



Fulcrum Environmental

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

RE: Kennewick SD Drinking Water - Desert Hills MS
Work Order Number: 1703208

March 21, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 6 sample(s) on 3/20/2017 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



Date: 03/21/2017

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Desert Hills
Work Order: 1703208

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1703208-001	DHM31817-P-CF-37	03/18/2017 7:45 AM	03/20/2017 9:00 AM
1703208-002	DHM31817-S-CF-37	03/18/2017 7:45 AM	03/20/2017 9:00 AM
1703208-003	DHM31817-T-CF-37	03/18/2017 7:45 AM	03/20/2017 9:00 AM
1703208-004	DHM31817-P-CF-38	03/18/2017 7:45 AM	03/20/2017 9:00 AM
1703208-005	DHM31817-P-CF-43	03/18/2017 7:45 AM	03/20/2017 9:00 AM
1703208-006	DHM31817-P-CF-44	03/18/2017 7:45 AM	03/20/2017 9:00 AM

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Desert Hills MS

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:

1703208-001A 211540: Prep Comments for EPA200.8, Sample 1703208-001A: 0.00 NTU
1703208-004A 211541: Prep Comments for EPA200.8, Sample 1703208-004A: 0.01 NTU
1703208-005A 211542: Prep Comments for EPA200.8, Sample 1703208-005A: 0.01 NTU
1703208-006A 211543: Prep Comments for EPA200.8, Sample 1703208-006A: 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



CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Desert Hills MS

Lab ID: 1703208-001 **Collection Date:** 3/18/2017 7:45:00 AM
Client Sample ID: DHM31817-P-CF-37 **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Drinking Water Metals by EPA Method 200.8

Batch ID: 16538 Analyst: MW

Copper	1,360	0.500		µg/L	1	3/20/2017 4:05:12 PM
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Lab ID: 1703208-004 **Collection Date:** 3/18/2017 7:45:00 AM
Client Sample ID: DHM31817-P-CF-38 **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Drinking Water Metals by EPA Method 200.8

Batch ID: 16538 Analyst: MW

Copper	1,720	0.500		µg/L	1	3/20/2017 4:09:14 PM
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Lab ID: 1703208-005 **Collection Date:** 3/18/2017 7:45:00 AM
Client Sample ID: DHM31817-P-CF-43 **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Drinking Water Metals by EPA Method 200.8

Batch ID: 16538 Analyst: MW

Copper	ND	0.500		µg/L	1	3/20/2017 4:13:15 PM
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CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Desert Hills MS

Lab ID: 1703208-006

Collection Date: 3/18/2017 7:45:00 AM

Client Sample ID: DHM31817-P-CF-44

Matrix: Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Drinking Water Metals by EPA Method 200.8

Batch ID: 16538

Analyst: MW

Copper	1,340	0.500		µg/L	1	3/20/2017 4:17:16 PM
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Work Order: 1703208
CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Desert Hills

QC SUMMARY REPORT
Drinking Water Metals by EPA Method 200.8

Sample ID MB-16538	SampType: MBLK	Units: µg/L	Prep Date: 3/20/2017	RunNo: 35047							
Client ID: MBLKW	Batch ID: 16538	Analysis Date: 3/20/2017	SeqNo: 669901								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper ND 0.500

Sample ID LCS-16538	SampType: LCS	Units: µg/L	Prep Date: 3/20/2017	RunNo: 35047							
Client ID: LCSW	Batch ID: 16538	Analysis Date: 3/20/2017	SeqNo: 669902								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 201 0.500 200.0 0 100 85 115

Sample ID 1703147-001ADUP	SampType: DUP	Units: µg/L	Prep Date: 3/20/2017	RunNo: 35047							
Client ID: BATCH	Batch ID: 16538	Analysis Date: 3/20/2017	SeqNo: 669904								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 8.90 0.500 9.003 1.17 30

Sample ID 1703147-001AMS	SampType: MS	Units: µg/L	Prep Date: 3/20/2017	RunNo: 35047							
Client ID: BATCH	Batch ID: 16538	Analysis Date: 3/20/2017	SeqNo: 669905								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 215 0.500 200.0 9.003 103 70 130

Sample ID 1703147-001AMSD	SampType: MSD	Units: µg/L	Prep Date: 3/20/2017	RunNo: 35047							
Client ID: BATCH	Batch ID: 16538	Analysis Date: 3/20/2017	SeqNo: 669906								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 199 0.500 200.0 9.003 95.2 70 130 214.7 7.38 30

Client Name: **FE**
 Logged by: **Erica Silva**

Work Order Number: **1703208**
 Date Received: **3/20/2017 9:00:00 AM**

Chain of Custody

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

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
 12. Is there headspace in the VOA vials? Yes No NA HNO3 to 002A - 003A
 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:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Item Information

Item #	Temp °C
Cooler	2.9
Sample	1.9

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

