



Fulcrum Environmental

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

RE: Kennewick SD Drinking Water - Kennewick High School
Work Order Number: 1701238

January 24, 2017

Attention Ryan Mathews:

Fremont Analytical, Inc. received 5 sample(s) on 1/23/2017 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



Date: 01/24/2017

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Kennewick
Work Order: 1701238

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1701238-001	KHS12117-P-DF-13	01/21/2017 12:00 PM	01/23/2017 12:25 PM
1701238-002	KHS12117-P-DF-32	01/21/2017 12:00 PM	01/23/2017 12:25 PM
1701238-003	KHS12117-P-OF-44	01/21/2017 12:00 PM	01/23/2017 12:25 PM
1701238-004	KHS12117-P-OF-50	01/21/2017 12:00 PM	01/23/2017 12:25 PM
1701238-005	KHS12117-P-DF-60	01/21/2017 12:00 PM	01/23/2017 12:25 PM

CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Kennewick High 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:

1701238-001A 202848: Prep Comments for EPA200.8, Sample 1701238-001A: Turbidity: 0.04 NTU
1701238-002A 202849: Prep Comments for EPA200.8, Sample 1701238-002A: Turbidity: 0.05 NTU
1701238-003A 202850: Prep Comments for EPA200.8, Sample 1701238-003A: Turbidity: 0.02 NTU
1701238-004A 202851: Prep Comments for EPA200.8, Sample 1701238-004A: Turbidity: 0.01 NTU
1701238-005A 202852: Prep Comments for EPA200.8, Sample 1701238-005A: 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 - Kennewick High School

Lab ID: 1701238-001 **Collection Date:** 1/21/2017 12:00:00 PM
Client Sample ID: KHS12117-P-DF-13 **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Drinking Water Metals by EPA Method 200.8</u>				Batch ID: 15999		Analyst: TN
Copper	1,060	0.500		µg/L	1	1/23/2017 11:27:42 PM

Lab ID: 1701238-002 **Collection Date:** 1/21/2017 12:00:00 PM
Client Sample ID: KHS12117-P-DF-32 **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Drinking Water Metals by EPA Method 200.8</u>				Batch ID: 15999		Analyst: TN
Copper	1,070	0.500		µg/L	1	1/23/2017 11:31:18 PM

Lab ID: 1701238-003 **Collection Date:** 1/21/2017 12:00:00 PM
Client Sample ID: KHS12117-P-OF-44 **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Drinking Water Metals by EPA Method 200.8</u>				Batch ID: 15999		Analyst: TN
Copper	1,220	0.500		µg/L	1	1/23/2017 11:34:55 PM



CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Kennewick High School

Lab ID: 1701238-004 **Collection Date:** 1/21/2017 12:00:00 PM
Client Sample ID: KHS12117-P-OF-50 **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Drinking Water Metals by EPA Method 200.8</u>				Batch ID: 15999		Analyst: TN
Copper	1,550	0.500		µg/L	1	1/23/2017 11:38:31 PM

Lab ID: 1701238-005 **Collection Date:** 1/21/2017 12:00:00 PM
Client Sample ID: KHS12117-P-DF-60 **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Drinking Water Metals by EPA Method 200.8</u>				Batch ID: 15999		Analyst: TN
Copper	ND	0.500		µg/L	1	1/23/2017 11:42:08 PM

Work Order: 1701238
CLIENT: Fulcrum Environmental
Project: Kennewick SD Drinking Water - Kennewick

QC SUMMARY REPORT
Drinking Water Metals by EPA Method 200.8

Sample ID MB-15999	SampType: MBLK	Units: µg/L			Prep Date: 1/23/2017	RunNo: 34026					
Client ID: MBLKW	Batch ID: 15999				Analysis Date: 1/23/2017	SeqNo: 647576					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper ND 0.500

Sample ID LCS-15999	SampType: LCS	Units: µg/L			Prep Date: 1/23/2017	RunNo: 34026					
Client ID: LCSW	Batch ID: 15999				Analysis Date: 1/23/2017	SeqNo: 647577					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 93.6 0.500 100.0 0 93.6 85 115

Sample ID 1701236-014ADUP	SampType: DUP	Units: µg/L			Prep Date: 1/23/2017	RunNo: 34026					
Client ID: BATCH	Batch ID: 15999				Analysis Date: 1/23/2017	SeqNo: 647579					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 1,730 0.500 1,728 0.181 30

Sample ID 1701236-014AMS	SampType: MS	Units: µg/L			Prep Date: 1/23/2017	RunNo: 34026					
Client ID: BATCH	Batch ID: 15999				Analysis Date: 1/23/2017	SeqNo: 647580					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 1,910 0.500 200.0 1,728 91.9 70 130

Sample ID 1701236-014AMSD	SampType: MSD	Units: µg/L			Prep Date: 1/23/2017	RunNo: 34026					
Client ID: BATCH	Batch ID: 15999				Analysis Date: 1/23/2017	SeqNo: 647581					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 1,960 0.500 200.0 1,728 115 70 130 1,912 2.39 30

Client Name: **FE**
 Logged by: **Clare Griggs**

Work Order Number: **1701238**
 Date Received: **1/23/2017 12:25:00 PM**

Chain of Custody

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

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
 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	8.3
Sample	9.2

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



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
Yakima, WA 98901

City, State, Zip: 509.574.0839

Telephone: 509.545.8453

Fax: 509.545.8453

Project Name:

Project No:

Location:

Report To (PM):

PM Email:

Chain of Custody Record and Laboratory Services Agreement

Date: 1/21/2017

Laboratory Project No (Internal):

1701238

Page: 1 of 1

Project Name:

Kennecuk 50 Drinking Water - Kennecuk High School

Collected by: Amanda Elysk + Watumastan

*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)	GW/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HClD)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8082 / 608)	PCBs (EPA 8270 / 625)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (C)***	EDB (8011)	Special Remarks:
KHS12117-P-DF-13	1/17	12:00	DW														
KHS12117-P-DF-32																	
KHS12117-P-DF-44																	
KHS12117-P-DF-50																	
KHS12117-P-DF-60																	

**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 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: [Signature] Date/Time: 1/21/2017

Received: [Signature] Date/Time: 1/21/2017

Relinquished: [Signature] Date/Time: 1/21/2017