



Fremont
Analytical

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Fulcrum Environmental

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

RE: Kennewick SD Drinking Water - Fruitland Building
Work Order Number: 1703026

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
Project: Kennewick SD Drinking Water - Fruitland Bu
Work Order: 1703026

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1703026-001	FLB3217-P-OF-12	03/02/2017 7:30 AM	03/03/2017 9:30 AM
1703026-002	FLB3217-S-OF-12	03/02/2017 7:30 AM	03/03/2017 9:30 AM
1703026-003	FLB3217-T-OF-12	03/02/2017 7:30 AM	03/03/2017 9:30 AM
1703026-004	FLB3217-P-CF-16	03/02/2017 7:30 AM	03/03/2017 9:30 AM
1703026-005	FLB3217-P-CF-17	03/02/2017 7:30 AM	03/03/2017 9:30 AM

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Fruitland Building

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:

1703026-001A 209608: Prep Comments for EPA200.8, Sample 1703026-001A: Turbidity: 0.00 NTU

1703026-004A 209609: Prep Comments for EPA200.8, Sample 1703026-004A: Turbidity: 0.00 NTU

1703026-005A 209610: Prep Comments for EPA200.8, Sample 1703026-005A: Turbidity: 0.00 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



Analytical Report

Work Order: 1703026
Date Reported: 3/10/2017

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Fruitland Building

Lab ID: 1703026-001
Client Sample ID: FLB3217-P-OF-12
Collection Date: 3/2/2017 7:30:00 AM
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	22.0	1.00		µg/L	1	3/10/2017 1:39:01 PM

Lab ID: 1703026-004
Client Sample ID: FLB3217-P-CF-16
Collection Date: 3/2/2017 7:30:00 AM
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 1:43:03 PM

Lab ID: 1703026-005
Client Sample ID: FLB3217-P-CF-17
Collection Date: 3/2/2017 7:30:00 AM
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	17.5	1.00		µg/L	1	3/10/2017 1:47:04 PM

Work Order: 1703026
CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Fruitland B

QC SUMMARY REPORT

Drinking Water Metals by EPA Method 200.8

Sample ID	MB-16420	SampType:	MBLK	Units:	µg/L	Prep Date:	3/6/2017	RunNo:	34873		
Client ID:	MBLKW	Batch ID:	16420			Analysis Date:	3/10/2017	SeqNo:	665786		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	ND	1.00									
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Sample ID	LCS-16420	SampType: LCS			Units: µg/L	Prep Date: 3/6/2017			RunNo: 34873		
Client ID:	LCSW	Batch ID: 16420			Analysis Date: 3/10/2017			SeqNo: 665787			
Analyte	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				
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Sample ID	1703021-001ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	3/6/2017	RunNo:	34873		
Client ID:	BATCH	Batch ID:	16420			Analysis Date:	3/10/2017	SeqNo:	665789		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	ND	1.00						0		30	
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Sample ID	1703021-001AMS	SampType:	MS	Units:	µg/L	Prep Date:	3/6/2017	RunNo:	34873		
Client ID:	BATCH	Batch ID:	16420			Analysis Date:	3/10/2017	SeqNo:	665790		
Analyte	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				
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Sample ID	1703021-001AMSD	SampType:	MSD	Units:	µg/L	Prep Date:	3/6/2017	RunNo:	34873		
Client ID:	BATCH	Batch ID:	16420			Analysis Date:	3/10/2017	SeqNo:	665791		
Analyte	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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Work Order Number: **1703026**
Date Received: **3/3/2017 9:30:00 AM**

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐

2. How was the sample delivered? UPS

3. Coolers are present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
4. Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
5. Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Required <input type="checkbox"/>
6. Was an attempt made to cool the samples?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
7. Were all items received at a temperature of $>0^{\circ}\text{C}$ to 10.0°C *	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
8. Sample(s) in proper container(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
9. Sufficient sample volume for indicated test(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
10. Are samples properly preserved?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
11. Was preservative added to bottles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
			HNO3
12. Is there headspace in the VOA vials?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
13. Did all samples containers arrive in good condition(unbroken)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
14. Does paperwork match bottle labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
15. Are matrices correctly identified on Chain of Custody?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
16. Is it clear what analyses were requested?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
17. Were all holding times able to be met?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

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:

HNO3 added to 002A, 003A

Item #	Temp °C
Cooler	2.7
Sample	1.3

Original



Fremont
Analytical

3600 Fremont Ave N.
Seattle, WA 98103

Tel: 206-352-3790
Fax: 206-352-7178

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 SD Drinking Water - Fruitland Building

Project No: 162017.19

Location: Fruitland Building, Kennewick, WA

Report To (PM): Ryan Mathews

PM Email: rmathews@fulcrum.net; cc: aenbysk@fulcrum.net

Date: 3/2/2017

Laboratory Project No (Internal):

Page: 1 of 1

Collected by: Amanda Enbysk

Chain of Custody Record and Laboratory Services Agreement

*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)*	VOGs (EPA 8260 / 624)	GV/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 FLB3217-P-OF-12	3-2-17	0730	DW														X Analyze lead only
2 FLB3217-S-OF-12																	Hold
3 FLB3217-T-OF-12																	Hold
4 FLB3217-P-CF-16																	X Lead only
5 FLB3217-P-CG-17																	X Lead only
6																	
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 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.)

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 3/2/17 Date/Time 4:00 Received 3/3/17 Date/Time 0930

Relinquished 3/2/17 Date/Time 4:00 Received 3/3/17 Date/Time 0930

TAT → SameDay NextDay 2 Day 3 Day STD

Please coordinate with the lab in advance