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

RE: Kennewick SD Drinking Water - Kennewick High School

Work Order Number: 1704106

April 10, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 5 sample(s) on 4/10/2017 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

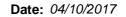
All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward Project Manager CC:

Amanda Enbysk





CLIENT: Fulcrum Environmental Work Order Sample Summary

Project: Kennewick SD Drinking Water - Kennewick

Work Order: 1704106

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1704106-001	KHS4717-P-OF-50	04/07/2017 9:00 AM	04/10/2017 9:55 AM
1704106-002	KHS4717-S-OF-50	04/07/2017 9:00 AM	04/10/2017 9:55 AM
1704106-003	KHS4717-T-OF-50	04/07/2017 9:00 AM	04/10/2017 9:55 AM
1704106-004	KHS4717-P-DF-60	04/07/2017 9:00 AM	04/10/2017 9:55 AM
1704106-005	KHS4717-P-DF-61	04/07/2017 9:00 AM	04/10/2017 9:55 AM



Case Narrative

WO#: **1704106**Date: **4/10/2017**

CLIENT: Fulcrum Environmental

Project: Kennewick SD Drinking Water - Kennewick 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:

1704106-001A 214895: Prep Comments for EPA200.8, Sample 1704106-001A: Turbidity: 0.01 NTU 1704106-004A 214896: Prep Comments for EPA200.8, Sample 1704106-004A: Turbidity: 0.01 NTU 1704106-005A 214897: Prep Comments for EPA200.8, Sample 1704106-005A: Turbidity: 0.04 NTU



Qualifiers & Acronyms

WO#: **1704106**

Date Reported: 4/10/2017

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: 1704106

Date Reported: 4/10/2017

CLIENT: Fulcrum Environmental

Project: Kennewick SD Drinking Water - Kennewick High School

Lab ID: 1704106-001 Collection Date: 4/7/2017 9:00:00 AM

Client Sample ID: KHS4717-P-OF-50 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 16741 Analyst: TN

Copper 670 0.500 μg/L 1 4/10/2017 2:09:51 PM

Lab ID: 1704106-004 **Collection Date:** 4/7/2017 9:00:00 AM

Client Sample ID: KHS4717-P-DF-60 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 16741 Analyst: TN

Copper ND 0.500 $\mu g/L$ 1 4/10/2017 2:13:52 PM

Lab ID: 1704106-005 **Collection Date:** 4/7/2017 9:00:00 AM

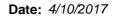
Client Sample ID: KHS4717-P-DF-61 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

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

Batch ID: 16741 Analyst: TN

Copper 1,390 0.500 µg/L 1 4/10/2017 2:17:53 PM





Work Order: 1704106

QC SUMMARY REPORT

CLIENT: Fulcrum Environmental

Project:		SD Drinking Water - I	Kennewic	k		Drinking Water Metals by EPA Method 200.
Sample ID Client ID:	MB-16741 MBLKW	SampType: MBLK Batch ID: 16741			Units: µg/L	Prep Date: 4/10/2017 RunNo: 35452 Analysis Date: 4/10/2017 SeqNo: 679043
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Copper		ND	0.500			
Sample ID	LCS-16741	SampType: LCS			Units: µg/L	Prep Date: 4/10/2017 RunNo: 35452
Client ID:	LCSW	Batch ID: 16741				Analysis Date: 4/10/2017 SeqNo: 679046
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Copper		99.3	0.500	100.0	0	99.3 85 115
Sample ID	1704105-001ADUP	SampType: DUP			Units: µg/L	Prep Date: 4/10/2017 RunNo: 35452
Client ID:	BATCH	Batch ID: 16741				Analysis Date: 4/10/2017 SeqNo: 679048
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Copper		167	0.500			168.0 0.767 30
Sample ID	1704105-001AMS	SampType: MS			Units: µg/L	Prep Date: 4/10/2017 RunNo: 35452
Client ID:	ВАТСН	Batch ID: 16741				Analysis Date: 4/10/2017 SeqNo: 679049
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Copper		351	0.500	200.0	168.0	91.7 70 130
Sample ID	1704105-001AMSD	SampType: MSD			Units: µg/L	Prep Date: 4/10/2017 RunNo: 35452
Client ID:	BATCH	Batch ID: 16741				Analysis Date: 4/10/2017 SeqNo: 679050
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Copper		349	0.500	200.0	168.0	90.6 70 130 351.3 0.592 30

Page 6 of 8 Original



Sample Log-In Check List

С	lient Name:	FE	Work Order Numb	per: 1704106	
Lo	ogged by:	Clare Griggs	Date Received:	4/10/2017	7 9:55:00 AM
Cha	in of Cust	<u>ody</u>			
1.	Is Chain of C	sustody complete?	Yes 🗸	No 🗌	Not Present
2.	How was the	sample delivered?	<u>UPS</u>		
Log	ıIn				
_	Coolers are p	present?	Yes 🗸	No 🗌	NA 🗌
4.	Shipping con	tainer/cooler in good condition?	Yes 🗸	No 🗌	
5.		ls present on shipping container/cooler? nments for Custody Seals not intact)	Yes	No 🗌	Not Required 🗹
6.	Was an atter	npt made to cool the samples?	Yes 🗹	No 🗌	NA \square
7.	Were all item	as 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 sar	mple volume for indicated test(s)?	Yes 🗸	No 🗌	
10.	Are samples	properly preserved?	Yes 🗸	No 🗌	
11.	Was preserva	ative added to bottles?	Yes 🗸	No \square	NA \square
					HNO3
		Ispace in the VOA vials?	Yes 🗌	No 🗌	NA 🗹
		es containers arrive in good condition(unbroken)?	Yes 🗹	No 🗀	
14.	Does paperw	ork match bottle labels?	Yes 🗹	No 🗀	
15.	Are matrices	correctly identified on Chain of Custody?	Yes 🗸	No 🗌	
16.	Is it clear wha	at analyses were requested?	Yes 🗸	No 🗌	
17.	Were all hold	ling times able to be met?	Yes 🗸	No 🗌	
Spe	cial Handl	ing (if applicable)			
-		otified of all discrepancies with this order?	Yes	No 🗌	NA 🗹
		Notified: Da	te		
	By Who		p.	one Fax	In Person
	Regardi				
		nstructions:			
10	Additional rer				
		nano.			
Item	<u>Information</u>				

Item #	Temp ⁰C
Cooler	2.4
Sample	1.1

Original

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

	remont	Chain of Custody Record and La	COID AND Laboratory Project No (internal): 170406
3600 Fremont Ave	N. Tel: 206-352-3790		Page: of:
Seattle, WA 98103		Project Name: KEYNYLUJCK School DSTrict	Kennywick School District Dimkin Water - Kennewick High School of
Client:	Fulcrum Environmental Consulting		cted by: Amanda Enbysk
Address:	406 North Second Street		wick, wa
City, State, Zip:	Yakima, WA, 98901	(PM): Ryan Mathews	E Control of the Cont
Telephone:	509.574.0839 Fax: 50	Fax: 509.575.8453 PM Email: rmathews@efulcrum.net; cc: aenbysk@efulcrum.net	ulcrum.net
*Matrix Codes: A = Air, A	AQ = Aqueous, B = Bulk, O = Other, P = Product	Dri	rm Water, WW = Waste Water
Sample Name	Sample Date Time	Sample Sold Cody Property Cody Cody Sold Cody	Comments Comments
1 KH54717-8-0F-50	0000 H/4/4	88	
2 K#Y+7+3-0F-50	-0F-50		HDLD; ungreserved
09-70-1-17-45HX E	0F-50		*
09-70-9-4124547 P	- OF - 60	⊗	
19-70-9-41245HZ 5	-DF-61 1	← ⊗ ⊗	
6			
7	THE STATE OF THE S		
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10	and the second s		
**Metals Analysis (Circle):	e): MTCA-5 RCRA-8 Priority Pollutants	TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe	Sb Se Sr Sn Ti Tl U V Zn
***Anions (Circle): N	Nitrate Nitrite Chloride Sulfate	Bromide O-Phosphate Fluoride Nitrate+Nitrite Turn-around times for samples received after 4:00pm will begin	Special Remarks:
Sample Disposal:	Return to Client Disposal by Lal	Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A tee may be on the following business day. assessed if samples are retained after 30 days.)	Please present all unpress the
I represent that I am a	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.	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.	19. A.Z.
Relipquished M. C	Date/Time	Received Date/Time U/10/2017 0955	
Relinquished ×	Date/Time	в	TAT → SameDay^ NextDay^ 2 Day 3 Day STD ^Please coordinate with the lab in advance