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Seattle, WA 98103
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Fulcrum Environmental Ryan Mathews

406 N. 2nd Street Yakima, WA 98901

RE: Kennewick SD Drinking Water - Highlands Middle School

Work Order Number: 1702288

February 27, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 5 sample(s) on 2/27/2017 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

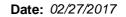
All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

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 - Highlands

Work Order: 1702288

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1702288-001	HMS22517-P-CF-14	02/25/2017 7:45 AM	02/27/2017 9:19 AM
1702288-002	HMS22517-S-CF-14	02/25/2017 7:45 AM	02/27/2017 9:19 AM
1702288-003	HMS22517-T-CF-14	02/25/2017 7:45 AM	02/27/2017 9:19 AM
1702288-004	HMS22517-P-CDF-35	02/25/2017 7:45 AM	02/27/2017 9:19 AM
1702288-005	HMS22517-P-OF-36	02/25/2017 7:45 AM	02/27/2017 9:19 AM



Case Narrative

WO#: **1702288**Date: **2/27/2017**

CLIENT: Fulcrum Environmental

Project: Kennewick SD Drinking Water - Highlands 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:

1702288-004A 208799: Prep Comments for EPA200.8, Sample 1702288-004A: Turbidity: 0.00 NTU 1702288-001A 208798: Prep Comments for EPA200.8, Sample 1702288-001A: Turbidity: 0.00 NTU 1702288-005A 208800: Prep Comments for EPA200.8, Sample 1702288-005A: Turbidity: 0.00 NTU



Qualifiers & Acronyms

WO#: **1702288**

Date Reported: 2/27/2017

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: 1702288

Date Reported: 2/27/2017

CLIENT: Fulcrum Environmental

Project: Kennewick SD Drinking Water - Highlands Middle School

Lab ID: 1702288-001 **Collection Date:** 2/25/2017 7:45:00 AM

Client Sample ID: HMS22517-P-CF-14 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 16360 Analyst: TN

Lead 1.94 1.00 μg/L 1 2/27/2017 4:47:52 PM

Lab ID: 1702288-004 **Collection Date:** 2/25/2017 7:45:00 AM

Client Sample ID: HMS22517-P-CDF-35 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

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

Batch ID: 16360 Analyst: TN

Lead 13.5 1.00 μg/L 1 2/27/2017 4:51:28 PM

Lab ID: 1702288-005 **Collection Date:** 2/25/2017 7:45:00 AM

Client Sample ID: HMS22517-P-OF-36 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 16360 Analyst: TN

Lead ND 1.00 μg/L 1 2/27/2017 4:55:04 PM





Work Order: 1702288

QC SUMMARY REPORT

CLIENT: Fulcrum Environmental

Project:	Kennewick	SD Drinking Water - H	lighlands			Drinking Water Metals by EPA N	lethod 200.
Sample ID	MB-16360	SampType: MBLK			Units: µg/L	Prep Date: 2/27/2017 RunNo: 34678	
Client ID:	MBLKW	Batch ID: 16360				Analysis Date: 2/27/2017 SeqNo: 662272	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RP	DLimit Qual
Lead		ND	1.00				
Sample ID	LCS-16360	SampType: LCS			Units: µg/L	Prep Date: 2/27/2017 RunNo: 34678	
Client ID:	LCSW	Batch ID: 16360				Analysis Date: 2/27/2017 SeqNo: 662273	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RP	DLimit Qual
Lead		44.6	1.00	50.00	0	89.1 85 115	
Sample ID	1702286-001ADUP	SampType: DUP			Units: µg/L	Prep Date: 2/27/2017 RunNo: 34678	
Client ID:	BATCH	Batch ID: 16360				Analysis Date: 2/27/2017 SeqNo: 662277	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RP	DLimit Qual
Lead		6.19	1.00			6.458 4.26	30
Sample ID	1702286-001AMS	SampType: MS			Units: µg/L	Prep Date: 2/27/2017 RunNo: 34678	
Client ID:	BATCH	Batch ID: 16360				Analysis Date: 2/27/2017 SeqNo: 662278	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RP	DLimit Qual
Lead		88.8	1.00	100.0	6.458	82.3 70 130	
Sample ID	1702286-001AMSD	SampType: MSD			Units: µg/L	Prep Date: 2/27/2017 RunNo: 34678	
Client ID:	BATCH	Batch ID: 16360				Analysis Date: 2/27/2017 SeqNo: 662279	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RP	DLimit Qual
Lead		92.3	1.00	100.0	6.458	85.9 70 130 88.79 3.92	30

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Sample Log-In Check List

С	lient Name:	FE	Work Order Numb	er: 1702288	
Lo	ogged by:	Erica Silva	Date Received:	2/27/2017	9:19:00 AM
Cha	in of Custo	<u>ody</u>			
1.	Is Chain of C	ustody complete?	Yes 🗹	No 🗌	Not Present
2.	How was the	sample delivered?	<u>FedEx</u>		
Log	ln .				
_	Coolers are p	present?	Yes 🗸	No 🗌	NA \square
4.	Shipping conf	tainer/cooler in good condition?	Yes 🗸	No \square	
5.		s present on shipping container/cooler? nments for Custody Seals not intact)	Yes	No 🗸	Not Required
6.	Was an atten	npt made to cool the samples?	Yes 🗸	No 🗌	NA 🗌
7.	Were all item	s received at a temperature of >0°C to 10.0°C*	Yes 🗸	No 🗆	na \square
8.	Sample(s) in	proper container(s)?	Yes 🗸	No \square	
9.	Sufficient san	nple volume for indicated test(s)?	Yes 🗹	No \square	
10.	Are samples	properly preserved?	Yes 🗸	No \square	
11.	Was preserva	ative added to bottles?	Yes 🗸	No \square	NA \square
					HNO3
		space 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 \square	
16.	Is it clear wha	at analyses were requested?	Yes 🗸	No 🗌	
17.	Were all hold	ing times able to be met?	Yes 🗸	No 🗌	
Spe	cial Handli	ing (if applicable)			
18.	Was client no	otified of all discrepancies with this order?	Yes	No \square	NA 🗸
	Person	Notified: Date			
	By Who	m: Via:	eMail Pho	one 🗌 Fax [In Person
	Regardi	·			
	_	structions:			
19	Additional rer	narks:			
13.		dded to 002A, 003A			

Item Information

Item #	Temp ºC
Cooler 1	1.8
Cooler 2	0.9
Sample 1	1.2
Sample 2	1.5

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

3600 Fre	
3600 Fremont Ave N.	
N.	0
Tel: 2	
Tel: 206-352-3790	
0	

Chain of Custody Record and Laboratory Services Agreement

TAT: ASAP TAT > SameDay^ NextDay^ 2 Day 3 Day STD	Date/Time	Received D	Pate/Time 36/104/1300 Date/Time	Date/Time	Reimquished Reimquished x
Pleasepreserve unpreserved samples	received after 4:00pm will begin on the following business day. bove, that I have verified Client's	ys unless otherwise noted.) ialf of the Client named	Disposal by Lab (Samples will be held for 30 days. assessed if samples are retained after 30 days. this Agreement with Fremont Analytical on behd backside of this Agreement.	Return to Client Crized to enter into thems on the front and	Sample Disposal: Return to Client Disposal by Lab (Samples assessed 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.
by Sb Se Sr Sn Ti Tl U V Zn Special Remarks:	Fe	O-Phosphate Fluoride Nitrate+Nitrite	Chloride Sulfate Bromide	trite	te
				MTCA-S BCBA-8	**Metals Analysis (Circle)
	8		4	0F-36 1	ANS 22517-8-05-36
HNOD2 pres.	8			0F-35	HM522517-8-COF-35
C				5-14	HM5 22517-1-05-14
HO'D war			34 / 32 / 325	5-14	41-25-5-41SCESNA
HNO3 pres.			2/25/2017 0745 DW		+1-27-6-CE-14
Comments	\$\partial \q	\$\\ \text{\$\frac{1}{2}\text{\$\frac{\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\t	Sample Type Time (Matrix)*	Sample Date	Sample Name
SW = Storm Water, WW = Waste Water	GW = Ground Water,	SL = Solid,	O = Other, P = Product, S = Soil, SD = Sediment,	AQ = Aqueous, B = Bulk, O	*Matrix Codes: A = Air, AQ =
efulcrum.net	rmathews@efulcrum.net; cc:aenbysk@efulcrum.net	PM Email:	Fax: 509.575.8453	509.574.0839	Telephone:
adheat éarthge, romanna at dhonagas, iost an	Ryan Mathews	Report To (PM):	Service for the service of the servi	Yakima, WA 98901	City, State, Zip:
WA	ool, Kennewick.	Location:	eet	406 North Second Street	Address:
Middle School	Kennewick SD Drinking Water - Highlands Middle School 162017.06 Collected by: Ar	Project Name: Project No:	tal Consulting, Inc.	Fulcrum Environmental Consulting, Inc.	Client:
Page: of:			!-3790 2-7178	Tel: 206-352-3790 Fax: 206-352-7178	3600 Fremont Ave N. Seattle, WA 98103
Laboratory Project No (internal): 1703288	Date: 2/25/2017			Analytic	

^Please coordinate with the lab in advance