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Fulcrum Environmental Ryan Mathews 406 N. 2nd Street

Yakima, WA 98901

RE: Kennewick SD Drinking Water - Ridge View Elementary

Work Order Number: 1703027

March 10, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 5 sample(s) on 3/3/2017 for the analyses presented in the following report.

Drinking Water Metals by EPA Method 200.8

This report consists of the following:

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

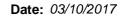
All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward Project Manager CC:

Amanda Enbysk





CLIENT: Fulcrum Environmental Work Order Sample Summary

Project: Kennewick SD Drinking Water - Ridge View

Work Order: 1703027

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1703027-001	RVE3217-P-KF-08	03/02/2017 6:00 AM	03/03/2017 9:30 AM
1703027-002	RVE3217-S-KF-08	03/02/2017 6:00 AM	03/03/2017 9:30 AM
1703027-003	RVE3217-T-KF-09	03/02/2017 6:00 AM	03/03/2017 9:30 AM
1703027-004	RVE3217-P-CF-41	03/02/2017 6:00 AM	03/03/2017 9:30 AM
1703027-005	RVE3217-P-CF-42	03/02/2017 6:00 AM	03/03/2017 9:30 AM



Case Narrative

WO#: **1703027**Date: **3/10/2017**

CLIENT: Fulcrum Environmental

Project: Kennewick SD Drinking Water - Ridge View Elementary

WorkOrder Narrative:

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

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

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

III. ANALYSES AND EXCEPTIONS:

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

Prep Sample Comments:

1703027-001A 209611: Prep Comments for EPA200.8, Sample 1703027-001A: Turbidity: 0.00 NTU 1703027-004A 209612: Prep Comments for EPA200.8, Sample 1703027-004A: Turbidity: 0.00 NTU 1703027-005A 209613: Prep Comments for EPA200.8, Sample 1703027-005A: Turbidity: 0.00 NTU



Qualifiers & Acronyms

WO#: **1703027**

Date Reported: 3/10/2017

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: 1703027

Date Reported: 3/10/2017

CLIENT: Fulcrum Environmental

Project: Kennewick SD Drinking Water - Ridge View Elementary

Lab ID: 1703027-001 **Collection Date:** 3/2/2017 6:00:00 AM

Client Sample ID: RVE3217-P-KF-08 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

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

Batch ID: 16420

Analyst: TN

Lead 7.89 1.00 μg/L 1 3/10/2017 1:51:06 PM

Lab ID: 1703027-004 **Collection Date:** 3/2/2017 6:00:00 AM

Client Sample ID: RVE3217-P-CF-41 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

Drinking Water Metals by EPA Method 200.8 Batch ID: 16420 Analyst: TN

Lead 16.7 1.00 μg/L 1 3/10/2017 1:55:07 PM

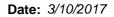
Lab ID: 1703027-005 **Collection Date:** 3/2/2017 6:00:00 AM

Client Sample ID: RVE3217-P-CF-42 Matrix: Drinking Water

Analyses Result RL Qual Units DF Date Analyzed

<u>Drinking Water Metals by EPA Method 200.8</u>
Batch ID: 16420 Analyst: TN

Lead ND 1.00 μg/L 1 3/10/2017 1:59:09 PM





Work Order: 1703027

QC SUMMARY REPORT

CLIENT: Fulcrum Environmental

Project:	Drinking Water Metals by EPA Method 200.												
Sample ID MB-164	120	SampType	MBLK			Units: µg/L		Prep Dat	e: 3/6/20 1	17	RunNo: 34	873	
Client ID: MBLKV	V	Batch ID:	16420					Analysis Dat	e: 3/10/2 0	017	SeqNo: 66	5786	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead			ND	1.00									
Sample ID LCS-16	6420	SampType	: LCS			Units: µg/L		Prep Dat	e: 3/6/20 1	17	RunNo: 34	873	
Client ID: LCSW		Batch ID:	16420					Analysis Dat	e: 3/10/2 0	017	SeqNo: 66	5787	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead			52.4	1.00	50.00	0	105	85	115				
Sample ID 170302	1-001ADUP	SampType	: DUP			Units: µg/L		Prep Dat	e: 3/6/20 1	17	RunNo: 34	873	
Client ID: BATCH	l	Batch ID:	16420					Analysis Dat	e: 3/10/2 0	017	SeqNo: 66	5789	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead			ND	1.00						0		30	
Sample ID 170302	1-001AMS	SampType	: MS			Units: µg/L		Prep Dat	e: 3/6/20 1	17	RunNo: 34	873	
Client ID: BATCH		Batch ID:	16420					Analysis Dat	e: 3/10/2 0	017	SeqNo: 66	5790	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead			102	1.00	100.0	0.6172	101	70	130				
Sample ID 170302	1-001AMSD	SampType	: MSD			Units: µg/L		Prep Dat	e: 3/6/20 1	17	RunNo: 34	873	
Client ID: BATCH	I	Batch ID:	16420					Analysis Dat	e: 3/10/2 0	017	SeqNo: 66	5791	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead			103	1.00	100.0	0.6172	102	70	130	101.8	0.919	30	

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Sample Log-In Check List

CI	ient Name:	FE			Work Order Number: 1703027								
Lo	ogged by:	Erica Silva				Date Re	ceived:	3/3/2017	3/3/2017 9:30:00 AM				
<u>Cha</u>	in of Custo	od <u>y</u>											
1.	Is Chain of C	ustody comp	lete?			Yes	✓	No 🗌	Not Present				
2.	How was the	sample deliv	rered?			<u>UPS</u>							
1.00	. In												
Log						.,		\Box					
3.	Coolers are p	resent?				Yes	V	No 🗀	NA L				
4.	Shipping con	tainer/cooler	in good condition	n?		Yes	✓	No \square					
5.			shipping contain ustody Seals not			Yes		No 🗹	Not Required				
6.	Was an atten	npt made to	cool the samples	?		Yes	✓	No 🗌	NA 🗌				
7.	Were all item	s received at	t a temperature o	f >0°C to 10.0	°C*	Yes	✓	No 🗆	na 🗆				
8.	Sample(s) in	proper conta	iner(s)?			Yes	✓	No 🗌					
9.	Sufficient sar	nple volume	for indicated test	(s)?		Yes	✓	No 🗌					
10.	Are samples	properly pres	served?			Yes	✓	No 🗌					
11.	Was preserva	ative added t	o bottles?			Yes	✓	No 🗌	NA 🗌				
									HNO3				
	Is there head					Yes		No 🗆	NA 🗸				
			s arrive in good c	ondition(unbrol	ken)?	Yes	✓	No 🗀					
14.	Does paperw	ork match bo	ottle labels?			Yes	✓	No 🗀					
15.	Are matrices	correctly ide	ntified on Chain o	of Custody?		Yes	✓	No 🗌					
16.	Is it clear wha	at analyses w	vere requested?			Yes	✓	No 🗌					
17.	Were all hold	ing times abl	le to be met?			Yes	✓	No 🗌					
<u>Spe</u>	cial Handli	ing (if app	olicable)										
18.	Was client no	otified of all d	iscrepancies with	this order?		Yes		No 🗌	NA 🗸				
	Person	Notified:			Date								
	By Who	m:			Via:	eMa	il 🗌 Pl	hone 🗌 Fax	☐ In Person				
	Regardi	ng:											
	Client In	structions:											
19.	Additional rer	marks:											
	HNO3 a	dded to 002/	A, 003A										
ltem	Information												
		Item #		Temp ⁰C									
	Cooler			2.7									

Sample

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

3600 Frem		
8600 Fremont Ave N.		
Tel: 20	Anai	
Tel: 206-352-3790	ytical	5

Chain of Custody Record and Laboratory Services Agreement

*Matrix Codes: A = Air, AQ =	Telephone:	City, State, Zip:	Address:	Client:	0	3600 Fremont Ave N. Seattle, WA 98103	
*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	509.574.0839 Fax: 509.575.8453	Yakima, WA, 98901	406 North Second Street	Fulcrum Environmental Consulting		Tel: 206-352-3790 Fax: 206-352-7178	Analytical
= Solid, W = Water, DW =	PM Email:	Report To (PM):	Location:	Project No:	Project Name:		
= Drinking Water, GW = Ground Water,	rmathews@efulcrum.net; cc: aenbysk@efulcrum.net	Ryan Mathews	Ridge View Elementary, Kennewick, WA	162017.20	Kennewick SD DW Sampling - Ridge View Elementary		Date: 3/2/2017
SW = Storm Water, WW = Waste Water	nbysk@efulcrum.net		ick, WA	Collected by: Amanda Enbysk	Ridge View Elementary	Page: of:	Laboratory Project No (internal):
				A second of the	Pa	age 8	1703027 of 8

x	Relinquished * Worthown Bes	1 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.	Sample Disposal: Return to Client	***Anions (Circle): Nitrate Ni	**Metals Analysis (Circle): MTCA-5	10 40 300 200 00 00 00 00 00 00 00 00 00 00 00	9	00	7	6	5 RNF3217-P-CF-42	4 RVF3217-P-CF-41	3 RUE3217-T-KE-09	2 PUE 3217 -5 -1CF-08	1 RUE 3217 - P-KF-08	Sample Name
Date/Time	5-2-17 4000	enter into this Agre he front and backsid	to Client Disp	Nitrite Chloride	RCRA-8 Priori						12	4	9	08	08 3-21-7 0600	Sample Si Date
	CC 057	ement with Fremon le of this Agreement	Disposal by Lab (Samples will be held for 30 da assessed if samples are retained after 30 days.	Sulfate Bromide	Priority Pollutants TAL						6	3			OW	Sample Sample Type (Matrix)*
Received x	Received	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.	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.)	de O-Phosphate Fluoride	Individual: Ag Al As B Ba Be Ca	Application of the second seco										Cost of Social Cost of
Date/Time	0 Date/Time	named above, that I have v	received a received on the fol	Nitrate+Nitrite Turn-arou	Cd Co Cr Cu Fe Hg K						Ø	R			Ø	\$\forall \text{\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\text{\$\frac{1}{2}\text{\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\text{\$\frac{1}{2}\text{\$\frac{1}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}\text{\$\frac{1}\text{\$\frac{1}{2}\text{\$\frac{1}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}{2}\text{\$\frac{1}\text{\$\frac{1}\text{\$\frac{1}\text{\$\frac{1}\text{\$\frac{1}\text{\$\frac{1}\$\f
	0920		begin day.		Mg Mn Mo Na Ni (Pb) Sb						X	*			\rightarrow	
TAT → SameDay^ NextDay^ 2 Day 3 Day STD	TAT: ASAP	a contract of the court of	plans message all mass samples	Special Remarks:	Sb Se Sr Sn Ti TI U V Zn						x Loud only	* Lead only	410	Hold		Comments Comments

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