

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 School District - Legacy High School

Work Order Number: 1702133

February 14, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 5 sample(s) on 2/13/2017 for the analyses presented in the following report.

Drinking Water Metals by EPA Method 200.8 Total Metals by EPA Method 200.8

This report consists of the following:

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

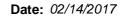
All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward Project Manager

DoD/ELAP Certification #L2371, ISO/IEC 17025:2005 ORELAP Certification: WA 100009-007 (NELAP Recognized)





CLIENT: Fulcrum Environmental Work Order Sample Summary

Project: Kennewick School District - Legacy High Sc

Work Order: 1702133

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1702133-001	LHS21117-P-CF-02	02/11/2017 8:45 AM	02/13/2017 9:35 AM
1702133-002	LHS21117-S-CF-02	02/11/2017 8:45 AM	02/13/2017 9:35 AM
1702133-003	LHS21117-T-CF-02	02/11/2017 8:45 AM	02/13/2017 9:35 AM
1702133-004	LHS21117-P-CF-06	02/11/2017 8:45 AM	02/13/2017 9:35 AM
1702133-005	LHS21117-P-CF-07	02/11/2017 8:45 AM	02/13/2017 9:35 AM



Case Narrative

WO#: **1702133**Date: **2/14/2017**

CLIENT: Fulcrum Environmental

Project: Kennewick School District - Legacy High 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:

1702133-001A 206632: Prep Comments for EPA200.8, Sample 1702133-001A: Turbidity: 1.03 NTU -> fails, needs digestion

1702133-004A 206628: Prep Comments for EPA200.8, Sample 1702133-004A: Turbidity: 0.12 NTU 1702133-005A 206633: Prep Comments for EPA200.8, Sample 1702133-005A: Turbidity: 0.08 NTU



Qualifiers & Acronyms

WO#: **1702133**

Date Reported: 2/14/2017

Qualifiers:

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

Acronyms:

%Rec - Percent Recovery

CCB - Continued Calibration Blank

CCV - Continued Calibration Verification

DF - Dilution Factor

HEM - Hexane Extractable Material

ICV - Initial Calibration Verification

LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate

MB or MBLANK - Method Blank

MDL - Method Detection Limit

MS/MSD - Matrix Spike / Matrix Spike Duplicate

PDS - Post Digestion Spike

Ref Val - Reference Value

RL - Reporting Limit

RPD - Relative Percent Difference

SD - Serial Dilution

SGT - Silica Gel Treatment

SPK - Spike

Surr - Surrogate



Analytical Report

Work Order: 1702133

Date Reported: **2/14/2017**

CLIENT: Fulcrum Environmental

Project: Kennewick School District - Legacy High School

Lab ID: 1702133-001 **Collection Date:** 2/11/2017 8:45:00 AM

Client Sample ID: LHS21117-P-CF-02 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

Total Metals by EPA Method 200.8 Batch ID: 16223 Analyst: TN

Copper 1,850 0.500 μg/L 1 2/14/2017 1:01:07 PM

Lab ID: 1702133-004 **Collection Date:** 2/11/2017 8:45:00 AM

Client Sample ID: LHS21117-P-CF-06 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

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

Batch ID: 16209

Analyst: TN

Copper ND 0.500 $\mu g/L$ 1 2/13/2017 6:10:36 PM

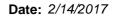
Lab ID: 1702133-005 **Collection Date:** 2/11/2017 8:45:00 AM

Client Sample ID: LHS21117-P-CF-07 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

Drinking Water Metals by EPA Method 200.8 Batch ID: 16209 Analyst: TN

Copper 1,220 0.500 µg/L 1 2/13/2017 6:25:02 PM





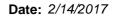
Work Order: 1702133

QC SUMMARY REPORT

CLIENT: Fulcrum Environmental

	nvironmental	acy High S	Drinking Water Metals by EPA Method 200.								
Sample ID MB-16209	SampType: MBLK			Units: µg/L	Prep Date: 2/13/2017 RunNo: 34433						
Client ID: MBLKW	Batch ID: 16209				Analysis Date: 2/13/2017 SeqNo: 657246						
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual						
Copper	ND	0.500									
Sample ID LCS-16209	SampType: LCS			Units: µg/L	Prep Date: 2/13/2017 RunNo: 34433						
Client ID: LCSW	Batch ID: 16209				Analysis Date: 2/13/2017 SeqNo: 657247						
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual						
Copper	92.0	0.500	100.0	0	92.0 85 115						
Sample ID 1702133-004ADUP	SampType: DUP			Units: µg/L	Prep Date: 2/13/2017 RunNo: 34433						
Client ID: LHS21117-P-CF-06	Batch ID: 16209				Analysis Date: 2/13/2017 SeqNo: 657249						
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual						
Copper	ND	0.500			0 30						
Sample ID 1702133-004AMS	SampType: MS			Units: µg/L	Prep Date: 2/13/2017 RunNo: 34433						
Client ID: LHS21117-P-CF-06	Batch ID: 16209				Analysis Date: 2/13/2017 SeqNo: 657250						
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual						
Copper	186	0.500	200.0	0	93.1 70 130						
Sample ID 1702133-004AMSD	SampType: MSD			Units: µg/L	Prep Date: 2/13/2017 RunNo: 34433						
Client ID: LHS21117-P-CF-06	Batch ID: 16209				Analysis Date: 2/13/2017 SeqNo: 657251						
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual						
Copper	189	0.500	200.0	0	94.4 70 130 186.2 1.37 30						

Original Page 6 of 9





Work Order: 1702133

QC SUMMARY REPORT

CLIENT: Fulcrum Environmental

Total Metals by EPA Method 200.8

Project: Kennewick School District - Legacy High Sc

Project:	Kennewick	School District - Lega	cy High S	SC .					101011 1110	talo by El		
Sample ID	MB-16223	SampType: MBLK			Units: µg/L		Prep Date:	2/14/201	17	RunNo: 344	445	
Client ID:	MBLKW	Batch ID: 16223					Analysis Date:	2/14/201	17	564		
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	lighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper		ND	0.500									
Sample ID	LCS-16223	SampType: LCS			Units: µg/L		Prep Date:	2/14/201	17	RunNo: 344	445	
Client ID:	LCSW	Batch ID: 16223					Analysis Date:	2/14/201	17	SeqNo: 65	7567	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	lighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper		111	0.500	100.0	0	111	85	115				
Sample ID	1702133-001ADUP	SampType: DUP			Units: µg/L		Prep Date:	2/14/201	17	RunNo: 344	445	
Client ID:	LHS21117-P-CF-02	Batch ID: 16223					Analysis Date:	2/14/201	17	SeqNo: 65	7569	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	lighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper		1,820	0.500						1,846	1.62	30	
Sample ID	1702133-001AMS	SampType: MS			Units: µg/L		Prep Date:	2/14/201	17	RunNo: 344	445	
Client ID:	LHS21117-P-CF-02	Batch ID: 16223					Analysis Date:	2/14/201	17	SeqNo: 657	7570	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	lighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper		2,280	0.500	500.0	1,846	87.2	70	130				
Sample ID	1702133-001AMSD	SampType: MSD			Units: µg/L		Prep Date:	2/14/201	7	RunNo: 344	445	
Client ID:	LHS21117-P-CF-02	Batch ID: 16223					Analysis Date:	2/14/201	17	SeqNo: 65	7571	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	lighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper		2,330	0.500	500.0	1,846	96.1	70	130	2,282	1.93	30	

Original Page 7 of 9



Sample Log-In Check List

CI	ient Name:	FE		Worl	k Or	3				
Lo	ogged by:	Erica Silva	1	Date	Red	ceived:	2/13	3/20	17 9:35:00 AM	
<u>Cha</u>	in of Custo	ody								
1.	Is Chain of C	ustody com	plete?	Y	'es	✓	No		Not Present	
2.	How was the	sample deli	vered?	E	edE	<u>x</u>				
Log	In									
_	Coolers are p	resent?		Y	'es	✓	No		NA 🗆	
0.	·									
4.	Shipping con	tainer/coole	in good condition?	Y	'es	✓	No			
5.			n shipping container/cooler? custody Seals not intact)	Y	'es		No	✓	Not Required	
6.	Was an atten	npt made to	cool the samples?	Y	'es	✓	No		NA 🗌	
7.	Were all item	s received a	at a temperature of >0°C to 10.0°C)* Y	'es	✓	No		NA \square	
8.	Sample(s) in	proper conta	ainer(s)?	Y	'es	✓	No			
9.	Sufficient san	nple volume	for indicated test(s)?	Y	'es	✓	No			
10.	Are samples	properly pre	served?	Y	'es	✓	No			
11.	Was preserva	ative added	to bottles?	Y	'es	✓	No		NA \square	
									HNO3 to 002A, 003A	
	Is there head				'es		No		NA 🗸	
			s arrive in good condition(unbroke			✓	No			
14.	Does paperw	ork match b	ottle labels?	Y	'es	✓	No	Ш		
15.	Are matrices	correctly ide	entified on Chain of Custody?	Υ	'es	✓	No			
16.	Is it clear wha	at analyses v	were requested?	Y	'es	✓	No			
17.	Were all hold	ling times ab	le to be met?	Y	'es	✓	No			
Spe	cial Handli	ing (if apı	olicable)							
-		•	discrepancies with this order?	Y	'es		No		NA 🗸	
	Person	Notified:		Date						
	By Who			į.	Mai	I ☐ Pho	one 🗌	Fax	☐ In Person	
	Regardi									
		structions:	,							
19	Additional rer		1							
_	Information									
iteiii l	<u> </u>	Item #	Temp °C							

4.8

1.7

Original

Cooler

Sample

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

3600 Fremont Ave N		
ont Ave N.	A Section of the sect	Fre
Tel: 206	Analy	mo
Tel: 206-352-3790	vtical	int

Chain of Custody Record and Laboratory Services Agreement

x Inhon Postor Relinquished x	Sample Disposal: Return to Client Seesesed if samples are re I represent that I am authorized to enter into this Agreement with Fremont agreement to each of the terms on the front and backside of this Agreement.	e): Nitrate	**Metals Analysis (Circle): MTCA-5	A. JOSE DE ROSSINGÉE MENT EL L'ANNE EN L'ANNE		S SANCTON TO BE SEED SENSON TO SECURE THE SECURITY SECURI	LHS21117-P-CF-07	LHS21117-P-CF-06	LHS21117-T-CF-02	LHS21117-S-CF-02	LHS21117-P-CF-02	Sample Name	*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk,	Telephone: 50	City, State, Zip:	Address: 40	Client: FI	3600 Fremont Ave N. Seattle, WA 98103	
Date/Time	Return to Client assesse rized to enter into this Agreemen ms on the front and backside of	Chloride	CA-5 RCRA-8 Priority Pollutants		AC OF CHARLES	el antena	2/11/2017	2/11/2017	2/11/2017	2/11/2017	2/11/2017 8:	Sample Date Time	0 = Other,	509.574.0839	Yakima, WA 98901	406 North Second Street	Fulcrum Environmental Consulting	Tel: 206-352-3790 Fax: 206-352-7178	Analytical
h /a/III/I7 × Received x	An	Sulfate Bromide O-Phosphate	llutants TAL Individual: Ag	E. S. A.		CXX	DW	DW	DW	DW	8:45/4M DW	Sample Sample Control (State)	P = Product, S = Soil, SD = Sediment, S	Fax: 509.545.8453	to essent some offst and the resident	A DESCRIPTION OF THE PARTY AND THE SECOND OF	ulting		
Date/Time	half of the Client named above	te Fluoride Nitrate+Nitrite	Al As B Ba Be Ca Cd Co Cr				×	×					SL = Solid, W = Water, DW = Drinking Water,	6	(PM):		Project Name: Ke		
Date/Time	on the following business day. that I have verified Client's	ite Turn-around times for samples received after 4:00pm will begin	Eu Fe Hg K Mg Mn Mo Na Ni				X				^	(1) (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	ing Water, GW = Ground Water, SW =	rmathews@efulcrum.net; cc: aenbysk@efulcrum.net	Ryan Mathews	. Kennewick, WA	Kennewick School District - Legacy High Scho 162017.16 Colle		Date: 2/11/2017
TAT) → SameDay^ NextDay^ 2 Day 3 Day STD	Unpreserved Samples TAT		Pb Sb Se Sr Sn Ti Tl U V Zn	altered to secure of energy the second tensor (300 c.c.s.) the seeks of the	아름 기타고 게 걸었는 모바다. 그 그 TSU jat Gastile for 10 and 5	(Texerved) Will (TWO3		Preserved 12, th HOUZ	Itold	H.G	Preferred With HND2	Comments	SW = Storm Water, WW = Waste Water	(@efulcrum.net	and to select real assertableshaseans, assertables and	4	Scho Collected by: Nothern Restriction	Page: 1 of: 1	Laboratory Project No (internal): 1702133

^Please coordinate with the lab in advance