



**Fremont**  
*Analytical*

3600 Fremont Ave. N.  
Seattle, WA 98103  
T: (206) 352-3790  
F: (206) 352-7178  
info@fremontanalytical.com

**Fulcrum Environmental**

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

**RE: Kennewick SD Drinking Water - MTS Building**  
**Work Order Number: 1703024**

March 10, 2017

**Attention Ryan Mathews:**

Fremont Analytical, Inc. received 11 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 - MTS Buildi  
**Work Order:** 1703024

## Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1703024-001	MTS3217-P-WC-01	03/02/2017 7:45 AM	03/03/2017 9:30 AM
1703024-002	MTS3217-S-WC-01	03/02/2017 7:45 AM	03/03/2017 9:30 AM
1703024-003	MTS3217-T-WC-01	03/02/2017 7:45 AM	03/03/2017 9:30 AM
1703024-004	MTS3217-P-WC-05	03/02/2017 7:45 AM	03/03/2017 9:30 AM
1703024-005	MTS3217-S-WC-05	03/02/2017 7:45 AM	03/03/2017 9:30 AM
1703024-006	MTS3217-T-WC-05	03/02/2017 7:45 AM	03/03/2017 9:30 AM
1703024-007	MTS3217-P-WC-07	03/02/2017 7:45 AM	03/03/2017 9:30 AM
1703024-008	MTS3217-S-WC-07	03/02/2017 7:45 AM	03/03/2017 9:30 AM
1703024-009	MTS3217-T-WC-07	03/02/2017 7:45 AM	03/03/2017 9:30 AM
1703024-010	MTS3217-P-OF-09	03/02/2017 7:45 AM	03/03/2017 9:30 AM
1703024-011	MTS3217-P-WC-10	03/02/2017 7:45 AM	03/03/2017 9:30 AM

---

**CLIENT:** Fulcrum Environmental  
**Project:** Kennewick SD Drinking Water - MTS 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:

1703024-001A 209600: Prep Comments for EPA200.8, Sample 1703024-001A: Turbidity: 0.00 NTU

1703024-004A 209601: Prep Comments for EPA200.8, Sample 1703024-004A: Turbidity: 0.00 NTU

1703024-007A 209602: Prep Comments for EPA200.8, Sample 1703024-007A: Turbidity: 0.00 NTU

1703024-010A 209603: Prep Comments for EPA200.8, Sample 1703024-010A: Turbidity: 0.00 NTU

1703024-011A 209604: Prep Comments for EPA200.8, Sample 1703024-011A: 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: 1703024  
Date Reported: 3/10/2017

**CLIENT:** Fulcrum Environmental  
**Project:** Kennewick SD Drinking Water - MTS Building

**Lab ID:** 1703024-001  
**Client Sample ID:** MTS3217-P-WC-01  
**Collection Date:** 3/2/2017 7:45:00 AM  
**Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b><u>Drinking Water Metals by EPA Method 200.8</u></b>				Batch ID: 16420		Analyst: TN
Lead	ND	1.00		µg/L	1	3/10/2017 12:58:40 PM

**Lab ID:** 1703024-004  
**Client Sample ID:** MTS3217-P-WC-05  
**Collection Date:** 3/2/2017 7:45:00 AM  
**Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b><u>Drinking Water Metals by EPA Method 200.8</u></b>				Batch ID: 16420		Analyst: TN
Copper	192	0.500		µg/L	1	3/10/2017 1:02:41 PM
Lead	ND	1.00		µg/L	1	3/10/2017 1:02:41 PM

**Lab ID:** 1703024-007  
**Client Sample ID:** MTS3217-P-WC-07  
**Collection Date:** 3/2/2017 7:45:00 AM  
**Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b><u>Drinking Water Metals by EPA Method 200.8</u></b>				Batch ID: 16420		Analyst: TN
Copper	25.3	0.500		µg/L	1	3/10/2017 1:06:46 PM
Lead	ND	1.00		µg/L	1	3/10/2017 1:06:46 PM



Work Order: 1703024  
Date Reported: 3/10/2017

**CLIENT:** Fulcrum Environmental  
**Project:** Kennewick SD Drinking Water - MTS Building

**Lab ID:** 1703024-010

**Collection Date:** 3/2/2017 7:45:00 AM

**Client Sample ID:** MTS3217-P-OF-09

**Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**Drinking Water Metals by EPA Method 200.8**

Batch ID: 16420 Analyst: TN

Copper	ND	0.500		µg/L	1	3/10/2017 1:10:48 PM
Lead	ND	1.00		µg/L	1	3/10/2017 1:10:48 PM

**Lab ID:** 1703024-011

**Collection Date:** 3/2/2017 7:45:00 AM

**Client Sample ID:** MTS3217-P-WC-10

**Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**Drinking Water Metals by EPA Method 200.8**

Batch ID: 16420 Analyst: TN

Copper	1,250	0.500		µg/L	1	3/10/2017 1:14:49 PM
Lead	16.2	1.00		µg/L	1	3/10/2017 1:14:49 PM



**Work Order:** 1703024  
**CLIENT:** Fulcrum Environmental  
**Project:** Kennewick SD Drinking Water - MTS Buildi

## QC SUMMARY REPORT

### Drinking Water Metals by EPA Method 200.8

Sample ID <b>MB-16420</b>	SampType: <b>MBLK</b>	Units: <b>µg/L</b>		Prep Date: <b>3/6/2017</b>	RunNo: <b>34873</b>							
Client ID: <b>MBLKW</b>	Batch ID: <b>16420</b>			Analysis Date: <b>3/10/2017</b>	SeqNo: <b>665786</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Copper	ND	0.500										
Lead	ND	1.00										

  

Sample ID <b>LCS-16420</b>	SampType: <b>LCS</b>	Units: <b>µg/L</b>		Prep Date: <b>3/6/2017</b>	RunNo: <b>34873</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>16420</b>			Analysis Date: <b>3/10/2017</b>	SeqNo: <b>665787</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Copper	89.3	0.500	100.0	0	89.3	85	115					
Lead	52.4	1.00	50.00	0	105	85	115					

  

Sample ID <b>1703021-001ADUP</b>	SampType: <b>DUP</b>	Units: <b>µg/L</b>		Prep Date: <b>3/6/2017</b>	RunNo: <b>34873</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>16420</b>			Analysis Date: <b>3/10/2017</b>	SeqNo: <b>665789</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Copper	16.6	0.500						18.64	11.8	30		
Lead	ND	1.00						0		30		

  

Sample ID <b>1703021-001AMS</b>	SampType: <b>MS</b>	Units: <b>µg/L</b>		Prep Date: <b>3/6/2017</b>	RunNo: <b>34873</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>16420</b>			Analysis Date: <b>3/10/2017</b>	SeqNo: <b>665790</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Copper	200	0.500	200.0	18.64	90.5	70	130					
Lead	102	1.00	100.0	0.6172	101	70	130					

  

Sample ID <b>1703021-001AMSD</b>	SampType: <b>MSD</b>	Units: <b>µg/L</b>		Prep Date: <b>3/6/2017</b>	RunNo: <b>34873</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>16420</b>			Analysis Date: <b>3/10/2017</b>	SeqNo: <b>665791</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Copper	202	0.500	200.0	18.64	91.8	70	130	199.6	1.32	30		



**Work Order:** 1703024  
**CLIENT:** Fulcrum Environmental  
**Project:** Kennewick SD Drinking Water - MTS Buildi

## QC SUMMARY REPORT

### Drinking Water Metals by EPA Method 200.8

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	





Work Order Number: **1703024**  
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 $10.0^{\circ}\text{C}^{*}$	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"/>
12. Is there headspace in the VOA vials?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	HNO <sub>3</sub> 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:

HNO<sub>3</sub> added to 002A, 003A, 005A, 006A, 008A, 009A

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 - MTS Building

Project No:

162017.13

Collected by: Amanda Embysk

Location:

MTS Building, Kennewick, WA

Report To (PM):

Ryan Mathews

PM Email:

rmathews@fulcrum.net; cc: aembysk@fulcrum.net

Date: 3/2/2017

Laboratory Project No (Internal):

1703024

Page: 1 of 2

## 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)*	VOCS (EPA 8260 / 624)	GY/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (GX)	Diesel/Heavy Oil Range Organics (HX)	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)	Preserved with HNO3	Comments
1 MTS 3217-P-WC-01	3-2-17	0745	DW															X Analyze for Lead Only
2 MTS 3217-S-WC-01																		
3 MTS 3217-T-WC-01																		
4 MTS 3217-P-WC-05																		X Analyze for Lead & Copper
5 MTS 3217-S-WC-05																		
6 MTS 3217-T-WC-05																		
7 MTS 3217-P-WC-07																		X Analyze for Lead & Copper
8 MTS 3217-S-WC-07																		
9 MTS 3217-T-WC-07																		
10 MTS 3217-P-WC-09																		X Analyze for Lead & Copper

\*\*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 ☒ Date/Time 3/2/17 4:00 Received ☒ Date/Time 3/3/2017 0930

Retained ☒ Date/Time 3/2/17 4:00 Received ☒ Date/Time 3/3/2017 0930

Special Remarks: Please preserve all impr samples TAT: ASAP

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

\*Please coordinate with the lab in advance





# 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:

Telephone: 509.574.0839

Fax: 509.575.8453

## Chain of Custody Record and Laboratory Services Agreement

Date: 3/2/2017

Laboratory Project No (internal): 1703024

Page: 2 of 2

Project Name: Kennewick SD Drinking Water - MTS Building

Project No: 162017.13

Collected by: Amanda Enbysk

Location: MTS Building, Kennewick, WA

Report To (PM): Ryan Mathews

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

\*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)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	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 MTS 3217-P-WC-10	3-2-17	0945	DW													Analyze for lead & copper
2																
3																
4																
5																
6																
7																
8																
9																
10																

\*\*\*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 ☒ Date/Time 3/2/17 4:00 Received ☒ Date/Time 3/2/17 0930

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

Special Remarks: See page 1

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

\*Please coordinate with the lab in advance