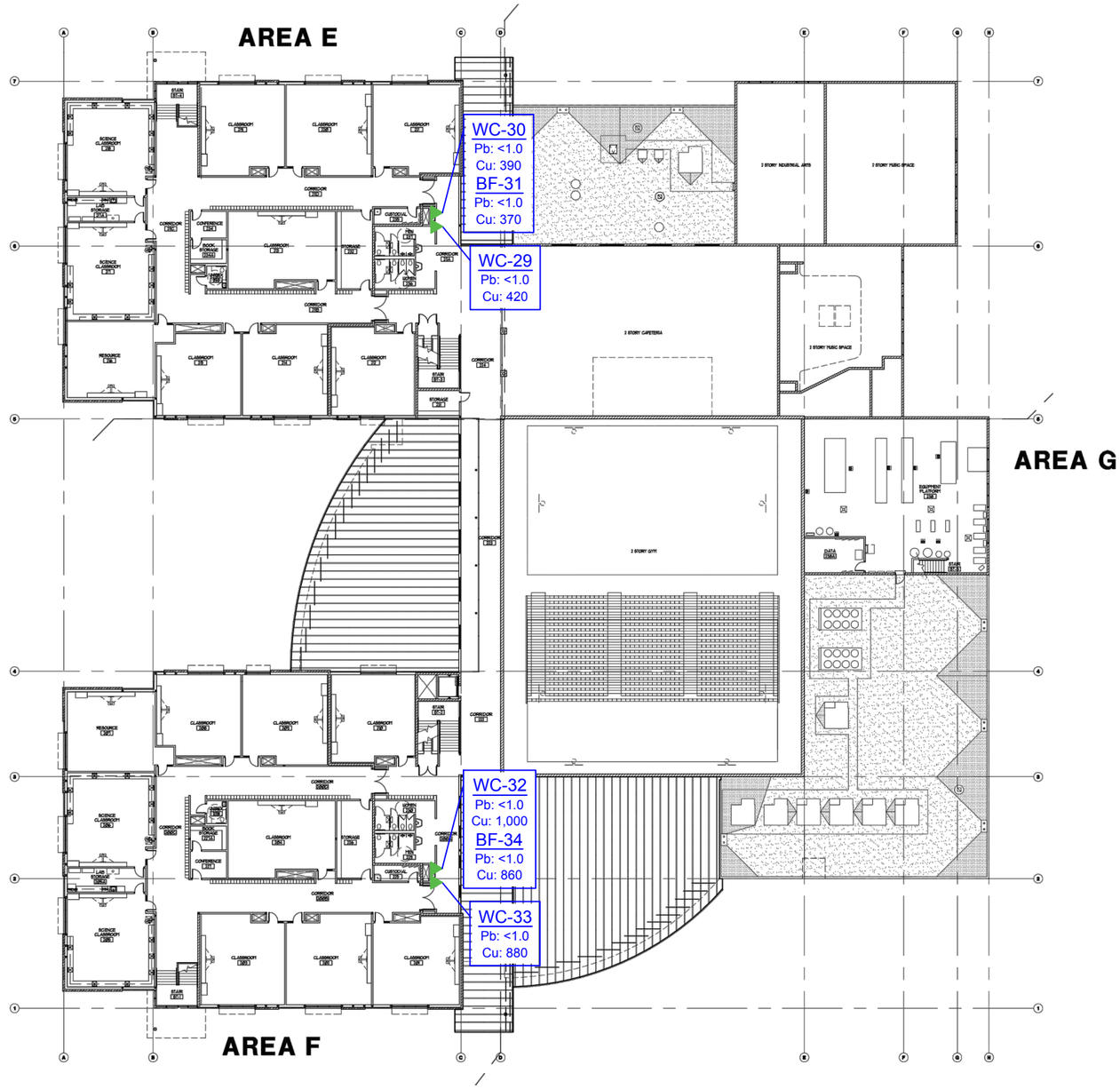
- - Sample location: drinking fountain at sink

- - 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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Desert Hills Middle School
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Sample Location Map - Second Floor

FIGURE
1-B

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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: Desert Hills Middle School Address: 1701 South Clodfelter Road, Kennewick, WA

☐ Elementary ☑ Middle School ☐ High School ☐ Administration

Date of Construction: 2013 Modernizations: N/A

Fixture Type	Locations	Fixture Styles[1]	Samples	Ratio
Drinking fountain/water cooler (DF/WC)	18	2	18	100%
Kitchen Fixture (KF)	9	5	8	89%
Classroom faucet, including faucets in Food Labs and Life Sciences Classrooms (CF)	14	3	12	86%
Classroom drinking fountain at sink (CDF)	1	1	1	100%
Nurse's Office/Health Room (NF)	1	1	1	100%
Teacher's Lounges/Work Rooms (OF)	2	2	2	100%
TOTALS	**45**		**42**	**93%**

1 Fixture styles are approximate based on sampler's observations

Lead Sampler: Levi Wyatt Date: 12/21/2016

Sample Prefix: DHM – 122116 – P (first-draw) – _____ – 01-44

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

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

Comments:

-One hooked vat fill fixture was missed on the north wall of the kitchen.

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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

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Table 1: Initial Sampling Analytical Results

Sample Identification and Location	Fixture Type	Lead Results (µg/L)	Copper Results (µg/L)
DHM122116-P-KF-01: Kitchen, W. wall	**Kitchen Faucet**	<1.0	**2,000**
DHM122116-P-KF-02: Kitchen, N. wall	**Kitchen Faucet**	4	**2,000**
DHM122116-P-KF-03: Kitchen, Vat fill	**Kitchen Faucet**	5	**1,200**
DHM122116-P-KF-04: Kitchen, E. wall, outside coolers	**Kitchen Faucet**	1	**1,300**
DHM122116-P-KF-05: Kitchen, E. wall, south of corridor	**Kitchen Faucet**	<1.0	**2,000**
DHM122116-P-KF-06: Kitchen, à la carte left fixture	**Kitchen Faucet**	2	**1,900**
DHM122116-P-KF-07: Kitchen, à la carte right fixture	Kitchen Faucet	<1.0	760
DHM122116-P-WC-08: Corridor 126, left fixture	Water Cooler Fountain	<1.0	910
DHM122116-P-WC-09: Corridor 126, right fixture	Water Cooler Fountain	<1.0	1,100
DHM122116-P-BF-10: Corridor 126, right fixture	Bottle Filler Fountain	<1.0	1,100
DHM122116-P-WC-11: Main Gym, right fixture	Water Cooler Fountain	<1.0	570
DHM122116-P-WC-12: Main Gym, left fixture	Water Cooler Fountain	<1.0	470
DHM122116-P-BF-13: Main Gym, right fixture	Bottle Filler Fountain	<1.0	430
DHM122116-P-WC-14: Aux. Gym, left fixture	Water Cooler Fountain	<1.0	710
DHM122116-P-WC-15: Aux. Gym, right fixture	Water Cooler Fountain	<1.0	820
DHM122116-P-CF-16: Room 109, leftmost fixture	**Classroom Faucet**	<1.0	**1,300**
DHM122116-P-CF-17: Room 109, Middle right fixture	**Classroom Faucet**	<1.0	**1,200**
DHM122116-P-CF-18: Room 104, East wall	Classroom Faucet	<1.0	940
DHM122116-P-CF-19: Room 104, West wall	Classroom Faucet	<1.0	1,100
DHM122116-P-CF-20: Room 102	**Classroom Faucet**	<1.0	**1,500**
DHM122116-P-CF-21: Room 103	**Classroom Faucet**	<1.0	**1,400**
DHM122116-P-OF-22: Staff Lounge	**Office Faucet**	<1.0	**1,800**
DHM122116-P-NF-23: Nurse's Office	**Nurse's Faucet**	<1.0	**1,200**
DHM122116-P-OF-24: Conference Room	**Office Faucet**	<1.0	**1,300**
DHM122116-P-WC-25: Corridor 124, left fixture	Water Cooler Fountain	<1.0	1,100
DHM122116-P-WC-26: Corridor 124, right fixture	Water Cooler Fountain	<1.0	1,000
DHM122116-P-BF-27: Corridor 124, right fixture	Bottle Filler Fountain	<1.0	1,000
DHM122116-P-CF-28: Choir Room	**Classroom Faucet**	1	**1,700**
DHM122116-P-WC-29: N. end of second floor, left fixture	Water Cooler Fountain	<1.0	420
DHM122116-P-WC-30: N. end of second floor, right fixture	Water Cooler Fountain	<1.0	390
DHM122116-P-BF-31: N. end of second floor, right fixture	Bottle Filler Fountain	<1.0	370
DHM122116-P-WC-32: S. end of second floor, right fixture	Water Cooler Fountain	<1.0	1,000
DHM122116-P-WC-33: S. end of second floor, left fixture	Water Cooler Fountain	<1.0	880
DHM122116-P-BF-34: S. end of second floor, right fixture	Bottle Filler Fountain	<1.0	860
DHM122116-P-CF-35: Band Room	**Classroom Faucet**	<1.0	**1,500**
DHM122116-P-CDF-36: Band Room	**Classroom Drinking Fountain**	<1.0	**1,600**
DHM122116-P-CF-37: Room 109, left middle fixture	**Classroom Faucet**	<1.0	**1,300**

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Sample Identification and Location	Fixture Type	Lead Results (µg/L)	Copper Results (µg/L)
DHM122116-P-CF-38: Room 109, rightmost fixture	**Classroom Faucet**	<1.0	**1,500**
DHM122116-P-CF-39: Room 104, S. wall, right fixture	**Classroom Faucet**	3	**1,300**
DHM122116-P-CF-40: Room 104, S. wall, left fixture	**Classroom Faucet**	1	**1,400**
DHM122116-P-KF-41: Scullery Kitchen	Kitchen Faucet	1	1,100
DHM122116-P-BF-42: Auxiliary Gym, right fixture	Bottle Filler Fountain	<1.0	560
DHM122116-P-CF-43: Laboratory Blank	*Distilled Water Blank*	*<1.0*	*<10*
DHM122116-P-CF-44: Laboratory Spike	*Lead and Copper Spike*	*14*	*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
HM122116-P-KF-01: Kitchen, W. wall	Kitchen Faucet	7.22	7.93	39.0	20.3
DHM122116-P-KF-01: Kitchen, W. wall	Kitchen Faucet	6.89	7.77	18.5	19.5
DHM122116-P-WC-08: Corridor 126, S. fixture	Water Cooler Fountain	7.85	7.83	15.1	14.8
DHM122116-P-WC-12: Main Gym, S. fixture	Water Cooler Fountain	7.71	7.76	16.8	16.6
DHM122116-P-CF-16: Room 109, E. fixture	Classroom Faucet	6.20	7.68	19.6	21.7
DHM122116-P-CF-20: Room 102	Classroom Faucet	7.77	7.71	23.2	20.8
DHM122116-P-OF-24: Conference Room	Office Faucet	7.82	7.76	19.8	21.2
DHM122116-P-BF-27: Corridor 124	Classroom Faucet	8.08	7.84	18.7	14.7
DHM122116-P-WC-32: S. end of second floor, N. fixture	Water Cooler Fountain	7.91	7.90	15.7	15.4
DHM122116-P-CDF-36: Band room, S. fixture	Classroom Drinking Fountain	7.74	7.75	21.5	21.1
DHM122116-P-CF-40: Room 104, S. wall, E. fixture	Classroom Faucet	7.73	7.74	19.5	21.0

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Table 3: Remedial Sampling Analytical Results

Sampling Event	Sample Identification																					
	KF-01	KF-02	KF-03	KF-04	KF-05	KF-06	CF-16	CF-17	CF-20	CF-21	OF-22	NF-23	OF-24	CF-28	CF-35	CDF-36	CF-37	CF-38	CF-39	CF-40	*Laboratory Blank (-43)*	*Laboratory Spike (-44)*
Initial (12/21/2016)	**2,000**	**2,000**	**1,200**	**1,300**	**2,000**	**1,900**	**1,300**	**1,200**	**1,500**	**1,400**	**1,800**	**1,200**	**1,300**	**1,700**	**1,500**	**1,600**	**1,300**	**1,500**	**1,300**	**1,400**	*<10*	*1,200*
First Draw, Aggressive Flush (1/28/2017)	**1,960**	**1,650**	747	1,100	**2,040**	**1,710**	1,080	1,220	904	855	1,240	1,070	1,040	1,180	-	-	-	-	**1,340**	**1,420**	*<0.5*	*1,360*
Second Draw (1/28/2017)	**1,680**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Third Draw (1/28/2017)	958	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aggressive Flush (3/4/2017)	**1,720**	**2,020**	-	-	**1,650**	**1,460**	-	-	-	-	-	-	-	-	859	659	**3,070**	**1,400**	993	1,030	*<0.5*	*1,200*
Aggressive Flush (3/18/2017)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1,360**	**1,720**	-	-	*<0.5*	*1,340*
EPA Action Level	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**

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 44 sample(s) on 12/21/16 for analysis. These sample(s) have been assigned a login order number of W612099. 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

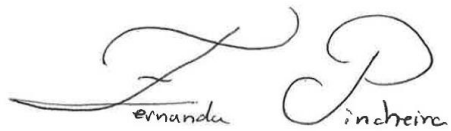
The results provided in this report relate only to the items tested. Sample(s) were received in acceptable conditions unless otherwise noted in the comments above. Sample(s) have not been field blank corrected unless otherwise noted in the general set comments above. The sample(s) were prepared in accordance 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.

-Revision is due to the incorrect dilution factor applied to sample W612099-27 (copper), the correct dilution factor was applied to the sample result for copper and is reflected in the summary page.

-Samples have been analyzed and reported in numerical order of client's sample number. CBAL's sample login numbers have been rearranged to follow the numerical order of client's sample number.

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

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



01/18/17

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.: W612099
COC No.: Kennewick
Samples Received: 12/21/16
Analysis/Prep Date: 01/07/17
Report Date: 01/18/17

Sample Name: DHM122116-P-KF-01 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-01 **Date Analyzed:** 01/07/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	2.0	0.1	X
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: DHM122116-P-KF-02 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-02 **Date Analyzed:** 01/07/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	2.0	0.1	X
Lead	EPA 200.8	0.004	0.001	

Sample Name: DHM122116-P-KF-03 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-03 **Date Analyzed:** 01/07/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.2	0.1	X
Lead	EPA 200.8	0.005	0.001	

Sample Name: DHM122116-P-KF-04 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-04 **Date Analyzed:** 01/07/17

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

Sample Name: DHM122116-P-KF-05 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-05 **Date Analyzed:** 01/07/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	2.0	0.1	X
Lead	EPA 200.8	< 0.0010	0.001	

RJ LEE GROUP

Sample Name: DHM122116-P-KF-06 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-06 **Date Analyzed:** 01/07/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.9	0.1	X
Lead	EPA 200.8	0.002	0.001	

Sample Name: DHM122116-P-KF-07 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-07 **Date Analyzed:** 01/06/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.76	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: DHM122116-P-WC-08 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-08 **Date Analyzed:** 01/06/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.91	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: DHM122116-P-WC-09 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-09 **Date Analyzed:** 01/07/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.1	0.1	X
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: DHM122116-P-BF-10 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-10 **Date Analyzed:** 01/07/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.1	0.1	X
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: DHM122116-P-WC-11 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-11 **Date Analyzed:** 01/06/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.57	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

RJ LEE GROUP

Sample Name: DHM122116-P-WC-12 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-12 **Date Analyzed:** 01/06/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.47	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: DHM122116-P-BF-13 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-13 **Date Analyzed:** 01/06/17

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: DHM122116-P-WC-14 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-14 **Date Analyzed:** 01/06/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.71	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: DHM122116-P-WC-15 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-15 **Date Analyzed:** 01/06/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.82	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: DHM122116-P-CF-16 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-16 **Date Analyzed:** 01/07/17

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: DHM122116-P-CF-17 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-17 **Date Analyzed:** 01/07/17

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	

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Sample Name: DHM122116-P-CF-18 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-18 **Date Analyzed:** 01/06/17

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: DHM122116-P-CF-19 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-19 **Date Analyzed:** 01/07/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.1	0.1	X
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: DHM122116-P-CF-20 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-20 **Date Analyzed:** 01/07/17

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: DHM122116-P-CF-21 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-21 **Date Analyzed:** 01/07/17

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: DHM122116-P-OF-22 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-22 **Date Analyzed:** 01/07/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.8	0.1	X
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: DHM122116-P-NF-23 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-23 **Date Analyzed:** 01/07/17

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	

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Sample Name: DHM122116-P-OF-24 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-24 **Date Analyzed:** 01/07/17

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: DHM122116-P-WC-25 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-25 **Date Analyzed:** 01/07/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.1	0.1	X
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: DHM122116-P-WC-26 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-26 **Date Analyzed:** 01/06/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.00	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: DHM122116-P-BF-27 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-27 **Date Analyzed:** 01/06/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.00	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: DHM122116-P-CF-28 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-28 **Date Analyzed:** 01/07/17

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

Sample Name: DHM122116-P-WC-29 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-29 **Date Analyzed:** 01/06/17

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

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Sample Name: DHM122116-P-WC-30 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-30 **Date Analyzed:** 01/06/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.39	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: DHM122116-P-BF-31 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-31 **Date Analyzed:** 01/06/17

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

Sample Name: DHM122116-P-WC-32 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-32 **Date Analyzed:** 01/06/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.92	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: DHM122116-P-WC-33 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-33 **Date Analyzed:** 01/06/17

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: DHM122116-P-BF-34 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-34 **Date Analyzed:** 01/06/17

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: DHM122116-P-CF-35 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-35 **Date Analyzed:** 01/07/17

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	

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Sample Name: DHM122116-P-CDF-36 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-36 **Date Analyzed:** 01/07/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.6	0.1	X
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: DHM122116-P-CF-37 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-37 **Date Analyzed:** 01/07/17

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: DHM122116-P-CF-38 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-38 **Date Analyzed:** 01/07/17

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: DHM122116-P-CF-39 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-39 **Date Analyzed:** 01/07/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.3	0.1	X
Lead	EPA 200.8	0.003	0.001	

Sample Name: DHM122116-P-CF-40 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-40 **Date Analyzed:** 01/07/17

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

Sample Name: DHM122116-P-KF-41 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-41 **Date Analyzed:** 01/07/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.1	0.1	X
Lead	EPA 200.8	0.001	0.001	

RJ LEE GROUP

Sample Name: DHM122116-P-BF-42 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-42 **Date Analyzed:** 01/06/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.56	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: DHM122116-P-CF-43 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-43 **Date Analyzed:** 01/06/17

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: DHM122116-P-CF-44 **Matrix:** Potable Water **Date Received:** 12/21/16
RJ Lee Grp. ID: W612099-44 **Date Analyzed:** 01/07/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.2	0.1	X
Lead	EPA 200.8	0.014	0.001	

Report Qualifiers:
A = Target Analyte media breakthrough suspect, see analytical report
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

W612099

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
DHM122016-P-KF-01	Kitchen west HW	12/21					X	UNPR	DW	P		13.5
DHM122116-P-KF-02	Kitchen North HW											13.6
DHM122116-P-KF-03	Kitchen VCH											14.5
DHM122116-P-KF-04	Kitchen east											14.3
DHM122116-P-KF05	Kitchen seamless HW											13.9
DHM122116-P-KF-06	Kitchen/dishwasher east HW											14.3
DHM122116-P-KF-07	Kitchen/dishwash sink											14.2
DHM122116-P-WC-08	Cafeteria south											13.3
DHM122116-P-WC-09	cafeteria north											14.1
DHM122116-P-BF-10	Cafeteria bottle filler											13.0
DHM122116-P-WC-11	Gym NW											14.0

Chain of Custody	Relinquished By (Signature):	Date: 12/21	Time: 1:53	Received By (Signature):	Date: DEC 21 2016 Time: 7:40
	Relinquished By (Print Name): Levi Wyatt	Relinquished To:		Received By (Print Name):	Relinquished To:
	Company Name: Fulcrum	Method of Shipment:		Company Name:	Method of Shipment:
Chain of Custody	Relinquished By (Signature):	Date:	Time:	Received By (Signature):	Date: Time:
	Relinquished By (Print Name):	Relinquished To:		Received By (Print Name):	Relinquished To:
	Company Name:	Method of Shipment:		Company Name:	Method of Shipment:

Pennsylvania - HQ
350 Hochberg Road
Monroeville, PA 15146

724.325.1776 **Phone**
724.733.1799 **Fax**

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

509.545.4989 **Phone**
509.544.6010 **Fax**

RJ LEE GROUP
DELIVERING SCIENTIFIC RESOLUTION

Request for Environmental and IH Laboratory Analytical Services

W612099

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 #: 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
DHM122116-P-WC-12	Gym NW	12/21					X	UNPR.	DW	P		13.4
DHM122116-P-BF-13	Gym NW											13.4
DHM122116-P-WC-14	Gym SE											14.5
DHM122116-P-WC-15	Gym SE											15.5
DHM122116-P-BF-42	Gym SE											14.1
DHM122116-P-CF-16	Room 109											14.1
DHM122116-P-CF-17	Room 109											14.0
DHM122116-P-CF-18	Room 104											13.0
DHM122116-P-CF-19	Room 104											13.5
DHM122116-P-CF-20	Room 102											14.1
DHM122116-P-CF-21	Room 103											14.0

Chain of Custody	Relinquished By (Signature): Levi Wyatt	Date: 12/21/16	Time: 1:53	**Chain of Custody**	Received By (Signature): Date: DEC 21 2016 Time: 2:10
	Relinquished By (Print Name):	Relinquished To:			Received By (Print Name): Relinquished To:
	Company Name: Fulcrum	Method of Shipment:			Company Name: Method of Shipment:
Chain of Custody	Relinquished By (Signature):	Date:	Time:	**Chain of Custody**	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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DELIVERING SCIENTIFIC RESOLUTION

Request for Environmental and IH Laboratory Analytical Services

W612099

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 #: 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
DHM122116-P-OF-22	Teacher's Loonge	12/21					X	UNPR	DW	P		13.2
DHM122116-P-NF-23	Nurses' office											13.2
DHM122116-P-OF-24	Conference Room											13.8
DHM122116-P-WC-25	Admin/Sentry											12.3
DHM122116-P-WC-26	↓											12.3
DHM122116-P-BF-27	↓											11.9
DHM122116-P-CF-28	Room 133/Choir											12.9
DHM122116-P-WC-29	2nd Floor N											12.8
DHM122116-P-WC-30	↓											12.8
DHM122116-P-BF-31	↓											12.8
DHM122116-P-WC-32	2nd Floor S											12.8

Chain of Custody	Relinquished By (Signature):	Date: 12/21/16	Time: 1:53	Received By (Signature):	Date: DEC 21 2016 Time: 2:10
	Relinquished By (Print Name): Levi Wyatt	Relinquished To:		Received By (Print Name):	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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RJ LEE GROUP
DELIVERING SCIENTIFIC RESOLUTION

Request for Environmental and IH Laboratory Analytical Services

W612099

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
DHM122116-P-WC-33	2nd Floor S	12/21					X	UNPR.	DW			12.6
DHM122116-P-BF-34	↓											12.5
DHM122116-P-CF-35	Band Room											14.3
DHM122116-P-CDF-36	Band Room											13.3
DHM122116-P-CF-37	Room 109											13.3
DHM122116-P-CF-38	Room 109											11.9
DHM122116-P-CF-39	ROOM 104											13.8
DHM122116-P-CF-40	ROOM 104											13.7
DHM122116-P-KF-41	Kitchen Washroom											13.7
DHM122116-P-CF-~~42~~44	ROOM 107B											10.7
DHM122116-P-CF-43	ROOM 105A	↓					↓	↓	↓	↓		10.0

Chain of Custody	Relinquished By (Signature):	Date: 12/21/16	Time: 1:53	Received By (Signature):	Date: DEC 21 2016 Time: 2:40
	Relinquished By (Print Name): Levi Tuyatt	Relinquished To:		Received By (Print Name):	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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509.544.6010 **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 - Desert Hills MS Follow-up Sampling
Work Order Number: 1701340

February 01, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 36 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

Date: *02/01/2017*

CLIENT: Fulcrum Environmental
Project: Kennewick SD - Desert Hills MS Follow-up
Work Order: 1701340

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1701340-001	DHM12817-P-KF-01	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-002	DHM12817-S-KF-01	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-003	DHM12817-T-KF-01	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-004	DHM12817-P-KF-02	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-005	DHM12817-P-KF-03	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-006	DHM12817-S-KF-03	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-007	DHM12817-T-KF-03	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-008	DHM12817-P-KF-04	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-009	DHM12817-P-KF-05	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-010	DHM12817-P-KF-06	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-011	DHM12817-P-CF-16	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-012	DHM12817-P-CF-17	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-013	DHM12817-P-CF-20	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-014	DHM12817-S-CF-20	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-015	DHM12817-T-CF-20	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-016	DHM12817-P-CF-21	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-017	DHM12817-P-OF-22	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-018	DHM12817-S-OF-22	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-019	DHM12817-T-OF-22	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-020	DHM12817-P-NF-23	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-021	DHM12817-P-OF-24	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-022	DHM12817-P-CF-28	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-023	DHM12817-S-CF-28	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-024	DHM12817-T-CF-28	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-025	DHM12817-P-CF-35	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-026	DHM12817-P-CDF-36	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-027	DHM12817-S-CDF-36	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-028	DHM12817-T-CDF-36	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-029	DHM12817-P-CF-37	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-030	DHM12817-P-CF-38	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-031	DHM12817-S-38	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-032	DHM12817-T-38	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-033	DHM12817-P-CF-39	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-034	DHM12817-P-CF-40	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-035	DHM12817-P-CF-43	01/28/2017 7:30 AM	01/30/2017 9:50 AM
1701340-036	DHM12817-P-CF-44	01/28/2017 7:30 AM	01/30/2017 9:50 AM

Case Narrative

WO#: **1701340**
Date: **2/1/2017**

CLIENT: Fulcrum Environmental
Project: Kennewick SD - Desert Hills MS 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:
1701340-001A 204239: Prep Comments for EPA200.8, Sample 1701340-001A: Turbidiy: 0.07 NTU
1701340-004A 204240: Prep Comments for EPA200.8, Sample 1701340-004A: Turbidiy: 0.16 NTU
1701340-005A 204241: Prep Comments for EPA200.8, Sample 1701340-005A: Turbidiy: 0.42 NTU
1701340-008A 204242: Prep Comments for EPA200.8, Sample 1701340-008A: Turbidiy: 0.10 NTU
1701340-009A 204243: Prep Comments for EPA200.8, Sample 1701340-009A: Turbidiy: 0.05 NTU
1701340-010A 204244: Prep Comments for EPA200.8, Sample 1701340-010A: Turbidiy: 0.10 NTU
1701340-011A 204245: Prep Comments for EPA200.8, Sample 1701340-011A: Turbidiy: 0.09 NTU
1701340-012A 204246: Prep Comments for EPA200.8, Sample 1701340-012A: Turbidiy: 0.15 NTU
1701340-013A 204247: Prep Comments for EPA200.8, Sample 1701340-013A: Turbidiy: 0.15 NTU
1701340-016A 204248: Prep Comments for EPA200.8, Sample 1701340-016A: Turbidiy: 0.20 NTU
1701340-017A 204249: Prep Comments for EPA200.8, Sample 1701340-017A: Turbidiy: 0.08 NTU
1701340-020A 204250: Prep Comments for EPA200.8, Sample 1701340-020A: Turbidiy: 0.19 NTU
1701340-021A 204251: Prep Comments for EPA200.8, Sample 1701340-021A: Turbidiy: 0.25 NTU
1701340-022A 204252: Prep Comments for EPA200.8, Sample 1701340-022A: Turbidiy: 0.26 NTU
1701340-033A 204398: Prep Comments for EPA200.8, Sample 1701340-033A: Turbidity: 0.45 NTU
1701340-034A 204402: Prep Comments for EPA200.8, Sample 1701340-034A: Turbidity: 0.20 NTU
1701340-035A 204403: Prep Comments for EPA200.8, Sample 1701340-035A: Turbidity: 0.05 NTU
1701340-036A 204404: Prep Comments for EPA200.8, Sample 1701340-036A: Turbidity: 0.06 NTU

Qualifiers:

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

Acronyms:

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

CLIENT: Fulcrum Environmental
Project: Kennewick SD - Desert Hills MS Follow-up Sampling

Lab ID: 1701340-001 **Collection Date:** 1/28/2017 7:30:00 AM
Client Sample ID: **DHM12817-P-KF-01** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16073		Analyst: TN
Copper	1,960	0.500		µg/L	1	1/30/2017 10:58:24 PM

Lab ID: 1701340-004 **Collection Date:** 1/28/2017 7:30:00 AM
Client Sample ID: **DHM12817-P-KF-02** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16073		Analyst: TN
Copper	1,650	0.500		µg/L	1	1/30/2017 11:02:01 PM

Lab ID: 1701340-005 **Collection Date:** 1/28/2017 7:30:00 AM
Client Sample ID: **DHM12817-P-KF-03** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16073		Analyst: TN
Copper	747	0.500		µg/L	1	1/30/2017 11:05:37 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD - Desert Hills MS Follow-up Sampling

Lab ID: 1701340-008 **Collection Date:** 1/28/2017 7:30:00 AM
Client Sample ID: **DHM12817-P-KF-04** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16073		Analyst: TN
Copper	1,100	0.500		µg/L	1	1/30/2017 11:09:14 PM

Lab ID: 1701340-009 **Collection Date:** 1/28/2017 7:30:00 AM
Client Sample ID: **DHM12817-P-KF-05** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16073		Analyst: TN
Copper	2,040	0.500		µg/L	1	1/30/2017 11:12:50 PM

Lab ID: 1701340-010 **Collection Date:** 1/28/2017 7:30:00 AM
Client Sample ID: **DHM12817-P-KF-06** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16073		Analyst: TN
Copper	1,710	0.500		µg/L	1	1/30/2017 11:16:26 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD - Desert Hills MS Follow-up Sampling

Lab ID: 1701340-011 **Collection Date:** 1/28/2017 7:30:00 AM
Client Sample ID: **DHM12817-P-CF-16** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16073		Analyst: TN
Copper	1,080	0.500		µg/L	1	1/30/2017 11:20:03 PM

Lab ID: 1701340-012 **Collection Date:** 1/28/2017 7:30:00 AM
Client Sample ID: **DHM12817-P-CF-17** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16073		Analyst: TN
Copper	1,220	0.500		µg/L	1	1/30/2017 11:30:54 PM

Lab ID: 1701340-013 **Collection Date:** 1/28/2017 7:30:00 AM
Client Sample ID: **DHM12817-P-CF-20** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16073		Analyst: TN
Copper	904	0.500		µg/L	1	1/30/2017 11:34:30 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD - Desert Hills MS Follow-up Sampling

Lab ID: 1701340-016 **Collection Date:** 1/28/2017 7:30:00 AM
Client Sample ID: **DHM12817-P-CF-21** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16073		Analyst: TN
Copper	855	0.500		µg/L	1	1/30/2017 11:38:06 PM

Lab ID: 1701340-017 **Collection Date:** 1/28/2017 7:30:00 AM
Client Sample ID: **DHM12817-P-OF-22** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16073		Analyst: TN
Copper	1,240	0.500		µg/L	1	1/30/2017 11:41:43 PM

Lab ID: 1701340-020 **Collection Date:** 1/28/2017 7:30:00 AM
Client Sample ID: **DHM12817-P-NF-23** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16073		Analyst: TN
Copper	1,070	0.500		µg/L	1	1/30/2017 11:45:19 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD - Desert Hills MS Follow-up Sampling

Lab ID: 1701340-021 **Collection Date:** 1/28/2017 7:30:00 AM
Client Sample ID: **DHM12817-P-OF-24** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16073		Analyst: TN
Copper	1,040	0.500		µg/L	1	1/30/2017 11:48:56 PM

Lab ID: 1701340-022 **Collection Date:** 1/28/2017 7:30:00 AM
Client Sample ID: **DHM12817-P-CF-28** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16073		Analyst: TN
Copper	1,180	0.500		µg/L	1	1/30/2017 11:52:32 PM

Lab ID: 1701340-033 **Collection Date:** 1/28/2017 7:30:00 AM
Client Sample ID: **DHM12817-P-CF-39** **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	1,340	0.500		µg/L	1	1/31/2017 6:14:22 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD - Desert Hills MS Follow-up Sampling

Lab ID: 1701340-034 **Collection Date:** 1/28/2017 7:30:00 AM
Client Sample ID: **DHM12817-P-CF-40** **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	1,420	0.500		µg/L	1	1/31/2017 6:28:47 PM

Lab ID: 1701340-035 **Collection Date:** 1/28/2017 7:30:00 AM
Client Sample ID: **DHM12817-P-CF-43** **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	ND	0.500		µg/L	1	1/31/2017 6:32:23 PM

Lab ID: 1701340-036 **Collection Date:** 1/28/2017 7:30:00 AM
Client Sample ID: **DHM12817-P-CF-44** **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	1,360	0.500		µg/L	1	1/31/2017 6:35:59 PM

Work Order: 1701340
CLIENT: Fulcrum Environmental
Project: Kennewick SD - Desert Hills MS Follow-up

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:	**DHM12817-P-CF-39**	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:	**DHM12817-P-CF-39**	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:	**DHM12817-P-CF-39**	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	

Work Order: 1701340
CLIENT: Fulcrum Environmental
Project: Kennewick SD - Desert Hills MS Follow-up

QC SUMMARY REPORT

Drinking Water Metals by EPA Method 200.8

Sample ID	**MB-16073**	SampType:	**MBLK**			Units:	**µg/L**		Prep Date:	**1/30/2017**		RunNo:	**34164**	
Client ID:	**MBLKW**	Batch ID:	**16073**						Analysis Date:	**1/30/2017**		SeqNo:	**650626**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		ND	0.500											

Sample ID	**LCS-16073**	SampType:	**LCS**			Units:	**µg/L**		Prep Date:	**1/30/2017**		RunNo:	**34164**	
Client ID:	**LCSW**	Batch ID:	**16073**						Analysis Date:	**1/30/2017**		SeqNo:	**650629**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		101	0.500	100.0	0	101	85	115						

Sample ID	**1701339-012ADUP**	SampType:	**DUP**			Units:	**µg/L**		Prep Date:	**1/30/2017**		RunNo:	**34164**	
Client ID:	**BATCH**	Batch ID:	**16073**						Analysis Date:	**1/30/2017**		SeqNo:	**650634**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		777	0.500						767.1	1.28	30			

Sample ID	**1701339-012AMS**	SampType:	**MS**			Units:	**µg/L**		Prep Date:	**1/30/2017**		RunNo:	**34164**	
Client ID:	**BATCH**	Batch ID:	**16073**						Analysis Date:	**1/30/2017**		SeqNo:	**650637**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		939	0.500	200.0	767.1	86.1	70	130						

Sample ID	**1701339-012AMSD**	SampType:	**MSD**			Units:	**µg/L**		Prep Date:	**1/30/2017**		RunNo:	**34164**	
Client ID:	**BATCH**	Batch ID:	**16073**						Analysis Date:	**1/30/2017**		SeqNo:	**650639**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		925	0.500	200.0	767.1	79.1	70	130	939.3	1.50	30			

Sample Log-In Check List

Client Name:	**FE**	Work Order Number:	**1701340**
Logged by:	**Erica Silva**	Date Received:	**1/30/2017 9:50:00 AM**

Chain of Custody

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

Log In

3.	Coolers are present?	Yes ☑	No ☐	NA ☐
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐	
5.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☑	Not Required ☐
6.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
7.	Were all items received at a temperature of >0°C to 10.0°C*	Yes ☐	No ☑	NA ☐
	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
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:	Ryan M.	Date	1/31/2017
By Whom:	Erica Silva	Via:	☑ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:	Missing Samples		
Client Instructions:			

19. Additional remarks:

Item Information

Item #	Temp ºC
Cooler	10.6
Sample	8.3

* 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: 1/28/2017

Laboratory Project No (internal): 1701340

Page: 1 of: 4

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

Project Name: Kennewick SD - Desert Hills MS Follow-Up Sampling
Project No: 162017 Collected by: Nate Bostrom, Logan Lopez & Amanda Entsyk
Location: Desert Hills Middle School, Kennewick, WA
Report To (PM): Ryan Mathews
PM Email: rmathews@efulcrum.net; cc: aenbysk@efulcrum.net

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

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8) Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	Comments
DHM12817-P-KF-01	1/28/2017	0730	DW										X				HNO_3 preserved
DHM12817-S-KF-01																	HOLD; unpreserved
DHM12817-T-KF-01																	↓
DHM12817-P-KF-02													X				HNO_3 pres.
DHM12817-P-KF-03													X				~~HOLD; unpr.~~ HNO_3 pres.
DHM12817-S-KF-03																	~~HOLD; unpr.~~
DHM12817-T-KF-03																	↓
DHM12817-P-KF-04													X				HNO_3 pres.
DHM12817-P-KF-05													X				↓
DHM12817-P-KF-06	↓	↓	↓										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

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 Entsyk	1/28/2017; 1530	x	1/30/17 0950
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT: ASAP

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: 1/28/2017 Laboratory Project No (internal): 1701340

Page: 2 of: 4

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

Project Name: Kennewick SD - Desert Hills MS Follow-Up Sampling
Project No: 162017 Collected by: NB, LL, & AE
Location: Desert Hills Middle School, Kennewick, WA
Report To (PM): Ryan Mathews
PM Email: rmathews@efulcrum.net; cc: aenbysk@efulcrum.net

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

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	Comments
DHM12817-P-CF-16	1/28/2017		DW										X				HNO_3 pres.
DHM12817-P-CF-17													X				↓
DHM12817-P-CF-20													X				
DHM12817-S-CF-20																	HOLD; unpr.
DHM12817-T-CF-20																	↓
DHM12817-P-CF-21													X				HNO_3 pres.
DHM12817-P-OF-22													X				↓
DHM12817-S-OF-22																	HOLD; unpr.
DHM12817-T-OF-22																	↓
DHM12817-P-NF-23													X				HNO_3 pres.

**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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Relinquished	Date/Time	Received	Date/Time
x Amanda McGee	1/28/2017; 1530	x	1/30/17 0950
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: 1/28/2017 Laboratory Project No (internal): 1701340

Page: 3 of: 4

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

Project Name: Kennewick SD - Desert Hills MS Follow-Up Sampling
Project No: 162017 Collected by: NB, LL, & AE
Location: Desert Hills Middle School, Kennewick, WA
Report To (PM): Ryan Mathews
PM Email: rmathews@efulcrum.net; cc: aenbysk@efulcrum.net

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

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DHM12817-P-OF-24	1/28/2017	0730	DW										X					HNO_3 pres:
DHM12817-P-CF-28													X					↓
DHM12817-S-CF-28																		HOLD; unpr.
DHM12817-T-CF-28																		↓
DHM12817-P-CF-35													X					HNO_3 pres.
DHM12817-P-CDF-36																		HOLD; unp.
DHM12817-S-CDF-36																		↓
DHM12817-T-CDF-36																		
DHM12817-P-CF-37													X					HNO_3 pres.
DHM12817-P-CF-38													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

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Relinquished	Date/Time	Received	Date/Time
x Amanda MEyer	1/28/2017; 1530	x	1/30/17 0950
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

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Chain of Custody Record and Laboratory Services Agreement

Fremont Analytical
3600 Fremont Ave N.
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Tel: 206-352-3790
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Date: 1/28/2017 | Laboratory Project No (internal): 1701340 | Page: 4 of: 4

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 - Desert Hills MS Follow-Up Sampling
Project No: 162017 Collected by: DB, LL, & AE
Location: Desert Hills Middle School, Kennewick, WA
Report To (PM): Ryan Mathews
PM Email: rmathews@efulcrum.net; cc: aenbysk@efulcrum.net

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

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DHM12817-S-38	1/28/2017	0730	DW														HOLD; unpr.
DHM12817-T-38																	HOLD; unpr.
DHM12817-P-CF-39													X				HNO_3 pres
DHM12817-P-CF-40													X				HNO_3 pres.
DHM12817-P-CF-43													X				HNO_3 pres.
DHM12817-P-CF-44													X				HNO_3 pres.

**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

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Relinquished	Date/Time	Received	Date/Time
x [signature]	1/28/2017, 1530	x [signature]	1/30/17 0950
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

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

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

RE: Kennewick SD Drinking Water - Desert Hills Middle School
Work Order Number: 1703041

March 13, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 18 sample(s) on 3/6/2017 for the analyses presented in the following report.

Drinking Water Metals by EPA Method 200.8

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward
Project Manager

CC:
Amanda Enbysk

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Desert Hills
Work Order: 1703041

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1703041-001	DHM3417-P-KF-01	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-002	DHM3417-P-KF-02	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-003	DHM3417-P-KF-05	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-004	DHM3417-P-KF-06	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-005	DHM3417-P-CF-35	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-006	DHM3417-S-CF-35	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-007	DHM3417-T-CF-35	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-008	DHM3417-P-CDF-36	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-009	DHM3417-P-CF-37	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-010	DHM3417-S-CF-37	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-011	DHM3417-T-CF-37	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-012	DHM3417-P-CF-38	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-013	DHM3417-P-CF-39	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-014	DHM3417-P-CF-40	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-015	DHM3417-S-CF-40	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-016	DHM3417-T-CF-40	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-017	DHM3417-P-CF-43	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-018	DHM3417-P-CF-44	03/04/2017 7:30 AM	03/06/2017 8:39 AM

Case Narrative

WO#: **1703041**
Date: **3/13/2017**

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Desert Hills Middle School

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:
1703041-001A 209737: Prep Comments for EPA200.8, Sample 1703041-001A: Turbidity: 0.00 NTU
1703041-002A 209738: Prep Comments for EPA200.8, Sample 1703041-002A: Turbidity: 0.01 NTU
1703041-003A 209739: Prep Comments for EPA200.8, Sample 1703041-003A: Turbidity: 0.00 NTU
1703041-004A 209740: Prep Comments for EPA200.8, Sample 1703041-004A: Turbidity: 0.00 NTU
1703041-005A 209741: Prep Comments for EPA200.8, Sample 1703041-005A: Turbidity: 0.01 NTU
1703041-008A 209742: Prep Comments for EPA200.8, Sample 1703041-008A: Turbidity: 0.14 NTU
1703041-009A 209743: Prep Comments for EPA200.8, Sample 1703041-009A: Turbidity: 0.63 NTU
1703041-012A 209744: Prep Comments for EPA200.8, Sample 1703041-012A: Turbidity: 0.00 NTU
1703041-013A 209745: Prep Comments for EPA200.8, Sample 1703041-013A: Turbidity: 0.01 NTU
1703041-014A 209746: Prep Comments for EPA200.8, Sample 1703041-014A: Turbidity: 0.01 NTU
1703041-017A 209747: Prep Comments for EPA200.8, Sample 1703041-017A: Turbidity: 0.00 NTU
1703041-018A 209748: Prep Comments for EPA200.8, Sample 1703041-018A: 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 - Desert Hills Middle School

Lab ID: 1703041-001 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: **DHM3417-P-KF-01** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16428		Analyst: TN
Copper	1,720	0.500		µg/L	1	3/10/2017 5:16:40 PM

Lab ID: 1703041-002 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: **DHM3417-P-KF-02** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16428		Analyst: TN
Copper	2,020	0.500		µg/L	1	3/10/2017 5:20:42 PM

Lab ID: 1703041-003 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: **DHM3417-P-KF-05** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16428		Analyst: TN
Copper	1,650	0.500		µg/L	1	3/10/2017 5:24:43 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Desert Hills Middle School

Lab ID: 1703041-004 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: **DHM3417-P-KF-06** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16428		Analyst: TN
Copper	1,460	0.500		µg/L	1	3/10/2017 5:28:45 PM

Lab ID: 1703041-005 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: **DHM3417-P-CF-35** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16428		Analyst: TN
Copper	859	0.500		µg/L	1	3/10/2017 5:40:52 PM

Lab ID: 1703041-008 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: **DHM3417-P-CDF-36** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16428		Analyst: TN
Copper	659	0.500		µg/L	1	3/10/2017 5:44:54 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Desert Hills Middle School

Lab ID: 1703041-009 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: **DHM3417-P-CF-37** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16428		Analyst: TN
Copper	3,070	0.500		µg/L	1	3/10/2017 5:48:55 PM

Lab ID: 1703041-012 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: **DHM3417-P-CF-38** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16428		Analyst: TN
Copper	1,400	0.500		µg/L	1	3/10/2017 5:52:57 PM

Lab ID: 1703041-013 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: **DHM3417-P-CF-39** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16428		Analyst: TN
Copper	993	0.500		µg/L	1	3/10/2017 5:56:59 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Desert Hills Middle School

Lab ID: 1703041-014 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: **DHM3417-P-CF-40** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16428		Analyst: TN
Copper	1,030	0.500		µg/L	1	3/10/2017 6:01:00 PM

Lab ID: 1703041-017 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: **DHM3417-P-CF-43** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16428		Analyst: TN
Copper	ND	0.500		µg/L	1	3/10/2017 6:05:02 PM

Lab ID: 1703041-018 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: **DHM3417-P-CF-44** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16428		Analyst: TN
Copper	1,200	0.500		µg/L	1	3/10/2017 6:09:03 PM

Work Order: 1703041
CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Desert Hills

QC SUMMARY REPORT

Drinking Water Metals by EPA Method 200.8

Sample ID	**MB-16428**	SampType:	**MBLK**			Units:	**µg/L**		Prep Date:	**3/6/2017**		RunNo:	**34875**	
Client ID:	**MBLKW**	Batch ID:	**16428**						Analysis Date:	**3/10/2017**		SeqNo:	**665889**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		ND	0.500											

Sample ID	**LCS-16428**	SampType:	**LCS**			Units:	**µg/L**		Prep Date:	**3/6/2017**		RunNo:	**34875**	
Client ID:	**LCSW**	Batch ID:	**16428**						Analysis Date:	**3/10/2017**		SeqNo:	**665890**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		89.7	0.500	100.0	0	89.7	85	115						

Sample ID	**1703040-027ADUP**	SampType:	**DUP**			Units:	**µg/L**		Prep Date:	**3/6/2017**		RunNo:	**34875**	
Client ID:	**BATCH**	Batch ID:	**16428**						Analysis Date:	**3/10/2017**		SeqNo:	**665892**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		734	0.500						761.6	3.63	30			

Sample ID	**1703040-027AMS**	SampType:	**MS**			Units:	**µg/L**		Prep Date:	**3/6/2017**		RunNo:	**34875**	
Client ID:	**BATCH**	Batch ID:	**16428**						Analysis Date:	**3/10/2017**		SeqNo:	**665893**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		941	0.500	200.0	761.6	89.7	70	130						

Sample ID	**1703040-027AMSD**	SampType:	**MSD**			Units:	**µg/L**		Prep Date:	**3/6/2017**		RunNo:	**34875**	
Client ID:	**BATCH**	Batch ID:	**16428**						Analysis Date:	**3/10/2017**		SeqNo:	**665894**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		915	0.500	200.0	761.6	76.6	70	130	940.9	2.82	30			

Sample Log-In Check List

Client Name:	**FE**	Work Order Number:	**1703041**
Logged by:	**Clare Griggs**	Date Received:	**3/6/2017 8:39:00 AM**

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Cooler	5.4
Sample	2.4

* 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: 3/4/2017

Laboratory Project No (internal): ~~170304~~ 170304 cg 3/6

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 - Desert Hills Middle School
Project No: 162017.08 Collected by: Amanda Enbysk
Location: Desert Hills Middle School, Kennewick, WA
Report To (PM): Ryan Mathews
PM Email: rmathews@efulcrum.net; cc:aenbysk@efulcrum.net

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

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T)	Dissolved (D)	Anions (IC)***	EDB (8011)	Comments
1	DHM3417-P-KF-01	3/4/2017	0730	DW										X					HNO3 preserved
2	DHM3417-P-KF-02													X					
3	DHM3417-P-KF-05													X					
4	DHM3417-P-KF-06													X					
5	DHM3417-P-CF-35													X					
6	DHM3417-S-CF-35																		HOLD; unpr.
7	DHM3417-T-CF-35																		
8	DHM3417-P-COF-36													X					HNO3 pres.
9	DHM3417-P-CF-37													X					
10	DHM3417-S-CF-37																		HOLD; unpr.

**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 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 Enbysk	3/4/2017; 1300	x	3/6/17 0639
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Chain of Custody Record and Laboratory Services Agreement

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

Date: 3/4/2017 Laboratory Project No (internal): _____

Page: 2 of: 2

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

Project Name: Kennewick SD Drinking Water - Desert Hills Middle School
Project No: 162017.08 Collected by: _____
Location: Desert Hills Middle School, Kennewick, WA
Report To (PM): Ryan Mathews
PM Email: rmathews@efulcrum.net; cc:aenbysk@efulcrum.net

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

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	Comments
1	DHM3417-T-CF-37	3/4/2017	0730	DW														HOLD; unpr.
2	DHM3417-P-CF-38												⊗					HNO_3 pres.
3	DHM3417-P-CF-39												⊗					↓
4	DHM3417-P-CF-40												⊗					
5	DHM3417-S-CF-40																	HOLD; unpr.
6	DHM3417-T-CF-40																	↓
7	DHM3417-P-CF-43												⊗					HNO_3 pres.
8	DHM3417-P-CF-44	↓	↓	↓									⊗					↓
9																		
10																		

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

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

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

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

Special Remarks: see page 1

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

Relinquished	Date/Time	Received	Date/Time
x [signature]	3/4/17; 1300	x [signature]	3/6/17 0939
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

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

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

RE: Kennewick SD Drinking Water - Desert Hills MS
Work Order Number: 1703208

March 21, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 6 sample(s) on 3/20/2017 for the analyses presented in the following report.

Drinking Water Metals by EPA Method 200.8

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward
Project Manager

Date: *03/21/2017*

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Desert Hills
Work Order: 1703208

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1703208-001	DHM31817-P-CF-37	03/18/2017 7:45 AM	03/20/2017 9:00 AM
1703208-002	DHM31817-S-CF-37	03/18/2017 7:45 AM	03/20/2017 9:00 AM
1703208-003	DHM31817-T-CF-37	03/18/2017 7:45 AM	03/20/2017 9:00 AM
1703208-004	DHM31817-P-CF-38	03/18/2017 7:45 AM	03/20/2017 9:00 AM
1703208-005	DHM31817-P-CF-43	03/18/2017 7:45 AM	03/20/2017 9:00 AM
1703208-006	DHM31817-P-CF-44	03/18/2017 7:45 AM	03/20/2017 9:00 AM

Case Narrative

WO#: **1703208**
Date: **3/21/2017**

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Desert Hills MS

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

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

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

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

Prep Sample Comments:
1703208-001A 211540: Prep Comments for EPA200.8, Sample 1703208-001A: 0.00 NTU
1703208-004A 211541: Prep Comments for EPA200.8, Sample 1703208-004A: 0.01 NTU
1703208-005A 211542: Prep Comments for EPA200.8, Sample 1703208-005A: 0.01 NTU
1703208-006A 211543: Prep Comments for EPA200.8, Sample 1703208-006A: 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 - Desert Hills MS

Lab ID: 1703208-001 **Collection Date:** 3/18/2017 7:45:00 AM
Client Sample ID: **DHM31817-P-CF-37** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16538		Analyst: MW
Copper	1,360	0.500		µg/L	1	3/20/2017 4:05:12 PM

Lab ID: 1703208-004 **Collection Date:** 3/18/2017 7:45:00 AM
Client Sample ID: **DHM31817-P-CF-38** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16538		Analyst: MW
Copper	1,720	0.500		µg/L	1	3/20/2017 4:09:14 PM

Lab ID: 1703208-005 **Collection Date:** 3/18/2017 7:45:00 AM
Client Sample ID: **DHM31817-P-CF-43** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16538		Analyst: MW
Copper	ND	0.500		µg/L	1	3/20/2017 4:13:15 PM

Analytical Report

Work Order: **1703208**
Date Reported: **3/21/2017**

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Desert Hills MS

Lab ID: 1703208-006 **Collection Date:** 3/18/2017 7:45:00 AM
Client Sample ID: **DHM31817-P-CF-44** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16538		Analyst: MW
Copper	1,340	0.500		µg/L	1	3/20/2017 4:17:16 PM

Work Order: 1703208
CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Desert Hills

QC SUMMARY REPORT

Drinking Water Metals by EPA Method 200.8

Sample ID	**MB-16538**	SampType:	**MBLK**			Units:	**µg/L**		Prep Date:	**3/20/2017**		RunNo:	**35047**	
Client ID:	**MBLKW**	Batch ID:	**16538**						Analysis Date:	**3/20/2017**		SeqNo:	**669901**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		ND	0.500											

Sample ID	**LCS-16538**	SampType:	**LCS**			Units:	**µg/L**		Prep Date:	**3/20/2017**		RunNo:	**35047**	
Client ID:	**LCSW**	Batch ID:	**16538**						Analysis Date:	**3/20/2017**		SeqNo:	**669902**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		201	0.500	200.0	0	100	85	115						

Sample ID	**1703147-001ADUP**	SampType:	**DUP**			Units:	**µg/L**		Prep Date:	**3/20/2017**		RunNo:	**35047**	
Client ID:	**BATCH**	Batch ID:	**16538**						Analysis Date:	**3/20/2017**		SeqNo:	**669904**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		8.90	0.500						9.003	1.17	30			

Sample ID	**1703147-001AMS**	SampType:	**MS**			Units:	**µg/L**		Prep Date:	**3/20/2017**		RunNo:	**35047**	
Client ID:	**BATCH**	Batch ID:	**16538**						Analysis Date:	**3/20/2017**		SeqNo:	**669905**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		215	0.500	200.0	9.003	103	70	130						

Sample ID	**1703147-001AMSD**	SampType:	**MSD**			Units:	**µg/L**		Prep Date:	**3/20/2017**		RunNo:	**35047**	
Client ID:	**BATCH**	Batch ID:	**16538**						Analysis Date:	**3/20/2017**		SeqNo:	**669906**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Copper		199	0.500	200.0	9.003	95.2	70	130	214.7	7.38	30			

Sample Log-In Check List

Client Name:	**FE**	Work Order Number:	**1703208**
Logged by:	**Erica Silva**	Date Received:	**3/20/2017 9:00:00 AM**

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Cooler	2.9
Sample	1.9

* 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: 3/18/2017
Laboratory Project No (internal): 1703208
Page: 1 of: 1

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

Project Name: Kennewick SD Drinking Water - Desert Hills MS
Project No: 162017.08 Collected by: Amanda Enbysk
Location: Desert Hills MS, Kennewick, WA
Report To (PM): Ryan Mathews
PM Email: rmathews@efulcrum.net; cc: aenbysk@efulcrum.net

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

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	Comments
1	DHM31817-P-CF-37	3/18/2017	0745	DW									⊗					HNO_3 preserved
2	DHM31817-S-CF-37	↓	↓	↓														HOLD; unpreserved
3	DHM31817-T-CF-37																	↓
4	DHM31817-P-CF-38												⊗					HNO_3 preserved
5	DHM31817-P-CF-43												⊗					↓
6	DHM31817-P-CF-44												⊗					
7																		
8																		
9																		
10																		

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

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

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

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

Special Remarks:
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 MC	3/18/17; 1300	x	3/20/2017 0900
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD
^Please coordinate with the lab in advance