



Fremont
Analytical

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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
Project: Kennewick SD Drinking Water - Highlands
Work Order: 1702288

Work Order Sample Summary

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

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:

- * - 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
Client Sample ID: HMS22517-P-CF-14
Collection Date: 2/25/2017 7:45:00 AM
Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Drinking Water Metals by EPA Method 200.8</u>				Batch ID: 16360	Analyst: TN	
Lead	1.94	1.00		µg/L	1	2/27/2017 4:47:52 PM

Lab ID: 1702288-004
Client Sample ID: HMS22517-P-CDF-35
Collection Date: 2/25/2017 7:45:00 AM
Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Drinking Water Metals by EPA Method 200.8</u>				Batch ID: 16360	Analyst: TN	
Lead	13.5	1.00		µg/L	1	2/27/2017 4:51:28 PM

Lab ID: 1702288-005
Client Sample ID: HMS22517-P-OF-36
Collection Date: 2/25/2017 7:45:00 AM
Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Drinking Water Metals by EPA Method 200.8</u>				Batch ID: 16360	Analyst: TN	
Lead	ND	1.00		µg/L	1	2/27/2017 4:55:04 PM

Work Order: 1702288
CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Highlands

QC SUMMARY REPORT

Drinking Water Metals by EPA Method 200.8

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	RPDLimit	Qual					

Lead	ND	1.00									
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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	RPDLimit	Qual	

Lead	44.6	1.00	50.00	0	89.1	85	115				
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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	RPDLimit	Qual

Lead	6.19	1.00						6.458	4.26	30	
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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	RPDLimit	Qual

Lead	88.8	1.00	100.0	6.458	82.3	70	130				
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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	RPDLimit	Qual

Lead	92.3	1.00	100.0	6.458	85.9	70	130	88.79	3.92	30	
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Work Order Number: **1702288**
Date Received: **2/27/2017 9:19:00 AM**

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

2. How was the sample delivered? FedEx

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"/>
			HNO ₃
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 1	1.8
Cooler 2	0.9
Sample 1	1.2
Sample 2	1.5

Original



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Please coordinate with the lab in advance