



Fulcrum Environmental

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

RE: Kennewick SD Drinking Water - Desert Hills Middle School
Work Order Number: 1703041

March 13, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 18 sample(s) on 3/6/2017 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 - Desert Hills
Work Order: 1703041

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1703041-001	DHM3417-P-KF-01	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-002	DHM3417-P-KF-02	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-003	DHM3417-P-KF-05	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-004	DHM3417-P-KF-06	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-005	DHM3417-P-CF-35	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-006	DHM3417-S-CF-35	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-007	DHM3417-T-CF-35	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-008	DHM3417-P-CDF-36	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-009	DHM3417-P-CF-37	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-010	DHM3417-S-CF-37	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-011	DHM3417-T-CF-37	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-012	DHM3417-P-CF-38	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-013	DHM3417-P-CF-39	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-014	DHM3417-P-CF-40	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-015	DHM3417-S-CF-40	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-016	DHM3417-T-CF-40	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-017	DHM3417-P-CF-43	03/04/2017 7:30 AM	03/06/2017 8:39 AM
1703041-018	DHM3417-P-CF-44	03/04/2017 7:30 AM	03/06/2017 8:39 AM

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

1703041-001A 209737: Prep Comments for EPA200.8, Sample 1703041-001A: Turbidity: 0.00 NTU
1703041-002A 209738: Prep Comments for EPA200.8, Sample 1703041-002A: Turbidity: 0.01 NTU
1703041-003A 209739: Prep Comments for EPA200.8, Sample 1703041-003A: Turbidity: 0.00 NTU
1703041-004A 209740: Prep Comments for EPA200.8, Sample 1703041-004A: Turbidity: 0.00 NTU
1703041-005A 209741: Prep Comments for EPA200.8, Sample 1703041-005A: Turbidity: 0.01 NTU
1703041-008A 209742: Prep Comments for EPA200.8, Sample 1703041-008A: Turbidity: 0.14 NTU
1703041-009A 209743: Prep Comments for EPA200.8, Sample 1703041-009A: Turbidity: 0.63 NTU
1703041-012A 209744: Prep Comments for EPA200.8, Sample 1703041-012A: Turbidity: 0.00 NTU
1703041-013A 209745: Prep Comments for EPA200.8, Sample 1703041-013A: Turbidity: 0.01 NTU
1703041-014A 209746: Prep Comments for EPA200.8, Sample 1703041-014A: Turbidity: 0.01 NTU
1703041-017A 209747: Prep Comments for EPA200.8, Sample 1703041-017A: Turbidity: 0.00 NTU
1703041-018A 209748: Prep Comments for EPA200.8, Sample 1703041-018A: 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



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

Lab ID: 1703041-001 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: DHM3417-P-KF-01 **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: 16428 Analyst: TN

Copper	1,720	0.500		µg/L	1	3/10/2017 5:16:40 PM
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Lab ID: 1703041-002 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: DHM3417-P-KF-02 **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: 16428 Analyst: TN

Copper	2,020	0.500		µg/L	1	3/10/2017 5:20:42 PM
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Lab ID: 1703041-003 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: DHM3417-P-KF-05 **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: 16428 Analyst: TN

Copper	1,650	0.500		µg/L	1	3/10/2017 5:24:43 PM
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CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Desert Hills Middle School

Lab ID: 1703041-004 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: DHM3417-P-KF-06 **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: 16428 Analyst: TN

Copper	1,460	0.500		µg/L	1	3/10/2017 5:28:45 PM
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Lab ID: 1703041-005 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: DHM3417-P-CF-35 **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: 16428 Analyst: TN

Copper	859	0.500		µg/L	1	3/10/2017 5:40:52 PM
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Lab ID: 1703041-008 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: DHM3417-P-CDF-36 **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: 16428 Analyst: TN

Copper	659	0.500		µg/L	1	3/10/2017 5:44:54 PM
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CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Desert Hills Middle School

Lab ID: 1703041-009 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: DHM3417-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: 16428 Analyst: TN

Copper	3,070	0.500		µg/L	1	3/10/2017 5:48:55 PM
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Lab ID: 1703041-012 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: DHM3417-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: 16428 Analyst: TN

Copper	1,400	0.500		µg/L	1	3/10/2017 5:52:57 PM
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Lab ID: 1703041-013 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: DHM3417-P-CF-39 **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: 16428 Analyst: TN

Copper	993	0.500		µg/L	1	3/10/2017 5:56:59 PM
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CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Desert Hills Middle School

Lab ID: 1703041-014 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: DHM3417-P-CF-40 **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: 16428 Analyst: TN

Copper	1,030	0.500		µg/L	1	3/10/2017 6:01:00 PM
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Lab ID: 1703041-017 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: DHM3417-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: 16428 Analyst: TN

Copper	ND	0.500		µg/L	1	3/10/2017 6:05:02 PM
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Lab ID: 1703041-018 **Collection Date:** 3/4/2017 7:30:00 AM
Client Sample ID: DHM3417-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: 16428 Analyst: TN

Copper	1,200	0.500		µg/L	1	3/10/2017 6:09:03 PM
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Work Order: 1703041
CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Desert Hills

QC SUMMARY REPORT
Drinking Water Metals by EPA Method 200.8

Sample ID MB-16428	SampType: MBLK	Units: µg/L	Prep Date: 3/6/2017	RunNo: 34875							
Client ID: MBLKW	Batch ID: 16428	Analysis Date: 3/10/2017	SeqNo: 665889								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper ND 0.500

Sample ID LCS-16428	SampType: LCS	Units: µg/L	Prep Date: 3/6/2017	RunNo: 34875							
Client ID: LCSW	Batch ID: 16428	Analysis Date: 3/10/2017	SeqNo: 665890								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 89.7 0.500 100.0 0 89.7 85 115

Sample ID 1703040-027ADUP	SampType: DUP	Units: µg/L	Prep Date: 3/6/2017	RunNo: 34875							
Client ID: BATCH	Batch ID: 16428	Analysis Date: 3/10/2017	SeqNo: 665892								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 734 0.500 761.6 3.63 30

Sample ID 1703040-027AMS	SampType: MS	Units: µg/L	Prep Date: 3/6/2017	RunNo: 34875							
Client ID: BATCH	Batch ID: 16428	Analysis Date: 3/10/2017	SeqNo: 665893								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 941 0.500 200.0 761.6 89.7 70 130

Sample ID 1703040-027AMSD	SampType: MSD	Units: µg/L	Prep Date: 3/6/2017	RunNo: 34875							
Client ID: BATCH	Batch ID: 16428	Analysis Date: 3/10/2017	SeqNo: 665894								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 915 0.500 200.0 761.6 76.6 70 130 940.9 2.82 30

Client Name: FE	Work Order Number: 1703041
Logged by: Clare Griggs	Date Received: 3/6/2017 8:39:00 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 $>0^{\circ}\text{C}$ 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:	<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 $^{\circ}\text{C}$
Cooler	5.4
Sample	2.4

* Note: DoD/ELAP and TNI require items to be received at $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$



Fremont Analytical

3600 Fremont Ave N.
Seattle, WA 98103

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

Chain of Custody Record and Laboratory Services Agreement

Date: 3/4/2017

Laboratory Project No (Internal):

Page: 1 of 2

709041
170304

Client: Fulcrum Environmental Consulting

Project Name: Kennewick SD Drinking Water - Desert Hills Middle School

Collected by: Amanda Eby

Address: 406 North Second Street

Project No: 162017.08

Location: Desert Hills Middle School, Kennewick, WA

City, State, zip: Yakima, WA, 98901

Report To (PM): Ryan Matthews

Telephone: 509.574.0839

Fax: 509.575.8453

PM Email:

rmathews@fulcrum.net, ce.aenbysk@fulcrum.net

*Matrix Codes: A = Air, AO = 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)*	Analytes												Comments				
				VOCs (EPA 8260 / 624)	GY/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HX)	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)			
1 DAM3417-P-KF-C1	3/4/2017	07:30	DW																	H2O preserved
2 DAM3417-P-KF-C2																				
3 DAM3417-P-KF-C3																				
4 DAM3417-P-KF-C4																				
5 DAM3417-P-CF-35																				
6 DAM3417-S-CF-35																				
7 DAM3417-T-CF-35																				
8 DAM3417-P-CO-36																				
9 DAM3417-P-CF-37																				
10 DAM3417-S-CF-37																				

**Metals Analysis (Circle): MICA-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 Iodide O-Phosphate Fluoride Nitrate+Nitrite Turn-around times for samples received after 4:00pm will begin on the following business day.

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 Received Date/Time: 3/4/2017, 1:30 PM

Relinquished Received Date/Time: 3/6/17, 05:39 PM

Relinquished Received Date/Time: 3/6/17, 05:39 PM

Relinquished Received Date/Time: 3/6/17, 05:39 PM

Special Remarks: Please preserve all impr. samples

TAT: 45hr

TAT -> SameDay, NextDay, 2 Day, 3 Day, STD

