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-Amistad Elementary
Work Order Number: 1704003

April 03, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 14 sample(s) on 4/3/2017 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

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water-Amistad Ele
Work Order: 1704003

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1704003-001	AE33117-P-CF-33	03/31/2017 6:30 AM	04/03/2017 9:22 AM
1704003-002	AE33117-S-CF-33	03/31/2017 6:30 AM	04/03/2017 9:22 AM
1704003-003	AE33117-T-CF-33	03/31/2017 6:30 AM	04/03/2017 9:22 AM
1704003-004	AE33117-P-CF-34	03/31/2017 6:30 AM	04/03/2017 9:22 AM
1704003-005	AE33117-S-CF-34	03/31/2017 6:30 AM	04/03/2017 9:22 AM
1704003-006	AE33117-T-CF-34	03/31/2017 6:30 AM	04/03/2017 9:22 AM
1704003-007	AE33117-P-OF-39	03/31/2017 6:30 AM	04/03/2017 9:22 AM
1704003-008	AE33117-S-OF-39	03/31/2017 6:30 AM	04/03/2017 9:22 AM
1704003-009	AE33117-T-OF-39	03/31/2017 6:30 AM	04/03/2017 9:22 AM
1704003-010	AE33117-P-OF-40	03/31/2017 6:30 AM	04/03/2017 9:22 AM
1704003-011	AE33117-S-OF-40	03/31/2017 6:30 AM	04/03/2017 9:22 AM
1704003-012	AE33117-T-OF-40	03/31/2017 6:30 AM	04/03/2017 9:22 AM
1704003-013	AE33117-P-CF-41	03/31/2017 6:30 AM	04/03/2017 9:22 AM
1704003-014	AE33117-P-CF-42	03/31/2017 6:30 AM	04/03/2017 9:22 AM

Case Narrative

WO#: **1704003**
Date: **4/3/2017**

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water-Amistad 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:
1704003-001A 213712: Prep Comments for EPA200.8, Sample 1704003-001A: Turbidity: 0.40 NTU
1704003-004A 213713: Prep Comments for EPA200.8, Sample 1704003-004A: Turbidity: 0.93 NTU
1704003-007A 213714: Prep Comments for EPA200.8, Sample 1704003-007A: Turbidity: 0.05 NTU
1704003-010A 213715: Prep Comments for EPA200.8, Sample 1704003-010A: Turbidity: 0.17 NTU
1704003-013A 213716: Prep Comments for EPA200.8, Sample 1704003-013A: Turbidity: 0.00 NTU
1704003-014A 213717: Prep Comments for EPA200.8, Sample 1704003-014A: Turbidity: 0.01 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-Amistad Elementary

Lab ID: 1704003-001 **Collection Date:** 3/31/2017 6:30:00 AM
Client Sample ID: **AE33117-P-CF-33** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16676		Analyst: TN
Lead	2.21	1.00		µg/L	1	4/3/2017 1:59:47 PM

Lab ID: 1704003-004 **Collection Date:** 3/31/2017 6:30:00 AM
Client Sample ID: **AE33117-P-CF-34** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16676		Analyst: TN
Lead	6.41	1.00		µg/L	1	4/3/2017 2:03:48 PM

Lab ID: 1704003-007 **Collection Date:** 3/31/2017 6:30:00 AM
Client Sample ID: **AE33117-P-OF-39** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16676		Analyst: TN
Lead	3.72	1.00		µg/L	1	4/3/2017 2:07:49 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water-Amistad Elementary

Lab ID: 1704003-010 **Collection Date:** 3/31/2017 6:30:00 AM
Client Sample ID: **AE33117-P-OF-40** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16676		Analyst: TN
Copper	303	0.500		µg/L	1	4/3/2017 2:23:18 PM
Lead	1.95	1.00		µg/L	1	4/3/2017 2:23:18 PM

Lab ID: 1704003-013 **Collection Date:** 3/31/2017 6:30:00 AM
Client Sample ID: **AE33117-P-CF-41** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16676		Analyst: TN
Copper	ND	0.500		µg/L	1	4/3/2017 2:27:19 PM
Lead	ND	1.00		µg/L	1	4/3/2017 2:27:19 PM

Lab ID: 1704003-014 **Collection Date:** 3/31/2017 6:30:00 AM
Client Sample ID: **AE33117-P-CF-42** **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Drinking Water Metals by EPA Method 200.8				Batch ID: 16676		Analyst: TN
Copper	1,270	0.500		µg/L	1	4/3/2017 2:31:21 PM
Lead	16.4	1.00		µg/L	1	4/3/2017 2:31:21 PM

Work Order: 1704003
CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water-Amistad Ele

QC SUMMARY REPORT

Drinking Water Metals by EPA Method 200.8

Sample ID	**MB-16676**	SampType:	**MBLK**	Units:	**µg/L**	Prep Date:	**4/3/2017**	RunNo:	**35295**
Client ID:	**MBLKW**	Batch ID:	**16676**			Analysis Date:	**4/3/2017**	SeqNo:	**675377**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.500									
Lead	ND	1.00									

Sample ID	**LCS-16676**	SampType:	**LCS**	Units:	**µg/L**	Prep Date:	**4/3/2017**	RunNo:	**35295**
Client ID:	**LCSW**	Batch ID:	**16676**			Analysis Date:	**4/3/2017**	SeqNo:	**675378**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	98.8	0.500	100.0	0	98.8	85	115				
Lead	55.6	1.00	50.00	0	111	85	115				

Sample ID	**1704001-001ADUP**	SampType:	**DUP**	Units:	**µg/L**	Prep Date:	**4/3/2017**	RunNo:	**35295**
Client ID:	**BATCH**	Batch ID:	**16676**			Analysis Date:	**4/3/2017**	SeqNo:	**675380**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	347	0.500						366.4	5.37	30	
Lead	1.90	1.00						2.037	7.05	30	

Sample ID	**1704001-001AMS**	SampType:	**MS**	Units:	**µg/L**	Prep Date:	**4/3/2017**	RunNo:	**35295**
Client ID:	**BATCH**	Batch ID:	**16676**			Analysis Date:	**4/3/2017**	SeqNo:	**675381**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	544	0.500	200.0	366.4	88.8	70	130				
Lead	103	1.00	100.0	2.037	101	70	130				

Sample ID	**1704001-001AMSD**	SampType:	**MSD**	Units:	**µg/L**	Prep Date:	**4/3/2017**	RunNo:	**35295**
Client ID:	**BATCH**	Batch ID:	**16676**			Analysis Date:	**4/3/2017**	SeqNo:	**675384**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	551	0.500	200.0	366.4	92.5	70	130	544.0	1.35	30	

Work Order: 1704003
CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water-Amistad Ele

QC SUMMARY REPORT

Drinking Water Metals by EPA Method 200.8

Sample ID	**1704001-001AMSD**	SampType: **MSD**			Units: **µg/L**		Prep Date: **4/3/2017**		RunNo: **35295**		
Client ID:	**BATCH**	Batch ID: **16676**					Analysis Date: **4/3/2017**		SeqNo: **675384**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	104	1.00	100.0	2.037	102	70	130	102.8	1.24	30	

Sample Log-In Check List

Client Name:	**FE**	Work Order Number:	**1704003**
Logged by:	**Erica Silva**	Date Received:	**4/3/2017 9:22:00 AM**

Chain of Custody

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

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:

HNO3 added to 002A, 003A, 005A, 006A, 008A, 009A, 011A, 012A

Item Information

Item #	Temp ºC
Cooler	5.4
Sample	1.1

* 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: 3/31/2017 Laboratory Project No (internal): 1704003

Page: 1 of: 2

Project Name: Kennewick SD Drinking water – Amistead Elementary
Project No: 162017.24 Collected by: Amanda Enbysk
Location: Amistad Elementary, Kennewick, WA
Report To (PM): Ryan Mathews
PM Email: rmathews@efulcrum.net; cc: aenbysk@efulcrum.net

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

*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	AE33117-P-CF-33	3/31/17	0630	DW									X					HNO_3 preserved; Pb only
2	AE33117-S-CF-33																	HOLD; unp.
3	AE33117-T-CF-33																	↓
4	AE33117-P-CF-34												X					HNO_3 preserved; Pb only
5	AE33117-S-CF-34																	HOLD; unp.
6	AE33117-T-CF-34																	↓
7	AE33117-P-OF-39												X					HNO_3 pres; Pb only
8	AE33117-S-OF-39																	HOLD; unpr.
9	AE33117-T-OF-39																	↓
10	AE33117-P-OF-40												X					HNO_3 preserved; Pb + Cu

**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	3/31/2017; 1606	x	4/3/17 0922
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: 3/31/2017 Laboratory Project No (internal): 1704003

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 SO Drinking water - Amistad Elementary
Project No: 162017.24 Collected by: Amanda Enbysk
Location: Amistad Elementary, 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 AE33117-S-OF-40	3/31/17	0630	DW														HOLD; unpr.
2 AE33117-T-OF-40	↓	↓	↓														↓
3 AE33117-P-CF-41												⊗					HNO_3 preserved; Pb+Cu
4 AE33117-P-CF-42	↓	↓	↓									⊗					↓ ↓
5																	
6		OE															
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

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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 Amanda M Enbysk	3/31/2017; 1600	x	4/3/17 0922
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance