

 **ANALYTICAL REPORT****PREPARED FOR**

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**JOB DESCRIPTION**

Valley LF - Republic Serv Coffin Butte

**JOB NUMBER**

280-174814-1

# Eurofins Denver

## Job Notes

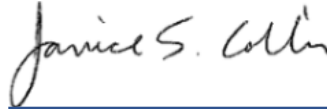
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The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

## Authorization



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# Definitions/Glossary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

**Job ID: 280-174814-1**

**Laboratory: Eurofins Denver**

**Narrative**

## CASE NARRATIVE

**Client: Tuppan Consultants LLC**

**Project: Valley LF - Republic Serv Coffin Butte**

**Report Number: 280-174814-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

### **RECEIPT**

The samples were received on 04/11/2023; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 0.5° C, 1.3° C, 4.1° C, 4.3° C and 4.4° C.

### **VOLATILE ORGANIC COMPOUNDS (GC-MS)**

Samples VLF-230407-1 (280-174814-1), VLF-230407-2 (280-174814-2), VLF-230407-3 (280-174814-3), VLF-230407-5 (280-174814-4), VLF-230407-6 (280-174814-5), VLF-230407-7 (280-174814-6), VLF-230407-8 (280-174814-7), VLF-230407-9 (280-174814-8), VLF-230407-10 (280-174814-9), VLF-230407-11 (280-174814-10), VLF-230407-12 (280-174814-12), VLF-230407-13 (280-174814-13), VLF-230407-14 (280-174814-14), VLF-230407-15 (280-174814-15), VLF-230408-16 (280-174814-16), VLF-230408-17 (280-174814-17), VLF-230408-18 (280-174814-18), VLF-230408-19 (280-174814-19) and VLF-230408-20 (280-174814-20) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/20/2023 and 04/21/2023.

The method requirement for no headspace was not met. The following volatile samples were analyzed with headspace in the sample container(s): 280-174814-2, 280-174814-3, 280-174814-7, 280-174814-8, 280-174814-9, 280-174814-10, 280-174814-12, 280-174814-13, 280-174814-14, 280-174814-15, 280-174814-17 and 280-174814-19.

The reporting limit provided for the following analyte(s) falls below the laboratory's lowest calibration standard: Vinyl chloride, Dibromomethane, Bromoform, Bromomethane, 1,2-Dichloroethane and Carbon disulfide. Results reported below the lowest calibration standard are estimated.

The following volatiles sample was diluted due to foaming and matrix color at the time of purging during the original sample analysis: 280-174814-6. Elevated reporting limits (RLs) are provided.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 280-609568. An LCS/LCSD pair was analyzed for batch precision and accuracy.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### **TOTAL METALS (ICPMS)**

Samples VLF-230407-2 (280-174814-2), VLF-230407-3 (280-174814-3), VLF-230407-5 (280-174814-4), VLF-230407-6 (280-174814-5), VLF-230407-7 (280-174814-6), VLF-230407-8 (280-174814-7), VLF-230407-9 (280-174814-8), VLF-230407-10 (280-174814-9), VLF-230407-11 (280-174814-10), VLF-230407-12 (280-174814-12), VLF-230407-13 (280-174814-13), VLF-230407-14 (280-174814-14), VLF-230407-15 (280-174814-15), VLF-230408-16 (280-174814-16), VLF-230408-17 (280-174814-17), VLF-230408-18 (280-174814-18), VLF-230408-19 (280-174814-19) and VLF-230408-20 (280-174814-20) were analyzed for total metals (ICPMS) in accordance with EPA Method 200.8. The samples were prepared on 04/12/2023 and analyzed on 04/12/2023 and 04/13/2023.

# Case Narrative

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Job ID: 280-174814-1 (Continued)

### Laboratory: Eurofins Denver (Continued)

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **DISSOLVED METALS**

Samples VLF-230407-2 (280-174814-2), VLF-230407-3 (280-174814-3), VLF-230407-5 (280-174814-4), VLF-230407-6 (280-174814-5), VLF-230407-7 (280-174814-6), VLF-230407-8 (280-174814-7), VLF-230407-9 (280-174814-8), VLF-230407-10 (280-174814-9), VLF-230407-11 (280-174814-10), VLF-230407-12 (280-174814-12), VLF-230407-13 (280-174814-13), VLF-230407-14 (280-174814-14), VLF-230407-15 (280-174814-15), VLF-230408-16 (280-174814-16), VLF-230408-17 (280-174814-17), VLF-230408-18 (280-174814-18), VLF-230408-19 (280-174814-19) and VLF-230408-20 (280-174814-20) were analyzed for dissolved metals in accordance with EPA SW-846 Method 6010B. The samples were prepared on 04/12/2023 and 04/13/2023 and analyzed on 04/15/2023 and 04/17/2023.

Calcium was detected in method blank MB 280-608293/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 280-608293 and analytical batch 280-608938 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **ALKALINITY**

Samples VLF-230407-2 (280-174814-2), VLF-230407-3 (280-174814-3), VLF-230407-5 (280-174814-4), VLF-230407-6 (280-174814-5), VLF-230407-7 (280-174814-6), VLF-230407-8 (280-174814-7), VLF-230407-9 (280-174814-8), VLF-230407-10 (280-174814-9), VLF-230407-11 (280-174814-10), VLF-230407-12 (280-174814-12), VLF-230407-13 (280-174814-13), VLF-230407-14 (280-174814-14), VLF-230407-15 (280-174814-15), VLF-230408-16 (280-174814-16), VLF-230408-17 (280-174814-17), VLF-230408-18 (280-174814-18), VLF-230408-19 (280-174814-19) and VLF-230408-20 (280-174814-20) were analyzed for Alkalinity in accordance with SM20 2320B. The samples were analyzed on 04/12/2023.

The method blank (MB) and continuing calibration blank (CCB) for analytical batch 280-608534 contained Bicarbonate Alkalinity above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **TOTAL DISSOLVED SOLIDS**

Samples VLF-230407-2 (280-174814-2), VLF-230407-3 (280-174814-3), VLF-230407-5 (280-174814-4), VLF-230407-6 (280-174814-5), VLF-230407-7 (280-174814-6), VLF-230407-8 (280-174814-7), VLF-230407-9 (280-174814-8), VLF-230407-10 (280-174814-9), VLF-230407-11 (280-174814-10), VLF-230407-12 (280-174814-12), VLF-230407-13 (280-174814-13), VLF-230407-14 (280-174814-14), VLF-230407-15 (280-174814-15), VLF-230408-16 (280-174814-16), VLF-230408-17 (280-174814-17), VLF-230408-18 (280-174814-18), VLF-230408-19 (280-174814-19) and VLF-230408-20 (280-174814-20) were analyzed for total dissolved solids in accordance with SM20 2540C. The samples were analyzed on 04/12/2023 and 04/13/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **TOTAL SUSPENDED SOLIDS**

Samples VLF-230407-2 (280-174814-2), VLF-230407-3 (280-174814-3), VLF-230407-5 (280-174814-4), VLF-230407-6 (280-174814-5), VLF-230407-7 (280-174814-6), VLF-230407-8 (280-174814-7), VLF-230407-9 (280-174814-8), VLF-230407-10 (280-174814-9), VLF-230407-11 (280-174814-10), VLF-230407-12 (280-174814-12), VLF-230407-13 (280-174814-13), VLF-230407-14 (280-174814-14), VLF-230407-15 (280-174814-15), VLF-230408-16 (280-174814-16), VLF-230408-17 (280-174814-17), VLF-230408-18 (280-174814-18), VLF-230408-19 (280-174814-19) and VLF-230408-20 (280-174814-20) were analyzed for total suspended solids in accordance with SM20 2540D. The samples were analyzed on 04/12/2023 and 04/13/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Case Narrative

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

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## Job ID: 280-174814-1 (Continued)

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### Laboratory: Eurofins Denver (Continued)

#### ANIONS (28 DAYS)

Samples VLF-230407-2 (280-174814-2), VLF-230407-3 (280-174814-3), VLF-230407-5 (280-174814-4), VLF-230407-6 (280-174814-5), VLF-230407-7 (280-174814-6), VLF-230407-8 (280-174814-7), VLF-230407-9 (280-174814-8), VLF-230407-10 (280-174814-9), VLF-230407-11 (280-174814-10), VLF-230407-12 (280-174814-12), VLF-230407-13 (280-174814-13), VLF-230407-14 (280-174814-14), VLF-230407-15 (280-174814-15), VLF-230408-16 (280-174814-16), VLF-230408-17 (280-174814-17), VLF-230408-18 (280-174814-18), VLF-230408-19 (280-174814-19) and VLF-230408-20 (280-174814-20) were analyzed for anions (28 days) in accordance with EPA Method 300.0 (28 Days). The samples were analyzed on 04/25/2023 and 04/26/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Detection Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Client Sample ID: VLF-230407-1

## Lab Sample ID: 280-174814-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	2.3		0.50	0.36	ug/L	1		8260B	Total/NA

## Client Sample ID: VLF-230407-2

## Lab Sample ID: 280-174814-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	17		5.0	0.50	ug/L	1		200.8	Total/NA
Calcium	91000	B	200	24	ug/L	1		6010B	Dissolved
Iron	2900		100	9.1	ug/L	1		6010B	Dissolved
Magnesium	39000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	9500		5.0	0.45	ug/L	1		6010B	Dissolved
Sodium	40000		1000	97	ug/L	1		6010B	Dissolved
Chloride	12		3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	450		10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	430		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	32		4.0	1.1	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: VLF-230407-3

## Lab Sample ID: 280-174814-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	18		5.0	0.50	ug/L	1		200.8	Total/NA
Calcium	28000	B	200	24	ug/L	1		6010B	Dissolved
Iron	970		100	9.1	ug/L	1		6010B	Dissolved
Magnesium	11000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	870		5.0	0.45	ug/L	1		6010B	Dissolved
Sodium	30000		1000	97	ug/L	1		6010B	Dissolved
Chloride	5.0		3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	150		10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	140		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	96		4.0	1.1	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: VLF-230407-5

## Lab Sample ID: 280-174814-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.59	J	5.0	0.50	ug/L	1		200.8	Total/NA
Calcium	62000	B	200	24	ug/L	1		6010B	Dissolved
Iron	32	J	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	31000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	350		5.0	0.45	ug/L	1		6010B	Dissolved
Sodium	290000		1000	97	ug/L	1		6010B	Dissolved
Chloride	58		3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	95		10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	230		10	4.7	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-230407-6

## Lab Sample ID: 280-174814-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	68		5.0	0.50	ug/L	1		200.8	Total/NA
Calcium	34000	B	200	24	ug/L	1		6010B	Dissolved
Iron	600		100	9.1	ug/L	1		6010B	Dissolved
Magnesium	14000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	630		5.0	0.45	ug/L	1		6010B	Dissolved
Sodium	27000		1000	97	ug/L	1		6010B	Dissolved
Chloride	18		3.0	1.0	mg/L	1		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Denver



# Detection Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Client Sample ID: VLF-230407-6 (Continued)

## Lab Sample ID: 280-174814-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bicarbonate Alkalinity as CaCO3	160		10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	150		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	30		4.0	1.1	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: VLF-230407-7

## Lab Sample ID: 280-174814-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	23		5.0	0.50	ug/L	1		200.8	Total/NA
Calcium	220000		200	24	ug/L	1		6010B	Dissolved
Iron	23000		100	9.1	ug/L	1		6010B	Dissolved
Magnesium	130000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	5300	B	5.0	0.45	ug/L	1		6010B	Dissolved
Sodium	960000		5000	490	ug/L	5		6010B	Dissolved
Chloride	1900		150	51	mg/L	50		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	1300		10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	3800		100	47	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	11		4.0	1.1	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: VLF-230407-8

## Lab Sample ID: 280-174814-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.64	J	5.0	0.50	ug/L	1		200.8	Total/NA
Calcium	120000	B	200	24	ug/L	1		6010B	Dissolved
Iron	12	J	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	50000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	1.6	J	5.0	0.45	ug/L	1		6010B	Dissolved
Sodium	130000		1000	97	ug/L	1		6010B	Dissolved
Chloride	190		15	5.1	mg/L	5		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	430		10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	630		20	9.4	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-230407-9

## Lab Sample ID: 280-174814-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.84	J	5.0	0.50	ug/L	1		200.8	Total/NA
Calcium	22000	B	200	24	ug/L	1		6010B	Dissolved
Magnesium	8300		200	4.2	ug/L	1		6010B	Dissolved
Manganese	0.73	J	5.0	0.45	ug/L	1		6010B	Dissolved
Sodium	86000		1000	97	ug/L	1		6010B	Dissolved
Chloride	63		3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	140		10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	280		10	4.7	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-230407-10

## Lab Sample ID: 280-174814-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	0.46	J	0.50	0.22	ug/L	1		8260B	Total/NA
Calcium	340000	B	200	24	ug/L	1		6010B	Dissolved
Magnesium	150000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	110		5.0	0.45	ug/L	1		6010B	Dissolved
Sodium	39000		1000	97	ug/L	1		6010B	Dissolved
Chloride	530		30	10	mg/L	10		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	660		10	3.1	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Denver

# Detection Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Client Sample ID: VLF-230407-10 (Continued)

## Lab Sample ID: 280-174814-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	1500		20	9.4	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-230407-11

## Lab Sample ID: 280-174814-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	0.50		0.50	0.22	ug/L	1		8260B	Total/NA
Calcium	340000	B	200	24	ug/L	1		6010B	Dissolved
Magnesium	150000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	1.6	J	5.0	0.45	ug/L	1		6010B	Dissolved
Sodium	38000		1000	97	ug/L	1		6010B	Dissolved
Chloride	550		30	10	mg/L	10		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	660		10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	1500		20	9.4	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-230407-12

## Lab Sample ID: 280-174814-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	140000	B	200	24	ug/L	1		6010B	Dissolved
Magnesium	48000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	1.1	J	5.0	0.45	ug/L	1		6010B	Dissolved
Sodium	37000		1000	97	ug/L	1		6010B	Dissolved
Chloride	92		6.0	2.0	mg/L	2		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	430		10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	580		10	4.7	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-230407-13

## Lab Sample ID: 280-174814-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	260000	B	200	24	ug/L	1		6010B	Dissolved
Iron	16	J	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	110000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	41		5.0	0.45	ug/L	1		6010B	Dissolved
Sodium	43000		1000	97	ug/L	1		6010B	Dissolved
Chloride	97		6.0	2.0	mg/L	2		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	860	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	1000		20	9.4	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-230407-14

## Lab Sample ID: 280-174814-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	250000	B	200	24	ug/L	1		6010B	Dissolved
Iron	16	J	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	110000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	39		5.0	0.45	ug/L	1		6010B	Dissolved
Sodium	43000		1000	97	ug/L	1		6010B	Dissolved
Chloride	100		6.0	2.0	mg/L	2		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	840	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	1000		20	9.4	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-230407-15

## Lab Sample ID: 280-174814-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	150000	B	200	24	ug/L	1		6010B	Dissolved

This Detection Summary does not include radiochemical test results.

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# Detection Summary

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Client Sample ID: VLF-230407-15 (Continued)

## Lab Sample ID: 280-174814-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	64000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	13		5.0	0.45	ug/L	1		6010B	Dissolved
Sodium	27000		1000	97	ug/L	1		6010B	Dissolved
Chloride	33		3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	520	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	650		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	2.0	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: VLF-230408-16

## Lab Sample ID: 280-174814-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	43000	B	200	24	ug/L	1		6010B	Dissolved
Magnesium	19000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	0.76	J	5.0	0.45	ug/L	1		6010B	Dissolved
Sodium	21000		1000	97	ug/L	1		6010B	Dissolved
Chloride	46		3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	140	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	230		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	2.4	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: VLF-230408-17

## Lab Sample ID: 280-174814-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.4		0.50	0.32	ug/L	1		8260B	Total/NA
Tetrachloroethene	0.98		0.50	0.40	ug/L	1		8260B	Total/NA
Trichloroethene	3.9		0.50	0.30	ug/L	1		8260B	Total/NA
Arsenic	1.1	J	5.0	0.50	ug/L	1		200.8	Total/NA
Calcium	64000	B	200	24	ug/L	1		6010B	Dissolved
Iron	540		100	9.1	ug/L	1		6010B	Dissolved
Magnesium	31000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	660		5.0	0.45	ug/L	1		6010B	Dissolved
Sodium	40000		1000	97	ug/L	1		6010B	Dissolved
Chloride	34		3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	310	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	320		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	2.8	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: VLF-230408-18

## Lab Sample ID: 280-174814-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	1.7		0.50	0.40	ug/L	1		8260B	Total/NA
Calcium	25000	B	200	24	ug/L	1		6010B	Dissolved
Magnesium	11000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	0.46	J	5.0	0.45	ug/L	1		6010B	Dissolved
Sodium	24000		1000	97	ug/L	1		6010B	Dissolved
Chloride	9.0		3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	130	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	160		10	4.7	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-230408-19

## Lab Sample ID: 280-174814-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	33000	B	200	24	ug/L	1		6010B	Dissolved

This Detection Summary does not include radiochemical test results.

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# Detection Summary

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Client Sample ID: VLF-230408-19 (Continued)

## Lab Sample ID: 280-174814-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	15000		200	4.2	ug/L	1		6010B	Dissolved
Sodium	32000		1000	97	ug/L	1		6010B	Dissolved
Chloride	9.3		3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	170	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	170		10	4.7	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-230408-20

## Lab Sample ID: 280-174814-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	27000	B	200	24	ug/L	1		6010B	Dissolved
Magnesium	11000		200	4.2	ug/L	1		6010B	Dissolved
Sodium	26000		1000	97	ug/L	1		6010B	Dissolved
Chloride	6.2		3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	160	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	140		10	4.7	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

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# Method Summary

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	EET DEN
200.8	Metals (ICP/MS)	EPA	EET DEN
6010B	Dissolved Metals	SW846	EET DEN
300.0	Anions, Ion Chromatography	EPA	EET DEN
SM 2320B	Alkalinity	SM	EET DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	EET DEN
200.8	Preparation, Total Metals	EPA	EET DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET DEN
5030B	Purge and Trap	SW846	EET DEN

#### Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

# Sample Summary

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-174814-1	VLF-230407-1	Water	04/07/23 08:10	04/11/23 09:25
280-174814-2	VLF-230407-2	Water	04/07/23 08:45	04/11/23 09:25
280-174814-3	VLF-230407-3	Water	04/07/23 09:38	04/11/23 09:25
280-174814-4	VLF-230407-5	Water	04/07/23 10:20	04/11/23 09:25
280-174814-5	VLF-230407-6	Water	04/07/23 11:18	04/11/23 09:25
280-174814-6	VLF-230407-7	Water	04/07/23 12:10	04/11/23 09:25
280-174814-7	VLF-230407-8	Water	04/07/23 12:45	04/11/23 09:25
280-174814-8	VLF-230407-9	Water	04/07/23 13:15	04/11/23 09:25
280-174814-9	VLF-230407-10	Water	04/07/23 14:00	04/11/23 09:25
280-174814-10	VLF-230407-11	Water	04/07/23 14:05	04/11/23 09:25
280-174814-12	VLF-230407-12	Water	04/07/23 14:45	04/11/23 09:25
280-174814-13	VLF-230407-13	Water	04/07/23 15:30	04/11/23 09:25
280-174814-14	VLF-230407-14	Water	04/07/23 15:35	04/11/23 09:25
280-174814-15	VLF-230407-15	Water	04/07/23 16:18	04/11/23 09:25
280-174814-16	VLF-230408-16	Water	04/08/23 08:40	04/11/23 09:25
280-174814-17	VLF-230408-17	Water	04/08/23 09:10	04/11/23 09:25
280-174814-18	VLF-230408-18	Water	04/08/23 09:50	04/11/23 09:25
280-174814-19	VLF-230408-19	Water	04/08/23 10:38	04/11/23 09:25
280-174814-20	VLF-230408-20	Water	04/08/23 11:29	04/11/23 09:25



# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: VLF-230407-1**

**Date Collected: 04/07/23 08:10**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.58	ug/L			04/20/23 00:43	1
1,1,1-Trichloroethane	ND		0.50	0.39	ug/L			04/20/23 00:43	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.21	ug/L			04/20/23 00:43	1
1,1,2-Trichloroethane	ND		0.50	0.27	ug/L			04/20/23 00:43	1
1,1-Dichloroethane	ND		0.50	0.22	ug/L			04/20/23 00:43	1
1,1-Dichloroethene	ND		0.50	0.23	ug/L			04/20/23 00:43	1
1,1-Dichloropropene	ND		0.50	0.42	ug/L			04/20/23 00:43	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/23 00:43	1
1,2,3-Trichloropropane	ND		0.77	0.86	ug/L			04/20/23 00:43	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			04/20/23 00:43	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			04/20/23 00:43	1
1,2-Dibromo-3-Chloropropane	ND		2.0	1.8	ug/L			04/20/23 00:43	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			04/20/23 00:43	1
1,2-Dichlorobenzene	ND		0.50	0.37	ug/L			04/20/23 00:43	1
1,2-Dichloroethane	ND		0.50	0.54	ug/L			04/20/23 00:43	1
1,2-Dichloropropane	ND		0.50	0.52	ug/L			04/20/23 00:43	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			04/20/23 00:43	1
1,3-Dichlorobenzene	ND		0.50	0.33	ug/L			04/20/23 00:43	1
1,3-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 00:43	1
1,4-Dichlorobenzene	ND		0.50	0.39	ug/L			04/20/23 00:43	1
2,2-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 00:43	1
2-Butanone (MEK)	ND		6.0	6.0	ug/L			04/20/23 00:43	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			04/20/23 00:43	1
2-Hexanone	ND		5.0	1.7	ug/L			04/20/23 00:43	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			04/20/23 00:43	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			04/20/23 00:43	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			04/20/23 00:43	1
Acetone	ND		10	6.6	ug/L			04/20/23 00:43	1
Benzene	ND		0.50	0.31	ug/L			04/20/23 00:43	1
Bromobenzene	ND		1.0	0.40	ug/L			04/20/23 00:43	1
Bromochloromethane	ND		0.50	0.40	ug/L			04/20/23 00:43	1
Bromodichloromethane	ND		0.50	0.39	ug/L			04/20/23 00:43	1
Bromoform	ND		0.50	1.2	ug/L			04/20/23 00:43	1
Bromomethane	ND		0.50	2.4	ug/L			04/20/23 00:43	1
Carbon disulfide	ND		2.0	0.63	ug/L			04/20/23 00:43	1
Carbon tetrachloride	ND		0.50	0.57	ug/L			04/20/23 00:43	1
Chlorobenzene	ND		0.50	0.42	ug/L			04/20/23 00:43	1
Chloroethane	ND		0.50	1.4	ug/L			04/20/23 00:43	1
<b>Chloroform</b>	<b>2.3</b>		0.50	0.36	ug/L			04/20/23 00:43	1
Chloromethane	ND		0.50	0.75	ug/L			04/20/23 00:43	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/20/23 00:43	1
cis-1,3-Dichloropropene	ND		0.50	0.63	ug/L			04/20/23 00:43	1
Dibromochloromethane	ND		0.50	0.62	ug/L			04/20/23 00:43	1
Dibromomethane	ND		0.50	0.34	ug/L			04/20/23 00:43	1
Dichlorodifluoromethane	ND		0.50	0.96	ug/L			04/20/23 00:43	1
Ethylbenzene	ND		0.50	0.30	ug/L			04/20/23 00:43	1
Hexachlorobutadiene	ND		1.0	1.2	ug/L			04/20/23 00:43	1
Isopropylbenzene	ND		1.0	0.36	ug/L			04/20/23 00:43	1
Methylene Chloride	ND		2.0	0.94	ug/L			04/20/23 00:43	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-230407-1**

**Date Collected: 04/07/23 08:10**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		0.50	0.36	ug/L			04/20/23 00:43	1
Naphthalene	ND		1.0	0.63	ug/L			04/20/23 00:43	1
n-Butylbenzene	ND		1.0	0.48	ug/L			04/20/23 00:43	1
N-Propylbenzene	ND		1.0	0.53	ug/L			04/20/23 00:43	1
o-Xylene	ND		0.50	0.33	ug/L			04/20/23 00:43	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			04/20/23 00:43	1
Styrene	ND		0.50	0.36	ug/L			04/20/23 00:43	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			04/20/23 00:43	1
Tetrachloroethene	ND		0.50	0.40	ug/L			04/20/23 00:43	1
Toluene	ND		0.50	0.32	ug/L			04/20/23 00:43	1
trans-1,2-Dichloroethene	ND		0.50	0.37	ug/L			04/20/23 00:43	1
trans-1,3-Dichloropropene	ND		0.50	0.65	ug/L			04/20/23 00:43	1
Trichloroethene	ND		0.50	0.30	ug/L			04/20/23 00:43	1
Trichlorofluoromethane	ND		0.50	0.57	ug/L			04/20/23 00:43	1
Vinyl chloride	ND		0.50	0.51	ug/L			04/20/23 00:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 127					04/20/23 00:43	1
4-Bromofluorobenzene (Surr)	96		78 - 120					04/20/23 00:43	1
Dibromofluoromethane (Surr)	98		77 - 120					04/20/23 00:43	1
Toluene-d8 (Surr)	99		80 - 125					04/20/23 00:43	1

**Client Sample ID: VLF-230407-2**

**Date Collected: 04/07/23 08:45**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-2**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.58	ug/L			04/20/23 01:05	1
1,1,1-Trichloroethane	ND		0.50	0.39	ug/L			04/20/23 01:05	1
1,1,1,2,2-Tetrachloroethane	ND		0.50	0.21	ug/L			04/20/23 01:05	1
1,1,1,2-Trichloroethane	ND		0.50	0.27	ug/L			04/20/23 01:05	1
1,1-Dichloroethane	ND		0.50	0.22	ug/L			04/20/23 01:05	1
1,1-Dichloroethene	ND		0.50	0.23	ug/L			04/20/23 01:05	1
1,1-Dichloropropene	ND		0.50	0.42	ug/L			04/20/23 01:05	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/23 01:05	1
1,2,3-Trichloropropane	ND		0.77	0.86	ug/L			04/20/23 01:05	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			04/20/23 01:05	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			04/20/23 01:05	1
1,2-Dibromo-3-Chloropropane	ND		2.0	1.8	ug/L			04/20/23 01:05	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			04/20/23 01:05	1
1,2-Dichlorobenzene	ND		0.50	0.37	ug/L			04/20/23 01:05	1
1,2-Dichloroethane	ND		0.50	0.54	ug/L			04/20/23 01:05	1
1,2-Dichloropropane	ND		0.50	0.52	ug/L			04/20/23 01:05	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			04/20/23 01:05	1
1,3-Dichlorobenzene	ND		0.50	0.33	ug/L			04/20/23 01:05	1
1,3-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 01:05	1
1,4-Dichlorobenzene	ND		0.50	0.39	ug/L			04/20/23 01:05	1
2,2-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 01:05	1
2-Butanone (MEK)	ND		6.0	6.0	ug/L			04/20/23 01:05	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			04/20/23 01:05	1
2-Hexanone	ND		5.0	1.7	ug/L			04/20/23 01:05	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-230407-2**

**Date Collected: 04/07/23 08:45**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-2**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.21	ug/L			04/20/23 01:05	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			04/20/23 01:05	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			04/20/23 01:05	1
Acetone	ND		10	6.6	ug/L			04/20/23 01:05	1
Benzene	ND		0.50	0.31	ug/L			04/20/23 01:05	1
Bromobenzene	ND		1.0	0.40	ug/L			04/20/23 01:05	1
Bromochloromethane	ND		0.50	0.40	ug/L			04/20/23 01:05	1
Bromodichloromethane	ND		0.50	0.39	ug/L			04/20/23 01:05	1
Bromoform	ND		0.50	1.2	ug/L			04/20/23 01:05	1
Bromomethane	ND		0.50	2.4	ug/L			04/20/23 01:05	1
Carbon disulfide	ND		2.0	0.63	ug/L			04/20/23 01:05	1
Carbon tetrachloride	ND		0.50	0.57	ug/L			04/20/23 01:05	1
Chlorobenzene	ND		0.50	0.42	ug/L			04/20/23 01:05	1
Chloroethane	ND		0.50	1.4	ug/L			04/20/23 01:05	1
Chloroform	ND		0.50	0.36	ug/L			04/20/23 01:05	1
Chloromethane	ND		0.50	0.75	ug/L			04/20/23 01:05	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/20/23 01:05	1
cis-1,3-Dichloropropene	ND		0.50	0.63	ug/L			04/20/23 01:05	1
Dibromochloromethane	ND		0.50	0.62	ug/L			04/20/23 01:05	1
Dibromomethane	ND		0.50	0.34	ug/L			04/20/23 01:05	1
Dichlorodifluoromethane	ND		0.50	0.96	ug/L			04/20/23 01:05	1
Ethylbenzene	ND		0.50	0.30	ug/L			04/20/23 01:05	1
Hexachlorobutadiene	ND		1.0	1.2	ug/L			04/20/23 01:05	1
Isopropylbenzene	ND		1.0	0.36	ug/L			04/20/23 01:05	1
Methylene Chloride	ND		2.0	0.94	ug/L			04/20/23 01:05	1
m-Xylene & p-Xylene	ND		0.50	0.36	ug/L			04/20/23 01:05	1
Naphthalene	ND		1.0	0.63	ug/L			04/20/23 01:05	1
n-Butylbenzene	ND		1.0	0.48	ug/L			04/20/23 01:05	1
N-Propylbenzene	ND		1.0	0.53	ug/L			04/20/23 01:05	1
o-Xylene	ND		0.50	0.33	ug/L			04/20/23 01:05	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			04/20/23 01:05	1
Styrene	ND		0.50	0.36	ug/L			04/20/23 01:05	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			04/20/23 01:05	1
Tetrachloroethene	ND		0.50	0.40	ug/L			04/20/23 01:05	1
Toluene	ND		0.50	0.32	ug/L			04/20/23 01:05	1
trans-1,2-Dichloroethene	ND		0.50	0.37	ug/L			04/20/23 01:05	1
trans-1,3-Dichloropropene	ND		0.50	0.65	ug/L			04/20/23 01:05	1
Trichloroethene	ND		0.50	0.30	ug/L			04/20/23 01:05	1
Trichlorofluoromethane	ND		0.50	0.57	ug/L			04/20/23 01:05	1
Vinyl chloride	ND		0.50	0.51	ug/L			04/20/23 01:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 127		04/20/23 01:05	1
4-Bromofluorobenzene (Surr)	97		78 - 120		04/20/23 01:05	1
Dibromofluoromethane (Surr)	100		77 - 120		04/20/23 01:05	1
Toluene-d8 (Surr)	100		80 - 125		04/20/23 01:05	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: VLF-230407-3**

**Date Collected: 04/07/23 09:38**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-3**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.58	ug/L			04/20/23 01:27	1
1,1,1-Trichloroethane	ND		0.50	0.39	ug/L			04/20/23 01:27	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.21	ug/L			04/20/23 01:27	1
1,1,2-Trichloroethane	ND		0.50	0.27	ug/L			04/20/23 01:27	1
1,1-Dichloroethane	ND		0.50	0.22	ug/L			04/20/23 01:27	1
1,1-Dichloroethene	ND		0.50	0.23	ug/L			04/20/23 01:27	1
1,1-Dichloropropene	ND		0.50	0.42	ug/L			04/20/23 01:27	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/23 01:27	1
1,2,3-Trichloropropane	ND		0.77	0.86	ug/L			04/20/23 01:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			04/20/23 01:27	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			04/20/23 01:27	1
1,2-Dibromo-3-Chloropropane	ND		2.0	1.8	ug/L			04/20/23 01:27	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			04/20/23 01:27	1
1,2-Dichlorobenzene	ND		0.50	0.37	ug/L			04/20/23 01:27	1
1,2-Dichloroethane	ND		0.50	0.54	ug/L			04/20/23 01:27	1
1,2-Dichloropropane	ND		0.50	0.52	ug/L			04/20/23 01:27	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			04/20/23 01:27	1
1,3-Dichlorobenzene	ND		0.50	0.33	ug/L			04/20/23 01:27	1
1,3-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 01:27	1
1,4-Dichlorobenzene	ND		0.50	0.39	ug/L			04/20/23 01:27	1
2,2-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 01:27	1
2-Butanone (MEK)	ND		6.0	6.0	ug/L			04/20/23 01:27	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			04/20/23 01:27	1
2-Hexanone	ND		5.0	1.7	ug/L			04/20/23 01:27	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			04/20/23 01:27	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			04/20/23 01:27	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			04/20/23 01:27	1
Acetone	ND		10	6.6	ug/L			04/20/23 01:27	1
Benzene	ND		0.50	0.31	ug/L			04/20/23 01:27	1
Bromobenzene	ND		1.0	0.40	ug/L			04/20/23 01:27	1
Bromochloromethane	ND		0.50	0.40	ug/L			04/20/23 01:27	1
Bromodichloromethane	ND		0.50	0.39	ug/L			04/20/23 01:27	1
Bromoform	ND		0.50	1.2	ug/L			04/20/23 01:27	1
Bromomethane	ND		0.50	2.4	ug/L			04/20/23 01:27	1
Carbon disulfide	ND		2.0	0.63	ug/L			04/20/23 01:27	1
Carbon tetrachloride	ND		0.50	0.57	ug/L			04/20/23 01:27	1
Chlorobenzene	ND		0.50	0.42	ug/L			04/20/23 01:27	1
Chloroethane	ND		0.50	1.4	ug/L			04/20/23 01:27	1
Chloroform	ND		0.50	0.36	ug/L			04/20/23 01:27	1
Chloromethane	ND		0.50	0.75	ug/L			04/20/23 01:27	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/20/23 01:27	1
cis-1,3-Dichloropropene	ND		0.50	0.63	ug/L			04/20/23 01:27	1
Dibromochloromethane	ND		0.50	0.62	ug/L			04/20/23 01:27	1
Dibromomethane	ND		0.50	0.34	ug/L			04/20/23 01:27	1
Dichlorodifluoromethane	ND		0.50	0.96	ug/L			04/20/23 01:27	1
Ethylbenzene	ND		0.50	0.30	ug/L			04/20/23 01:27	1
Hexachlorobutadiene	ND		1.0	1.2	ug/L			04/20/23 01:27	1
Isopropylbenzene	ND		1.0	0.36	ug/L			04/20/23 01:27	1
Methylene Chloride	ND		2.0	0.94	ug/L			04/20/23 01:27	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-230407-3**

**Date Collected: 04/07/23 09:38**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-3**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		0.50	0.36	ug/L			04/20/23 01:27	1
Naphthalene	ND		1.0	0.63	ug/L			04/20/23 01:27	1
n-Butylbenzene	ND		1.0	0.48	ug/L			04/20/23 01:27	1
N-Propylbenzene	ND		1.0	0.53	ug/L			04/20/23 01:27	1
o-Xylene	ND		0.50	0.33	ug/L			04/20/23 01:27	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			04/20/23 01:27	1
Styrene	ND		0.50	0.36	ug/L			04/20/23 01:27	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			04/20/23 01:27	1
Tetrachloroethene	ND		0.50	0.40	ug/L			04/20/23 01:27	1
Toluene	ND		0.50	0.32	ug/L			04/20/23 01:27	1
trans-1,2-Dichloroethene	ND		0.50	0.37	ug/L			04/20/23 01:27	1
trans-1,3-Dichloropropene	ND		0.50	0.65	ug/L			04/20/23 01:27	1
Trichloroethene	ND		0.50	0.30	ug/L			04/20/23 01:27	1
Trichlorofluoromethane	ND		0.50	0.57	ug/L			04/20/23 01:27	1
Vinyl chloride	ND		0.50	0.51	ug/L			04/20/23 01:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 127					04/20/23 01:27	1
4-Bromofluorobenzene (Surr)	95		78 - 120					04/20/23 01:27	1
Dibromofluoromethane (Surr)	100		77 - 120					04/20/23 01:27	1
Toluene-d8 (Surr)	99		80 - 125					04/20/23 01:27	1

**Client Sample ID: VLF-230407-5**

**Date Collected: 04/07/23 10:20**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-4**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.58	ug/L			04/20/23 01:49	1
1,1,1-Trichloroethane	ND		0.50	0.39	ug/L			04/20/23 01:49	1
1,1,1,2,2-Tetrachloroethane	ND		0.50	0.21	ug/L			04/20/23 01:49	1
1,1,1,2-Trichloroethane	ND		0.50	0.27	ug/L			04/20/23 01:49	1
1,1-Dichloroethane	ND		0.50	0.22	ug/L			04/20/23 01:49	1
1,1-Dichloroethene	ND		0.50	0.23	ug/L			04/20/23 01:49	1
1,1-Dichloropropene	ND		0.50	0.42	ug/L			04/20/23 01:49	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/23 01:49	1
1,2,3-Trichloropropane	ND		0.77	0.86	ug/L			04/20/23 01:49	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			04/20/23 01:49	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			04/20/23 01:49	1
1,2-Dibromo-3-Chloropropane	ND		2.0	1.8	ug/L			04/20/23 01:49	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			04/20/23 01:49	1
1,2-Dichlorobenzene	ND		0.50	0.37	ug/L			04/20/23 01:49	1
1,2-Dichloroethane	ND		0.50	0.54	ug/L			04/20/23 01:49	1
1,2-Dichloropropane	ND		0.50	0.52	ug/L			04/20/23 01:49	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			04/20/23 01:49	1
1,3-Dichlorobenzene	ND		0.50	0.33	ug/L			04/20/23 01:49	1
1,3-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 01:49	1
1,4-Dichlorobenzene	ND		0.50	0.39	ug/L			04/20/23 01:49	1
2,2-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 01:49	1
2-Butanone (MEK)	ND		6.0	6.0	ug/L			04/20/23 01:49	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			04/20/23 01:49	1
2-Hexanone	ND		5.0	1.7	ug/L			04/20/23 01:49	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-230407-5**

**Date Collected: 04/07/23 10:20**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-4**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.21	ug/L			04/20/23 01:49	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			04/20/23 01:49	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			04/20/23 01:49	1
Acetone	ND		10	6.6	ug/L			04/20/23 01:49	1
Benzene	ND		0.50	0.31	ug/L			04/20/23 01:49	1
Bromobenzene	ND		1.0	0.40	ug/L			04/20/23 01:49	1
Bromochloromethane	ND		0.50	0.40	ug/L			04/20/23 01:49	1
Bromodichloromethane	ND		0.50	0.39	ug/L			04/20/23 01:49	1
Bromoform	ND		0.50	1.2	ug/L			04/20/23 01:49	1
Bromomethane	ND		0.50	2.4	ug/L			04/20/23 01:49	1
Carbon disulfide	ND		2.0	0.63	ug/L			04/20/23 01:49	1
Carbon tetrachloride	ND		0.50	0.57	ug/L			04/20/23 01:49	1
Chlorobenzene	ND		0.50	0.42	ug/L			04/20/23 01:49	1
Chloroethane	ND		0.50	1.4	ug/L			04/20/23 01:49	1
Chloroform	ND		0.50	0.36	ug/L			04/20/23 01:49	1
Chloromethane	ND		0.50	0.75	ug/L			04/20/23 01:49	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/20/23 01:49	1
cis-1,3-Dichloropropene	ND		0.50	0.63	ug/L			04/20/23 01:49	1
Dibromochloromethane	ND		0.50	0.62	ug/L			04/20/23 01:49	1
Dibromomethane	ND		0.50	0.34	ug/L			04/20/23 01:49	1
Dichlorodifluoromethane	ND		0.50	0.96	ug/L			04/20/23 01:49	1
Ethylbenzene	ND		0.50	0.30	ug/L			04/20/23 01:49	1
Hexachlorobutadiene	ND		1.0	1.2	ug/L			04/20/23 01:49	1
Isopropylbenzene	ND		1.0	0.36	ug/L			04/20/23 01:49	1
Methylene Chloride	ND		2.0	0.94	ug/L			04/20/23 01:49	1
m-Xylene & p-Xylene	ND		0.50	0.36	ug/L			04/20/23 01:49	1
Naphthalene	ND		1.0	0.63	ug/L			04/20/23 01:49	1
n-Butylbenzene	ND		1.0	0.48	ug/L			04/20/23 01:49	1
N-Propylbenzene	ND		1.0	0.53	ug/L			04/20/23 01:49	1
o-Xylene	ND		0.50	0.33	ug/L			04/20/23 01:49	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			04/20/23 01:49	1
Styrene	ND		0.50	0.36	ug/L			04/20/23 01:49	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			04/20/23 01:49	1
Tetrachloroethene	ND		0.50	0.40	ug/L			04/20/23 01:49	1
Toluene	ND		0.50	0.32	ug/L			04/20/23 01:49	1
trans-1,2-Dichloroethene	ND		0.50	0.37	ug/L			04/20/23 01:49	1
trans-1,3-Dichloropropene	ND		0.50	0.65	ug/L			04/20/23 01:49	1
Trichloroethene	ND		0.50	0.30	ug/L			04/20/23 01:49	1
Trichlorofluoromethane	ND		0.50	0.57	ug/L			04/20/23 01:49	1
Vinyl chloride	ND		0.50	0.51	ug/L			04/20/23 01:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 127		04/20/23 01:49	1
4-Bromofluorobenzene (Surr)	95		78 - 120		04/20/23 01:49	1
Dibromofluoromethane (Surr)	99		77 - 120		04/20/23 01:49	1
Toluene-d8 (Surr)	99		80 - 125		04/20/23 01:49	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: VLF-230407-6**

**Date Collected: 04/07/23 11:18**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-5**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.58	ug/L			04/20/23 02:11	1
1,1,1-Trichloroethane	ND		0.50	0.39	ug/L			04/20/23 02:11	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.21	ug/L			04/20/23 02:11	1
1,1,2-Trichloroethane	ND		0.50	0.27	ug/L			04/20/23 02:11	1
1,1-Dichloroethane	ND		0.50	0.22	ug/L			04/20/23 02:11	1
1,1-Dichloroethene	ND		0.50	0.23	ug/L			04/20/23 02:11	1
1,1-Dichloropropene	ND		0.50	0.42	ug/L			04/20/23 02:11	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/23 02:11	1
1,2,3-Trichloropropane	ND		0.77	0.86	ug/L			04/20/23 02:11	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			04/20/23 02:11	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			04/20/23 02:11	1
1,2-Dibromo-3-Chloropropane	ND		2.0	1.8	ug/L			04/20/23 02:11	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			04/20/23 02:11	1
1,2-Dichlorobenzene	ND		0.50	0.37	ug/L			04/20/23 02:11	1
1,2-Dichloroethane	ND		0.50	0.54	ug/L			04/20/23 02:11	1
1,2-Dichloropropane	ND		0.50	0.52	ug/L			04/20/23 02:11	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			04/20/23 02:11	1
1,3-Dichlorobenzene	ND		0.50	0.33	ug/L			04/20/23 02:11	1
1,3-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 02:11	1
1,4-Dichlorobenzene	ND		0.50	0.39	ug/L			04/20/23 02:11	1
2,2-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 02:11	1
2-Butanone (MEK)	ND		6.0	6.0	ug/L			04/20/23 02:11	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			04/20/23 02:11	1
2-Hexanone	ND		5.0	1.7	ug/L			04/20/23 02:11	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			04/20/23 02:11	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			04/20/23 02:11	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			04/20/23 02:11	1
Acetone	ND		10	6.6	ug/L			04/20/23 02:11	1
Benzene	ND		0.50	0.31	ug/L			04/20/23 02:11	1
Bromobenzene	ND		1.0	0.40	ug/L			04/20/23 02:11	1
Bromochloromethane	ND		0.50	0.40	ug/L			04/20/23 02:11	1
Bromodichloromethane	ND		0.50	0.39	ug/L			04/20/23 02:11	1
Bromoform	ND		0.50	1.2	ug/L			04/20/23 02:11	1
Bromomethane	ND		0.50	2.4	ug/L			04/20/23 02:11	1
Carbon disulfide	ND		2.0	0.63	ug/L			04/20/23 02:11	1
Carbon tetrachloride	ND		0.50	0.57	ug/L			04/20/23 02:11	1
Chlorobenzene	ND		0.50	0.42	ug/L			04/20/23 02:11	1
Chloroethane	ND		0.50	1.4	ug/L			04/20/23 02:11	1
Chloroform	ND		0.50	0.36	ug/L			04/20/23 02:11	1
Chloromethane	ND		0.50	0.75	ug/L			04/20/23 02:11	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/20/23 02:11	1
cis-1,3-Dichloropropene	ND		0.50	0.63	ug/L			04/20/23 02:11	1
Dibromochloromethane	ND		0.50	0.62	ug/L			04/20/23 02:11	1
Dibromomethane	ND		0.50	0.34	ug/L			04/20/23 02:11	1
Dichlorodifluoromethane	ND		0.50	0.96	ug/L			04/20/23 02:11	1
Ethylbenzene	ND		0.50	0.30	ug/L			04/20/23 02:11	1
Hexachlorobutadiene	ND		1.0	1.2	ug/L			04/20/23 02:11	1
Isopropylbenzene	ND		1.0	0.36	ug/L			04/20/23 02:11	1
Methylene Chloride	ND		2.0	0.94	ug/L			04/20/23 02:11	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-230407-6**

**Date Collected: 04/07/23 11:18**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-5**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		0.50	0.36	ug/L			04/20/23 02:11	1
Naphthalene	ND		1.0	0.63	ug/L			04/20/23 02:11	1
n-Butylbenzene	ND		1.0	0.48	ug/L			04/20/23 02:11	1
N-Propylbenzene	ND		1.0	0.53	ug/L			04/20/23 02:11	1
o-Xylene	ND		0.50	0.33	ug/L			04/20/23 02:11	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			04/20/23 02:11	1
Styrene	ND		0.50	0.36	ug/L			04/20/23 02:11	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			04/20/23 02:11	1
Tetrachloroethene	ND		0.50	0.40	ug/L			04/20/23 02:11	1
Toluene	ND		0.50	0.32	ug/L			04/20/23 02:11	1
trans-1,2-Dichloroethene	ND		0.50	0.37	ug/L			04/20/23 02:11	1
trans-1,3-Dichloropropene	ND		0.50	0.65	ug/L			04/20/23 02:11	1
Trichloroethene	ND		0.50	0.30	ug/L			04/20/23 02:11	1
Trichlorofluoromethane	ND		0.50	0.57	ug/L			04/20/23 02:11	1
Vinyl chloride	ND		0.50	0.51	ug/L			04/20/23 02:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 127					04/20/23 02:11	1
4-Bromofluorobenzene (Surr)	95		78 - 120					04/20/23 02:11	1
Dibromofluoromethane (Surr)	98		77 - 120					04/20/23 02:11	1
Toluene-d8 (Surr)	100		80 - 125					04/20/23 02:11	1

**Client Sample ID: VLF-230407-7**

**Date Collected: 04/07/23 12:10**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-6**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	5.8	ug/L			04/20/23 05:30	10
1,1,1-Trichloroethane	ND		5.0	3.9	ug/L			04/20/23 05:30	10
1,1,1,2,2-Tetrachloroethane	ND		5.0	2.1	ug/L			04/20/23 05:30	10
1,1,2-Trichloroethane	ND		5.0	2.7	ug/L			04/20/23 05:30	10
1,1-Dichloroethane	ND		5.0	2.2	ug/L			04/20/23 05:30	10
1,1-Dichloroethene	ND		5.0	2.3	ug/L			04/20/23 05:30	10
1,1-Dichloropropene	ND		5.0	4.2	ug/L			04/20/23 05:30	10
1,2,3-Trichlorobenzene	ND		10	7.0	ug/L			04/20/23 05:30	10
1,2,3-Trichloropropane	ND		7.7	8.6	ug/L			04/20/23 05:30	10
1,2,4-Trichlorobenzene	ND		10	5.8	ug/L			04/20/23 05:30	10
1,2,4-Trimethylbenzene	ND		10	1.5	ug/L			04/20/23 05:30	10
1,2-Dibromo-3-Chloropropane	ND		20	18	ug/L			04/20/23 05:30	10
1,2-Dibromoethane	ND		10	4.0	ug/L			04/20/23 05:30	10
1,2-Dichlorobenzene	ND		5.0	3.7	ug/L			04/20/23 05:30	10
1,2-Dichloroethane	ND		5.0	5.4	ug/L			04/20/23 05:30	10
1,2-Dichloropropane	ND		5.0	5.2	ug/L			04/20/23 05:30	10
1,3,5-Trimethylbenzene	ND		10	3.7	ug/L			04/20/23 05:30	10
1,3-Dichlorobenzene	ND		5.0	3.3	ug/L			04/20/23 05:30	10
1,3-Dichloropropane	ND		5.0	3.8	ug/L			04/20/23 05:30	10
1,4-Dichlorobenzene	ND		5.0	3.9	ug/L			04/20/23 05:30	10
2,2-Dichloropropane	ND		5.0	3.8	ug/L			04/20/23 05:30	10
2-Butanone (MEK)	ND		60	60	ug/L			04/20/23 05:30	10
2-Chlorotoluene	ND		10	3.4	ug/L			04/20/23 05:30	10
2-Hexanone	ND		50	17	ug/L			04/20/23 05:30	10

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-230407-7**

**Date Collected: 04/07/23 12:10**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-6**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		10	2.1	ug/L			04/20/23 05:30	10
4-Isopropyltoluene	ND		10	4.3	ug/L			04/20/23 05:30	10
4-Methyl-2-pentanone (MIBK)	ND		50	9.8	ug/L			04/20/23 05:30	10
Acetone	ND		100	66	ug/L			04/20/23 05:30	10
Benzene	ND		5.0	3.1	ug/L			04/20/23 05:30	10
Bromobenzene	ND		10	4.0	ug/L			04/20/23 05:30	10
Bromochloromethane	ND		5.0	4.0	ug/L			04/20/23 05:30	10
Bromodichloromethane	ND		5.0	3.9	ug/L			04/20/23 05:30	10
Bromoform	ND		5.0	12	ug/L			04/20/23 05:30	10
Bromomethane	ND		5.0	24	ug/L			04/20/23 05:30	10
Carbon disulfide	ND		20	6.3	ug/L			04/20/23 05:30	10
Carbon tetrachloride	ND		5.0	5.7	ug/L			04/20/23 05:30	10
Chlorobenzene	ND		5.0	4.2	ug/L			04/20/23 05:30	10
Chloroethane	ND		5.0	14	ug/L			04/20/23 05:30	10
Chloroform	ND		5.0	3.6	ug/L			04/20/23 05:30	10
Chloromethane	ND		5.0	7.5	ug/L			04/20/23 05:30	10
cis-1,2-Dichloroethene	ND		5.0	3.2	ug/L			04/20/23 05:30	10
cis-1,3-Dichloropropene	ND		5.0	6.3	ug/L			04/20/23 05:30	10
Dibromochloromethane	ND		5.0	6.2	ug/L			04/20/23 05:30	10
Dibromomethane	ND		5.0	3.4	ug/L			04/20/23 05:30	10
Dichlorodifluoromethane	ND		5.0	9.6	ug/L			04/20/23 05:30	10
Ethylbenzene	ND		5.0	3.0	ug/L			04/20/23 05:30	10
Hexachlorobutadiene	ND		10	12	ug/L			04/20/23 05:30	10
Isopropylbenzene	ND		10	3.6	ug/L			04/20/23 05:30	10
Methylene Chloride	ND		20	9.4	ug/L			04/20/23 05:30	10
m-Xylene & p-Xylene	ND		5.0	3.6	ug/L			04/20/23 05:30	10
Naphthalene	ND		10	6.3	ug/L			04/20/23 05:30	10
n-Butylbenzene	ND		10	4.8	ug/L			04/20/23 05:30	10
N-Propylbenzene	ND		10	5.3	ug/L			04/20/23 05:30	10
o-Xylene	ND		5.0	3.3	ug/L			04/20/23 05:30	10
sec-Butylbenzene	ND		10	4.5	ug/L			04/20/23 05:30	10
Styrene	ND		5.0	3.6	ug/L			04/20/23 05:30	10
tert-Butylbenzene	ND		10	4.2	ug/L			04/20/23 05:30	10
Tetrachloroethene	ND		5.0	4.0	ug/L			04/20/23 05:30	10
Toluene	ND		5.0	3.2	ug/L			04/20/23 05:30	10
trans-1,2-Dichloroethene	ND		5.0	3.7	ug/L			04/20/23 05:30	10
trans-1,3-Dichloropropene	ND		5.0	6.5	ug/L			04/20/23 05:30	10
Trichloroethene	ND		5.0	3.0	ug/L			04/20/23 05:30	10
Trichlorofluoromethane	ND		5.0	5.7	ug/L			04/20/23 05:30	10
Vinyl chloride	ND		5.0	5.1	ug/L			04/20/23 05:30	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		70 - 127		04/20/23 05:30	10
4-Bromofluorobenzene (Surr)	97		78 - 120		04/20/23 05:30	10
Dibromofluoromethane (Surr)	97		77 - 120		04/20/23 05:30	10
Toluene-d8 (Surr)	102		80 - 125		04/20/23 05:30	10

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: VLF-230407-8**

**Date Collected: 04/07/23 12:45**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-7**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.58	ug/L			04/20/23 02:33	1
1,1,1-Trichloroethane	ND		0.50	0.39	ug/L			04/20/23 02:33	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.21	ug/L			04/20/23 02:33	1
1,1,2-Trichloroethane	ND		0.50	0.27	ug/L			04/20/23 02:33	1
1,1-Dichloroethane	ND		0.50	0.22	ug/L			04/20/23 02:33	1
1,1-Dichloroethene	ND		0.50	0.23	ug/L			04/20/23 02:33	1
1,1-Dichloropropene	ND		0.50	0.42	ug/L			04/20/23 02:33	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/23 02:33	1
1,2,3-Trichloropropane	ND		0.77	0.86	ug/L			04/20/23 02:33	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			04/20/23 02:33	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			04/20/23 02:33	1
1,2-Dibromo-3-Chloropropane	ND		2.0	1.8	ug/L			04/20/23 02:33	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			04/20/23 02:33	1
1,2-Dichlorobenzene	ND		0.50	0.37	ug/L			04/20/23 02:33	1
1,2-Dichloroethane	ND		0.50	0.54	ug/L			04/20/23 02:33	1
1,2-Dichloropropane	ND		0.50	0.52	ug/L			04/20/23 02:33	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			04/20/23 02:33	1
1,3-Dichlorobenzene	ND		0.50	0.33	ug/L			04/20/23 02:33	1
1,3-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 02:33	1
1,4-Dichlorobenzene	ND		0.50	0.39	ug/L			04/20/23 02:33	1
2,2-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 02:33	1
2-Butanone (MEK)	ND		6.0	6.0	ug/L			04/20/23 02:33	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			04/20/23 02:33	1
2-Hexanone	ND		5.0	1.7	ug/L			04/20/23 02:33	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			04/20/23 02:33	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			04/20/23 02:33	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			04/20/23 02:33	1
Acetone	ND		10	6.6	ug/L			04/20/23 02:33	1
Benzene	ND		0.50	0.31	ug/L			04/20/23 02:33	1
Bromobenzene	ND		1.0	0.40	ug/L			04/20/23 02:33	1
Bromochloromethane	ND		0.50	0.40	ug/L			04/20/23 02:33	1
Bromodichloromethane	ND		0.50	0.39	ug/L			04/20/23 02:33	1
Bromoform	ND		0.50	1.2	ug/L			04/20/23 02:33	1
Bromomethane	ND		0.50	2.4	ug/L			04/20/23 02:33	1
Carbon disulfide	ND		2.0	0.63	ug/L			04/20/23 02:33	1
Carbon tetrachloride	ND		0.50	0.57	ug/L			04/20/23 02:33	1
Chlorobenzene	ND		0.50	0.42	ug/L			04/20/23 02:33	1
Chloroethane	ND		0.50	1.4	ug/L			04/20/23 02:33	1
Chloroform	ND		0.50	0.36	ug/L			04/20/23 02:33	1
Chloromethane	ND		0.50	0.75	ug/L			04/20/23 02:33	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/20/23 02:33	1
cis-1,3-Dichloropropene	ND		0.50	0.63	ug/L			04/20/23 02:33	1
Dibromochloromethane	ND		0.50	0.62	ug/L			04/20/23 02:33	1
Dibromomethane	ND		0.50	0.34	ug/L			04/20/23 02:33	1
Dichlorodifluoromethane	ND		0.50	0.96	ug/L			04/20/23 02:33	1
Ethylbenzene	ND		0.50	0.30	ug/L			04/20/23 02:33	1
Hexachlorobutadiene	ND		1.0	1.2	ug/L			04/20/23 02:33	1
Isopropylbenzene	ND		1.0	0.36	ug/L			04/20/23 02:33	1
Methylene Chloride	ND		2.0	0.94	ug/L			04/20/23 02:33	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-230407-8**

**Date Collected: 04/07/23 12:45**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-7**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		0.50	0.36	ug/L			04/20/23 02:33	1
Naphthalene	ND		1.0	0.63	ug/L			04/20/23 02:33	1
n-Butylbenzene	ND		1.0	0.48	ug/L			04/20/23 02:33	1
N-Propylbenzene	ND		1.0	0.53	ug/L			04/20/23 02:33	1
o-Xylene	ND		0.50	0.33	ug/L			04/20/23 02:33	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			04/20/23 02:33	1
Styrene	ND		0.50	0.36	ug/L			04/20/23 02:33	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			04/20/23 02:33	1
Tetrachloroethene	ND		0.50	0.40	ug/L			04/20/23 02:33	1
Toluene	ND		0.50	0.32	ug/L			04/20/23 02:33	1
trans-1,2-Dichloroethene	ND		0.50	0.37	ug/L			04/20/23 02:33	1
trans-1,3-Dichloropropene	ND		0.50	0.65	ug/L			04/20/23 02:33	1
Trichloroethene	ND		0.50	0.30	ug/L			04/20/23 02:33	1
Trichlorofluoromethane	ND		0.50	0.57	ug/L			04/20/23 02:33	1
Vinyl chloride	ND		0.50	0.51	ug/L			04/20/23 02:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 127					04/20/23 02:33	1
4-Bromofluorobenzene (Surr)	95		78 - 120					04/20/23 02:33	1
Dibromofluoromethane (Surr)	98		77 - 120					04/20/23 02:33	1
Toluene-d8 (Surr)	101		80 - 125					04/20/23 02:33	1

**Client Sample ID: VLF-230407-9**

**Date Collected: 04/07/23 13:15**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-8**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.58	ug/L			04/20/23 02:55	1
1,1,1-Trichloroethane	ND		0.50	0.39	ug/L			04/20/23 02:55	1
1,1,1,2,2-Tetrachloroethane	ND		0.50	0.21	ug/L			04/20/23 02:55	1
1,1,2-Trichloroethane	ND		0.50	0.27	ug/L			04/20/23 02:55	1
1,1-Dichloroethane	ND		0.50	0.22	ug/L			04/20/23 02:55	1
1,1-Dichloroethene	ND		0.50	0.23	ug/L			04/20/23 02:55	1
1,1-Dichloropropene	ND		0.50	0.42	ug/L			04/20/23 02:55	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/23 02:55	1
1,2,3-Trichloropropane	ND		0.77	0.86	ug/L			04/20/23 02:55	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			04/20/23 02:55	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			04/20/23 02:55	1
1,2-Dibromo-3-Chloropropane	ND		2.0	1.8	ug/L			04/20/23 02:55	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			04/20/23 02:55	1
1,2-Dichlorobenzene	ND		0.50	0.37	ug/L			04/20/23 02:55	1
1,2-Dichloroethane	ND		0.50	0.54	ug/L			04/20/23 02:55	1
1,2-Dichloropropane	ND		0.50	0.52	ug/L			04/20/23 02:55	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			04/20/23 02:55	1
1,3-Dichlorobenzene	ND		0.50	0.33	ug/L			04/20/23 02:55	1
1,3-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 02:55	1
1,4-Dichlorobenzene	ND		0.50	0.39	ug/L			04/20/23 02:55	1
2,2-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 02:55	1
2-Butanone (MEK)	ND		6.0	6.0	ug/L			04/20/23 02:55	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			04/20/23 02:55	1
2-Hexanone	ND		5.0	1.7	ug/L			04/20/23 02:55	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-230407-9**

**Date Collected: 04/07/23 13:15**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-8**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.21	ug/L			04/20/23 02:55	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			04/20/23 02:55	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			04/20/23 02:55	1
Acetone	ND		10	6.6	ug/L			04/20/23 02:55	1
Benzene	ND		0.50	0.31	ug/L			04/20/23 02:55	1
Bromobenzene	ND		1.0	0.40	ug/L			04/20/23 02:55	1
Bromochloromethane	ND		0.50	0.40	ug/L			04/20/23 02:55	1
Bromodichloromethane	ND		0.50	0.39	ug/L			04/20/23 02:55	1
Bromoform	ND		0.50	1.2	ug/L			04/20/23 02:55	1
Bromomethane	ND		0.50	2.4	ug/L			04/20/23 02:55	1
Carbon disulfide	ND		2.0	0.63	ug/L			04/20/23 02:55	1
Carbon tetrachloride	ND		0.50	0.57	ug/L			04/20/23 02:55	1
Chlorobenzene	ND		0.50	0.42	ug/L			04/20/23 02:55	1
Chloroethane	ND		0.50	1.4	ug/L			04/20/23 02:55	1
Chloroform	ND		0.50	0.36	ug/L			04/20/23 02:55	1
Chloromethane	ND		0.50	0.75	ug/L			04/20/23 02:55	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/20/23 02:55	1
cis-1,3-Dichloropropene	ND		0.50	0.63	ug/L			04/20/23 02:55	1
Dibromochloromethane	ND		0.50	0.62	ug/L			04/20/23 02:55	1
Dibromomethane	ND		0.50	0.34	ug/L			04/20/23 02:55	1
Dichlorodifluoromethane	ND		0.50	0.96	ug/L			04/20/23 02:55	1
Ethylbenzene	ND		0.50	0.30	ug/L			04/20/23 02:55	1
Hexachlorobutadiene	ND		1.0	1.2	ug/L			04/20/23 02:55	1
Isopropylbenzene	ND		1.0	0.36	ug/L			04/20/23 02:55	1
Methylene Chloride	ND		2.0	0.94	ug/L			04/20/23 02:55	1
m-Xylene & p-Xylene	ND		0.50	0.36	ug/L			04/20/23 02:55	1
Naphthalene	ND		1.0	0.63	ug/L			04/20/23 02:55	1
n-Butylbenzene	ND		1.0	0.48	ug/L			04/20/23 02:55	1
N-Propylbenzene	ND		1.0	0.53	ug/L			04/20/23 02:55	1
o-Xylene	ND		0.50	0.33	ug/L			04/20/23 02:55	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			04/20/23 02:55	1
Styrene	ND		0.50	0.36	ug/L			04/20/23 02:55	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			04/20/23 02:55	1
Tetrachloroethene	ND		0.50	0.40	ug/L			04/20/23 02:55	1
Toluene	ND		0.50	0.32	ug/L			04/20/23 02:55	1
trans-1,2-Dichloroethene	ND		0.50	0.37	ug/L			04/20/23 02:55	1
trans-1,3-Dichloropropene	ND		0.50	0.65	ug/L			04/20/23 02:55	1
Trichloroethene	ND		0.50	0.30	ug/L			04/20/23 02:55	1
Trichlorofluoromethane	ND		0.50	0.57	ug/L			04/20/23 02:55	1
Vinyl chloride	ND		0.50	0.51	ug/L			04/20/23 02:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 127		04/20/23 02:55	1
4-Bromofluorobenzene (Surr)	94		78 - 120		04/20/23 02:55	1
Dibromofluoromethane (Surr)	98		77 - 120		04/20/23 02:55	1
Toluene-d8 (Surr)	99		80 - 125		04/20/23 02:55	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: VLF-230407-10**

**Date Collected: 04/07/23 14:00**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-9**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.58	ug/L			04/20/23 03:17	1
1,1,1-Trichloroethane	ND		0.50	0.39	ug/L			04/20/23 03:17	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.21	ug/L			04/20/23 03:17	1
1,1,2-Trichloroethane	ND		0.50	0.27	ug/L			04/20/23 03:17	1
<b>1,1-Dichloroethane</b>	<b>0.46</b>	<b>J</b>	0.50	0.22	ug/L			04/20/23 03:17	1
1,1-Dichloroethene	ND		0.50	0.23	ug/L			04/20/23 03:17	1
1,1-Dichloropropene	ND		0.50	0.42	ug/L			04/20/23 03:17	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/23 03:17	1
1,2,3-Trichloropropane	ND		0.77	0.86	ug/L			04/20/23 03:17	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			04/20/23 03:17	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			04/20/23 03:17	1
1,2-Dibromo-3-Chloropropane	ND		2.0	1.8	ug/L			04/20/23 03:17	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			04/20/23 03:17	1
1,2-Dichlorobenzene	ND		0.50	0.37	ug/L			04/20/23 03:17	1
1,2-Dichloroethane	ND		0.50	0.54	ug/L			04/20/23 03:17	1
1,2-Dichloropropane	ND		0.50	0.52	ug/L			04/20/23 03:17	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			04/20/23 03:17	1
1,3-Dichlorobenzene	ND		0.50	0.33	ug/L			04/20/23 03:17	1
1,3-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 03:17	1
1,4-Dichlorobenzene	ND		0.50	0.39	ug/L			04/20/23 03:17	1
2,2-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 03:17	1
2-Butanone (MEK)	ND		6.0	6.0	ug/L			04/20/23 03:17	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			04/20/23 03:17	1
2-Hexanone	ND		5.0	1.7	ug/L			04/20/23 03:17	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			04/20/23 03:17	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			04/20/23 03:17	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			04/20/23 03:17	1
Acetone	ND		10	6.6	ug/L			04/20/23 03:17	1
Benzene	ND		0.50	0.31	ug/L			04/20/23 03:17	1
Bromobenzene	ND		1.0	0.40	ug/L			04/20/23 03:17	1
Bromochloromethane	ND		0.50	0.40	ug/L			04/20/23 03:17	1
Bromodichloromethane	ND		0.50	0.39	ug/L			04/20/23 03:17	1
Bromoform	ND		0.50	1.2	ug/L			04/20/23 03:17	1
Bromomethane	ND		0.50	2.4	ug/L			04/20/23 03:17	1
Carbon disulfide	ND		2.0	0.63	ug/L			04/20/23 03:17	1
Carbon tetrachloride	ND		0.50	0.57	ug/L			04/20/23 03:17	1
Chlorobenzene	ND		0.50	0.42	ug/L			04/20/23 03:17	1
Chloroethane	ND		0.50	1.4	ug/L			04/20/23 03:17	1
Chloroform	ND		0.50	0.36	ug/L			04/20/23 03:17	1
Chloromethane	ND		0.50	0.75	ug/L			04/20/23 03:17	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/20/23 03:17	1
cis-1,3-Dichloropropane	ND		0.50	0.63	ug/L			04/20/23 03:17	1
Dibromochloromethane	ND		0.50	0.62	ug/L			04/20/23 03:17	1
Dibromomethane	ND		0.50	0.34	ug/L			04/20/23 03:17	1
Dichlorodifluoromethane	ND		0.50	0.96	ug/L			04/20/23 03:17	1
Ethylbenzene	ND		0.50	0.30	ug/L			04/20/23 03:17	1
Hexachlorobutadiene	ND		1.0	1.2	ug/L			04/20/23 03:17	1
Isopropylbenzene	ND		1.0	0.36	ug/L			04/20/23 03:17	1
Methylene Chloride	ND		2.0	0.94	ug/L			04/20/23 03:17	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-230407-10**

**Date Collected: 04/07/23 14:00**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-9**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		0.50	0.36	ug/L			04/20/23 03:17	1
Naphthalene	ND		1.0	0.63	ug/L			04/20/23 03:17	1
n-Butylbenzene	ND		1.0	0.48	ug/L			04/20/23 03:17	1
N-Propylbenzene	ND		1.0	0.53	ug/L			04/20/23 03:17	1
o-Xylene	ND		0.50	0.33	ug/L			04/20/23 03:17	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			04/20/23 03:17	1
Styrene	ND		0.50	0.36	ug/L			04/20/23 03:17	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			04/20/23 03:17	1
Tetrachloroethene	ND		0.50	0.40	ug/L			04/20/23 03:17	1
Toluene	ND		0.50	0.32	ug/L			04/20/23 03:17	1
trans-1,2-Dichloroethene	ND		0.50	0.37	ug/L			04/20/23 03:17	1
trans-1,3-Dichloropropene	ND		0.50	0.65	ug/L			04/20/23 03:17	1
Trichloroethene	ND		0.50	0.30	ug/L			04/20/23 03:17	1
Trichlorofluoromethane	ND		0.50	0.57	ug/L			04/20/23 03:17	1
Vinyl chloride	ND		0.50	0.51	ug/L			04/20/23 03:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 127					04/20/23 03:17	1
4-Bromofluorobenzene (Surr)	94		78 - 120					04/20/23 03:17	1
Dibromofluoromethane (Surr)	99		77 - 120					04/20/23 03:17	1
Toluene-d8 (Surr)	100		80 - 125					04/20/23 03:17	1

**Client Sample ID: VLF-230407-11**

**Date Collected: 04/07/23 14:05**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-10**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.58	ug/L			04/20/23 03:39	1
1,1,1-Trichloroethane	ND		0.50	0.39	ug/L			04/20/23 03:39	1
1,1,1,2,2-Tetrachloroethane	ND		0.50	0.21	ug/L			04/20/23 03:39	1
1,1,2-Trichloroethane	ND		0.50	0.27	ug/L			04/20/23 03:39	1
<b>1,1-Dichloroethane</b>	<b>0.50</b>		0.50	0.22	ug/L			04/20/23 03:39	1
1,1-Dichloroethene	ND		0.50	0.23	ug/L			04/20/23 03:39	1
1,1-Dichloropropene	ND		0.50	0.42	ug/L			04/20/23 03:39	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/23 03:39	1
1,2,3-Trichloropropane	ND		0.77	0.86	ug/L			04/20/23 03:39	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			04/20/23 03:39	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			04/20/23 03:39	1
1,2-Dibromo-3-Chloropropane	ND		2.0	1.8	ug/L			04/20/23 03:39	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			04/20/23 03:39	1
1,2-Dichlorobenzene	ND		0.50	0.37	ug/L			04/20/23 03:39	1
1,2-Dichloroethane	ND		0.50	0.54	ug/L			04/20/23 03:39	1
1,2-Dichloropropane	ND		0.50	0.52	ug/L			04/20/23 03:39	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			04/20/23 03:39	1
1,3-Dichlorobenzene	ND		0.50	0.33	ug/L			04/20/23 03:39	1
1,3-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 03:39	1
1,4-Dichlorobenzene	ND		0.50	0.39	ug/L			04/20/23 03:39	1
2,2-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 03:39	1
2-Butanone (MEK)	ND		6.0	6.0	ug/L			04/20/23 03:39	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			04/20/23 03:39	1
2-Hexanone	ND		5.0	1.7	ug/L			04/20/23 03:39	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-230407-11**

**Date Collected: 04/07/23 14:05**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-10**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.21	ug/L			04/20/23 03:39	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			04/20/23 03:39	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			04/20/23 03:39	1
Acetone	ND		10	6.6	ug/L			04/20/23 03:39	1
Benzene	ND		0.50	0.31	ug/L			04/20/23 03:39	1
Bromobenzene	ND		1.0	0.40	ug/L			04/20/23 03:39	1
Bromochloromethane	ND		0.50	0.40	ug/L			04/20/23 03:39	1
Bromodichloromethane	ND		0.50	0.39	ug/L			04/20/23 03:39	1
Bromoform	ND		0.50	1.2	ug/L			04/20/23 03:39	1
Bromomethane	ND		0.50	2.4	ug/L			04/20/23 03:39	1
Carbon disulfide	ND		2.0	0.63	ug/L			04/20/23 03:39	1
Carbon tetrachloride	ND		0.50	0.57	ug/L			04/20/23 03:39	1
Chlorobenzene	ND		0.50	0.42	ug/L			04/20/23 03:39	1
Chloroethane	ND		0.50	1.4	ug/L			04/20/23 03:39	1
Chloroform	ND		0.50	0.36	ug/L			04/20/23 03:39	1
Chloromethane	ND		0.50	0.75	ug/L			04/20/23 03:39	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/20/23 03:39	1
cis-1,3-Dichloropropene	ND		0.50	0.63	ug/L			04/20/23 03:39	1
Dibromochloromethane	ND		0.50	0.62	ug/L			04/20/23 03:39	1
Dibromomethane	ND		0.50	0.34	ug/L			04/20/23 03:39	1
Dichlorodifluoromethane	ND		0.50	0.96	ug/L			04/20/23 03:39	1
Ethylbenzene	ND		0.50	0.30	ug/L			04/20/23 03:39	1
Hexachlorobutadiene	ND		1.0	1.2	ug/L			04/20/23 03:39	1
Isopropylbenzene	ND		1.0	0.36	ug/L			04/20/23 03:39	1
Methylene Chloride	ND		2.0	0.94	ug/L			04/20/23 03:39	1
m-Xylene & p-Xylene	ND		0.50	0.36	ug/L			04/20/23 03:39	1
Naphthalene	ND		1.0	0.63	ug/L			04/20/23 03:39	1
n-Butylbenzene	ND		1.0	0.48	ug/L			04/20/23 03:39	1
N-Propylbenzene	ND		1.0	0.53	ug/L			04/20/23 03:39	1
o-Xylene	ND		0.50	0.33	ug/L			04/20/23 03:39	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			04/20/23 03:39	1
Styrene	ND		0.50	0.36	ug/L			04/20/23 03:39	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			04/20/23 03:39	1
Tetrachloroethene	ND		0.50	0.40	ug/L			04/20/23 03:39	1
Toluene	ND		0.50	0.32	ug/L			04/20/23 03:39	1
trans-1,2-Dichloroethene	ND		0.50	0.37	ug/L			04/20/23 03:39	1
trans-1,3-Dichloropropene	ND		0.50	0.65	ug/L			04/20/23 03:39	1
Trichloroethene	ND		0.50	0.30	ug/L			04/20/23 03:39	1
Trichlorofluoromethane	ND		0.50	0.57	ug/L			04/20/23 03:39	1
Vinyl chloride	ND		0.50	0.51	ug/L			04/20/23 03:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 127		04/20/23 03:39	1
4-Bromofluorobenzene (Surr)	95		78 - 120		04/20/23 03:39	1
Dibromofluoromethane (Surr)	98		77 - 120		04/20/23 03:39	1
Toluene-d8 (Surr)	100		80 - 125		04/20/23 03:39	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: VLF-230407-12**

**Date Collected: 04/07/23 14:45**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-12**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.58	ug/L			04/20/23 04:01	1
1,1,1-Trichloroethane	ND		0.50	0.39	ug/L			04/20/23 04:01	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.21	ug/L			04/20/23 04:01	1
1,1,2-Trichloroethane	ND		0.50	0.27	ug/L			04/20/23 04:01	1
1,1-Dichloroethane	ND		0.50	0.22	ug/L			04/20/23 04:01	1
1,1-Dichloroethene	ND		0.50	0.23	ug/L			04/20/23 04:01	1
1,1-Dichloropropene	ND		0.50	0.42	ug/L			04/20/23 04:01	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/23 04:01	1
1,2,3-Trichloropropane	ND		0.77	0.86	ug/L			04/20/23 04:01	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			04/20/23 04:01	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			04/20/23 04:01	1
1,2-Dibromo-3-Chloropropane	ND		2.0	1.8	ug/L			04/20/23 04:01	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			04/20/23 04:01	1
1,2-Dichlorobenzene	ND		0.50	0.37	ug/L			04/20/23 04:01	1
1,2-Dichloroethane	ND		0.50	0.54	ug/L			04/20/23 04:01	1
1,2-Dichloropropane	ND		0.50	0.52	ug/L			04/20/23 04:01	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			04/20/23 04:01	1
1,3-Dichlorobenzene	ND		0.50	0.33	ug/L			04/20/23 04:01	1
1,3-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 04:01	1
1,4-Dichlorobenzene	ND		0.50	0.39	ug/L			04/20/23 04:01	1
2,2-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 04:01	1
2-Butanone (MEK)	ND		6.0	6.0	ug/L			04/20/23 04:01	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			04/20/23 04:01	1
2-Hexanone	ND		5.0	1.7	ug/L			04/20/23 04:01	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			04/20/23 04:01	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			04/20/23 04:01	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			04/20/23 04:01	1
Acetone	ND		10	6.6	ug/L			04/20/23 04:01	1
Benzene	ND		0.50	0.31	ug/L			04/20/23 04:01	1
Bromobenzene	ND		1.0	0.40	ug/L			04/20/23 04:01	1
Bromochloromethane	ND		0.50	0.40	ug/L			04/20/23 04:01	1
Bromodichloromethane	ND		0.50	0.39	ug/L			04/20/23 04:01	1
Bromoform	ND		0.50	1.2	ug/L			04/20/23 04:01	1
Bromomethane	ND		0.50	2.4	ug/L			04/20/23 04:01	1
Carbon disulfide	ND		2.0	0.63	ug/L			04/20/23 04:01	1
Carbon tetrachloride	ND		0.50	0.57	ug/L			04/20/23 04:01	1
Chlorobenzene	ND		0.50	0.42	ug/L			04/20/23 04:01	1
Chloroethane	ND		0.50	1.4	ug/L			04/20/23 04:01	1
Chloroform	ND		0.50	0.36	ug/L			04/20/23 04:01	1
Chloromethane	ND		0.50	0.75	ug/L			04/20/23 04:01	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/20/23 04:01	1
cis-1,3-Dichloropropene	ND		0.50	0.63	ug/L			04/20/23 04:01	1
Dibromochloromethane	ND		0.50	0.62	ug/L			04/20/23 04:01	1
Dibromomethane	ND		0.50	0.34	ug/L			04/20/23 04:01	1
Dichlorodifluoromethane	ND		0.50	0.96	ug/L			04/20/23 04:01	1
Ethylbenzene	ND		0.50	0.30	ug/L			04/20/23 04:01	1
Hexachlorobutadiene	ND		1.0	1.2	ug/L			04/20/23 04:01	1
Isopropylbenzene	ND		1.0	0.36	ug/L			04/20/23 04:01	1
Methylene Chloride	ND		2.0	0.94	ug/L			04/20/23 04:01	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-230407-12**

**Date Collected: 04/07/23 14:45**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-12**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		0.50	0.36	ug/L			04/20/23 04:01	1
Naphthalene	ND		1.0	0.63	ug/L			04/20/23 04:01	1
n-Butylbenzene	ND		1.0	0.48	ug/L			04/20/23 04:01	1
N-Propylbenzene	ND		1.0	0.53	ug/L			04/20/23 04:01	1
o-Xylene	ND		0.50	0.33	ug/L			04/20/23 04:01	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			04/20/23 04:01	1
Styrene	ND		0.50	0.36	ug/L			04/20/23 04:01	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			04/20/23 04:01	1
Tetrachloroethene	ND		0.50	0.40	ug/L			04/20/23 04:01	1
Toluene	ND		0.50	0.32	ug/L			04/20/23 04:01	1
trans-1,2-Dichloroethene	ND		0.50	0.37	ug/L			04/20/23 04:01	1
trans-1,3-Dichloropropene	ND		0.50	0.65	ug/L			04/20/23 04:01	1
Trichloroethene	ND		0.50	0.30	ug/L			04/20/23 04:01	1
Trichlorofluoromethane	ND		0.50	0.57	ug/L			04/20/23 04:01	1
Vinyl chloride	ND		0.50	0.51	ug/L			04/20/23 04:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 127					04/20/23 04:01	1
4-Bromofluorobenzene (Surr)	94		78 - 120					04/20/23 04:01	1
Dibromofluoromethane (Surr)	97		77 - 120					04/20/23 04:01	1
Toluene-d8 (Surr)	100		80 - 125					04/20/23 04:01	1

**Client Sample ID: VLF-230407-13**

**Date Collected: 04/07/23 15:30**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-13**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.58	ug/L			04/20/23 04:23	1
1,1,1-Trichloroethane	ND		0.50	0.39	ug/L			04/20/23 04:23	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.21	ug/L			04/20/23 04:23	1
1,1,2-Trichloroethane	ND		0.50	0.27	ug/L			04/20/23 04:23	1
1,1-Dichloroethane	ND		0.50	0.22	ug/L			04/20/23 04:23	1
1,1-Dichloroethene	ND		0.50	0.23	ug/L			04/20/23 04:23	1
1,1-Dichloropropene	ND		0.50	0.42	ug/L			04/20/23 04:23	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/23 04:23	1
1,2,3-Trichloropropane	ND		0.77	0.86	ug/L			04/20/23 04:23	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			04/20/23 04:23	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			04/20/23 04:23	1
1,2-Dibromo-3-Chloropropane	ND		2.0	1.8	ug/L			04/20/23 04:23	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			04/20/23 04:23	1
1,2-Dichlorobenzene	ND		0.50	0.37	ug/L			04/20/23 04:23	1
1,2-Dichloroethane	ND		0.50	0.54	ug/L			04/20/23 04:23	1
1,2-Dichloropropane	ND		0.50	0.52	ug/L			04/20/23 04:23	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			04/20/23 04:23	1
1,3-Dichlorobenzene	ND		0.50	0.33	ug/L			04/20/23 04:23	1
1,3-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 04:23	1
1,4-Dichlorobenzene	ND		0.50	0.39	ug/L			04/20/23 04:23	1
2,2-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 04:23	1
2-Butanone (MEK)	ND		6.0	6.0	ug/L			04/20/23 04:23	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			04/20/23 04:23	1
2-Hexanone	ND		5.0	1.7	ug/L			04/20/23 04:23	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-230407-13**

**Date Collected: 04/07/23 15:30**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-13**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.21	ug/L			04/20/23 04:23	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			04/20/23 04:23	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			04/20/23 04:23	1
Acetone	ND		10	6.6	ug/L			04/20/23 04:23	1
Benzene	ND		0.50	0.31	ug/L			04/20/23 04:23	1
Bromobenzene	ND		1.0	0.40	ug/L			04/20/23 04:23	1
Bromochloromethane	ND		0.50	0.40	ug/L			04/20/23 04:23	1
Bromodichloromethane	ND		0.50	0.39	ug/L			04/20/23 04:23	1
Bromoform	ND		0.50	1.2	ug/L			04/20/23 04:23	1
Bromomethane	ND		0.50	2.4	ug/L			04/20/23 04:23	1
Carbon disulfide	ND		2.0	0.63	ug/L			04/20/23 04:23	1
Carbon tetrachloride	ND		0.50	0.57	ug/L			04/20/23 04:23	1
Chlorobenzene	ND		0.50	0.42	ug/L			04/20/23 04:23	1
Chloroethane	ND		0.50	1.4	ug/L			04/20/23 04:23	1
Chloroform	ND		0.50	0.36	ug/L			04/20/23 04:23	1
Chloromethane	ND		0.50	0.75	ug/L			04/20/23 04:23	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/20/23 04:23	1
cis-1,3-Dichloropropene	ND		0.50	0.63	ug/L			04/20/23 04:23	1
Dibromochloromethane	ND		0.50	0.62	ug/L			04/20/23 04:23	1
Dibromomethane	ND		0.50	0.34	ug/L			04/20/23 04:23	1
Dichlorodifluoromethane	ND		0.50	0.96	ug/L			04/20/23 04:23	1
Ethylbenzene	ND		0.50	0.30	ug/L			04/20/23 04:23	1
Hexachlorobutadiene	ND		1.0	1.2	ug/L			04/20/23 04:23	1
Isopropylbenzene	ND		1.0	0.36	ug/L			04/20/23 04:23	1
Methylene Chloride	ND		2.0	0.94	ug/L			04/20/23 04:23	1
m-Xylene & p-Xylene	ND		0.50	0.36	ug/L			04/20/23 04:23	1
Naphthalene	ND		1.0	0.63	ug/L			04/20/23 04:23	1
n-Butylbenzene	ND		1.0	0.48	ug/L			04/20/23 04:23	1
N-Propylbenzene	ND		1.0	0.53	ug/L			04/20/23 04:23	1
o-Xylene	ND		0.50	0.33	ug/L			04/20/23 04:23	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			04/20/23 04:23	1
Styrene	ND		0.50	0.36	ug/L			04/20/23 04:23	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			04/20/23 04:23	1
Tetrachloroethene	ND		0.50	0.40	ug/L			04/20/23 04:23	1
Toluene	ND		0.50	0.32	ug/L			04/20/23 04:23	1
trans-1,2-Dichloroethene	ND		0.50	0.37	ug/L			04/20/23 04:23	1
trans-1,3-Dichloropropene	ND		0.50	0.65	ug/L			04/20/23 04:23	1
Trichloroethene	ND		0.50	0.30	ug/L			04/20/23 04:23	1
Trichlorofluoromethane	ND		0.50	0.57	ug/L			04/20/23 04:23	1
Vinyl chloride	ND		0.50	0.51	ug/L			04/20/23 04:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 127		04/20/23 04:23	1
4-Bromofluorobenzene (Surr)	94		78 - 120		04/20/23 04:23	1
Dibromofluoromethane (Surr)	98		77 - 120		04/20/23 04:23	1
Toluene-d8 (Surr)	100		80 - 125		04/20/23 04:23	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: VLF-230407-14**

**Date Collected: 04/07/23 15:35**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-14**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.58	ug/L			04/20/23 04:45	1
1,1,1-Trichloroethane	ND		0.50	0.39	ug/L			04/20/23 04:45	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.21	ug/L			04/20/23 04:45	1
1,1,2-Trichloroethane	ND		0.50	0.27	ug/L			04/20/23 04:45	1
1,1-Dichloroethane	ND		0.50	0.22	ug/L			04/20/23 04:45	1
1,1-Dichloroethene	ND		0.50	0.23	ug/L			04/20/23 04:45	1
1,1-Dichloropropene	ND		0.50	0.42	ug/L			04/20/23 04:45	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/23 04:45	1
1,2,3-Trichloropropane	ND		0.77	0.86	ug/L			04/20/23 04:45	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			04/20/23 04:45	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			04/20/23 04:45	1
1,2-Dibromo-3-Chloropropane	ND		2.0	1.8	ug/L			04/20/23 04:45	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			04/20/23 04:45	1
1,2-Dichlorobenzene	ND		0.50	0.37	ug/L			04/20/23 04:45	1
1,2-Dichloroethane	ND		0.50	0.54	ug/L			04/20/23 04:45	1
1,2-Dichloropropane	ND		0.50	0.52	ug/L			04/20/23 04:45	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			04/20/23 04:45	1
1,3-Dichlorobenzene	ND		0.50	0.33	ug/L			04/20/23 04:45	1
1,3-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 04:45	1
1,4-Dichlorobenzene	ND		0.50	0.39	ug/L			04/20/23 04:45	1
2,2-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 04:45	1
2-Butanone (MEK)	ND		6.0	6.0	ug/L			04/20/23 04:45	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			04/20/23 04:45	1
2-Hexanone	ND		5.0	1.7	ug/L			04/20/23 04:45	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			04/20/23 04:45	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			04/20/23 04:45	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			04/20/23 04:45	1
Acetone	ND		10	6.6	ug/L			04/20/23 04:45	1
Benzene	ND		0.50	0.31	ug/L			04/20/23 04:45	1
Bromobenzene	ND		1.0	0.40	ug/L			04/20/23 04:45	1
Bromochloromethane	ND		0.50	0.40	ug/L			04/20/23 04:45	1
Bromodichloromethane	ND		0.50	0.39	ug/L			04/20/23 04:45	1
Bromoform	ND		0.50	1.2	ug/L			04/20/23 04:45	1
Bromomethane	ND		0.50	2.4	ug/L			04/20/23 04:45	1
Carbon disulfide	ND		2.0	0.63	ug/L			04/20/23 04:45	1
Carbon tetrachloride	ND		0.50	0.57	ug/L			04/20/23 04:45	1
Chlorobenzene	ND		0.50	0.42	ug/L			04/20/23 04:45	1
Chloroethane	ND		0.50	1.4	ug/L			04/20/23 04:45	1
Chloroform	ND		0.50	0.36	ug/L			04/20/23 04:45	1
Chloromethane	ND		0.50	0.75	ug/L			04/20/23 04:45	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/20/23 04:45	1
cis-1,3-Dichloropropene	ND		0.50	0.63	ug/L			04/20/23 04:45	1
Dibromochloromethane	ND		0.50	0.62	ug/L			04/20/23 04:45	1
Dibromomethane	ND		0.50	0.34	ug/L			04/20/23 04:45	1
Dichlorodifluoromethane	ND		0.50	0.96	ug/L			04/20/23 04:45	1
Ethylbenzene	ND		0.50	0.30	ug/L			04/20/23 04:45	1
Hexachlorobutadiene	ND		1.0	1.2	ug/L			04/20/23 04:45	1
Isopropylbenzene	ND		1.0	0.36	ug/L			04/20/23 04:45	1
Methylene Chloride	ND		2.0	0.94	ug/L			04/20/23 04:45	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-230407-14**

**Date Collected: 04/07/23 15:35**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-14**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		0.50	0.36	ug/L			04/20/23 04:45	1
Naphthalene	ND		1.0	0.63	ug/L			04/20/23 04:45	1
n-Butylbenzene	ND		1.0	0.48	ug/L			04/20/23 04:45	1
N-Propylbenzene	ND		1.0	0.53	ug/L			04/20/23 04:45	1
o-Xylene	ND		0.50	0.33	ug/L			04/20/23 04:45	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			04/20/23 04:45	1
Styrene	ND		0.50	0.36	ug/L			04/20/23 04:45	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			04/20/23 04:45	1
Tetrachloroethene	ND		0.50	0.40	ug/L			04/20/23 04:45	1
Toluene	ND		0.50	0.32	ug/L			04/20/23 04:45	1
trans-1,2-Dichloroethene	ND		0.50	0.37	ug/L			04/20/23 04:45	1
trans-1,3-Dichloropropene	ND		0.50	0.65	ug/L			04/20/23 04:45	1
Trichloroethene	ND		0.50	0.30	ug/L			04/20/23 04:45	1
Trichlorofluoromethane	ND		0.50	0.57	ug/L			04/20/23 04:45	1
Vinyl chloride	ND		0.50	0.51	ug/L			04/20/23 04:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 127					04/20/23 04:45	1
4-Bromofluorobenzene (Surr)	95		78 - 120					04/20/23 04:45	1
Dibromofluoromethane (Surr)	99		77 - 120					04/20/23 04:45	1
Toluene-d8 (Surr)	99		80 - 125					04/20/23 04:45	1

**Client Sample ID: VLF-230407-15**

**Date Collected: 04/07/23 16:18**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-15**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.58	ug/L			04/20/23 05:07	1
1,1,1-Trichloroethane	ND		0.50	0.39	ug/L			04/20/23 05:07	1
1,1,1,2,2-Tetrachloroethane	ND		0.50	0.21	ug/L			04/20/23 05:07	1
1,1,2-Trichloroethane	ND		0.50	0.27	ug/L			04/20/23 05:07	1
1,1-Dichloroethane	ND		0.50	0.22	ug/L			04/20/23 05:07	1
1,1-Dichloroethene	ND		0.50	0.23	ug/L			04/20/23 05:07	1
1,1-Dichloropropene	ND		0.50	0.42	ug/L			04/20/23 05:07	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/23 05:07	1
1,2,3-Trichloropropane	ND		0.77	0.86	ug/L			04/20/23 05:07	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			04/20/23 05:07	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			04/20/23 05:07	1
1,2-Dibromo-3-Chloropropane	ND		2.0	1.8	ug/L			04/20/23 05:07	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			04/20/23 05:07	1
1,2-Dichlorobenzene	ND		0.50	0.37	ug/L			04/20/23 05:07	1
1,2-Dichloroethane	ND		0.50	0.54	ug/L			04/20/23 05:07	1
1,2-Dichloropropane	ND		0.50	0.52	ug/L			04/20/23 05:07	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			04/20/23 05:07	1
1,3-Dichlorobenzene	ND		0.50	0.33	ug/L			04/20/23 05:07	1
1,3-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 05:07	1
1,4-Dichlorobenzene	ND		0.50	0.39	ug/L			04/20/23 05:07	1
2,2-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 05:07	1
2-Butanone (MEK)	ND		6.0	6.0	ug/L			04/20/23 05:07	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			04/20/23 05:07	1
2-Hexanone	ND		5.0	1.7	ug/L			04/20/23 05:07	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-230407-15**

**Date Collected: 04/07/23 16:18**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-15**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.21	ug/L			04/20/23 05:07	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			04/20/23 05:07	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			04/20/23 05:07	1
Acetone	ND		10	6.6	ug/L			04/20/23 05:07	1
Benzene	ND		0.50	0.31	ug/L			04/20/23 05:07	1
Bromobenzene	ND		1.0	0.40	ug/L			04/20/23 05:07	1
Bromochloromethane	ND		0.50	0.40	ug/L			04/20/23 05:07	1
Bromodichloromethane	ND		0.50	0.39	ug/L			04/20/23 05:07	1
Bromoform	ND		0.50	1.2	ug/L			04/20/23 05:07	1
Bromomethane	ND		0.50	2.4	ug/L			04/20/23 05:07	1
Carbon disulfide	ND		2.0	0.63	ug/L			04/20/23 05:07	1
Carbon tetrachloride	ND		0.50	0.57	ug/L			04/20/23 05:07	1
Chlorobenzene	ND		0.50	0.42	ug/L			04/20/23 05:07	1
Chloroethane	ND		0.50	1.4	ug/L			04/20/23 05:07	1
Chloroform	ND		0.50	0.36	ug/L			04/20/23 05:07	1
Chloromethane	ND		0.50	0.75	ug/L			04/20/23 05:07	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/20/23 05:07	1
cis-1,3-Dichloropropene	ND		0.50	0.63	ug/L			04/20/23 05:07	1
Dibromochloromethane	ND		0.50	0.62	ug/L			04/20/23 05:07	1
Dibromomethane	ND		0.50	0.34	ug/L			04/20/23 05:07	1
Dichlorodifluoromethane	ND		0.50	0.96	ug/L			04/20/23 05:07	1
Ethylbenzene	ND		0.50	0.30	ug/L			04/20/23 05:07	1
Hexachlorobutadiene	ND		1.0	1.2	ug/L			04/20/23 05:07	1
Isopropylbenzene	ND		1.0	0.36	ug/L			04/20/23 05:07	1
Methylene Chloride	ND		2.0	0.94	ug/L			04/20/23 05:07	1
m-Xylene & p-Xylene	ND		0.50	0.36	ug/L			04/20/23 05:07	1
Naphthalene	ND		1.0	0.63	ug/L			04/20/23 05:07	1
n-Butylbenzene	ND		1.0	0.48	ug/L			04/20/23 05:07	1
N-Propylbenzene	ND		1.0	0.53	ug/L			04/20/23 05:07	1
o-Xylene	ND		0.50	0.33	ug/L			04/20/23 05:07	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			04/20/23 05:07	1
Styrene	ND		0.50	0.36	ug/L			04/20/23 05:07	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			04/20/23 05:07	1
Tetrachloroethene	ND		0.50	0.40	ug/L			04/20/23 05:07	1
Toluene	ND		0.50	0.32	ug/L			04/20/23 05:07	1
trans-1,2-Dichloroethene	ND		0.50	0.37	ug/L			04/20/23 05:07	1
trans-1,3-Dichloropropene	ND		0.50	0.65	ug/L			04/20/23 05:07	1
Trichloroethene	ND		0.50	0.30	ug/L			04/20/23 05:07	1
Trichlorofluoromethane	ND		0.50	0.57	ug/L			04/20/23 05:07	1
Vinyl chloride	ND		0.50	0.51	ug/L			04/20/23 05:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 127		04/20/23 05:07	1
4-Bromofluorobenzene (Surr)	96		78 - 120		04/20/23 05:07	1
Dibromofluoromethane (Surr)	98		77 - 120		04/20/23 05:07	1
Toluene-d8 (Surr)	99		80 - 125		04/20/23 05:07	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: VLF-230408-16**

**Date Collected: 04/08/23 08:40**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-16**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.58	ug/L			04/20/23 11:53	1
1,1,1-Trichloroethane	ND		0.50	0.39	ug/L			04/20/23 11:53	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.21	ug/L			04/20/23 11:53	1
1,1,2-Trichloroethane	ND		0.50	0.27	ug/L			04/20/23 11:53	1
1,1-Dichloroethane	ND		0.50	0.22	ug/L			04/20/23 11:53	1
1,1-Dichloroethene	ND		0.50	0.23	ug/L			04/20/23 11:53	1
1,1-Dichloropropene	ND		0.50	0.42	ug/L			04/20/23 11:53	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/23 11:53	1
1,2,3-Trichloropropane	ND		0.77	0.86	ug/L			04/20/23 11:53	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			04/20/23 11:53	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			04/20/23 11:53	1
1,2-Dibromo-3-Chloropropane	ND		2.0	1.8	ug/L			04/20/23 11:53	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			04/20/23 11:53	1
1,2-Dichlorobenzene	ND		0.50	0.37	ug/L			04/20/23 11:53	1
1,2-Dichloroethane	ND		0.50	0.54	ug/L			04/20/23 11:53	1
1,2-Dichloropropane	ND		0.50	0.52	ug/L			04/20/23 11:53	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			04/20/23 11:53	1
1,3-Dichlorobenzene	ND		0.50	0.33	ug/L			04/20/23 11:53	1
1,3-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 11:53	1
1,4-Dichlorobenzene	ND		0.50	0.39	ug/L			04/20/23 11:53	1
2,2-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 11:53	1
2-Butanone (MEK)	ND		6.0	6.0	ug/L			04/20/23 11:53	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			04/20/23 11:53	1
2-Hexanone	ND		5.0	1.7	ug/L			04/20/23 11:53	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			04/20/23 11:53	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			04/20/23 11:53	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			04/20/23 11:53	1
Acetone	ND		10	6.6	ug/L			04/20/23 11:53	1
Benzene	ND		0.50	0.31	ug/L			04/20/23 11:53	1
Bromobenzene	ND		1.0	0.40	ug/L			04/20/23 11:53	1
Bromochloromethane	ND		0.50	0.40	ug/L			04/20/23 11:53	1
Bromodichloromethane	ND		0.50	0.39	ug/L			04/20/23 11:53	1
Bromoform	ND		0.50	1.2	ug/L			04/20/23 11:53	1
Bromomethane	ND		0.50	2.4	ug/L			04/20/23 11:53	1
Carbon disulfide	ND		2.0	0.63	ug/L			04/20/23 11:53	1
Carbon tetrachloride	ND		0.50	0.57	ug/L			04/20/23 11:53	1
Chlorobenzene	ND		0.50	0.42	ug/L			04/20/23 11:53	1
Chloroethane	ND		0.50	1.4	ug/L			04/20/23 11:53	1
Chloroform	ND		0.50	0.36	ug/L			04/20/23 11:53	1
Chloromethane	ND		0.50	0.75	ug/L			04/20/23 11:53	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/20/23 11:53	1
cis-1,3-Dichloropropene	ND		0.50	0.63	ug/L			04/20/23 11:53	1
Dibromochloromethane	ND		0.50	0.62	ug/L			04/20/23 11:53	1
Dibromomethane	ND		0.50	0.34	ug/L			04/20/23 11:53	1
Dichlorodifluoromethane	ND		0.50	0.96	ug/L			04/20/23 11:53	1
Ethylbenzene	ND		0.50	0.30	ug/L			04/20/23 11:53	1
Hexachlorobutadiene	ND		1.0	1.2	ug/L			04/20/23 11:53	1
Isopropylbenzene	ND		1.0	0.36	ug/L			04/20/23 11:53	1
Methylene Chloride	ND		2.0	0.94	ug/L			04/20/23 11:53	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-230408-16**

**Date Collected: 04/08/23 08:40**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-16**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		0.50	0.36	ug/L			04/20/23 11:53	1
Naphthalene	ND		1.0	0.63	ug/L			04/20/23 11:53	1
n-Butylbenzene	ND		1.0	0.48	ug/L			04/20/23 11:53	1
N-Propylbenzene	ND		1.0	0.53	ug/L			04/20/23 11:53	1
o-Xylene	ND		0.50	0.33	ug/L			04/20/23 11:53	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			04/20/23 11:53	1
Styrene	ND		0.50	0.36	ug/L			04/20/23 11:53	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			04/20/23 11:53	1
Tetrachloroethene	ND		0.50	0.40	ug/L			04/20/23 11:53	1
Toluene	ND		0.50	0.32	ug/L			04/20/23 11:53	1
trans-1,2-Dichloroethene	ND		0.50	0.37	ug/L			04/20/23 11:53	1
trans-1,3-Dichloropropene	ND		0.50	0.65	ug/L			04/20/23 11:53	1
Trichloroethene	ND		0.50	0.30	ug/L			04/20/23 11:53	1
Trichlorofluoromethane	ND		0.50	0.57	ug/L			04/20/23 11:53	1
Vinyl chloride	ND		0.50	0.51	ug/L			04/20/23 11:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 127					04/20/23 11:53	1
4-Bromofluorobenzene (Surr)	96		78 - 120					04/20/23 11:53	1
Dibromofluoromethane (Surr)	98		77 - 120					04/20/23 11:53	1
Toluene-d8 (Surr)	99		80 - 125					04/20/23 11:53	1

**Client Sample ID: VLF-230408-17**

**Date Collected: 04/08/23 09:10**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-17**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.58	ug/L			04/20/23 12:15	1
1,1,1-Trichloroethane	ND		0.50	0.39	ug/L			04/20/23 12:15	1
1,1,1,2,2-Tetrachloroethane	ND		0.50	0.21	ug/L			04/20/23 12:15	1
1,1,2-Trichloroethane	ND		0.50	0.27	ug/L			04/20/23 12:15	1
1,1-Dichloroethane	ND		0.50	0.22	ug/L			04/20/23 12:15	1
1,1-Dichloroethene	ND		0.50	0.23	ug/L			04/20/23 12:15	1
1,1-Dichloropropene	ND		0.50	0.42	ug/L			04/20/23 12:15	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/23 12:15	1
1,2,3-Trichloropropane	ND		0.77	0.86	ug/L			04/20/23 12:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			04/20/23 12:15	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			04/20/23 12:15	1
1,2-Dibromo-3-Chloropropane	ND		2.0	1.8	ug/L			04/20/23 12:15	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			04/20/23 12:15	1
1,2-Dichlorobenzene	ND		0.50	0.37	ug/L			04/20/23 12:15	1
1,2-Dichloroethane	ND		0.50	0.54	ug/L			04/20/23 12:15	1
1,2-Dichloropropane	ND		0.50	0.52	ug/L			04/20/23 12:15	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			04/20/23 12:15	1
1,3-Dichlorobenzene	ND		0.50	0.33	ug/L			04/20/23 12:15	1
1,3-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 12:15	1
1,4-Dichlorobenzene	ND		0.50	0.39	ug/L			04/20/23 12:15	1
2,2-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 12:15	1
2-Butanone (MEK)	ND		6.0	6.0	ug/L			04/20/23 12:15	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			04/20/23 12:15	1
2-Hexanone	ND		5.0	1.7	ug/L			04/20/23 12:15	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-230408-17**

**Date Collected: 04/08/23 09:10**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-17**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.21	ug/L			04/20/23 12:15	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			04/20/23 12:15	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			04/20/23 12:15	1
Acetone	ND		10	6.6	ug/L			04/20/23 12:15	1
Benzene	ND		0.50	0.31	ug/L			04/20/23 12:15	1
Bromobenzene	ND		1.0	0.40	ug/L			04/20/23 12:15	1
Bromochloromethane	ND		0.50	0.40	ug/L			04/20/23 12:15	1
Bromodichloromethane	ND		0.50	0.39	ug/L			04/20/23 12:15	1
Bromoform	ND		0.50	1.2	ug/L			04/20/23 12:15	1
Bromomethane	ND		0.50	2.4	ug/L			04/20/23 12:15	1
Carbon disulfide	ND		2.0	0.63	ug/L			04/20/23 12:15	1
Carbon tetrachloride	ND		0.50	0.57	ug/L			04/20/23 12:15	1
Chlorobenzene	ND		0.50	0.42	ug/L			04/20/23 12:15	1
Chloroethane	ND		0.50	1.4	ug/L			04/20/23 12:15	1
Chloroform	ND		0.50	0.36	ug/L			04/20/23 12:15	1
Chloromethane	ND		0.50	0.75	ug/L			04/20/23 12:15	1
<b>cis-1,2-Dichloroethene</b>	<b>1.4</b>		0.50	0.32	ug/L			04/20/23 12:15	1
cis-1,3-Dichloropropene	ND		0.50	0.63	ug/L			04/20/23 12:15	1
Dibromochloromethane	ND		0.50	0.62	ug/L			04/20/23 12:15	1
Dibromomethane	ND		0.50	0.34	ug/L			04/20/23 12:15	1
Dichlorodifluoromethane	ND		0.50	0.96	ug/L			04/20/23 12:15	1
Ethylbenzene	ND		0.50	0.30	ug/L			04/20/23 12:15	1
Hexachlorobutadiene	ND		1.0	1.2	ug/L			04/20/23 12:15	1
Isopropylbenzene	ND		1.0	0.36	ug/L			04/20/23 12:15	1
Methylene Chloride	ND		2.0	0.94	ug/L			04/20/23 12:15	1
m-Xylene & p-Xylene	ND		0.50	0.36	ug/L			04/20/23 12:15	1
Naphthalene	ND		1.0	0.63	ug/L			04/20/23 12:15	1
n-Butylbenzene	ND		1.0	0.48	ug/L			04/20/23 12:15	1
N-Propylbenzene	ND		1.0	0.53	ug/L			04/20/23 12:15	1
o-Xylene	ND		0.50	0.33	ug/L			04/20/23 12:15	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			04/20/23 12:15	1
Styrene	ND		0.50	0.36	ug/L			04/20/23 12:15	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			04/20/23 12:15	1
<b>Tetrachloroethene</b>	<b>0.98</b>		0.50	0.40	ug/L			04/20/23 12:15	1
Toluene	ND		0.50	0.32	ug/L			04/20/23 12:15	1
trans-1,2-Dichloroethene	ND		0.50	0.37	ug/L			04/20/23 12:15	1
trans-1,3-Dichloropropene	ND		0.50	0.65	ug/L			04/20/23 12:15	1
<b>Trichloroethene</b>	<b>3.9</b>		0.50	0.30	ug/L			04/20/23 12:15	1
Trichlorofluoromethane	ND		0.50	0.57	ug/L			04/20/23 12:15	1
Vinyl chloride	ND		0.50	0.51	ug/L			04/20/23 12:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 127		04/20/23 12:15	1
4-Bromofluorobenzene (Surr)	95		78 - 120		04/20/23 12:15	1
Dibromofluoromethane (Surr)	99		77 - 120		04/20/23 12:15	1
Toluene-d8 (Surr)	100		80 - 125		04/20/23 12:15	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: VLF-230408-18**

**Date Collected: 04/08/23 09:50**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-18**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.58	ug/L			04/20/23 12:37	1
1,1,1-Trichloroethane	ND		0.50	0.39	ug/L			04/20/23 12:37	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.21	ug/L			04/20/23 12:37	1
1,1,2-Trichloroethane	ND		0.50	0.27	ug/L			04/20/23 12:37	1
1,1-Dichloroethane	ND		0.50	0.22	ug/L			04/20/23 12:37	1
1,1-Dichloroethene	ND		0.50	0.23	ug/L			04/20/23 12:37	1
1,1-Dichloropropene	ND		0.50	0.42	ug/L			04/20/23 12:37	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/23 12:37	1
1,2,3-Trichloropropane	ND		0.77	0.86	ug/L			04/20/23 12:37	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			04/20/23 12:37	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			04/20/23 12:37	1
1,2-Dibromo-3-Chloropropane	ND		2.0	1.8	ug/L			04/20/23 12:37	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			04/20/23 12:37	1
1,2-Dichlorobenzene	ND		0.50	0.37	ug/L			04/20/23 12:37	1
1,2-Dichloroethane	ND		0.50	0.54	ug/L			04/20/23 12:37	1
1,2-Dichloropropane	ND		0.50	0.52	ug/L			04/20/23 12:37	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			04/20/23 12:37	1
1,3-Dichlorobenzene	ND		0.50	0.33	ug/L			04/20/23 12:37	1
1,3-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 12:37	1
1,4-Dichlorobenzene	ND		0.50	0.39	ug/L			04/20/23 12:37	1
2,2-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 12:37	1
2-Butanone (MEK)	ND		6.0	6.0	ug/L			04/20/23 12:37	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			04/20/23 12:37	1
2-Hexanone	ND		5.0	1.7	ug/L			04/20/23 12:37	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			04/20/23 12:37	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			04/20/23 12:37	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			04/20/23 12:37	1
Acetone	ND		10	6.6	ug/L			04/20/23 12:37	1
Benzene	ND		0.50	0.31	ug/L			04/20/23 12:37	1
Bromobenzene	ND		1.0	0.40	ug/L			04/20/23 12:37	1
Bromochloromethane	ND		0.50	0.40	ug/L			04/20/23 12:37	1
Bromodichloromethane	ND		0.50	0.39	ug/L			04/20/23 12:37	1
Bromoform	ND		0.50	1.2	ug/L			04/20/23 12:37	1
Bromomethane	ND		0.50	2.4	ug/L			04/20/23 12:37	1
Carbon disulfide	ND		2.0	0.63	ug/L			04/20/23 12:37	1
Carbon tetrachloride	ND		0.50	0.57	ug/L			04/20/23 12:37	1
Chlorobenzene	ND		0.50	0.42	ug/L			04/20/23 12:37	1
Chloroethane	ND		0.50	1.4	ug/L			04/20/23 12:37	1
Chloroform	ND		0.50	0.36	ug/L			04/20/23 12:37	1
Chloromethane	ND		0.50	0.75	ug/L			04/20/23 12:37	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/20/23 12:37	1
cis-1,3-Dichloropropene	ND		0.50	0.63	ug/L			04/20/23 12:37	1
Dibromochloromethane	ND		0.50	0.62	ug/L			04/20/23 12:37	1
Dibromomethane	ND		0.50	0.34	ug/L			04/20/23 12:37	1
Dichlorodifluoromethane	ND		0.50	0.96	ug/L			04/20/23 12:37	1
Ethylbenzene	ND		0.50	0.30	ug/L			04/20/23 12:37	1
Hexachlorobutadiene	ND		1.0	1.2	ug/L			04/20/23 12:37	1
Isopropylbenzene	ND		1.0	0.36	ug/L			04/20/23 12:37	1
Methylene Chloride	ND		2.0	0.94	ug/L			04/20/23 12:37	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-230408-18**

**Date Collected: 04/08/23 09:50**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-18**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		0.50	0.36	ug/L			04/20/23 12:37	1
Naphthalene	ND		1.0	0.63	ug/L			04/20/23 12:37	1
n-Butylbenzene	ND		1.0	0.48	ug/L			04/20/23 12:37	1
N-Propylbenzene	ND		1.0	0.53	ug/L			04/20/23 12:37	1
o-Xylene	ND		0.50	0.33	ug/L			04/20/23 12:37	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			04/20/23 12:37	1
Styrene	ND		0.50	0.36	ug/L			04/20/23 12:37	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			04/20/23 12:37	1
<b>Tetrachloroethene</b>	<b>1.7</b>		0.50	0.40	ug/L			04/20/23 12:37	1
Toluene	ND		0.50	0.32	ug/L			04/20/23 12:37	1
trans-1,2-Dichloroethene	ND		0.50	0.37	ug/L			04/20/23 12:37	1
trans-1,3-Dichloropropene	ND		0.50	0.65	ug/L			04/20/23 12:37	1
Trichloroethene	ND		0.50	0.30	ug/L			04/20/23 12:37	1
Trichlorofluoromethane	ND		0.50	0.57	ug/L			04/20/23 12:37	1
Vinyl chloride	ND		0.50	0.51	ug/L			04/20/23 12:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 127					04/20/23 12:37	1
4-Bromofluorobenzene (Surr)	95		78 - 120					04/20/23 12:37	1
Dibromofluoromethane (Surr)	99		77 - 120					04/20/23 12:37	1
Toluene-d8 (Surr)	101		80 - 125					04/20/23 12:37	1

**Client Sample ID: VLF-230408-19**

**Date Collected: 04/08/23 10:38**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-19**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.58	ug/L			04/20/23 12:59	1
1,1,1-Trichloroethane	ND		0.50	0.39	ug/L			04/20/23 12:59	1
1,1,1,2,2-Tetrachloroethane	ND		0.50	0.21	ug/L			04/20/23 12:59	1
1,1,2-Trichloroethane	ND		0.50	0.27	ug/L			04/20/23 12:59	1
1,1-Dichloroethane	ND		0.50	0.22	ug/L			04/20/23 12:59	1
1,1-Dichloroethene	ND		0.50	0.23	ug/L			04/20/23 12:59	1
1,1-Dichloropropene	ND		0.50	0.42	ug/L			04/20/23 12:59	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/23 12:59	1
1,2,3-Trichloropropane	ND		0.77	0.86	ug/L			04/20/23 12:59	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			04/20/23 12:59	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			04/20/23 12:59	1
1,2-Dibromo-3-Chloropropane	ND		2.0	1.8	ug/L			04/20/23 12:59	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			04/20/23 12:59	1
1,2-Dichlorobenzene	ND		0.50	0.37	ug/L			04/20/23 12:59	1
1,2-Dichloroethane	ND		0.50	0.54	ug/L			04/20/23 12:59	1
1,2-Dichloropropane	ND		0.50	0.52	ug/L			04/20/23 12:59	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			04/20/23 12:59	1
1,3-Dichlorobenzene	ND		0.50	0.33	ug/L			04/20/23 12:59	1
1,3-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 12:59	1
1,4-Dichlorobenzene	ND		0.50	0.39	ug/L			04/20/23 12:59	1
2,2-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 12:59	1
2-Butanone (MEK)	ND		6.0	6.0	ug/L			04/20/23 12:59	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			04/20/23 12:59	1
2-Hexanone	ND		5.0	1.7	ug/L			04/20/23 12:59	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-230408-19**

**Date Collected: 04/08/23 10:38**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-19**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.21	ug/L			04/20/23 12:59	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			04/20/23 12:59	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			04/20/23 12:59	1
Acetone	ND		10	6.6	ug/L			04/20/23 12:59	1
Benzene	ND		0.50	0.31	ug/L			04/20/23 12:59	1
Bromobenzene	ND		1.0	0.40	ug/L			04/20/23 12:59	1
Bromochloromethane	ND		0.50	0.40	ug/L			04/20/23 12:59	1
Bromodichloromethane	ND		0.50	0.39	ug/L			04/20/23 12:59	1
Bromoform	ND		0.50	1.2	ug/L			04/20/23 12:59	1
Bromomethane	ND		0.50	2.4	ug/L			04/20/23 12:59	1
Carbon disulfide	ND		2.0	0.63	ug/L			04/20/23 12:59	1
Carbon tetrachloride	ND		0.50	0.57	ug/L			04/20/23 12:59	1
Chlorobenzene	ND		0.50	0.42	ug/L			04/20/23 12:59	1
Chloroethane	ND		0.50	1.4	ug/L			04/20/23 12:59	1
Chloroform	ND		0.50	0.36	ug/L			04/20/23 12:59	1
Chloromethane	ND		0.50	0.75	ug/L			04/20/23 12:59	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/20/23 12:59	1
cis-1,3-Dichloropropene	ND		0.50	0.63	ug/L			04/20/23 12:59	1
Dibromochloromethane	ND		0.50	0.62	ug/L			04/20/23 12:59	1
Dibromomethane	ND		0.50	0.34	ug/L			04/20/23 12:59	1
Dichlorodifluoromethane	ND		0.50	0.96	ug/L			04/20/23 12:59	1
Ethylbenzene	ND		0.50	0.30	ug/L			04/20/23 12:59	1
Hexachlorobutadiene	ND		1.0	1.2	ug/L			04/20/23 12:59	1
Isopropylbenzene	ND		1.0	0.36	ug/L			04/20/23 12:59	1
Methylene Chloride	ND		2.0	0.94	ug/L			04/20/23 12:59	1
m-Xylene & p-Xylene	ND		0.50	0.36	ug/L			04/20/23 12:59	1
Naphthalene	ND		1.0	0.63	ug/L			04/20/23 12:59	1
n-Butylbenzene	ND		1.0	0.48	ug/L			04/20/23 12:59	1
N-Propylbenzene	ND		1.0	0.53	ug/L			04/20/23 12:59	1
o-Xylene	ND		0.50	0.33	ug/L			04/20/23 12:59	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			04/20/23 12:59	1
Styrene	ND		0.50	0.36	ug/L			04/20/23 12:59	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			04/20/23 12:59	1
Tetrachloroethene	ND		0.50	0.40	ug/L			04/20/23 12:59	1
Toluene	ND		0.50	0.32	ug/L			04/20/23 12:59	1
trans-1,2-Dichloroethene	ND		0.50	0.37	ug/L			04/20/23 12:59	1
trans-1,3-Dichloropropene	ND		0.50	0.65	ug/L			04/20/23 12:59	1
Trichloroethene	ND		0.50	0.30	ug/L			04/20/23 12:59	1
Trichlorofluoromethane	ND		0.50	0.57	ug/L			04/20/23 12:59	1
Vinyl chloride	ND		0.50	0.51	ug/L			04/20/23 12:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 127		04/20/23 12:59	1
4-Bromofluorobenzene (Surr)	94		78 - 120		04/20/23 12:59	1
Dibromofluoromethane (Surr)	98		77 - 120		04/20/23 12:59	1
Toluene-d8 (Surr)	101		80 - 125		04/20/23 12:59	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: VLF-230408-20**

**Date Collected: 04/08/23 11:29**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-20**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.58	ug/L			04/21/23 18:32	1
1,1,1-Trichloroethane	ND		0.50	0.39	ug/L			04/21/23 18:32	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.21	ug/L			04/21/23 18:32	1
1,1,2-Trichloroethane	ND		0.50	0.27	ug/L			04/21/23 18:32	1
1,1-Dichloroethane	ND		0.50	0.22	ug/L			04/21/23 18:32	1
1,1-Dichloroethene	ND		0.50	0.23	ug/L			04/21/23 18:32	1
1,1-Dichloropropene	ND		0.50	0.42	ug/L			04/21/23 18:32	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/21/23 18:32	1
1,2,3-Trichloropropane	ND		0.77	0.86	ug/L			04/21/23 18:32	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			04/21/23 18:32	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			04/21/23 18:32	1
1,2-Dibromo-3-Chloropropane	ND		2.0	1.8	ug/L			04/21/23 18:32	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			04/21/23 18:32	1
1,2-Dichlorobenzene	ND		0.50	0.37	ug/L			04/21/23 18:32	1
1,2-Dichloroethane	ND		0.50	0.54	ug/L			04/21/23 18:32	1
1,2-Dichloropropane	ND		0.50	0.52	ug/L			04/21/23 18:32	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			04/21/23 18:32	1
1,3-Dichlorobenzene	ND		0.50	0.33	ug/L			04/21/23 18:32	1
1,3-Dichloropropane	ND		0.50	0.38	ug/L			04/21/23 18:32	1
1,4-Dichlorobenzene	ND		0.50	0.39	ug/L			04/21/23 18:32	1
2,2-Dichloropropane	ND		0.50	0.38	ug/L			04/21/23 18:32	1
2-Butanone (MEK)	ND		6.0	6.0	ug/L			04/21/23 18:32	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			04/21/23 18:32	1
2-Hexanone	ND		5.0	1.7	ug/L			04/21/23 18:32	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			04/21/23 18:32	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			04/21/23 18:32	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			04/21/23 18:32	1
Acetone	ND		10	6.6	ug/L			04/21/23 18:32	1
Benzene	ND		0.50	0.31	ug/L			04/21/23 18:32	1
Bromobenzene	ND		1.0	0.40	ug/L			04/21/23 18:32	1
Bromochloromethane	ND		0.50	0.40	ug/L			04/21/23 18:32	1
Bromodichloromethane	ND		0.50	0.39	ug/L			04/21/23 18:32	1
Bromoform	ND		0.50	1.2	ug/L			04/21/23 18:32	1
Bromomethane	ND		0.50	2.4	ug/L			04/21/23 18:32	1
Carbon disulfide	ND		2.0	0.63	ug/L			04/21/23 18:32	1
Carbon tetrachloride	ND		0.50	0.57	ug/L			04/21/23 18:32	1
Chlorobenzene	ND		0.50	0.42	ug/L			04/21/23 18:32	1
Chloroethane	ND		0.50	1.4	ug/L			04/21/23 18:32	1
Chloroform	ND		0.50	0.36	ug/L			04/21/23 18:32	1
Chloromethane	ND		0.50	0.75	ug/L			04/21/23 18:32	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/21/23 18:32	1
cis-1,3-Dichloropropene	ND		0.50	0.63	ug/L			04/21/23 18:32	1
Dibromochloromethane	ND		0.50	0.62	ug/L			04/21/23 18:32	1
Dibromomethane	ND		0.50	0.34	ug/L			04/21/23 18:32	1
Dichlorodifluoromethane	ND		0.50	0.96	ug/L			04/21/23 18:32	1
Ethylbenzene	ND		0.50	0.30	ug/L			04/21/23 18:32	1
Hexachlorobutadiene	ND		1.0	1.2	ug/L			04/21/23 18:32	1
Isopropylbenzene	ND		1.0	0.36	ug/L			04/21/23 18:32	1
Methylene Chloride	ND		2.0	0.94	ug/L			04/21/23 18:32	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-230408-20**

**Date Collected: 04/08/23 11:29**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-20**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		0.50	0.36	ug/L			04/21/23 18:32	1
Naphthalene	ND		1.0	0.63	ug/L			04/21/23 18:32	1
n-Butylbenzene	ND		1.0	0.48	ug/L			04/21/23 18:32	1
N-Propylbenzene	ND		1.0	0.53	ug/L			04/21/23 18:32	1
o-Xylene	ND		0.50	0.33	ug/L			04/21/23 18:32	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			04/21/23 18:32	1
Styrene	ND		0.50	0.36	ug/L			04/21/23 18:32	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			04/21/23 18:32	1
Tetrachloroethene	ND		0.50	0.40	ug/L			04/21/23 18:32	1
Toluene	ND		0.50	0.32	ug/L			04/21/23 18:32	1
trans-1,2-Dichloroethene	ND		0.50	0.37	ug/L			04/21/23 18:32	1
trans-1,3-Dichloropropene	ND		0.50	0.65	ug/L			04/21/23 18:32	1
Trichloroethene	ND		0.50	0.30	ug/L			04/21/23 18:32	1
Trichlorofluoromethane	ND		0.50	0.57	ug/L			04/21/23 18:32	1
Vinyl chloride	ND		0.50	0.51	ug/L			04/21/23 18:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 127					04/21/23 18:32	1
4-Bromofluorobenzene (Surr)	94		78 - 120					04/21/23 18:32	1
Dibromofluoromethane (Surr)	98		77 - 120					04/21/23 18:32	1
Toluene-d8 (Surr)	99		80 - 125					04/21/23 18:32	1

## Method: EPA 200.8 - Metals (ICP/MS)

**Client Sample ID: VLF-230407-2**

**Date Collected: 04/07/23 08:45**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-2**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	17		5.0	0.50	ug/L		04/12/23 08:05	04/12/23 17:13	1

**Client Sample ID: VLF-230407-3**

**Date Collected: 04/07/23 09:38**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-3**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	18		5.0	0.50	ug/L		04/12/23 08:05	04/12/23 17:17	1

**Client Sample ID: VLF-230407-5**

**Date Collected: 04/07/23 10:20**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-4**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.59	J	5.0	0.50	ug/L		04/12/23 08:05	04/12/23 17:20	1

**Client Sample ID: VLF-230407-6**

**Date Collected: 04/07/23 11:18**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-5**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	68		5.0	0.50	ug/L		04/12/23 08:05	04/12/23 17:24	1

# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: EPA 200.8 - Metals (ICP/MS)

Client Sample ID: VLF-230407-7							Lab Sample ID: 280-174814-6			
Date Collected: 04/07/23 12:10							Matrix: Water			
Date Received: 04/11/23 09:25										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Arsenic	23		5.0	0.50	ug/L		04/12/23 14:38	04/13/23 01:26	1	
Client Sample ID: VLF-230407-8							Lab Sample ID: 280-174814-7			
Date Collected: 04/07/23 12:45							Matrix: Water			
Date Received: 04/11/23 09:25										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Arsenic	0.64	J	5.0	0.50	ug/L		04/12/23 08:05	04/12/23 17:27	1	
Client Sample ID: VLF-230407-9							Lab Sample ID: 280-174814-8			
Date Collected: 04/07/23 13:15							Matrix: Water			
Date Received: 04/11/23 09:25										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Arsenic	0.84	J	5.0	0.50	ug/L		04/12/23 08:05	04/12/23 17:31	1	
Client Sample ID: VLF-230407-10							Lab Sample ID: 280-174814-9			
Date Collected: 04/07/23 14:00							Matrix: Water			
Date Received: 04/11/23 09:25										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Arsenic	ND		5.0	0.50	ug/L		04/12/23 08:05	04/12/23 17:34	1	
Client Sample ID: VLF-230407-11							Lab Sample ID: 280-174814-10			
Date Collected: 04/07/23 14:05							Matrix: Water			
Date Received: 04/11/23 09:25										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Arsenic	ND		5.0	0.50	ug/L		04/12/23 08:05	04/12/23 17:45	1	
Client Sample ID: VLF-230407-12							Lab Sample ID: 280-174814-12			
Date Collected: 04/07/23 14:45							Matrix: Water			
Date Received: 04/11/23 09:25										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Arsenic	ND		5.0	0.50	ug/L		04/12/23 08:05	04/12/23 17:56	1	
Client Sample ID: VLF-230407-13							Lab Sample ID: 280-174814-13			
Date Collected: 04/07/23 15:30							Matrix: Water			
Date Received: 04/11/23 09:25										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Arsenic	ND		5.0	0.50	ug/L		04/12/23 08:05	04/12/23 17:59	1	
Client Sample ID: VLF-230407-14							Lab Sample ID: 280-174814-14			
Date Collected: 04/07/23 15:35							Matrix: Water			
Date Received: 04/11/23 09:25										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Arsenic	ND		5.0	0.50	ug/L		04/12/23 08:05	04/12/23 18:03	1	
Client Sample ID: VLF-230407-15							Lab Sample ID: 280-174814-15			
Date Collected: 04/07/23 16:18							Matrix: Water			
Date Received: 04/11/23 09:25										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Arsenic	ND		5.0	0.50	ug/L		04/12/23 08:05	04/12/23 18:06	1	

# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: EPA 200.8 - Metals (ICP/MS)

**Client Sample ID: VLF-230408-16**  
**Date Collected: 04/08/23 08:40**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-16**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.0	0.50	ug/L		04/12/23 08:05	04/12/23 18:10	1

**Client Sample ID: VLF-230408-17**  
**Date Collected: 04/08/23 09:10**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-17**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.1	J	5.0	0.50	ug/L		04/12/23 08:05	04/12/23 18:20	1

**Client Sample ID: VLF-230408-18**  
**Date Collected: 04/08/23 09:50**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-18**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.0	0.50	ug/L		04/12/23 08:05	04/12/23 18:24	1

**Client Sample ID: VLF-230408-19**  
**Date Collected: 04/08/23 10:38**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-19**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.0	0.50	ug/L		04/12/23 08:05	04/12/23 18:28	1

**Client Sample ID: VLF-230408-20**  
**Date Collected: 04/08/23 11:29**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-20**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.0	0.50	ug/L		04/12/23 08:05	04/12/23 18:31	1

## Method: SW846 6010B - Dissolved Metals - Dissolved

**Client Sample ID: VLF-230407-2**  
**Date Collected: 04/07/23 08:45**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-2**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	91000	B	200	24	ug/L		04/12/23 08:05	04/15/23 11:13	1
Iron	2900		100	9.1	ug/L		04/12/23 08:05	04/15/23 11:13	1
Magnesium	39000		200	4.2	ug/L		04/12/23 08:05	04/15/23 11:13	1
Manganese	9500		5.0	0.45	ug/L		04/12/23 08:05	04/15/23 11:13	1
Sodium	40000		1000	97	ug/L		04/12/23 08:05	04/15/23 11:13	1

**Client Sample ID: VLF-230407-3**  
**Date Collected: 04/07/23 09:38**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-3**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	28000	B	200	24	ug/L		04/12/23 08:05	04/15/23 11:46	1
Iron	970		100	9.1	ug/L		04/12/23 08:05	04/15/23 11:46	1
Magnesium	11000		200	4.2	ug/L		04/12/23 08:05	04/15/23 11:46	1
Manganese	870		5.0	0.45	ug/L		04/12/23 08:05	04/15/23 11:46	1
Sodium	30000		1000	97	ug/L		04/12/23 08:05	04/15/23 11:46	1

# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 6010B - Dissolved Metals - Dissolved

**Client Sample ID: VLF-230407-5**  
**Date Collected: 04/07/23 10:20**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-4**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	62000	B	200	24	ug/L		04/12/23 08:05	04/15/23 11:50	1
Iron	32	J	100	9.1	ug/L		04/12/23 08:05	04/15/23 11:50	1
Magnesium	31000		200	4.2	ug/L		04/12/23 08:05	04/15/23 11:50	1
Manganese	350		5.0	0.45	ug/L		04/12/23 08:05	04/15/23 11:50	1
Sodium	290000		1000	97	ug/L		04/12/23 08:05	04/15/23 11:50	1

**Client Sample ID: VLF-230407-6**  
**Date Collected: 04/07/23 11:18**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-5**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	34000	B	200	24	ug/L		04/12/23 08:05	04/15/23 11:54	1
Iron	600		100	9.1	ug/L		04/12/23 08:05	04/15/23 11:54	1
Magnesium	14000		200	4.2	ug/L		04/12/23 08:05	04/15/23 11:54	1
Manganese	630		5.0	0.45	ug/L		04/12/23 08:05	04/15/23 11:54	1
Sodium	27000		1000	97	ug/L		04/12/23 08:05	04/15/23 11:54	1

**Client Sample ID: VLF-230407-7**  
**Date Collected: 04/07/23 12:10**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-6**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	220000		200	24	ug/L		04/13/23 07:56	04/15/23 01:09	1
Iron	23000		100	9.1	ug/L		04/13/23 07:56	04/15/23 01:09	1
Magnesium	130000		200	4.2	ug/L		04/13/23 07:56	04/15/23 01:09	1
Manganese	5300	B	5.0	0.45	ug/L		04/13/23 07:56	04/15/23 01:09	1
Sodium	960000		5000	490	ug/L		04/13/23 07:56	04/17/23 22:31	5

**Client Sample ID: VLF-230407-8**  
**Date Collected: 04/07/23 12:45**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-7**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	120000	B	200	24	ug/L		04/12/23 08:05	04/15/23 11:58	1
Iron	12	J	100	9.1	ug/L		04/12/23 08:05	04/15/23 11:58	1
Magnesium	50000		200	4.2	ug/L		04/12/23 08:05	04/15/23 11:58	1
Manganese	1.6	J	5.0	0.45	ug/L		04/12/23 08:05	04/15/23 11:58	1
Sodium	130000		1000	97	ug/L		04/12/23 08:05	04/15/23 11:58	1

**Client Sample ID: VLF-230407-9**  
**Date Collected: 04/07/23 13:15**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-8**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	22000	B	200	24	ug/L		04/12/23 08:05	04/15/23 12:02	1
Iron	ND		100	9.1	ug/L		04/12/23 08:05	04/15/23 12:02	1
Magnesium	8300		200	4.2	ug/L		04/12/23 08:05	04/15/23 12:02	1
Manganese	0.73	J	5.0	0.45	ug/L		04/12/23 08:05	04/15/23 12:02	1
Sodium	86000		1000	97	ug/L		04/12/23 08:05	04/15/23 12:02	1

**Client Sample ID: VLF-230407-10**  
**Date Collected: 04/07/23 14:00**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-9**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	340000	B	200	24	ug/L		04/12/23 08:05	04/15/23 12:06	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 6010B - Dissolved Metals - Dissolved (Continued)

**Client Sample ID: VLF-230407-10**

**Date Collected: 04/07/23 14:00**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-9**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		100	9.1	ug/L		04/12/23 08:05	04/15/23 12:06	1
<b>Magnesium</b>	<b>150000</b>		200	4.2	ug/L		04/12/23 08:05	04/15/23 12:06	1
<b>Manganese</b>	<b>110</b>		5.0	0.45	ug/L		04/12/23 08:05	04/15/23 12:06	1
<b>Sodium</b>	<b>39000</b>		1000	97	ug/L		04/12/23 08:05	04/15/23 12:06	1

**Client Sample ID: VLF-230407-11**

**Date Collected: 04/07/23 14:05**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-10**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Calcium</b>	<b>340000</b>	<b>B</b>	200	24	ug/L		04/12/23 08:05	04/15/23 12:10	1
Iron	ND		100	9.1	ug/L		04/12/23 08:05	04/15/23 12:10	1
<b>Magnesium</b>	<b>150000</b>		200	4.2	ug/L		04/12/23 08:05	04/15/23 12:10	1
<b>Manganese</b>	<b>1.6</b>	<b>J</b>	5.0	0.45	ug/L		04/12/23 08:05	04/15/23 12:10	1
<b>Sodium</b>	<b>38000</b>		1000	97	ug/L		04/12/23 08:05	04/15/23 12:10	1

**Client Sample ID: VLF-230407-12**

**Date Collected: 04/07/23 14:45**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-12**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Calcium</b>	<b>140000</b>	<b>B</b>	200	24	ug/L		04/12/23 08:05	04/15/23 12:14	1
Iron	ND		100	9.1	ug/L		04/12/23 08:05	04/15/23 12:14	1
<b>Magnesium</b>	<b>48000</b>		200	4.2	ug/L		04/12/23 08:05	04/15/23 12:14	1
<b>Manganese</b>	<b>1.1</b>	<b>J</b>	5.0	0.45	ug/L		04/12/23 08:05	04/15/23 12:14	1
<b>Sodium</b>	<b>37000</b>		1000	97	ug/L		04/12/23 08:05	04/15/23 12:14	1

**Client Sample ID: VLF-230407-13**

**Date Collected: 04/07/23 15:30**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-13**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Calcium</b>	<b>260000</b>	<b>B</b>	200	24	ug/L		04/12/23 08:05	04/15/23 12:34	1
<b>Iron</b>	<b>16</b>	<b>J</b>	100	9.1	ug/L		04/12/23 08:05	04/15/23 12:34	1
<b>Magnesium</b>	<b>110000</b>		200	4.2	ug/L		04/12/23 08:05	04/15/23 12:34	1
<b>Manganese</b>	<b>41</b>		5.0	0.45	ug/L		04/12/23 08:05	04/15/23 12:34	1
<b>Sodium</b>	<b>43000</b>		1000	97	ug/L		04/12/23 08:05	04/15/23 12:34	1

**Client Sample ID: VLF-230407-14**

**Date Collected: 04/07/23 15:35**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-14**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Calcium</b>	<b>250000</b>	<b>B</b>	200	24	ug/L		04/12/23 08:05	04/15/23 12:38	1
<b>Iron</b>	<b>16</b>	<b>J</b>	100	9.1	ug/L		04/12/23 08:05	04/15/23 12:38	1
<b>Magnesium</b>	<b>110000</b>		200	4.2	ug/L		04/12/23 08:05	04/15/23 12:38	1
<b>Manganese</b>	<b>39</b>		5.0	0.45	ug/L		04/12/23 08:05	04/15/23 12:38	1
<b>Sodium</b>	<b>43000</b>		1000	97	ug/L		04/12/23 08:05	04/15/23 12:38	1

**Client Sample ID: VLF-230407-15**

**Date Collected: 04/07/23 16:18**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-15**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Calcium</b>	<b>150000</b>	<b>B</b>	200	24	ug/L		04/12/23 08:05	04/15/23 12:42	1
Iron	ND		100	9.1	ug/L		04/12/23 08:05	04/15/23 12:42	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 6010B - Dissolved Metals - Dissolved (Continued)

**Client Sample ID: VLF-230407-15**  
**Date Collected: 04/07/23 16:18**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-15**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	64000		200	4.2	ug/L		04/12/23 08:05	04/15/23 12:42	1
Manganese	13		5.0	0.45	ug/L		04/12/23 08:05	04/15/23 12:42	1
Sodium	27000		1000	97	ug/L		04/12/23 08:05	04/15/23 12:42	1

**Client Sample ID: VLF-230408-16**  
**Date Collected: 04/08/23 08:40**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-16**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	43000	B	200	24	ug/L		04/12/23 08:05	04/15/23 12:46	1
Iron	ND		100	9.1	ug/L		04/12/23 08:05	04/15/23 12:46	1
Magnesium	19000		200	4.2	ug/L		04/12/23 08:05	04/15/23 12:46	1
Manganese	0.76	J	5.0	0.45	ug/L		04/12/23 08:05	04/15/23 12:46	1
Sodium	21000		1000	97	ug/L		04/12/23 08:05	04/15/23 12:46	1

**Client Sample ID: VLF-230408-17**  
**Date Collected: 04/08/23 09:10**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-17**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	64000	B	200	24	ug/L		04/12/23 08:05	04/15/23 12:50	1
Iron	540		100	9.1	ug/L		04/12/23 08:05	04/15/23 12:50	1
Magnesium	31000		200	4.2	ug/L		04/12/23 08:05	04/15/23 12:50	1
Manganese	660		5.0	0.45	ug/L		04/12/23 08:05	04/15/23 12:50	1
Sodium	40000		1000	97	ug/L		04/12/23 08:05	04/15/23 12:50	1

**Client Sample ID: VLF-230408-18**  
**Date Collected: 04/08/23 09:50**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-18**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	25000	B	200	24	ug/L		04/12/23 08:05	04/15/23 12:55	1
Iron	ND		100	9.1	ug/L		04/12/23 08:05	04/15/23 12:55	1
Magnesium	11000		200	4.2	ug/L		04/12/23 08:05	04/15/23 12:55	1
Manganese	0.46	J	5.0	0.45	ug/L		04/12/23 08:05	04/15/23 12:55	1
Sodium	24000		1000	97	ug/L		04/12/23 08:05	04/15/23 12:55	1

**Client Sample ID: VLF-230408-19**  
**Date Collected: 04/08/23 10:38**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-19**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	33000	B	200	24	ug/L		04/12/23 08:05	04/15/23 12:59	1
Iron	ND		100	9.1	ug/L		04/12/23 08:05	04/15/23 12:59	1
Magnesium	15000		200	4.2	ug/L		04/12/23 08:05	04/15/23 12:59	1
Manganese	ND		5.0	0.45	ug/L		04/12/23 08:05	04/15/23 12:59	1
Sodium	32000		1000	97	ug/L		04/12/23 08:05	04/15/23 12:59	1

**Client Sample ID: VLF-230408-20**  
**Date Collected: 04/08/23 11:29**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-20**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	27000	B	200	24	ug/L		04/12/23 08:05	04/15/23 13:03	1
Iron	ND		100	9.1	ug/L		04/12/23 08:05	04/15/23 13:03	1
Magnesium	11000		200	4.2	ug/L		04/12/23 08:05	04/15/23 13:03	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SW846 6010B - Dissolved Metals - Dissolved (Continued)

**Client Sample ID: VLF-230408-20**

**Date Collected: 04/08/23 11:29**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-20**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		5.0	0.45	ug/L		04/12/23 08:05	04/15/23 13:03	1
Sodium	26000		1000	97	ug/L		04/12/23 08:05	04/15/23 13:03	1

## General Chemistry

**Client Sample ID: VLF-230407-2**

**Date Collected: 04/07/23 08:45**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-2**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	12		3.0	1.0	mg/L			04/25/23 05:49	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	450		10	3.1	mg/L			04/12/23 12:41	1
Total Dissolved Solids (SM 2540C)	430		10	4.7	mg/L			04/12/23 15:11	1
Total Suspended Solids (SM 2540D)	32		4.0	1.1	mg/L			04/12/23 17:39	1

**Client Sample ID: VLF-230407-3**

**Date Collected: 04/07/23 09:38**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-3**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	5.0		3.0	1.0	mg/L			04/25/23 06:01	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	150		10	3.1	mg/L			04/12/23 12:47	1
Total Dissolved Solids (SM 2540C)	140		10	4.7	mg/L			04/12/23 15:11	1
Total Suspended Solids (SM 2540D)	96		4.0	1.1	mg/L			04/12/23 17:39	1

**Client Sample ID: VLF-230407-5**

**Date Collected: 04/07/23 10:20**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-4**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	58		3.0	1.0	mg/L			04/25/23 06:13	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	95		10	3.1	mg/L			04/12/23 12:53	1
Total Dissolved Solids (SM 2540C)	230		10	4.7	mg/L			04/12/23 15:11	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			04/12/23 17:39	1

**Client Sample ID: VLF-230407-6**

**Date Collected: 04/07/23 11:18**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-5**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	18		3.0	1.0	mg/L			04/25/23 06:25	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	160		10	3.1	mg/L			04/12/23 12:59	1
Total Dissolved Solids (SM 2540C)	150		10	4.7	mg/L			04/12/23 15:11	1
Total Suspended Solids (SM 2540D)	30		4.0	1.1	mg/L			04/12/23 17:39	1

**Client Sample ID: VLF-230407-7**

**Date Collected: 04/07/23 12:10**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-6**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	1900		150	51	mg/L			04/25/23 20:25	50

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## General Chemistry (Continued)

**Client Sample ID: VLF-230407-7**  
**Date Collected: 04/07/23 12:10**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-6**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	1300		10	3.1	mg/L			04/12/23 13:12	1
Total Dissolved Solids (SM 2540C)	3800		100	47	mg/L			04/12/23 15:11	1
Total Suspended Solids (SM 2540D)	11		4.0	1.1	mg/L			04/12/23 17:39	1

**Client Sample ID: VLF-230407-8**  
**Date Collected: 04/07/23 12:45**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-7**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	190		15	5.1	mg/L			04/26/23 17:47	5
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	430		10	3.1	mg/L			04/12/23 13:20	1
Total Dissolved Solids (SM 2540C)	630		20	9.4	mg/L			04/12/23 15:11	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			04/12/23 17:39	1

**Client Sample ID: VLF-230407-9**  
**Date Collected: 04/07/23 13:15**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-8**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	63		3.0	1.0	mg/L			04/25/23 21:49	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	140		10	3.1	mg/L			04/12/23 13:26	1
Total Dissolved Solids (SM 2540C)	280		10	4.7	mg/L			04/13/23 12:50	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			04/12/23 17:39	1

**Client Sample ID: VLF-230407-10**  
**Date Collected: 04/07/23 14:00**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-9**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	530		30	10	mg/L			04/26/23 17:58	10
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	660		10	3.1	mg/L			04/12/23 13:35	1
Total Dissolved Solids (SM 2540C)	1500		20	9.4	mg/L			04/13/23 12:50	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			04/12/23 17:39	1

**Client Sample ID: VLF-230407-11**  
**Date Collected: 04/07/23 14:05**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-10**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	550		30	10	mg/L			04/26/23 18:10	10
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	660		10	3.1	mg/L			04/12/23 13:45	1
Total Dissolved Solids (SM 2540C)	1500		20	9.4	mg/L			04/13/23 12:50	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			04/12/23 17:39	1

**Client Sample ID: VLF-230407-12**  
**Date Collected: 04/07/23 14:45**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-12**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	92		6.0	2.0	mg/L			04/26/23 18:22	2

# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## General Chemistry (Continued)

**Client Sample ID: VLF-230407-12**

**Date Collected: 04/07/23 14:45**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-12**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO <sub>3</sub> (SM 2320B)	430		10	3.1	mg/L			04/12/23 13:53	1
Total Dissolved Solids (SM 2540C)	580		10	4.7	mg/L			04/13/23 12:50	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			04/12/23 17:39	1

**Client Sample ID: VLF-230407-13**

**Date Collected: 04/07/23 15:30**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-13**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	97		6.0	2.0	mg/L			04/26/23 18:34	2
Bicarbonate Alkalinity as CaCO <sub>3</sub> (SM 2320B)	860	B	10	3.1	mg/L			04/12/23 14:32	1
Total Dissolved Solids (SM 2540C)	1000		20	9.4	mg/L			04/13/23 12:50	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			04/12/23 17:39	1

**Client Sample ID: VLF-230407-14**

**Date Collected: 04/07/23 15:35**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-14**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	100		6.0	2.0	mg/L			04/26/23 18:46	2
Bicarbonate Alkalinity as CaCO <sub>3</sub> (SM 2320B)	840	B	10	3.1	mg/L			04/12/23 14:53	1
Total Dissolved Solids (SM 2540C)	1000		20	9.4	mg/L			04/13/23 12:50	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			04/13/23 14:40	1

**Client Sample ID: VLF-230407-15**

**Date Collected: 04/07/23 16:18**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-15**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	33		3.0	1.0	mg/L			04/26/23 00:36	1
Bicarbonate Alkalinity as CaCO <sub>3</sub> (SM 2320B)	520	B	10	3.1	mg/L			04/12/23 15:02	1
Total Dissolved Solids (SM 2540C)	650		10	4.7	mg/L			04/13/23 12:50	1
Total Suspended Solids (SM 2540D)	2.0	J	4.0	1.1	mg/L			04/13/23 14:40	1

**Client Sample ID: VLF-230408-16**

**Date Collected: 04/08/23 08:40**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-16**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	46		3.0	1.0	mg/L			04/26/23 00:48	1
Bicarbonate Alkalinity as CaCO <sub>3</sub> (SM 2320B)	140	B	10	3.1	mg/L			04/12/23 15:08	1
Total Dissolved Solids (SM 2540C)	230		10	4.7	mg/L			04/13/23 12:50	1
Total Suspended Solids (SM 2540D)	2.4	J	4.0	1.1	mg/L			04/13/23 14:40	1

**Client Sample ID: VLF-230408-17**

**Date Collected: 04/08/23 09:10**

**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-17**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	34		3.0	1.0	mg/L			04/26/23 01:00	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## General Chemistry (Continued)

**Client Sample ID: VLF-230408-17**  
**Date Collected: 04/08/23 09:10**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-17**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO <sub>3</sub> (SM 2320B)	310	B	10	3.1	mg/L			04/12/23 15:15	1
Total Dissolved Solids (SM 2540C)	320		10	4.7	mg/L			04/13/23 12:50	1
Total Suspended Solids (SM 2540D)	2.8	J	4.0	1.1	mg/L			04/13/23 14:40	1

**Client Sample ID: VLF-230408-18**  
**Date Collected: 04/08/23 09:50**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-18**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	9.0		3.0	1.0	mg/L			04/26/23 01:12	1
Bicarbonate Alkalinity as CaCO <sub>3</sub> (SM 2320B)	130	B	10	3.1	mg/L			04/12/23 15:21	1
Total Dissolved Solids (SM 2540C)	160		10	4.7	mg/L			04/13/23 12:50	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			04/13/23 14:40	1

**Client Sample ID: VLF-230408-19**  
**Date Collected: 04/08/23 10:38**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-19**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	9.3		3.0	1.0	mg/L			04/26/23 01:24	1
Bicarbonate Alkalinity as CaCO <sub>3</sub> (SM 2320B)	170	B	10	3.1	mg/L			04/12/23 15:27	1
Total Dissolved Solids (SM 2540C)	170		10	4.7	mg/L			04/13/23 12:50	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			04/13/23 14:40	1

**Client Sample ID: VLF-230408-20**  
**Date Collected: 04/08/23 11:29**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174814-20**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	6.2		3.0	1.0	mg/L			04/26/23 01:36	1
Bicarbonate Alkalinity as CaCO <sub>3</sub> (SM 2320B)	160	B	10	3.1	mg/L			04/12/23 15:34	1
Total Dissolved Solids (SM 2540C)	140		10	4.7	mg/L			04/13/23 12:50	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			04/13/23 14:40	1

# Surrogate Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

**Matrix: Water**

**Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-127)	BFB (78-120)	DBFM (77-120)	TOL (80-125)
280-174814-1	VLF-230407-1	94	96	98	99
280-174814-2	VLF-230407-2	93	97	100	100
280-174814-3	VLF-230407-3	94	95	100	99
280-174814-4	VLF-230407-5	94	95	99	99
280-174814-5	VLF-230407-6	94	95	98	100
280-174814-6	VLF-230407-7	91	97	97	102
280-174814-7	VLF-230407-8	93	95	98	101
280-174814-8	VLF-230407-9	95	94	98	99
280-174814-9	VLF-230407-10	95	94	99	100
280-174814-10	VLF-230407-11	94	95	98	100
280-174814-12	VLF-230407-12	93	94	97	100
280-174814-13	VLF-230407-13	94	94	98	100
280-174814-14	VLF-230407-14	94	95	99	99
280-174814-15	VLF-230407-15	94	96	98	99
280-174814-16	VLF-230408-16	93	96	98	99
280-174814-17	VLF-230408-17	94	95	99	100
280-174814-18	VLF-230408-18	93	95	99	101
280-174814-19	VLF-230408-19	93	94	98	101
280-174814-20	VLF-230408-20	92	94	98	99
LCS 280-609367/1002	Lab Control Sample	95	95	101	102
LCS 280-609396/1002	Lab Control Sample	97	94	101	100
LCS 280-609568/1002	Lab Control Sample	94	93	100	100
LCSD 280-609367/4	Lab Control Sample Dup	98	96	100	99
LCSD 280-609396/4	Lab Control Sample Dup	95	97	99	99
LCSD 280-609568/4	Lab Control Sample Dup	92	93	100	100
MB 280-609367/7	Method Blank	94	96	98	100
MB 280-609396/7	Method Blank	96	94	98	99
MB 280-609568/7	Method Blank	92	91	98	99

**Surrogate Legend**

DCA = 1,2-Dichloroethane-d4 (Surr)  
 BFB = 4-Bromofluorobenzene (Surr)  
 DBFM = Dibromofluoromethane (Surr)  
 TOL = Toluene-d8 (Surr)

# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 280-609367/7**  
**Matrix: Water**  
**Analysis Batch: 609367**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.58	ug/L			04/20/23 00:09	1
1,1,1-Trichloroethane	ND		0.50	0.39	ug/L			04/20/23 00:09	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.21	ug/L			04/20/23 00:09	1
1,1,2-Trichloroethane	ND		0.50	0.27	ug/L			04/20/23 00:09	1
1,1-Dichloroethane	ND		0.50	0.22	ug/L			04/20/23 00:09	1
1,1-Dichloroethene	ND		0.50	0.23	ug/L			04/20/23 00:09	1
1,1-Dichloropropene	ND		0.50	0.42	ug/L			04/20/23 00:09	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/23 00:09	1
1,2,3-Trichloropropane	ND		0.77	0.86	ug/L			04/20/23 00:09	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			04/20/23 00:09	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			04/20/23 00:09	1
1,2-Dibromo-3-Chloropropane	ND		2.0	1.8	ug/L			04/20/23 00:09	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			04/20/23 00:09	1
1,2-Dichlorobenzene	ND		0.50	0.37	ug/L			04/20/23 00:09	1
1,2-Dichloroethane	ND		0.50	0.54	ug/L			04/20/23 00:09	1
1,2-Dichloropropane	ND		0.50	0.52	ug/L			04/20/23 00:09	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			04/20/23 00:09	1
1,3-Dichlorobenzene	ND		0.50	0.33	ug/L			04/20/23 00:09	1
1,3-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 00:09	1
1,4-Dichlorobenzene	ND		0.50	0.39	ug/L			04/20/23 00:09	1
2,2-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 00:09	1
2-Butanone (MEK)	ND		6.0	6.0	ug/L			04/20/23 00:09	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			04/20/23 00:09	1
2-Hexanone	ND		5.0	1.7	ug/L			04/20/23 00:09	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			04/20/23 00:09	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			04/20/23 00:09	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			04/20/23 00:09	1
Acetone	ND		10	6.6	ug/L			04/20/23 00:09	1
Benzene	ND		0.50	0.31	ug/L			04/20/23 00:09	1
Bromobenzene	ND		1.0	0.40	ug/L			04/20/23 00:09	1
Bromochloromethane	ND		0.50	0.40	ug/L			04/20/23 00:09	1
Bromodichloromethane	ND		0.50	0.39	ug/L			04/20/23 00:09	1
Bromoform	ND		0.50	1.2	ug/L			04/20/23 00:09	1
Bromomethane	ND		0.50	2.4	ug/L			04/20/23 00:09	1
Carbon disulfide	ND		2.0	0.63	ug/L			04/20/23 00:09	1
Carbon tetrachloride	ND		0.50	0.57	ug/L			04/20/23 00:09	1
Chlorobenzene	ND		0.50	0.42	ug/L			04/20/23 00:09	1
Chloroethane	ND		0.50	1.4	ug/L			04/20/23 00:09	1
Chloroform	ND		0.50	0.36	ug/L			04/20/23 00:09	1
Chloromethane	ND		0.50	0.75	ug/L			04/20/23 00:09	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/20/23 00:09	1
cis-1,3-Dichloropropene	ND		0.50	0.63	ug/L			04/20/23 00:09	1
Dibromochloromethane	ND		0.50	0.62	ug/L			04/20/23 00:09	1
Dibromomethane	ND		0.50	0.34	ug/L			04/20/23 00:09	1
Dichlorodifluoromethane	ND		0.50	0.96	ug/L			04/20/23 00:09	1
Ethylbenzene	ND		0.50	0.30	ug/L			04/20/23 00:09	1
Hexachlorobutadiene	ND		1.0	1.2	ug/L			04/20/23 00:09	1
Isopropylbenzene	ND		1.0	0.36	ug/L			04/20/23 00:09	1

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 280-609367/7**  
**Matrix: Water**  
**Analysis Batch: 609367**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.94	ug/L			04/20/23 00:09	1
m-Xylene & p-Xylene	ND		0.50	0.36	ug/L			04/20/23 00:09	1
Naphthalene	ND		1.0	0.63	ug/L			04/20/23 00:09	1
n-Butylbenzene	ND		1.0	0.48	ug/L			04/20/23 00:09	1
N-Propylbenzene	ND		1.0	0.53	ug/L			04/20/23 00:09	1
o-Xylene	ND		0.50	0.33	ug/L			04/20/23 00:09	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			04/20/23 00:09	1
Styrene	ND		0.50	0.36	ug/L			04/20/23 00:09	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			04/20/23 00:09	1
Tetrachloroethene	ND		0.50	0.40	ug/L			04/20/23 00:09	1
Toluene	ND		0.50	0.32	ug/L			04/20/23 00:09	1
trans-1,2-Dichloroethene	ND		0.50	0.37	ug/L			04/20/23 00:09	1
trans-1,3-Dichloropropene	ND		0.50	0.65	ug/L			04/20/23 00:09	1
Trichloroethene	ND		0.50	0.30	ug/L			04/20/23 00:09	1
Trichlorofluoromethane	ND		0.50	0.57	ug/L			04/20/23 00:09	1
Vinyl chloride	ND		0.50	0.51	ug/L			04/20/23 00:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 127		04/20/23 00:09	1
4-Bromofluorobenzene (Surr)	96		78 - 120		04/20/23 00:09	1
Dibromofluoromethane (Surr)	98		77 - 120		04/20/23 00:09	1
Toluene-d8 (Surr)	100		80 - 125		04/20/23 00:09	1

**Lab Sample ID: LCS 280-609367/1002**  
**Matrix: Water**  
**Analysis Batch: 609367**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	50.0	46.8		ug/L		94	74 - 121
1,1,1-Trichloroethane	50.0	46.2		ug/L		92	62 - 132
1,1,1,2-Tetrachloroethane	50.0	44.7		ug/L		89	72 - 122
1,1,2-Trichloroethane	50.0	46.5		ug/L		93	72 - 128
1,1-Dichloroethane	50.0	46.8		ug/L		94	66 - 130
1,1-Dichloroethene	50.0	48.9		ug/L		98	62 - 130
1,1-Dichloropropene	50.0	46.9		ug/L		94	64 - 133
1,2,3-Trichlorobenzene	50.0	43.3		ug/L		87	70 - 127
1,2,3-Trichloropropane	50.0	44.8		ug/L		90	74 - 123
1,2,4-Trichlorobenzene	50.0	49.2		ug/L		98	73 - 124
1,2,4-Trimethylbenzene	50.0	47.5		ug/L		95	74 - 124
1,2-Dibromo-3-Chloropropane	50.0	41.4		ug/L		83	58 - 122
1,2-Dibromoethane	50.0	47.5		ug/L		95	81 - 118
1,2-Dichlorobenzene	50.0	48.9		ug/L		98	77 - 121
1,2-Dichloroethane	50.0	44.2		ug/L		88	61 - 130
1,2-Dichloropropane	50.0	44.2		ug/L		88	68 - 127
1,3,5-Trimethylbenzene	50.0	47.1		ug/L		94	73 - 127
1,3-Dichlorobenzene	50.0	47.8		ug/L		96	76 - 121
1,3-Dichloropropane	50.0	46.5		ug/L		93	80 - 118
1,4-Dichlorobenzene	50.0	47.2		ug/L		94	76 - 119

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 280-609367/1002**  
**Matrix: Water**  
**Analysis Batch: 609367**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,2-Dichloropropane	50.0	47.3		ug/L		95	57 - 140
2-Butanone (MEK)	200	152		ug/L		76	53 - 135
2-Chlorotoluene	50.0	46.3		ug/L		93	75 - 123
2-Hexanone	200	156		ug/L		78	58 - 134
4-Chlorotoluene	50.0	46.6		ug/L		93	74 - 124
4-Isopropyltoluene	50.0	49.0		ug/L		98	74 - 127
4-Methyl-2-pentanone (MIBK)	200	158		ug/L		79	56 - 135
Acetone	200	160		ug/L		80	50 - 137
Benzene	50.0	46.0		ug/L		92	69 - 126
Bromobenzene	50.0	47.2		ug/L		94	75 - 122
Bromochloromethane	50.0	45.0		ug/L		90	71 - 130
Bromodichloromethane	50.0	44.5		ug/L		89	67 - 126
Bromoform	50.0	44.8		ug/L		90	57 - 125
Bromomethane	50.0	70.4		ug/L		141	25 - 163
Carbon disulfide	50.0	46.5		ug/L		93	56 - 128
Carbon tetrachloride	50.0	46.1		ug/L		92	60 - 133
Chlorobenzene	50.0	48.3		ug/L		97	78 - 118
Chloroethane	50.0	42.5		ug/L		85	52 - 144
Chloroform	50.0	45.6		ug/L		91	68 - 128
Chloromethane	50.0	45.6		ug/L		91	43 - 142
cis-1,2-Dichloroethene	50.0	46.7		ug/L		93	69 - 126
cis-1,3-Dichloropropene	50.0	45.6		ug/L		91	75 - 120
Dibromochloromethane	50.0	46.7		ug/L		93	71 - 122
Dibromomethane	50.0	46.2		ug/L		92	68 - 129
Dichlorodifluoromethane	50.0	49.1		ug/L		98	26 - 152
Ethylbenzene	50.0	49.1		ug/L		98	76 - 121
Hexachlorobutadiene	50.0	49.3		ug/L		99	69 - 133
Isopropylbenzene	50.0	45.8		ug/L		92	70 - 127
Methylene Chloride	50.0	45.9		ug/L		92	64 - 128
m-Xylene & p-Xylene	50.0	48.8		ug/L		98	76 - 122
Naphthalene	50.0	40.6		ug/L		81	63 - 129
n-Butylbenzene	50.0	48.9		ug/L		98	69 - 130
N-Propylbenzene	50.0	47.5		ug/L		95	73 - 127
o-Xylene	50.0	48.2		ug/L		96	77 - 120
sec-Butylbenzene	50.0	48.9		ug/L		98	72 - 127
Styrene	50.0	48.4		ug/L		97	79 - 120
tert-Butylbenzene	50.0	47.2		ug/L		94	72 - 126
Tetrachloroethene	50.0	50.5		ug/L		101	72 - 127
Toluene	50.0	46.4		ug/L		93	68 - 127
trans-1,2-Dichloroethene	50.0	47.3		ug/L		95	66 - 129
trans-1,3-Dichloropropene	50.0	44.0		ug/L		88	66 - 127
Trichloroethene	50.0	46.9		ug/L		94	70 - 125
Trichlorofluoromethane	50.0	47.1		ug/L		94	57 - 144
Vinyl chloride	50.0	47.1		ug/L		94	53 - 141

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 127
4-Bromofluorobenzene (Surr)	95		78 - 120

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 280-609367/1002**  
**Matrix: Water**  
**Analysis Batch: 609367**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	101		77 - 120
Toluene-d8 (Surr)	102		80 - 125

**Lab Sample ID: LCSD 280-609367/4**  
**Matrix: Water**  
**Analysis Batch: 609367**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50.0	45.8		ug/L		92	74 - 121	2	20
1,1,1-Trichloroethane	50.0	45.5		ug/L		91	62 - 132	2	20
1,1,2,2-Tetrachloroethane	50.0	45.1		ug/L		90	72 - 122	1	20
1,1,2-Trichloroethane	50.0	45.9		ug/L		92	72 - 128	1	20
1,1-Dichloroethane	50.0	45.8		ug/L		92	66 - 130	2	20
1,1-Dichloroethene	50.0	47.5		ug/L		95	62 - 130	3	21
1,1-Dichloropropene	50.0	45.6		ug/L		91	64 - 133	3	20
1,2,3-Trichlorobenzene	50.0	44.1		ug/L		88	70 - 127	2	20
1,2,3-Trichloropropane	50.0	45.3		ug/L		91	74 - 123	1	20
1,2,4-Trichlorobenzene	50.0	48.8		ug/L		98	73 - 124	1	20
1,2,4-Trimethylbenzene	50.0	45.9		ug/L		92	74 - 124	3	20
1,2-Dibromo-3-Chloropropane	50.0	45.2		ug/L		90	58 - 122	9	21
1,2-Dibromoethane	50.0	46.7		ug/L		93	81 - 118	2	20
1,2-Dichlorobenzene	50.0	47.5		ug/L		95	77 - 121	3	20
1,2-Dichloroethane	50.0	44.3		ug/L		89	61 - 130	0	20
1,2-Dichloropropane	50.0	44.4		ug/L		89	68 - 127	0	20
1,3,5-Trimethylbenzene	50.0	45.2		ug/L		90	73 - 127	4	20
1,3-Dichlorobenzene	50.0	46.7		ug/L		93	76 - 121	2	20
1,3-Dichloropropane	50.0	45.9		ug/L		92	80 - 118	1	20
1,4-Dichlorobenzene	50.0	46.1		ug/L		92	76 - 119	2	20
2,2-Dichloropropane	50.0	46.0		ug/L		92	57 - 140	3	22
2-Butanone (MEK)	200	169		ug/L		85	53 - 135	11	20
2-Chlorotoluene	50.0	46.0		ug/L		92	75 - 123	1	20
2-Hexanone	200	170		ug/L		85	58 - 134	8	21
4-Chlorotoluene	50.0	45.2		ug/L		90	74 - 124	3	20
4-Isopropyltoluene	50.0	47.2		ug/L		94	74 - 127	4	20
4-Methyl-2-pentanone (MIBK)	200	172		ug/L		86	56 - 135	8	20
Acetone	200	177		ug/L		88	50 - 137	10	21
Benzene	50.0	45.2		ug/L		90	69 - 126	2	20
Bromobenzene	50.0	46.6		ug/L		93	75 - 122	1	20
Bromochloromethane	50.0	44.9		ug/L		90	71 - 130	0	20
Bromodichloromethane	50.0	43.9		ug/L		88	67 - 126	1	20
Bromoform	50.0	44.9		ug/L		90	57 - 125	0	20
Bromomethane	50.0	69.2		ug/L		138	25 - 163	2	40
Carbon disulfide	50.0	44.9		ug/L		90	56 - 128	4	20
Carbon tetrachloride	50.0	44.7		ug/L		89	60 - 133	3	20
Chlorobenzene	50.0	46.4		ug/L		93	78 - 118	4	20
Chloroethane	50.0	43.7		ug/L		87	52 - 144	3	30
Chloroform	50.0	44.7		ug/L		89	68 - 128	2	20
Chloromethane	50.0	44.6		ug/L		89	43 - 142	2	20

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 280-609367/4**  
**Matrix: Water**  
**Analysis Batch: 609367**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
cis-1,2-Dichloroethene	50.0	45.1		ug/L		90	69 - 126	3	20
cis-1,3-Dichloropropene	50.0	44.0		ug/L		88	75 - 120	4	20
Dibromochloromethane	50.0	45.9		ug/L		92	71 - 122	2	20
Dibromomethane	50.0	45.9		ug/L		92	68 - 129	1	20
Dichlorodifluoromethane	50.0	50.0		ug/L		100	26 - 152	2	21
Ethylbenzene	50.0	46.8		ug/L		94	76 - 121	5	20
Hexachlorobutadiene	50.0	48.2		ug/L		96	69 - 133	2	20
Isopropylbenzene	50.0	45.1		ug/L		90	70 - 127	1	20
Methylene Chloride	50.0	45.5		ug/L		91	64 - 128	1	20
m-Xylene & p-Xylene	50.0	46.6		ug/L		93	76 - 122	5	20
Naphthalene	50.0	42.0		ug/L		84	63 - 129	3	21
n-Butylbenzene	50.0	47.1		ug/L		94	69 - 130	4	20
N-Propylbenzene	50.0	46.5		ug/L		93	73 - 127	2	20
o-Xylene	50.0	46.5		ug/L		93	77 - 120	4	20
sec-Butylbenzene	50.0	47.4		ug/L		95	72 - 127	3	20
Styrene	50.0	47.2		ug/L		94	79 - 120	3	20
tert-Butylbenzene	50.0	46.1		ug/L		92	72 - 126	2	20
Tetrachloroethene	50.0	48.3		ug/L		97	72 - 127	5	20
Toluene	50.0	46.1		ug/L		92	68 - 127	1	20
trans-1,2-Dichloroethene	50.0	45.8		ug/L		92	66 - 129	3	20
trans-1,3-Dichloropropene	50.0	44.4		ug/L		89	66 - 127	1	20
Trichloroethene	50.0	44.9		ug/L		90	70 - 125	4	20
Trichlorofluoromethane	50.0	46.9		ug/L		94	57 - 144	0	28
Vinyl chloride	50.0	47.3		ug/L		95	53 - 141	0	25

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	98		70 - 127
4-Bromofluorobenzene (Surr)	96		78 - 120
Dibromofluoromethane (Surr)	100		77 - 120
Toluene-d8 (Surr)	99		80 - 125

**Lab Sample ID: MB 280-609396/7**  
**Matrix: Water**  
**Analysis Batch: 609396**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.58	ug/L			04/20/23 10:24	1
1,1,1-Trichloroethane	ND		0.50	0.39	ug/L			04/20/23 10:24	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.21	ug/L			04/20/23 10:24	1
1,1,2-Trichloroethane	ND		0.50	0.27	ug/L			04/20/23 10:24	1
1,1-Dichloroethane	ND		0.50	0.22	ug/L			04/20/23 10:24	1
1,1-Dichloroethene	ND		0.50	0.23	ug/L			04/20/23 10:24	1
1,1-Dichloropropene	ND		0.50	0.42	ug/L			04/20/23 10:24	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/23 10:24	1
1,2,3-Trichloropropane	ND		0.77	0.86	ug/L			04/20/23 10:24	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			04/20/23 10:24	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			04/20/23 10:24	1
1,2-Dibromo-3-Chloropropane	ND		2.0	1.8	ug/L			04/20/23 10:24	1

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 280-609396/7**  
**Matrix: Water**  
**Analysis Batch: 609396**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		1.0	0.40	ug/L			04/20/23 10:24	1
1,2-Dichlorobenzene	ND		0.50	0.37	ug/L			04/20/23 10:24	1
1,2-Dichloroethane	ND		0.50	0.54	ug/L			04/20/23 10:24	1
1,2-Dichloropropane	ND		0.50	0.52	ug/L			04/20/23 10:24	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			04/20/23 10:24	1
1,3-Dichlorobenzene	ND		0.50	0.33	ug/L			04/20/23 10:24	1
1,3-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 10:24	1
1,4-Dichlorobenzene	ND		0.50	0.39	ug/L			04/20/23 10:24	1
2,2-Dichloropropane	ND		0.50	0.38	ug/L			04/20/23 10:24	1
2-Butanone (MEK)	ND		6.0	6.0	ug/L			04/20/23 10:24	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			04/20/23 10:24	1
2-Hexanone	ND		5.0	1.7	ug/L			04/20/23 10:24	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			04/20/23 10:24	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			04/20/23 10:24	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			04/20/23 10:24	1
Acetone	ND		10	6.6	ug/L			04/20/23 10:24	1
Benzene	ND		0.50	0.31	ug/L			04/20/23 10:24	1
Bromobenzene	ND		1.0	0.40	ug/L			04/20/23 10:24	1
Bromochloromethane	ND		0.50	0.40	ug/L			04/20/23 10:24	1
Bromodichloromethane	ND		0.50	0.39	ug/L			04/20/23 10:24	1
Bromoform	ND		0.50	1.2	ug/L			04/20/23 10:24	1
Bromomethane	ND		0.50	2.4	ug/L			04/20/23 10:24	1
Carbon disulfide	ND		2.0	0.63	ug/L			04/20/23 10:24	1
Carbon tetrachloride	ND		0.50	0.57	ug/L			04/20/23 10:24	1
Chlorobenzene	ND		0.50	0.42	ug/L			04/20/23 10:24	1
Chloroethane	ND		0.50	1.4	ug/L			04/20/23 10:24	1
Chloroform	ND		0.50	0.36	ug/L			04/20/23 10:24	1
Chloromethane	ND		0.50	0.75	ug/L			04/20/23 10:24	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/20/23 10:24	1
cis-1,3-Dichloropropene	ND		0.50	0.63	ug/L			04/20/23 10:24	1
Dibromochloromethane	ND		0.50	0.62	ug/L			04/20/23 10:24	1
Dibromomethane	ND		0.50	0.34	ug/L			04/20/23 10:24	1
Dichlorodifluoromethane	ND		0.50	0.96	ug/L			04/20/23 10:24	1
Ethylbenzene	ND		0.50	0.30	ug/L			04/20/23 10:24	1
Hexachlorobutadiene	ND		1.0	1.2	ug/L			04/20/23 10:24	1
Isopropylbenzene	ND		1.0	0.36	ug/L			04/20/23 10:24	1
Methylene Chloride	ND		2.0	0.94	ug/L			04/20/23 10:24	1
m-Xylene & p-Xylene	ND		0.50	0.36	ug/L			04/20/23 10:24	1
Naphthalene	ND		1.0	0.63	ug/L			04/20/23 10:24	1
n-Butylbenzene	ND		1.0	0.48	ug/L			04/20/23 10:24	1
N-Propylbenzene	ND		1.0	0.53	ug/L			04/20/23 10:24	1
o-Xylene	ND		0.50	0.33	ug/L			04/20/23 10:24	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			04/20/23 10:24	1
Styrene	ND		0.50	0.36	ug/L			04/20/23 10:24	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			04/20/23 10:24	1
Tetrachloroethene	ND		0.50	0.40	ug/L			04/20/23 10:24	1
Toluene	ND		0.50	0.32	ug/L			04/20/23 10:24	1
trans-1,2-Dichloroethene	ND		0.50	0.37	ug/L			04/20/23 10:24	1
trans-1,3-Dichloropropene	ND		0.50	0.65	ug/L			04/20/23 10:24	1

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 280-609396/7**  
**Matrix: Water**  
**Analysis Batch: 609396**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		0.50	0.30	ug/L			04/20/23 10:24	1
Trichlorofluoromethane	ND		0.50	0.57	ug/L			04/20/23 10:24	1
Vinyl chloride	ND		0.50	0.51	ug/L			04/20/23 10:24	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 127					04/20/23 10:24	1
4-Bromofluorobenzene (Surr)	94		78 - 120					04/20/23 10:24	1
Dibromofluoromethane (Surr)	98		77 - 120					04/20/23 10:24	1
Toluene-d8 (Surr)	99		80 - 125					04/20/23 10:24	1

**Lab Sample ID: LCS 280-609396/1002**  
**Matrix: Water**  
**Analysis Batch: 609396**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	50.0	47.8		ug/L		96	74 - 121
1,1,1-Trichloroethane	50.0	46.4		ug/L		93	62 - 132
1,1,1,2-Tetrachloroethane	50.0	47.5		ug/L		95	72 - 122
1,1,2-Trichloroethane	50.0	48.4		ug/L		97	72 - 128
1,1-Dichloroethane	50.0	47.1		ug/L		94	66 - 130
1,1-Dichloroethene	50.0	48.1		ug/L		96	62 - 130
1,1-Dichloropropene	50.0	46.8		ug/L		94	64 - 133
1,2,3-Trichlorobenzene	50.0	43.9		ug/L		88	70 - 127
1,2,3-Trichloropropane	50.0	47.9		ug/L		96	74 - 123
1,2,4-Trichlorobenzene	50.0	50.8		ug/L		102	73 - 124
1,2,4-Trimethylbenzene	50.0	47.8		ug/L		96	74 - 124
1,2-Dibromo-3-Chloropropane	50.0	44.4		ug/L		89	58 - 122
1,2-Dibromoethane	50.0	50.0		ug/L		100	81 - 118
1,2-Dichlorobenzene	50.0	50.3		ug/L		101	77 - 121
1,2-Dichloroethane	50.0	45.6		ug/L		91	61 - 130
1,2-Dichloropropane	50.0	45.5		ug/L		91	68 - 127
1,3,5-Trimethylbenzene	50.0	47.3		ug/L		95	73 - 127
1,3-Dichlorobenzene	50.0	49.2		ug/L		98	76 - 121
1,3-Dichloropropane	50.0	48.4		ug/L		97	80 - 118
1,4-Dichlorobenzene	50.0	48.9		ug/L		98	76 - 119
2,2-Dichloropropane	50.0	47.2		ug/L		94	57 - 140
2-Butanone (MEK)	200	157		ug/L		78	53 - 135
2-Chlorotoluene	50.0	47.5		ug/L		95	75 - 123
2-Hexanone	200	165		ug/L		82	58 - 134
4-Chlorotoluene	50.0	47.0		ug/L		94	74 - 124
4-Isopropyltoluene	50.0	48.7		ug/L		97	74 - 127
4-Methyl-2-pentanone (MIBK)	200	168		ug/L		84	56 - 135
Acetone	200	161		ug/L		81	50 - 137
Benzene	50.0	46.8		ug/L		94	69 - 126
Bromobenzene	50.0	48.7		ug/L		97	75 - 122
Bromochloromethane	50.0	47.0		ug/L		94	71 - 130
Bromodichloromethane	50.0	45.8		ug/L		92	67 - 126
Bromoform	50.0	47.3		ug/L		95	57 - 125

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 280-609396/1002**  
**Matrix: Water**  
**Analysis Batch: 609396**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromomethane	50.0	68.5		ug/L		137	25 - 163
Carbon disulfide	50.0	45.8		ug/L		92	56 - 128
Carbon tetrachloride	50.0	44.9		ug/L		90	60 - 133
Chlorobenzene	50.0	49.1		ug/L		98	78 - 118
Chloroethane	50.0	41.7		ug/L		83	52 - 144
Chloroform	50.0	46.8		ug/L		94	68 - 128
Chloromethane	50.0	43.2		ug/L		86	43 - 142
cis-1,2-Dichloroethene	50.0	47.7		ug/L		95	69 - 126
cis-1,3-Dichloropropene	50.0	46.8		ug/L		94	75 - 120
Dibromochloromethane	50.0	48.7		ug/L		97	71 - 122
Dibromomethane	50.0	48.2		ug/L		96	68 - 129
Dichlorodifluoromethane	50.0	43.8		ug/L		88	26 - 152
Ethylbenzene	50.0	48.7		ug/L		97	76 - 121
Hexachlorobutadiene	50.0	48.6		ug/L		97	69 - 133
Isopropylbenzene	50.0	46.5		ug/L		93	70 - 127
Methylene Chloride	50.0	46.6		ug/L		93	64 - 128
m-Xylene & p-Xylene	50.0	48.8		ug/L		98	76 - 122
Naphthalene	50.0	42.2		ug/L		84	63 - 129
n-Butylbenzene	50.0	48.1		ug/L		96	69 - 130
N-Propylbenzene	50.0	47.0		ug/L		94	73 - 127
o-Xylene	50.0	49.2		ug/L		98	77 - 120
sec-Butylbenzene	50.0	47.4		ug/L		95	72 - 127
Styrene	50.0	49.6		ug/L		99	79 - 120
tert-Butylbenzene	50.0	47.5		ug/L		95	72 - 126
Tetrachloroethene	50.0	50.2		ug/L		100	72 - 127
Toluene	50.0	47.5		ug/L		95	68 - 127
trans-1,2-Dichloroethene	50.0	47.6		ug/L		95	66 - 129
trans-1,3-Dichloropropene	50.0	46.1		ug/L		92	66 - 127
Trichloroethene	50.0	47.1		ug/L		94	70 - 125
Trichlorofluoromethane	50.0	44.5		ug/L		89	57 - 144
Vinyl chloride	50.0	45.5		ug/L		91	53 - 141

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		70 - 127
4-Bromofluorobenzene (Surr)	94		78 - 120
Dibromofluoromethane (Surr)	101		77 - 120
Toluene-d8 (Surr)	100		80 - 125

**Lab Sample ID: LCSD 280-609396/4**  
**Matrix: Water**  
**Analysis Batch: 609396**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50.0	45.2		ug/L		90	74 - 121	6	20
1,1,1-Trichloroethane	50.0	42.8		ug/L		86	62 - 132	8	20
1,1,1,2,2-Tetrachloroethane	50.0	46.4		ug/L		93	72 - 122	2	20
1,1,1,2-Trichloroethane	50.0	46.6		ug/L		93	72 - 128	4	20
1,1-Dichloroethane	50.0	44.7		ug/L		89	66 - 130	5	20

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 280-609396/4**  
**Matrix: Water**  
**Analysis Batch: 609396**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethene	50.0	43.9		ug/L		88	62 - 130	9	21
1,1-Dichloropropene	50.0	43.0		ug/L		86	64 - 133	8	20
1,2,3-Trichlorobenzene	50.0	43.5		ug/L		87	70 - 127	1	20
1,2,3-Trichloropropane	50.0	47.4		ug/L		95	74 - 123	1	20
1,2,4-Trichlorobenzene	50.0	49.8		ug/L		100	73 - 124	2	20
1,2,4-Trimethylbenzene	50.0	46.1		ug/L		92	74 - 124	4	20
1,2-Dibromo-3-Chloropropane	50.0	45.3		ug/L		91	58 - 122	2	21
1,2-Dibromoethane	50.0	47.8		ug/L		96	81 - 118	5	20
1,2-Dichlorobenzene	50.0	48.3		ug/L		97	77 - 121	4	20
1,2-Dichloroethane	50.0	44.2		ug/L		88	61 - 130	3	20
1,2-Dichloropropane	50.0	44.0		ug/L		88	68 - 127	3	20
1,3,5-Trimethylbenzene	50.0	45.7		ug/L		91	73 - 127	3	20
1,3-Dichlorobenzene	50.0	47.2		ug/L		94	76 - 121	4	20
1,3-Dichloropropane	50.0	45.7		ug/L		91	80 - 118	6	20
1,4-Dichlorobenzene	50.0	47.4		ug/L		95	76 - 119	3	20
2,2-Dichloropropane	50.0	43.1		ug/L		86	57 - 140	9	22
2-Butanone (MEK)	200	160		ug/L		80	53 - 135	2	20
2-Chlorotoluene	50.0	45.4		ug/L		91	75 - 123	5	20
2-Hexanone	200	161		ug/L		81	58 - 134	2	21
4-Chlorotoluene	50.0	46.2		ug/L		92	74 - 124	2	20
4-Isopropyltoluene	50.0	46.7		ug/L		93	74 - 127	4	20
4-Methyl-2-pentanone (MIBK)	200	166		ug/L		83	56 - 135	1	20
Acetone	200	167		ug/L		83	50 - 137	3	21
Benzene	50.0	44.6		ug/L		89	69 - 126	5	20
Bromobenzene	50.0	47.5		ug/L		95	75 - 122	3	20
Bromochloromethane	50.0	45.4		ug/L		91	71 - 130	4	20
Bromodichloromethane	50.0	44.6		ug/L		89	67 - 126	3	20
Bromoform	50.0	45.5		ug/L		91	57 - 125	4	20
Bromomethane	50.0	69.5		ug/L		139	25 - 163	1	40
Carbon disulfide	50.0	42.4		ug/L		85	56 - 128	8	20
Carbon tetrachloride	50.0	40.8		ug/L		82	60 - 133	10	20
Chlorobenzene	50.0	47.1		ug/L		94	78 - 118	4	20
Chloroethane	50.0	40.7		ug/L		81	52 - 144	3	30
Chloroform	50.0	44.3		ug/L		89	68 - 128	6	20
Chloromethane	50.0	42.5		ug/L		85	43 - 142	2	20
cis-1,2-Dichloroethene	50.0	45.0		ug/L		90	69 - 126	6	20
cis-1,3-Dichloropropene	50.0	44.1		ug/L		88	75 - 120	6	20
Dibromochloromethane	50.0	47.0		ug/L		94	71 - 122	4	20
Dibromomethane	50.0	46.1		ug/L		92	68 - 129	5	20
Dichlorodifluoromethane	50.0	40.3		ug/L		81	26 - 152	8	21
Ethylbenzene	50.0	46.5		ug/L		93	76 - 121	5	20
Hexachlorobutadiene	50.0	47.3		ug/L		95	69 - 133	3	20
Isopropylbenzene	50.0	45.1		ug/L		90	70 - 127	3	20
Methylene Chloride	50.0	45.0		ug/L		90	64 - 128	3	20
m-Xylene & p-Xylene	50.0	45.7		ug/L		91	76 - 122	7	20
Naphthalene	50.0	42.0		ug/L		84	63 - 129	1	21
n-Butylbenzene	50.0	45.7		ug/L		91	69 - 130	5	20
N-Propylbenzene	50.0	45.9		ug/L		92	73 - 127	2	20
o-Xylene	50.0	46.9		ug/L		94	77 - 120	5	20

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 280-609396/4**  
**Matrix: Water**  
**Analysis Batch: 609396**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
sec-Butylbenzene	50.0	45.7		ug/L		91	72 - 127	4	20
Styrene	50.0	46.8		ug/L		94	79 - 120	6	20
tert-Butylbenzene	50.0	45.5		ug/L		91	72 - 126	4	20
Tetrachloroethene	50.0	46.1		ug/L		92	72 - 127	9	20
Toluene	50.0	45.4		ug/L		91	68 - 127	5	20
trans-1,2-Dichloroethene	50.0	44.2		ug/L		88	66 - 129	7	20
trans-1,3-Dichloropropene	50.0	44.2		ug/L		88	66 - 127	4	20
Trichloroethene	50.0	43.9		ug/L		88	70 - 125	7	20
Trichlorofluoromethane	50.0	41.0		ug/L		82	57 - 144	8	28
Vinyl chloride	50.0	43.1		ug/L		86	53 - 141	5	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 127
4-Bromofluorobenzene (Surr)	97		78 - 120
Dibromofluoromethane (Surr)	99		77 - 120
Toluene-d8 (Surr)	99		80 - 125

**Lab Sample ID: MB 280-609568/7**  
**Matrix: Water**  
**Analysis Batch: 609568**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.58	ug/L			04/21/23 11:10	1
1,1,1-Trichloroethane	ND		0.50	0.39	ug/L			04/21/23 11:10	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.21	ug/L			04/21/23 11:10	1
1,1,2-Trichloroethane	ND		0.50	0.27	ug/L			04/21/23 11:10	1
1,1-Dichloroethane	ND		0.50	0.22	ug/L			04/21/23 11:10	1
1,1-Dichloroethene	ND		0.50	0.23	ug/L			04/21/23 11:10	1
1,1-Dichloropropene	ND		0.50	0.42	ug/L			04/21/23 11:10	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/21/23 11:10	1
1,2,3-Trichloropropane	ND		0.77	0.86	ug/L			04/21/23 11:10	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			04/21/23 11:10	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			04/21/23 11:10	1
1,2-Dibromo-3-Chloropropane	ND		2.0	1.8	ug/L			04/21/23 11:10	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			04/21/23 11:10	1
1,2-Dichlorobenzene	ND		0.50	0.37	ug/L			04/21/23 11:10	1
1,2-Dichloroethane	ND		0.50	0.54	ug/L			04/21/23 11:10	1
1,2-Dichloropropane	ND		0.50	0.52	ug/L			04/21/23 11:10	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			04/21/23 11:10	1
1,3-Dichlorobenzene	ND		0.50	0.33	ug/L			04/21/23 11:10	1
1,3-Dichloropropane	ND		0.50	0.38	ug/L			04/21/23 11:10	1
1,4-Dichlorobenzene	ND		0.50	0.39	ug/L			04/21/23 11:10	1
2,2-Dichloropropane	ND		0.50	0.38	ug/L			04/21/23 11:10	1
2-Butanone (MEK)	ND		6.0	6.0	ug/L			04/21/23 11:10	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			04/21/23 11:10	1
2-Hexanone	ND		5.0	1.7	ug/L			04/21/23 11:10	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			04/21/23 11:10	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			04/21/23 11:10	1

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 280-609568/7**  
**Matrix: Water**  
**Analysis Batch: 609568**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			04/21/23 11:10	1
Acetone	ND		10	6.6	ug/L			04/21/23 11:10	1
Benzene	ND		0.50	0.31	ug/L			04/21/23 11:10	1
Bromobenzene	ND		1.0	0.40	ug/L			04/21/23 11:10	1
Bromochloromethane	ND		0.50	0.40	ug/L			04/21/23 11:10	1
Bromodichloromethane	ND		0.50	0.39	ug/L			04/21/23 11:10	1
Bromoform	ND		0.50	1.2	ug/L			04/21/23 11:10	1
Bromomethane	ND		0.50	2.4	ug/L			04/21/23 11:10	1
Carbon disulfide	ND		2.0	0.63	ug/L			04/21/23 11:10	1
Carbon tetrachloride	ND		0.50	0.57	ug/L			04/21/23 11:10	1
Chlorobenzene	ND		0.50	0.42	ug/L			04/21/23 11:10	1
Chloroethane	ND		0.50	1.4	ug/L			04/21/23 11:10	1
Chloroform	ND		0.50	0.36	ug/L			04/21/23 11:10	1
Chloromethane	ND		0.50	0.75	ug/L			04/21/23 11:10	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/21/23 11:10	1
cis-1,3-Dichloropropene	ND		0.50	0.63	ug/L			04/21/23 11:10	1
Dibromochloromethane	ND		0.50	0.62	ug/L			04/21/23 11:10	1
Dibromomethane	ND		0.50	0.34	ug/L			04/21/23 11:10	1
Dichlorodifluoromethane	ND		0.50	0.96	ug/L			04/21/23 11:10	1
Ethylbenzene	ND		0.50	0.30	ug/L			04/21/23 11:10	1
Hexachlorobutadiene	ND		1.0	1.2	ug/L			04/21/23 11:10	1
Isopropylbenzene	ND		1.0	0.36	ug/L			04/21/23 11:10	1
Methylene Chloride	ND		2.0	0.94	ug/L			04/21/23 11:10	1
m-Xylene & p-Xylene	ND		0.50	0.36	ug/L			04/21/23 11:10	1
Naphthalene	ND		1.0	0.63	ug/L			04/21/23 11:10	1
n-Butylbenzene	ND		1.0	0.48	ug/L			04/21/23 11:10	1
N-Propylbenzene	ND		1.0	0.53	ug/L			04/21/23 11:10	1
o-Xylene	ND		0.50	0.33	ug/L			04/21/23 11:10	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			04/21/23 11:10	1
Styrene	ND		0.50	0.36	ug/L			04/21/23 11:10	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			04/21/23 11:10	1
Tetrachloroethene	ND		0.50	0.40	ug/L			04/21/23 11:10	1
Toluene	ND		0.50	0.32	ug/L			04/21/23 11:10	1
trans-1,2-Dichloroethene	ND		0.50	0.37	ug/L			04/21/23 11:10	1
trans-1,3-Dichloropropene	ND		0.50	0.65	ug/L			04/21/23 11:10	1
Trichloroethene	ND		0.50	0.30	ug/L			04/21/23 11:10	1
Trichlorofluoromethane	ND		0.50	0.57	ug/L			04/21/23 11:10	1
Vinyl chloride	ND		0.50	0.51	ug/L			04/21/23 11:10	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 127		04/21/23 11:10	1
4-Bromofluorobenzene (Surr)	91		78 - 120		04/21/23 11:10	1
Dibromofluoromethane (Surr)	98		77 - 120		04/21/23 11:10	1
Toluene-d8 (Surr)	99		80 - 125		04/21/23 11:10	1

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 280-609568/1002**  
**Matrix: Water**  
**Analysis Batch: 609568**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	50.0	44.7		ug/L		89	74 - 121
1,1,1-Trichloroethane	50.0	40.8		ug/L		82	62 - 132
1,1,2,2-Tetrachloroethane	50.0	44.6		ug/L		89	72 - 122
1,1,2-Trichloroethane	50.0	45.9		ug/L		92	72 - 128
1,1-Dichloroethane	50.0	42.0		ug/L		84	66 - 130
1,1-Dichloroethene	50.0	41.5		ug/L		83	62 - 130
1,1-Dichloropropene	50.0	40.5		ug/L		81	64 - 133
1,2,3-Trichlorobenzene	50.0	40.5		ug/L		81	70 - 127
1,2,3-Trichloropropane	50.0	45.2		ug/L		90	74 - 123
1,2,4-Trichlorobenzene	50.0	47.2		ug/L		94	73 - 124
1,2,4-Trimethylbenzene	50.0	43.5		ug/L		87	74 - 124
1,2-Dibromo-3-Chloropropane	50.0	41.7		ug/L		83	58 - 122
1,2-Dibromoethane	50.0	46.4		ug/L		93	81 - 118
1,2-Dichlorobenzene	50.0	46.7		ug/L		93	77 - 121
1,2-Dichloroethane	50.0	42.5		ug/L		85	61 - 130
1,2-Dichloropropane	50.0	42.0		ug/L		84	68 - 127
1,3,5-Trimethylbenzene	50.0	42.6		ug/L		85	73 - 127
1,3-Dichlorobenzene	50.0	44.9		ug/L		90	76 - 121
1,3-Dichloropropane	50.0	45.7		ug/L		91	80 - 118
1,4-Dichlorobenzene	50.0	45.3		ug/L		91	76 - 119
2,2-Dichloropropane	50.0	40.9		ug/L		82	57 - 140
2-Butanone (MEK)	200	143		ug/L		72	53 - 135
2-Chlorotoluene	50.0	43.1		ug/L		86	75 - 123
2-Hexanone	200	147		ug/L		74	58 - 134
4-Chlorotoluene	50.0	43.7		ug/L		87	74 - 124
4-Isopropyltoluene	50.0	43.4		ug/L		87	74 - 127
4-Methyl-2-pentanone (MIBK)	200	154		ug/L		77	56 - 135
Acetone	200	146		ug/L		73	50 - 137
Benzene	50.0	41.8		ug/L		84	69 - 126
Bromobenzene	50.0	45.2		ug/L		90	75 - 122
Bromochloromethane	50.0	42.5		ug/L		85	71 - 130
Bromodichloromethane	50.0	42.9		ug/L		86	67 - 126
Bromoform	50.0	45.9		ug/L		92	57 - 125
Bromomethane	50.0	59.3		ug/L		119	25 - 163
Carbon disulfide	50.0	40.2		ug/L		80	56 - 128
Carbon tetrachloride	50.0	39.7		ug/L		79	60 - 133
Chlorobenzene	50.0	45.0		ug/L		90	78 - 118
Chloroethane	50.0	46.2		ug/L		92	52 - 144
Chloroform	50.0	42.3		ug/L		85	68 - 128
Chloromethane	50.0	43.7		ug/L		87	43 - 142
cis-1,2-Dichloroethene	50.0	43.8		ug/L		88	69 - 126
cis-1,3-Dichloropropene	50.0	42.7		ug/L		85	75 - 120
Dibromochloromethane	50.0	46.7		ug/L		93	71 - 122
Dibromomethane	50.0	44.9		ug/L		90	68 - 129
Dichlorodifluoromethane	50.0	47.6		ug/L		95	26 - 152
Ethylbenzene	50.0	44.2		ug/L		88	76 - 121
Hexachlorobutadiene	50.0	45.3		ug/L		91	69 - 133
Isopropylbenzene	50.0	41.4		ug/L		83	70 - 127

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 280-609568/1002**  
**Matrix: Water**  
**Analysis Batch: 609568**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methylene Chloride	50.0	43.5		ug/L		87	64 - 128
m-Xylene & p-Xylene	50.0	44.5		ug/L		89	76 - 122
Naphthalene	50.0	39.4		ug/L		79	63 - 129
n-Butylbenzene	50.0	43.1		ug/L		86	69 - 130
N-Propylbenzene	50.0	42.4		ug/L		85	73 - 127
o-Xylene	50.0	44.7		ug/L		89	77 - 120
sec-Butylbenzene	50.0	43.1		ug/L		86	72 - 127
Styrene	50.0	45.1		ug/L		90	79 - 120
tert-Butylbenzene	50.0	42.3		ug/L		85	72 - 126
Tetrachloroethene	50.0	44.7		ug/L		89	72 - 127
Toluene	50.0	42.7		ug/L		85	68 - 127
trans-1,2-Dichloroethene	50.0	42.1		ug/L		84	66 - 129
trans-1,3-Dichloropropene	50.0	42.4		ug/L		85	66 - 127
Trichloroethene	50.0	42.2		ug/L		84	70 - 125
Trichlorofluoromethane	50.0	51.1		ug/L		102	57 - 144
Vinyl chloride	50.0	47.8		ug/L		96	53 - 141

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	94		70 - 127
4-Bromofluorobenzene (Surr)	93		78 - 120
Dibromofluoromethane (Surr)	100		77 - 120
Toluene-d8 (Surr)	100		80 - 125

**Lab Sample ID: LCSD 280-609568/4**  
**Matrix: Water**  
**Analysis Batch: 609568**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50.0	45.7		ug/L		91	74 - 121	2	20
1,1,1-Trichloroethane	50.0	43.6		ug/L		87	62 - 132	6	20
1,1,1,2-Tetrachloroethane	50.0	43.7		ug/L		87	72 - 122	2	20
1,1,2-Trichloroethane	50.0	45.7		ug/L		91	72 - 128	0	20
1,1-Dichloroethane	50.0	43.6		ug/L		87	66 - 130	4	20
1,1-Dichloroethene	50.0	44.9		ug/L		90	62 - 130	8	21
1,1-Dichloropropene	50.0	43.5		ug/L		87	64 - 133	7	20
1,2,3-Trichlorobenzene	50.0	42.9		ug/L		86	70 - 127	6	20
1,2,3-Trichloropropane	50.0	44.2		ug/L		88	74 - 123	2	20
1,2,4-Trichlorobenzene	50.0	48.2		ug/L		96	73 - 124	2	20
1,2,4-Trimethylbenzene	50.0	45.4		ug/L		91	74 - 124	4	20
1,2-Dibromo-3-Chloropropane	50.0	40.7		ug/L		81	58 - 122	3	21
1,2-Dibromoethane	50.0	46.1		ug/L		92	81 - 118	1	20
1,2-Dichlorobenzene	50.0	47.1		ug/L		94	77 - 121	1	20
1,2-Dichloroethane	50.0	41.9		ug/L		84	61 - 130	1	20
1,2-Dichloropropane	50.0	42.8		ug/L		86	68 - 127	2	20
1,3,5-Trimethylbenzene	50.0	45.0		ug/L		90	73 - 127	5	20
1,3-Dichlorobenzene	50.0	45.9		ug/L		92	76 - 121	2	20
1,3-Dichloropropane	50.0	44.9		ug/L		90	80 - 118	2	20
1,4-Dichlorobenzene	50.0	45.9		ug/L		92	76 - 119	1	20

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 280-609568/4**  
**Matrix: Water**  
**Analysis Batch: 609568**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,2-Dichloropropane	50.0	42.4		ug/L		85	57 - 140	4	22
2-Butanone (MEK)	200	139		ug/L		69	53 - 135	3	20
2-Chlorotoluene	50.0	44.5		ug/L		89	75 - 123	3	20
2-Hexanone	200	142		ug/L		71	58 - 134	3	21
4-Chlorotoluene	50.0	44.4		ug/L		89	74 - 124	2	20
4-Isopropyltoluene	50.0	46.5		ug/L		93	74 - 127	7	20
4-Methyl-2-pentanone (MIBK)	200	148		ug/L		74	56 - 135	4	20
Acetone	200	144		ug/L		72	50 - 137	2	21
Benzene	50.0	43.4		ug/L		87	69 - 126	4	20
Bromobenzene	50.0	46.3		ug/L		93	75 - 122	2	20
Bromochloromethane	50.0	41.5		ug/L		83	71 - 130	3	20
Bromodichloromethane	50.0	42.9		ug/L		86	67 - 126	0	20
Bromoform	50.0	45.3		ug/L		91	57 - 125	1	20
Bromomethane	50.0	61.1		ug/L		122	25 - 163	3	40
Carbon disulfide	50.0	42.3		ug/L		85	56 - 128	5	20
Carbon tetrachloride	50.0	42.5		ug/L		85	60 - 133	7	20
Chlorobenzene	50.0	45.9		ug/L		92	78 - 118	2	20
Chloroethane	50.0	41.9		ug/L		84	52 - 144	10	30
Chloroform	50.0	43.4		ug/L		87	68 - 128	3	20
Chloromethane	50.0	43.4		ug/L		87	43 - 142	1	20
cis-1,2-Dichloroethene	50.0	44.8		ug/L		90	69 - 126	2	20
cis-1,3-Dichloropropene	50.0	42.8		ug/L		86	75 - 120	0	20
Dibromochloromethane	50.0	46.3		ug/L		93	71 - 122	1	20
Dibromomethane	50.0	45.3		ug/L		91	68 - 129	1	20
Dichlorodifluoromethane	50.0	50.6		ug/L		101	26 - 152	6	21
Ethylbenzene	50.0	45.6		ug/L		91	76 - 121	3	20
Hexachlorobutadiene	50.0	48.9		ug/L		98	69 - 133	8	20
Isopropylbenzene	50.0	44.0		ug/L		88	70 - 127	6	20
Methylene Chloride	50.0	44.2		ug/L		88	64 - 128	2	20
m-Xylene & p-Xylene	50.0	46.3		ug/L		93	76 - 122	4	20
Naphthalene	50.0	39.6		ug/L		79	63 - 129	0	21
n-Butylbenzene	50.0	45.9		ug/L		92	69 - 130	6	20
N-Propylbenzene	50.0	45.2		ug/L		90	73 - 127	6	20
o-Xylene	50.0	45.9		ug/L		92	77 - 120	3	20
sec-Butylbenzene	50.0	46.1		ug/L		92	72 - 127	7	20
Styrene	50.0	45.9		ug/L		92	79 - 120	2	20
tert-Butylbenzene	50.0	45.8		ug/L		92	72 - 126	8	20
Tetrachloroethene	50.0	47.1		ug/L		94	72 - 127	5	20
Toluene	50.0	44.8		ug/L		90	68 - 127	5	20
trans-1,2-Dichloroethene	50.0	44.1		ug/L		88	66 - 129	5	20
trans-1,3-Dichloropropene	50.0	42.1		ug/L		84	66 - 127	1	20
Trichloroethene	50.0	44.1		ug/L		88	70 - 125	4	20
Trichlorofluoromethane	50.0	47.5		ug/L		95	57 - 144	7	28
Vinyl chloride	50.0	47.3		ug/L		95	53 - 141	1	25

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	92		70 - 127
4-Bromofluorobenzene (Surr)	93		78 - 120

# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 280-609568/4  
 Matrix: Water  
 Analysis Batch: 609568

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Surrogate	LCS D %Recovery	LCS D Qualifier	Limits
Dibromofluoromethane (Surr)	100		77 - 120
Toluene-d8 (Surr)	100		80 - 125

## Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 280-608297/1-A  
 Matrix: Water  
 Analysis Batch: 608553

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 608297

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.0	0.50	ug/L		04/12/23 08:05	04/12/23 17:06	1

Lab Sample ID: LCS 280-608297/2-A  
 Matrix: Water  
 Analysis Batch: 608553

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 608297

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	40.0	39.0		ug/L		98	89 - 111

Lab Sample ID: 280-174814-10 MS  
 Matrix: Water  
 Analysis Batch: 608553

Client Sample ID: VLF-230407-11  
 Prep Type: Total/NA  
 Prep Batch: 608297

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	ND		40.0	39.1		ug/L		98	79 - 120

Lab Sample ID: 280-174814-10 MSD  
 Matrix: Water  
 Analysis Batch: 608553

Client Sample ID: VLF-230407-11  
 Prep Type: Total/NA  
 Prep Batch: 608297

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Arsenic	ND		40.0	39.9		ug/L		100	79 - 120	2	20

Lab Sample ID: 280-174814-20 MS  
 Matrix: Water  
 Analysis Batch: 608553

Client Sample ID: VLF-230408-20  
 Prep Type: Total/NA  
 Prep Batch: 608297

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	ND		40.0	39.2		ug/L		98	79 - 120

Lab Sample ID: 280-174814-20 MSD  
 Matrix: Water  
 Analysis Batch: 608553

Client Sample ID: VLF-230408-20  
 Prep Type: Total/NA  
 Prep Batch: 608297

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Arsenic	ND		40.0	39.3		ug/L		98	79 - 120	0	20

# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: MB 280-608367/1-A**  
**Matrix: Water**  
**Analysis Batch: 608553**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 608367**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.0	0.50	ug/L		04/12/23 14:38	04/13/23 00:15	1

**Lab Sample ID: LCS 280-608367/2-A**  
**Matrix: Water**  
**Analysis Batch: 608553**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 608367**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	40.0	36.9		ug/L		92	89 - 111

**Lab Sample ID: LCSD 280-608367/3-A**  
**Matrix: Water**  
**Analysis Batch: 608553**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 608367**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	40.0	35.7		ug/L		89	89 - 111	3	20

**Lab Sample ID: 280-174839-A-14-B MS**  
**Matrix: Water**  
**Analysis Batch: 608553**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 608367**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	ND		40.0	36.2		ug/L		91	79 - 120

**Lab Sample ID: 280-174839-A-14-C MSD**  
**Matrix: Water**  
**Analysis Batch: 608553**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 608367**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	ND		40.0	37.3		ug/L		93	79 - 120	3	20

## Method: 6010B - Dissolved Metals

**Lab Sample ID: MB 280-608293/1-A**  
**Matrix: Water**  
**Analysis Batch: 608938**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 608293**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	41.4	J	200	24	ug/L		04/12/23 08:05	04/15/23 11:05	1
Iron	ND		100	9.1	ug/L		04/12/23 08:05	04/15/23 11:05	1
Magnesium	ND		200	4.2	ug/L		04/12/23 08:05	04/15/23 11:05	1
Manganese	ND		5.0	0.45	ug/L		04/12/23 08:05	04/15/23 11:05	1
Sodium	ND		1000	97	ug/L		04/12/23 08:05	04/15/23 11:05	1

**Lab Sample ID: LCS 280-608293/2-A**  
**Matrix: Water**  
**Analysis Batch: 608938**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 608293**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	10000	10500		ug/L		105	90 - 111
Iron	5000	5150		ug/L		103	89 - 115

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: 6010B - Dissolved Metals (Continued)

**Lab Sample ID: LCS 280-608293/2-A**  
**Matrix: Water**  
**Analysis Batch: 608938**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 608293**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Magnesium	40000	41900		ug/L		105	90 - 113
Manganese	1000	1000		ug/L		100	90 - 110
Sodium	50000	53000		ug/L		106	90 - 115

**Lab Sample ID: 280-174814-2 MS**  
**Matrix: Water**  
**Analysis Batch: 608938**

**Client Sample ID: VLF-230407-2**  
**Prep Type: Dissolved**  
**Prep Batch: 608293**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	91000	B	10000	102000	4	ug/L		109	48 - 153
Iron	2900		5000	8170		ug/L		105	52 - 155
Magnesium	39000		40000	81700		ug/L		106	62 - 146
Manganese	9500		1000	10500	4	ug/L		105	79 - 121
Sodium	40000		50000	97600		ug/L		115	70 - 203

**Lab Sample ID: 280-174814-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 608938**

**Client Sample ID: VLF-230407-2**  
**Prep Type: Dissolved**  
**Prep Batch: 608293**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Calcium	91000	B	10000	106000	4	ug/L		142	48 - 153	3	20
Iron	2900		5000	8380		ug/L		109	52 - 155	2	20
Magnesium	39000		40000	83500		ug/L		110	62 - 146	2	20
Manganese	9500		1000	10900	4	ug/L		138	79 - 121	3	20
Sodium	40000		50000	100000		ug/L		120	70 - 203	2	20

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 280-609899/48**  
**Matrix: Water**  
**Analysis Batch: 609899**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			04/24/23 23:27	1

**Lab Sample ID: LCS 280-609899/46**  
**Matrix: Water**  
**Analysis Batch: 609899**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	47.1		mg/L		94	90 - 110

**Lab Sample ID: LCSD 280-609899/47**  
**Matrix: Water**  
**Analysis Batch: 609899**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Chloride	50.0	47.1		mg/L		94	90 - 110	0	10

# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

**Lab Sample ID: MRL 280-609899/3**  
**Matrix: Water**  
**Analysis Batch: 609899**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	2.50	2.05	J	mg/L		82	50 - 150

**Lab Sample ID: 280-174810-A-3 MS**  
**Matrix: Water**  
**Analysis Batch: 609899**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	3.1		50.0	49.7		mg/L		93	80 - 120

**Lab Sample ID: 280-174810-A-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 609899**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3.1		50.0	52.7		mg/L		99	80 - 120	6	20

**Lab Sample ID: 280-174810-A-3 DU**  
**Matrix: Water**  
**Analysis Batch: 609899**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	3.1		3.19		mg/L		2	15

**Lab Sample ID: MB 280-610035/48**  
**Matrix: Water**  
**Analysis Batch: 610035**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			04/25/23 22:37	1

**Lab Sample ID: MB 280-610035/6**  
**Matrix: Water**  
**Analysis Batch: 610035**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			04/25/23 12:57	1

**Lab Sample ID: LCS 280-610035/4**  
**Matrix: Water**  
**Analysis Batch: 610035**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	47.3		mg/L		95	90 - 110

**Lab Sample ID: LCS 280-610035/46**  
**Matrix: Water**  
**Analysis Batch: 610035**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	47.3		mg/L		95	90 - 110

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: LCSD 280-610035/47**  
**Matrix: Water**  
**Analysis Batch: 610035**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	50.0	47.2		mg/L		94	90 - 110	0	10

**Lab Sample ID: LCSD 280-610035/5**  
**Matrix: Water**  
**Analysis Batch: 610035**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	50.0	47.3		mg/L		95	90 - 110	0	10

**Lab Sample ID: MRL 280-610035/3**  
**Matrix: Water**  
**Analysis Batch: 610035**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	2.50	2.06	J	mg/L		82	50 - 150		

**Lab Sample ID: MB 280-610184/6**  
**Matrix: Water**  
**Analysis Batch: 610184**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			04/26/23 12:08	1

**Lab Sample ID: LCS 280-610184/4**  
**Matrix: Water**  
**Analysis Batch: 610184**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	50.0	47.0		mg/L		94	90 - 110		

**Lab Sample ID: LCSD 280-610184/5**  
**Matrix: Water**  
**Analysis Batch: 610184**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	50.0	47.1		mg/L		94	90 - 110	0	10

**Lab Sample ID: MRL 280-610184/3**  
**Matrix: Water**  
**Analysis Batch: 610184**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	2.50	2.11	J	mg/L		85	50 - 150		



# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SM 2320B - Alkalinity

**Lab Sample ID: MB 280-608534/31**  
**Matrix: Water**  
**Analysis Batch: 608534**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	3.80	J	10	3.1	mg/L			04/12/23 14:21	1

**Lab Sample ID: MB 280-608534/5**  
**Matrix: Water**  
**Analysis Batch: 608534**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	ND		10	3.1	mg/L			04/12/23 11:09	1

**Lab Sample ID: 280-174814-13 DU**  
**Matrix: Water**  
**Analysis Batch: 608534**

**Client Sample ID: VLF-230407-13**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	Prepared	RPD	RPD Limit
Bicarbonate Alkalinity as CaCO3	860	B	864		mg/L			0	20

## Method: SM 2540C - Solids, Total Dissolved (TDS)

**Lab Sample ID: MB 280-608481/1**  
**Matrix: Water**  
**Analysis Batch: 608481**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	4.7	mg/L			04/12/23 15:10	1

**Lab Sample ID: LCS 280-608481/2**  
**Matrix: Water**  
**Analysis Batch: 608481**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	504	512		mg/L		102	88 - 114

**Lab Sample ID: 280-174718-A-1 DU**  
**Matrix: Water**  
**Analysis Batch: 608481**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	Prepared	RPD	RPD Limit
Total Dissolved Solids	1300		1260		mg/L			4	10

**Lab Sample ID: MB 280-608599/1**  
**Matrix: Water**  
**Analysis Batch: 608599**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	4.7	mg/L			04/13/23 12:50	1

# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

**Lab Sample ID: LCS 280-608599/2**  
**Matrix: Water**  
**Analysis Batch: 608599**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	504	446		mg/L		89	88 - 114

**Lab Sample ID: 280-174811-P-1 DU**  
**Matrix: Water**  
**Analysis Batch: 608599**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	5500		5700		mg/L		4	10

## Method: SM 2540D - Solids, Total Suspended (TSS)

**Lab Sample ID: MB 280-608507/2**  
**Matrix: Water**  
**Analysis Batch: 608507**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			04/12/23 17:39	1

**Lab Sample ID: LCS 280-608507/1**  
**Matrix: Water**  
**Analysis Batch: 608507**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	501	468		mg/L		93	79 - 114

**Lab Sample ID: 280-174652-A-1 DU**  
**Matrix: Water**  
**Analysis Batch: 608507**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	4.0		4.00		mg/L		0	10

**Lab Sample ID: MB 280-608627/2**  
**Matrix: Water**  
**Analysis Batch: 608627**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			04/13/23 14:40	1

**Lab Sample ID: LCS 280-608627/1**  
**Matrix: Water**  
**Analysis Batch: 608627**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	501	453		mg/L		91	79 - 114

# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

**Lab Sample ID: 280-174855-A-2 DU**  
**Matrix: Water**  
**Analysis Batch: 608627**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	76		74.4		mg/L	-	2	10

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# QC Association Summary

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## GC/MS VOA

### Analysis Batch: 609367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174814-1	VLf-230407-1	Total/NA	Water	8260B	
280-174814-2	VLf-230407-2	Total/NA	Water	8260B	
280-174814-3	VLf-230407-3	Total/NA	Water	8260B	
280-174814-4	VLf-230407-5	Total/NA	Water	8260B	
280-174814-5	VLf-230407-6	Total/NA	Water	8260B	
280-174814-6	VLf-230407-7	Total/NA	Water	8260B	
280-174814-7	VLf-230407-8	Total/NA	Water	8260B	
280-174814-8	VLf-230407-9	Total/NA	Water	8260B	
280-174814-9	VLf-230407-10	Total/NA	Water	8260B	
280-174814-10	VLf-230407-11	Total/NA	Water	8260B	
280-174814-12	VLf-230407-12	Total/NA	Water	8260B	
280-174814-13	VLf-230407-13	Total/NA	Water	8260B	
280-174814-14	VLf-230407-14	Total/NA	Water	8260B	
280-174814-15	VLf-230407-15	Total/NA	Water	8260B	
MB 280-609367/7	Method Blank	Total/NA	Water	8260B	
LCS 280-609367/1002	Lab Control Sample	Total/NA	Water	8260B	
LCSD 280-609367/4	Lab Control Sample Dup	Total/NA	Water	8260B	

### Analysis Batch: 609396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174814-16	VLf-230408-16	Total/NA	Water	8260B	
280-174814-17	VLf-230408-17	Total/NA	Water	8260B	
280-174814-18	VLf-230408-18	Total/NA	Water	8260B	
280-174814-19	VLf-230408-19	Total/NA	Water	8260B	
MB 280-609396/7	Method Blank	Total/NA	Water	8260B	
LCS 280-609396/1002	Lab Control Sample	Total/NA	Water	8260B	
LCSD 280-609396/4	Lab Control Sample Dup	Total/NA	Water	8260B	

### Analysis Batch: 609568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174814-20	VLf-230408-20	Total/NA	Water	8260B	
MB 280-609568/7	Method Blank	Total/NA	Water	8260B	
LCS 280-609568/1002	Lab Control Sample	Total/NA	Water	8260B	
LCSD 280-609568/4	Lab Control Sample Dup	Total/NA	Water	8260B	

## Metals

### Prep Batch: 608293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174814-2	VLf-230407-2	Dissolved	Water	3005A	
280-174814-3	VLf-230407-3	Dissolved	Water	3005A	
280-174814-4	VLf-230407-5	Dissolved	Water	3005A	
280-174814-5	VLf-230407-6	Dissolved	Water	3005A	
280-174814-7	VLf-230407-8	Dissolved	Water	3005A	
280-174814-8	VLf-230407-9	Dissolved	Water	3005A	
280-174814-9	VLf-230407-10	Dissolved	Water	3005A	
280-174814-10	VLf-230407-11	Dissolved	Water	3005A	
280-174814-12	VLf-230407-12	Dissolved	Water	3005A	
280-174814-13	VLf-230407-13	Dissolved	Water	3005A	
280-174814-14	VLf-230407-14	Dissolved	Water	3005A	
280-174814-15	VLf-230407-15	Dissolved	Water	3005A	

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# QC Association Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Metals (Continued)

### Prep Batch: 608293 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174814-16	VLF-230408-16	Dissolved	Water	3005A	
280-174814-17	VLF-230408-17	Dissolved	Water	3005A	
280-174814-18	VLF-230408-18	Dissolved	Water	3005A	
280-174814-19	VLF-230408-19	Dissolved	Water	3005A	
280-174814-20	VLF-230408-20	Dissolved	Water	3005A	
MB 280-608293/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-608293/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-174814-2 MS	VLF-230407-2	Dissolved	Water	3005A	
280-174814-2 MSD	VLF-230407-2	Dissolved	Water	3005A	

### Prep Batch: 608297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174814-2	VLF-230407-2	Total/NA	Water	200.8	
280-174814-3	VLF-230407-3	Total/NA	Water	200.8	
280-174814-4	VLF-230407-5	Total/NA	Water	200.8	
280-174814-5	VLF-230407-6	Total/NA	Water	200.8	
280-174814-7	VLF-230407-8	Total/NA	Water	200.8	
280-174814-8	VLF-230407-9	Total/NA	Water	200.8	
280-174814-9	VLF-230407-10	Total/NA	Water	200.8	
280-174814-10	VLF-230407-11	Total/NA	Water	200.8	
280-174814-12	VLF-230407-12	Total/NA	Water	200.8	
280-174814-13	VLF-230407-13	Total/NA	Water	200.8	
280-174814-14	VLF-230407-14	Total/NA	Water	200.8	
280-174814-15	VLF-230407-15	Total/NA	Water	200.8	
280-174814-16	VLF-230408-16	Total/NA	Water	200.8	
280-174814-17	VLF-230408-17	Total/NA	Water	200.8	
280-174814-18	VLF-230408-18	Total/NA	Water	200.8	
280-174814-19	VLF-230408-19	Total/NA	Water	200.8	
280-174814-20	VLF-230408-20	Total/NA	Water	200.8	
MB 280-608297/1-A	Method Blank	Total/NA	Water	3005A	
LCS 280-608297/2-A	Lab Control Sample	Total/NA	Water	3005A	
280-174814-10 MS	VLF-230407-11	Total/NA	Water	200.8	
280-174814-10 MSD	VLF-230407-11	Total/NA	Water	200.8	
280-174814-20 MS	VLF-230408-20	Total/NA	Water	200.8	
280-174814-20 MSD	VLF-230408-20	Total/NA	Water	200.8	

### Prep Batch: 608367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174814-6	VLF-230407-7	Total/NA	Water	200.8	
MB 280-608367/1-A	Method Blank	Total/NA	Water	3005A	
LCS 280-608367/2-A	Lab Control Sample	Total/NA	Water	3005A	
LCSD 280-608367/3-A	Lab Control Sample Dup	Total/NA	Water	3005A	
280-174839-A-14-B MS	Matrix Spike	Total/NA	Water	3005A	
280-174839-A-14-C MSD	Matrix Spike Duplicate	Total/NA	Water	3005A	

### Prep Batch: 608398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174814-6	VLF-230407-7	Dissolved	Water	3005A	

# QC Association Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Metals

### Analysis Batch: 608553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174814-2	VLf-230407-2	Total/NA	Water	200.8	608297
280-174814-3	VLf-230407-3	Total/NA	Water	200.8	608297
280-174814-4	VLf-230407-5	Total/NA	Water	200.8	608297
280-174814-5	VLf-230407-6	Total/NA	Water	200.8	608297
280-174814-6	VLf-230407-7	Total/NA	Water	200.8	608367
280-174814-7	VLf-230407-8	Total/NA	Water	200.8	608297
280-174814-8	VLf-230407-9	Total/NA	Water	200.8	608297
280-174814-9	VLf-230407-10	Total/NA	Water	200.8	608297
280-174814-10	VLf-230407-11	Total/NA	Water	200.8	608297
280-174814-12	VLf-230407-12	Total/NA	Water	200.8	608297
280-174814-13	VLf-230407-13	Total/NA	Water	200.8	608297
280-174814-14	VLf-230407-14	Total/NA	Water	200.8	608297
280-174814-15	VLf-230407-15	Total/NA	Water	200.8	608297
280-174814-16	VLf-230408-16	Total/NA	Water	200.8	608297
280-174814-17	VLf-230408-17	Total/NA	Water	200.8	608297
280-174814-18	VLf-230408-18	Total/NA	Water	200.8	608297
280-174814-19	VLf-230408-19	Total/NA	Water	200.8	608297
280-174814-20	VLf-230408-20	Total/NA	Water	200.8	608297
MB 280-608297/1-A	Method Blank	Total/NA	Water	200.8	608297
MB 280-608367/1-A	Method Blank	Total/NA	Water	200.8	608367
LCS 280-608297/2-A	Lab Control Sample	Total/NA	Water	200.8	608297
LCS 280-608367/2-A	Lab Control Sample	Total/NA	Water	200.8	608367
LCSD 280-608367/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	608367
280-174814-10 MS	VLf-230407-11	Total/NA	Water	200.8	608297
280-174814-10 MSD	VLf-230407-11	Total/NA	Water	200.8	608297
280-174814-20 MS	VLf-230408-20	Total/NA	Water	200.8	608297
280-174814-20 MSD	VLf-230408-20	Total/NA	Water	200.8	608297
280-174839-A-14-B MS	Matrix Spike	Total/NA	Water	200.8	608367
280-174839-A-14-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	608367

### Analysis Batch: 608928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174814-6	VLf-230407-7	Dissolved	Water	6010B	608398

### Analysis Batch: 608938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174814-2	VLf-230407-2	Dissolved	Water	6010B	608293
280-174814-3	VLf-230407-3	Dissolved	Water	6010B	608293
280-174814-4	VLf-230407-5	Dissolved	Water	6010B	608293
280-174814-5	VLf-230407-6	Dissolved	Water	6010B	608293
280-174814-7	VLf-230407-8	Dissolved	Water	6010B	608293
280-174814-8	VLf-230407-9	Dissolved	Water	6010B	608293
280-174814-9	VLf-230407-10	Dissolved	Water	6010B	608293
280-174814-10	VLf-230407-11	Dissolved	Water	6010B	608293
280-174814-12	VLf-230407-12	Dissolved	Water	6010B	608293
280-174814-13	VLf-230407-13	Dissolved	Water	6010B	608293
280-174814-14	VLf-230407-14	Dissolved	Water	6010B	608293
280-174814-15	VLf-230407-15	Dissolved	Water	6010B	608293
280-174814-16	VLf-230408-16	Dissolved	Water	6010B	608293
280-174814-17	VLf-230408-17	Dissolved	Water	6010B	608293
280-174814-18	VLf-230408-18	Dissolved	Water	6010B	608293

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# QC Association Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Metals (Continued)

### Analysis Batch: 608938 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174814-19	VLF-230408-19	Dissolved	Water	6010B	608293
280-174814-20	VLF-230408-20	Dissolved	Water	6010B	608293
MB 280-608293/1-A	Method Blank	Total Recoverable	Water	6010B	608293
LCS 280-608293/2-A	Lab Control Sample	Total Recoverable	Water	6010B	608293
280-174814-2 MS	VLF-230407-2	Dissolved	Water	6010B	608293
280-174814-2 MSD	VLF-230407-2	Dissolved	Water	6010B	608293

### Analysis Batch: 609174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174814-6	VLF-230407-7	Dissolved	Water	6010B	608398

## General Chemistry

### Analysis Batch: 608481

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174814-2	VLF-230407-2	Total/NA	Water	SM 2540C	
280-174814-3	VLF-230407-3	Total/NA	Water	SM 2540C	
280-174814-4	VLF-230407-5	Total/NA	Water	SM 2540C	
280-174814-5	VLF-230407-6	Total/NA	Water	SM 2540C	
280-174814-6	VLF-230407-7	Total/NA	Water	SM 2540C	
280-174814-7	VLF-230407-8	Total/NA	Water	SM 2540C	
MB 280-608481/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-608481/2	Lab Control Sample	Total/NA	Water	SM 2540C	
280-174718-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

### Analysis Batch: 608507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174814-2	VLF-230407-2	Total/NA	Water	SM 2540D	
280-174814-3	VLF-230407-3	Total/NA	Water	SM 2540D	
280-174814-4	VLF-230407-5	Total/NA	Water	SM 2540D	
280-174814-5	VLF-230407-6	Total/NA	Water	SM 2540D	
280-174814-6	VLF-230407-7	Total/NA	Water	SM 2540D	
280-174814-7	VLF-230407-8	Total/NA	Water	SM 2540D	
280-174814-8	VLF-230407-9	Total/NA	Water	SM 2540D	
280-174814-9	VLF-230407-10	Total/NA	Water	SM 2540D	
280-174814-10	VLF-230407-11	Total/NA	Water	SM 2540D	
280-174814-12	VLF-230407-12	Total/NA	Water	SM 2540D	
280-174814-13	VLF-230407-13	Total/NA	Water	SM 2540D	
MB 280-608507/2	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-608507/1	Lab Control Sample	Total/NA	Water	SM 2540D	
280-174652-A-1 DU	Duplicate	Total/NA	Water	SM 2540D	

### Analysis Batch: 608534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174814-2	VLF-230407-2	Total/NA	Water	SM 2320B	
280-174814-3	VLF-230407-3	Total/NA	Water	SM 2320B	
280-174814-4	VLF-230407-5	Total/NA	Water	SM 2320B	
280-174814-5	VLF-230407-6	Total/NA	Water	SM 2320B	
280-174814-6	VLF-230407-7	Total/NA	Water	SM 2320B	
280-174814-7	VLF-230407-8	Total/NA	Water	SM 2320B	
280-174814-8	VLF-230407-9	Total/NA	Water	SM 2320B	

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# QC Association Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## General Chemistry (Continued)

### Analysis Batch: 608534 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174814-9	VLF-230407-10	Total/NA	Water	SM 2320B	
280-174814-10	VLF-230407-11	Total/NA	Water	SM 2320B	
280-174814-12	VLF-230407-12	Total/NA	Water	SM 2320B	
280-174814-13	VLF-230407-13	Total/NA	Water	SM 2320B	
280-174814-14	VLF-230407-14	Total/NA	Water	SM 2320B	
280-174814-15	VLF-230407-15	Total/NA	Water	SM 2320B	
280-174814-16	VLF-230408-16	Total/NA	Water	SM 2320B	
280-174814-17	VLF-230408-17	Total/NA	Water	SM 2320B	
280-174814-18	VLF-230408-18	Total/NA	Water	SM 2320B	
280-174814-19	VLF-230408-19	Total/NA	Water	SM 2320B	
280-174814-20	VLF-230408-20	Total/NA	Water	SM 2320B	
MB 280-608534/31	Method Blank	Total/NA	Water	SM 2320B	
MB 280-608534/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-608534/30	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 280-608534/4	Lab Control Sample	Total/NA	Water	SM 2320B	
280-174814-13 DU	VLF-230407-13	Total/NA	Water	SM 2320B	

### Analysis Batch: 608599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174814-8	VLF-230407-9	Total/NA	Water	SM 2540C	
280-174814-9	VLF-230407-10	Total/NA	Water	SM 2540C	
280-174814-10	VLF-230407-11	Total/NA	Water	SM 2540C	
280-174814-12	VLF-230407-12	Total/NA	Water	SM 2540C	
280-174814-13	VLF-230407-13	Total/NA	Water	SM 2540C	
280-174814-14	VLF-230407-14	Total/NA	Water	SM 2540C	
280-174814-15	VLF-230407-15	Total/NA	Water	SM 2540C	
280-174814-16	VLF-230408-16	Total/NA	Water	SM 2540C	
280-174814-17	VLF-230408-17	Total/NA	Water	SM 2540C	
280-174814-18	VLF-230408-18	Total/NA	Water	SM 2540C	
280-174814-19	VLF-230408-19	Total/NA	Water	SM 2540C	
280-174814-20	VLF-230408-20	Total/NA	Water	SM 2540C	
MB 280-608599/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-608599/2	Lab Control Sample	Total/NA	Water	SM 2540C	
280-174811-P-1 DU	Duplicate	Total/NA	Water	SM 2540C	

### Analysis Batch: 608627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174814-14	VLF-230407-14	Total/NA	Water	SM 2540D	
280-174814-15	VLF-230407-15	Total/NA	Water	SM 2540D	
280-174814-16	VLF-230408-16	Total/NA	Water	SM 2540D	
280-174814-17	VLF-230408-17	Total/NA	Water	SM 2540D	
280-174814-18	VLF-230408-18	Total/NA	Water	SM 2540D	
280-174814-19	VLF-230408-19	Total/NA	Water	SM 2540D	
280-174814-20	VLF-230408-20	Total/NA	Water	SM 2540D	
MB 280-608627/2	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-608627/1	Lab Control Sample	Total/NA	Water	SM 2540D	
280-174855-A-2 DU	Duplicate	Total/NA	Water	SM 2540D	

### Analysis Batch: 609899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174814-2	VLF-230407-2	Total/NA	Water	300.0	



# QC Association Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## General Chemistry (Continued)

### Analysis Batch: 609899 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174814-3	VLf-230407-3	Total/NA	Water	300.0	
280-174814-4	VLf-230407-5	Total/NA	Water	300.0	
280-174814-5	VLf-230407-6	Total/NA	Water	300.0	
MB 280-609899/48	Method Blank	Total/NA	Water	300.0	
LCS 280-609899/46	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-609899/47	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-609899/3	Lab Control Sample	Total/NA	Water	300.0	
280-174810-A-3 MS	Matrix Spike	Total/NA	Water	300.0	
280-174810-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
280-174810-A-3 DU	Duplicate	Total/NA	Water	300.0	

### Analysis Batch: 610035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174814-6	VLf-230407-7	Total/NA	Water	300.0	
280-174814-8	VLf-230407-9	Total/NA	Water	300.0	
280-174814-15	VLf-230407-15	Total/NA	Water	300.0	
280-174814-16	VLf-230408-16	Total/NA	Water	300.0	
280-174814-17	VLf-230408-17	Total/NA	Water	300.0	
280-174814-18	VLf-230408-18	Total/NA	Water	300.0	
280-174814-19	VLf-230408-19	Total/NA	Water	300.0	
280-174814-20	VLf-230408-20	Total/NA	Water	300.0	
MB 280-610035/48	Method Blank	Total/NA	Water	300.0	
MB 280-610035/6	Method Blank	Total/NA	Water	300.0	
LCS 280-610035/4	Lab Control Sample	Total/NA	Water	300.0	
LCS 280-610035/46	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-610035/47	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 280-610035/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-610035/3	Lab Control Sample	Total/NA	Water	300.0	

### Analysis Batch: 610184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174814-7	VLf-230407-8	Total/NA	Water	300.0	
280-174814-9	VLf-230407-10	Total/NA	Water	300.0	
280-174814-10	VLf-230407-11	Total/NA	Water	300.0	
280-174814-12	VLf-230407-12	Total/NA	Water	300.0	
280-174814-13	VLf-230407-13	Total/NA	Water	300.0	
280-174814-14	VLf-230407-14	Total/NA	Water	300.0	
MB 280-610184/6	Method Blank	Total/NA	Water	300.0	
LCS 280-610184/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-610184/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-610184/3	Lab Control Sample	Total/NA	Water	300.0	

# Lab Chronicle

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

**Client Sample ID: VLF-230407-1**

**Lab Sample ID: 280-174814-1**

**Date Collected: 04/07/23 08:10**

**Matrix: Water**

**Date Received: 04/11/23 09:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	609367	04/20/23 00:43	BMJ	EET DEN

**Client Sample ID: VLF-230407-2**

**Lab Sample ID: 280-174814-2**

**Date Collected: 04/07/23 08:45**

**Matrix: Water**

**Date Received: 04/11/23 09:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	609367	04/20/23 01:05	BMJ	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	608297	04/12/23 08:05	LJS	EET DEN
Total/NA	Analysis	200.8		1			608553	04/12/23 17:13	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	608293	04/12/23 08:05	LJS	EET DEN
Dissolved	Analysis	6010B		1			608938	04/15/23 11:13	ADL	EET DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	609899	04/25/23 05:49	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			608534	04/12/23 12:41	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	608481	04/12/23 15:11	MCR	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	608507	04/12/23 17:39	MCR	EET DEN

**Client Sample ID: VLF-230407-3**

**Lab Sample ID: 280-174814-3**

**Date Collected: 04/07/23 09:38**

**Matrix: Water**

**Date Received: 04/11/23 09:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	609367	04/20/23 01:27	BMJ	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	608297	04/12/23 08:05	LJS	EET DEN
Total/NA	Analysis	200.8		1			608553	04/12/23 17:17	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	608293	04/12/23 08:05	LJS	EET DEN
Dissolved	Analysis	6010B		1			608938	04/15/23 11:46	ADL	EET DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	609899	04/25/23 06:01	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			608534	04/12/23 12:47	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	608481	04/12/23 15:11	MCR	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	608507	04/12/23 17:39	MCR	EET DEN

**Client Sample ID: VLF-230407-5**

**Lab Sample ID: 280-174814-4**

**Date Collected: 04/07/23 10:20**

**Matrix: Water**

**Date Received: 04/11/23 09:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	609367	04/20/23 01:49	BMJ	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	608297	04/12/23 08:05	LJS	EET DEN
Total/NA	Analysis	200.8		1			608553	04/12/23 17:20	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	608293	04/12/23 08:05	LJS	EET DEN
Dissolved	Analysis	6010B		1			608938	04/15/23 11:50	ADL	EET DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	609899	04/25/23 06:13	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			608534	04/12/23 12:53	KEG	EET DEN

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# Lab Chronicle

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

**Client Sample ID: VLF-230407-5**

**Lab Sample ID: 280-174814-4**

**Date Collected: 04/07/23 10:20**

**Matrix: Water**

**Date Received: 04/11/23 09:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	608481	04/12/23 15:11	MCR	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	608507	04/12/23 17:39	MCR	EET DEN

**Client Sample ID: VLF-230407-6**

**Lab Sample ID: 280-174814-5**

**Date Collected: 04/07/23 11:18**

**Matrix: Water**

**Date Received: 04/11/23 09:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	609367	04/20/23 02:11	BMJ	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	608297	04/12/23 08:05	LJS	EET DEN
Total/NA	Analysis	200.8		1			608553	04/12/23 17:24	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	608293	04/12/23 08:05	LJS	EET DEN
Dissolved	Analysis	6010B		1			608938	04/15/23 11:54	ADL	EET DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	609899	04/25/23 06:25	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			608534	04/12/23 12:59	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	608481	04/12/23 15:11	MCR	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	608507	04/12/23 17:39	MCR	EET DEN

**Client Sample ID: VLF-230407-7**

**Lab Sample ID: 280-174814-6**

**Date Collected: 04/07/23 12:10**

**Matrix: Water**

**Date Received: 04/11/23 09:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	5 mL	5 mL	609367	04/20/23 05:30	BMJ	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	608367	04/12/23 14:38	LJS	EET DEN
Total/NA	Analysis	200.8		1			608553	04/13/23 01:26	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	608398	04/13/23 07:56	LJS	EET DEN
Dissolved	Analysis	6010B		1			608928	04/15/23 01:09	ADL	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	608398	04/13/23 07:56	LJS	EET DEN
Dissolved	Analysis	6010B		5			609174	04/17/23 22:31	KRP	EET DEN
Total/NA	Analysis	300.0		50	5 mL	5 mL	610035	04/25/23 20:25	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			608534	04/12/23 13:12	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	608481	04/12/23 15:11	MCR	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	608507	04/12/23 17:39	MCR	EET DEN

**Client Sample ID: VLF-230407-8**

**Lab Sample ID: 280-174814-7**

**Date Collected: 04/07/23 12:45**

**Matrix: Water**

**Date Received: 04/11/23 09:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	609367	04/20/23 02:33	BMJ	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	608297	04/12/23 08:05	LJS	EET DEN
Total/NA	Analysis	200.8		1			608553	04/12/23 17:27	LMT	EET DEN

# Lab Chronicle

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

## Client Sample ID: VLF-230407-8

## Lab Sample ID: 280-174814-7

Date Collected: 04/07/23 12:45

Matrix: Water

Date Received: 04/11/23 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	608293	04/12/23 08:05	LJS	EET DEN
Dissolved	Analysis	6010B		1			608938	04/15/23 11:58	ADL	EET DEN
Total/NA	Analysis	300.0		5	5 mL	5 mL	610184	04/26/23 17:47	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			608534	04/12/23 13:20	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	608481	04/12/23 15:11	MCR	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	608507	04/12/23 17:39	MCR	EET DEN

## Client Sample ID: VLF-230407-9

## Lab Sample ID: 280-174814-8

Date Collected: 04/07/23 13:15

Matrix: Water

Date Received: 04/11/23 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	609367	04/20/23 02:55	BMJ	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	608297	04/12/23 08:05	LJS	EET DEN
Total/NA	Analysis	200.8		1			608553	04/12/23 17:31	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	608293	04/12/23 08:05	LJS	EET DEN
Dissolved	Analysis	6010B		1			608938	04/15/23 12:02	ADL	EET DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	610035	04/25/23 21:49	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			608534	04/12/23 13:26	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	608599	04/13/23 12:50	MCR	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	608507	04/12/23 17:39	MCR	EET DEN

## Client Sample ID: VLF-230407-10

## Lab Sample ID: 280-174814-9

Date Collected: 04/07/23 14:00

Matrix: Water

Date Received: 04/11/23 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	609367	04/20/23 03:17	BMJ	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	608297	04/12/23 08:05	LJS	EET DEN
Total/NA	Analysis	200.8		1			608553	04/12/23 17:34	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	608293	04/12/23 08:05	LJS	EET DEN
Dissolved	Analysis	6010B		1			608938	04/15/23 12:06	ADL	EET DEN
Total/NA	Analysis	300.0		10	5 mL	5 mL	610184	04/26/23 17:58	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			608534	04/12/23 13:35	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	608599	04/13/23 12:50	MCR	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	608507	04/12/23 17:39	MCR	EET DEN

## Client Sample ID: VLF-230407-11

## Lab Sample ID: 280-174814-10

Date Collected: 04/07/23 14:05

Matrix: Water

Date Received: 04/11/23 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	609367	04/20/23 03:39	BMJ	EET DEN

Eurofins Denver

# Lab Chronicle

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

**Client Sample ID: VLF-230407-11**

**Lab Sample ID: 280-174814-10**

**Date Collected: 04/07/23 14:05**

**Matrix: Water**

**Date Received: 04/11/23 09:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			50 mL	50 mL	608297	04/12/23 08:05	LJS	EET DEN
Total/NA	Analysis	200.8		1			608553	04/12/23 17:45	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	608293	04/12/23 08:05	LJS	EET DEN
Dissolved	Analysis	6010B		1			608938	04/15/23 12:10	ADL	EET DEN
Total/NA	Analysis	300.0		10	5 mL	5 mL	610184	04/26/23 18:10	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			608534	04/12/23 13:45	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	608599	04/13/23 12:50	MCR	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	608507	04/12/23 17:39	MCR	EET DEN

**Client Sample ID: VLF-230407-12**

**Lab Sample ID: 280-174814-12**

**Date Collected: 04/07/23 14:45**

**Matrix: Water**

**Date Received: 04/11/23 09:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	609367	04/20/23 04:01	BMJ	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	608297	04/12/23 08:05	LJS	EET DEN
Total/NA	Analysis	200.8		1			608553	04/12/23 17:56	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	608293	04/12/23 08:05	LJS	EET DEN
Dissolved	Analysis	6010B		1			608938	04/15/23 12:14	ADL	EET DEN
Total/NA	Analysis	300.0		2	5 mL	5 mL	610184	04/26/23 18:22	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			608534	04/12/23 13:53	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	608599	04/13/23 12:50	MCR	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	608507	04/12/23 17:39	MCR	EET DEN

**Client Sample ID: VLF-230407-13**

**Lab Sample ID: 280-174814-13**

**Date Collected: 04/07/23 15:30**

**Matrix: Water**

**Date Received: 04/11/23 09:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	609367	04/20/23 04:23	BMJ	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	608297	04/12/23 08:05	LJS	EET DEN
Total/NA	Analysis	200.8		1			608553	04/12/23 17:59	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	608293	04/12/23 08:05	LJS	EET DEN
Dissolved	Analysis	6010B		1			608938	04/15/23 12:34	ADL	EET DEN
Total/NA	Analysis	300.0		2	5 mL	5 mL	610184	04/26/23 18:34	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			608534	04/12/23 14:32	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	608599	04/13/23 12:50	MCR	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	608507	04/12/23 17:39	MCR	EET DEN

# Lab Chronicle

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

**Client Sample ID: VLF-230407-14**

**Lab Sample ID: 280-174814-14**

**Date Collected: 04/07/23 15:35**

**Matrix: Water**

**Date Received: 04/11/23 09:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	609367	04/20/23 04:45	BMJ	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	608297	04/12/23 08:05	LJS	EET DEN
Total/NA	Analysis	200.8		1			608553	04/12/23 18:03	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	608293	04/12/23 08:05	LJS	EET DEN
Dissolved	Analysis	6010B		1			608938	04/15/23 12:38	ADL	EET DEN
Total/NA	Analysis	300.0		2	5 mL	5 mL	610184	04/26/23 18:46	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			608534	04/12/23 14:53	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	608599	04/13/23 12:50	MCR	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	608627	04/13/23 14:40	MCR	EET DEN

**Client Sample ID: VLF-230407-15**

**Lab Sample ID: 280-174814-15**

**Date Collected: 04/07/23 16:18**

**Matrix: Water**

**Date Received: 04/11/23 09:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	609367	04/20/23 05:07	BMJ	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	608297	04/12/23 08:05	LJS	EET DEN
Total/NA	Analysis	200.8		1			608553	04/12/23 18:06	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	608293	04/12/23 08:05	LJS	EET DEN
Dissolved	Analysis	6010B		1			608938	04/15/23 12:42	ADL	EET DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	610035	04/26/23 00:36	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			608534	04/12/23 15:02	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	608599	04/13/23 12:50	MCR	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	608627	04/13/23 14:40	MCR	EET DEN

**Client Sample ID: VLF-230408-16**

**Lab Sample ID: 280-174814-16**

**Date Collected: 04/08/23 08:40**

**Matrix: Water**

**Date Received: 04/11/23 09:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	609396	04/20/23 11:53	DMC	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	608297	04/12/23 08:05	LJS	EET DEN
Total/NA	Analysis	200.8		1			608553	04/12/23 18:10	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	608293	04/12/23 08:05	LJS	EET DEN
Dissolved	Analysis	6010B		1			608938	04/15/23 12:46	ADL	EET DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	610035	04/26/23 00:48	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			608534	04/12/23 15:08	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	608599	04/13/23 12:50	MCR	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	608627	04/13/23 14:40	MCR	EET DEN

# Lab Chronicle

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

**Client Sample ID: VLF-230408-17**

**Lab Sample ID: 280-174814-17**

**Date Collected: 04/08/23 09:10**

**Matrix: Water**

**Date Received: 04/11/23 09:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	609396	04/20/23 12:15	DMC	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	608297	04/12/23 08:05	LJS	EET DEN
Total/NA	Analysis	200.8		1			608553	04/12/23 18:20	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	608293	04/12/23 08:05	LJS	EET DEN
Dissolved	Analysis	6010B		1			608938	04/15/23 12:50	ADL	EET DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	610035	04/26/23 01:00	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			608534	04/12/23 15:15	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	608599	04/13/23 12:50	MCR	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	608627	04/13/23 14:40	MCR	EET DEN

**Client Sample ID: VLF-230408-18**

**Lab Sample ID: 280-174814-18**

**Date Collected: 04/08/23 09:50**

**Matrix: Water**

**Date Received: 04/11/23 09:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	609396	04/20/23 12:37	DMC	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	608297	04/12/23 08:05	LJS	EET DEN
Total/NA	Analysis	200.8		1			608553	04/12/23 18:24	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	608293	04/12/23 08:05	LJS	EET DEN
Dissolved	Analysis	6010B		1			608938	04/15/23 12:55	ADL	EET DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	610035	04/26/23 01:12	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			608534	04/12/23 15:21	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	608599	04/13/23 12:50	MCR	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	608627	04/13/23 14:40	MCR	EET DEN

**Client Sample ID: VLF-230408-19**

**Lab Sample ID: 280-174814-19**

**Date Collected: 04/08/23 10:38**

**Matrix: Water**

**Date Received: 04/11/23 09:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	609396	04/20/23 12:59	DMC	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	608297	04/12/23 08:05	LJS	EET DEN
Total/NA	Analysis	200.8		1			608553	04/12/23 18:28	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	608293	04/12/23 08:05	LJS	EET DEN
Dissolved	Analysis	6010B		1			608938	04/15/23 12:59	ADL	EET DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	610035	04/26/23 01:24	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			608534	04/12/23 15:27	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	608599	04/13/23 12:50	MCR	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	608627	04/13/23 14:40	MCR	EET DEN

# Lab Chronicle

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174814-1

**Client Sample ID: VLF-230408-20**

**Lab Sample ID: 280-174814-20**

**Date Collected: 04/08/23 11:29**

**Matrix: Water**

**Date Received: 04/11/23 09:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	609568	04/21/23 18:32	DMC	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	608297	04/12/23 08:05	LJS	EET DEN
Total/NA	Analysis	200.8		1			608553	04/12/23 18:31	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	608293	04/12/23 08:05	LJS	EET DEN
Dissolved	Analysis	6010B		1			608938	04/15/23 13:03	ADL	EET DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	610035	04/26/23 01:36	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			608534	04/12/23 15:34	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	608599	04/13/23 12:50	MCR	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	608627	04/13/23 14:40	MCR	EET DEN

**Laboratory References:**

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100





# Chain of Custody Record

<b>Client Information</b>		Sample: <i>S Arpa</i>		Lab PM: Collins, Janice S		Carrier Tracking No(s):		COC No: 280-97564-22898.1	
Client Contact:		Phone:		E-Mail: Janice.Collins@et.eurofins.com				Page:	
Company: Valley Landfills, Inc. Republic Services		Due Date Requested:		Analysis Requested				Job #:	
Address: 28972 Coffin Butte Road		TAT Requested (days):		Biobar Air/C/TDS		6010B - Dissolved Metals (FF)		200.8 - Total Arsenic	
City: Corvallis		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		Field Filtered Sample (Yes or No)		2540D - TSS		8260B - VOCs	
State, Zip: OR, 97330		PO #: 503-675-1335(Tel)		Form MS/MSD (Yes or No)		200.8 - Total Arsenic		2540D - TSS	
Phone: 503-675-1335(Tel)		WO #: 280003197 "GW_SLCS_Leachate"		Matrix (W=water, S=solid, O=wastewater, BT=Tissue, A=Air)		200.8 - Total Arsenic		2540D - TSS	
Email:		Project #: 280003197 "GW_SLCS_Leachate"		Sample Type (C=Comp, G=grab)		6010B - Dissolved Metals (FF)		200.8 - Total Arsenic	
Project Name: Coffin Butte/Valley Landfills		SSOW#:		Sample Time		Biobar Air/C/TDS		200.8 - Total Arsenic	
Site: <i>Sawanna OR</i>		Sample Date		Preservation Code		Perform MS/MSD (Yes or No)		2540D - TSS	
Sample Identification		Sample Date		Sample Time		Field Filtered Sample (Yes or No)		8260B - VOCs	
ULF-230407-1		4/17/23		8:10		X		X	
2		8:45		9:38		X		X	
3		10:20		11:18		X		X	
5		12:10		12:45		X		X	
6		13:15		14:00		X		X	
7		14:05		14:05		X		X	
8						X		X	
9						X		X	
10						X		X	
11						X		X	
Trit 81mks						X		X	
Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		Special Instructions/Note:		Total Number of Containers		Special Instructions/Note:	
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Dispose By Lab <input type="checkbox"/> Archive For _____ Months		280-174814 Chain of Custody					
Deliverable Requested: I, II, III, IV, Other (specify)		Empty Kit Relinquished by:		Date:		Method of Shipment:			
Relinquished by: <i>S Arpa</i>		Date/Time: 4/11/23		Company: <i>TK</i>		Received by: <i>[Signature]</i>		Date/Time: 4/11/23 09:25	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 4.0 0.4 4.2 4.3 1.2 12.4 0.01					



# Chain of Custody Record



<b>Client Information</b>		Sampler: Lab P/N: Collins, Janice S		Carrier Tracking No(s):		COC No: 280-97584-22898.1	
Client Contact:		Phone: E-Mail: Janice.Collins@eurofins.com		Job #:		Page:	
Company: Valley Landfills, Inc. Republic Services		Address: 28972 Coffin Butte Road		City: Corvallis		State, Zip: OR, 97330	
Phone: 503-675-1335(Tel)		PO #: 1584668		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		TAT Requested (days):	
Email:		Project #: 28003197 "GW_SLCS_Leachate"		SSOW#:		Due Date Requested:	
Project Name: Coffin Butte/Valley Landfills		Site:		Sample Date		Sample Time	
Sample Identification		Sample Type (C=Comp, G=grab)		Sample Time		Matrix (W=water, S=solid, O=wastewat, BT=tissue, A=air)	
VLF-230407-12		G		1445		W	
13		G		1530		W	
14		G		1535		W	
15		G		1618		W	
VLF-230408-16		G		840		W	
17		G		910		W	
18		G		950		W	
19		G		1038		W	
20		G		1129		W	
Trip Blanks		G				W	
Possible Hazard Identification		<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Deliverable Requested: I, II, III, IV, Other (specify)		Empty Kit Relinquished by:		Date/Time:		Method of Shipment:	
Relinquished by:		Date/Time:		Date/Time:		Date/Time:	
Relinquished by:		Date/Time:		Date/Time:		Date/Time:	
Relinquished by:		Date/Time:		Date/Time:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		Special Instructions/QC Requirements:	
Analysis Requested		Perform MS/MSD (Yes or No)		Field Filtered Sample (Yes or No)		Bicarb Alk/Cl/TDS	
Analysis Requested		6010B - Dissolved Metals (FF)		200.8 - Total Arsenic		2540D - TSS	
Analysis Requested		8260B - VOCs		Total Number of Containers		Special Instructions/Note:	
Preservation Codes:		A - HCL		M - Hexane		N - None	
Preservation Codes:		B - NaOH		O - AsNaO2		P - Na2OAS	
Preservation Codes:		C - Zn Acetate		Q - Na2SO3		R - NaHSO4	
Preservation Codes:		D - Nitric Acid		S - H2SO4		T - TSP Dodecahydrate	
Preservation Codes:		E - MeOH		G - Anchlor		U - Acetone	
Preservation Codes:		F - MeOH		H - Ascorbic Acid		V - MCAA	
Preservation Codes:		I - Ice		J - DI Water		W - pH 4-5	
Preservation Codes:		K - EDTA		L - EDA		Z - other (specify)	



# Login Sample Receipt Checklist

Client: Tuppan Consultants LLC

Job Number: 280-174814-1

**Login Number: 174814**

**List Source: Eurofins Denver**

**List Number: 1**

**Creator: Roehsner, Karen P**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	False	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	False	Narrative to indicate if headspace container used for analysis.
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Mr. Eric J Tuppan  
Tuppan Consultants LLC  
460 Second Street Suite 103  
Lake Oswego, Oregon 97034

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**JOB DESCRIPTION**

Valley LF - Republic Serv Coffin Butte

**JOB NUMBER**

280-174817-1

# Eurofins Denver

## Job Notes

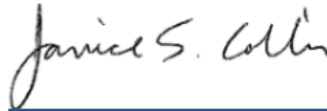
The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the Eurofins TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

## Authorization



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Authorized for release by  
Janice Collins, Project Manager  
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# Definitions/Glossary

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174817-1

## Qualifiers

### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174817-1

**Job ID: 280-174817-1**

**Laboratory: Eurofins Denver**

**Narrative**

## CASE NARRATIVE

**Client: Tuppan Consultants LLC**

**Project: Valley LF - Republic Serv Coffin Butte**

**Report Number: 280-174817-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

### **RECEIPT**

The samples were received on 04/11/2023; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 0.5°C, 1.3°C, 4.1°C, 4.3°C and 4.4°C.

### **DISSOLVED METALS**

Samples VLF-230407-4 (280-174817-1), VLF-230408-21 (280-174817-2) and VLF-230408-22 (280-174817-3) were analyzed for dissolved metals in accordance with EPA SW-846 Method 6010B. The samples were prepared on 04/12/2023 and analyzed on 04/13/2023 and 04/15/2023.

Magnesium, Manganese, Sodium and Iron were detected in method blank MB 280-608294/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

The method blank for preparation batch 280-608294 and analytical batch 280-608584 contained Calcium above the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### **ALKALINITY**

Samples VLF-230407-4 (280-174817-1), VLF-230408-21 (280-174817-2) and VLF-230408-22 (280-174817-3) were analyzed for Alkalinity in accordance with SM20 2320B. The samples were analyzed on 04/12/2023.

The method blank (MB) and continuing calibration blank (CCB) for analytical batch 280-608534 contained Bicarbonate Alkalinity as CaCO<sub>3</sub> above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### **TOTAL DISSOLVED SOLIDS**

Samples VLF-230407-4 (280-174817-1), VLF-230408-21 (280-174817-2) and VLF-230408-22 (280-174817-3) were analyzed for total dissolved solids in accordance with SM20 2540C. The samples were analyzed on 04/13/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Case Narrative

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174817-1

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## Job ID: 280-174817-1 (Continued)

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### Laboratory: Eurofins Denver (Continued)

#### ANIONS (28 DAYS)

Samples VLF-230407-4 (280-174817-1), VLF-230408-21 (280-174817-2) and VLF-230408-22 (280-174817-3) were analyzed for anions (28 days) in accordance with EPA Method 300.0 (28 Days). The samples were analyzed on 04/26/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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# Detection Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174817-1

## Client Sample ID: VLF-230407-4

## Lab Sample ID: 280-174817-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	49000	B	200	24	ug/L	1		6010B	Dissolved
Iron	53	J B	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	17000	B	200	4.2	ug/L	1		6010B	Dissolved
Manganese	230	B	5.0	0.45	ug/L	1		6010B	Dissolved
Sodium	40000	B	1000	97	ug/L	1		6010B	Dissolved
Chloride	51		6.0	2.0	mg/L	2		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	140	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	300		10	4.7	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-230408-21

## Lab Sample ID: 280-174817-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	35000	B	200	24	ug/L	1		6010B	Dissolved
Iron	53	J B	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	16000	B	200	4.2	ug/L	1		6010B	Dissolved
Manganese	5.2	B	5.0	0.45	ug/L	1		6010B	Dissolved
Sodium	11000	B	1000	97	ug/L	1		6010B	Dissolved
Chloride	13		3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	130	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	170		10	4.7	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-230408-22

## Lab Sample ID: 280-174817-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	17000	B	200	24	ug/L	1		6010B	Dissolved
Iron	14	J B	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	8000	B	200	4.2	ug/L	1		6010B	Dissolved
Manganese	4.3	J B	5.0	0.45	ug/L	1		6010B	Dissolved
Sodium	7100	B	1000	97	ug/L	1		6010B	Dissolved
Chloride	2.3	J	3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	80	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	63		10	4.7	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

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# Method Summary

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174817-1

Method	Method Description	Protocol	Laboratory
6010B	Dissolved Metals	SW846	EET DEN
300.0	Anions, Ion Chromatography	EPA	EET DEN
SM 2320B	Alkalinity	SM	EET DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET DEN

#### Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

# Sample Summary

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174817-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-174817-1	VLF-230407-4	Water	04/07/23 10:00	04/11/23 09:25
280-174817-2	VLF-230408-21	Water	04/08/23 12:10	04/11/23 09:25
280-174817-3	VLF-230408-22	Water	04/08/23 13:15	04/11/23 09:25

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174817-1

## Method: SW846 6010B - Dissolved Metals - Dissolved

**Client Sample ID: VLF-230407-4**  
**Date Collected: 04/07/23 10:00**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174817-1**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	49000	B	200	24	ug/L		04/12/23 08:05	04/13/23 05:35	1
Iron	53	J B	100	9.1	ug/L		04/12/23 08:05	04/15/23 02:51	1
Magnesium	17000	B	200	4.2	ug/L		04/12/23 08:05	04/13/23 05:35	1
Manganese	230	B	5.0	0.45	ug/L		04/12/23 08:05	04/13/23 05:35	1
Sodium	40000	B	1000	97	ug/L		04/12/23 08:05	04/13/23 05:35	1

**Client Sample ID: VLF-230408-21**  
**Date Collected: 04/08/23 12:10**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174817-2**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	35000	B	200	24	ug/L		04/12/23 08:05	04/13/23 05:39	1
Iron	53	J B	100	9.1	ug/L		04/12/23 08:05	04/15/23 02:55	1
Magnesium	16000	B	200	4.2	ug/L		04/12/23 08:05	04/13/23 05:39	1
Manganese	5.2	B	5.0	0.45	ug/L		04/12/23 08:05	04/13/23 05:39	1
Sodium	11000	B	1000	97	ug/L		04/12/23 08:05	04/13/23 05:39	1

**Client Sample ID: VLF-230408-22**  
**Date Collected: 04/08/23 13:15**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174817-3**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	17000	B	200	24	ug/L		04/12/23 08:05	04/13/23 05:44	1
Iron	14	J B	100	9.1	ug/L		04/12/23 08:05	04/15/23 02:59	1
Magnesium	8000	B	200	4.2	ug/L		04/12/23 08:05	04/13/23 05:44	1
Manganese	4.3	J B	5.0	0.45	ug/L		04/12/23 08:05	04/13/23 05:44	1
Sodium	7100	B	1000	97	ug/L		04/12/23 08:05	04/13/23 05:44	1

## General Chemistry

**Client Sample ID: VLF-230407-4**  
**Date Collected: 04/07/23 10:00**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174817-1**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	51		6.0	2.0	mg/L			04/26/23 01:48	2
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	140	B	10	3.1	mg/L			04/12/23 16:44	1
Total Dissolved Solids (SM 2540C)	300		10	4.7	mg/L			04/13/23 12:50	1

**Client Sample ID: VLF-230408-21**  
**Date Collected: 04/08/23 12:10**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174817-2**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	13		3.0	1.0	mg/L			04/26/23 02:24	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	130	B	10	3.1	mg/L			04/12/23 16:50	1
Total Dissolved Solids (SM 2540C)	170		10	4.7	mg/L			04/13/23 12:50	1

**Client Sample ID: VLF-230408-22**  
**Date Collected: 04/08/23 13:15**  
**Date Received: 04/11/23 09:25**

**Lab Sample ID: 280-174817-3**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	2.3	J	3.0	1.0	mg/L			04/26/23 03:12	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174817-1

## General Chemistry (Continued)

Client Sample ID: VLF-230408-22

Date Collected: 04/08/23 13:15

Date Received: 04/11/23 09:25

Lab Sample ID: 280-174817-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO <sub>3</sub> (SM 2320B)	80	B	10	3.1	mg/L			04/12/23 16:56	1
Total Dissolved Solids (SM 2540C)	63		10	4.7	mg/L			04/13/23 12:50	1

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174817-1

## Method: 6010B - Dissolved Metals

**Lab Sample ID: MB 280-608294/1-A**  
**Matrix: Water**  
**Analysis Batch: 608584**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 608294**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Calcium	839		200	24	ug/L		04/12/23 08:05	04/13/23 03:30	1
Magnesium	82.9	J	200	4.2	ug/L		04/12/23 08:05	04/13/23 03:30	1
Manganese	2.15	J	5.0	0.45	ug/L		04/12/23 08:05	04/13/23 03:30	1
Sodium	111	J	1000	97	ug/L		04/12/23 08:05	04/13/23 03:30	1

**Lab Sample ID: MB 280-608294/1-A**  
**Matrix: Water**  
**Analysis Batch: 608928**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 608294**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Iron	12.3	J	100	9.1	ug/L		04/12/23 08:05	04/15/23 01:42	1

**Lab Sample ID: LCS 280-608294/2-A**  
**Matrix: Water**  
**Analysis Batch: 608584**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 608294**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Magnesium	40000	40200		ug/L		100	90 - 113
Manganese	1000	1010		ug/L		101	90 - 110
Sodium	50000	47100		ug/L		94	90 - 115

**Lab Sample ID: LCS 280-608294/2-A**  
**Matrix: Water**  
**Analysis Batch: 608928**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 608294**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits

**Lab Sample ID: LCSD 280-608294/3-A**  
**Matrix: Water**  
**Analysis Batch: 608584**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 608294**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Magnesium	40000	40200		ug/L		100	90 - 113	0	20
Manganese	1000	1010		ug/L		101	90 - 110	0	20
Sodium	50000	47300		ug/L		95	90 - 115	0	20

**Lab Sample ID: LCSD 280-608294/3-A**  
**Matrix: Water**  
**Analysis Batch: 608928**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 608294**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit

# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174817-1

## Method: 6010B - Dissolved Metals (Continued)

**Lab Sample ID: 280-174807-D-1-B MS**  
**Matrix: Water**  
**Analysis Batch: 608584**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total Recoverable**  
**Prep Batch: 608294**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	
	Result	Qualifier	Added	Result	Qualifier				Limits	
Calcium	41000	B	10000	54600	4	ug/L		132	48 - 153	
Magnesium	32000	B	40000	74800		ug/L		108	62 - 146	
Manganese	11	B	1000	1040		ug/L		103	79 - 121	
Sodium	1900	B	50000	50900		ug/L		98	70 - 203	

**Lab Sample ID: 280-174807-D-1-B MS**  
**Matrix: Water**  
**Analysis Batch: 608928**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total Recoverable**  
**Prep Batch: 608294**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	
	Result	Qualifier	Added	Result	Qualifier				Limits	
Iron	110	B	5000	5470		ug/L		107	52 - 155	

**Lab Sample ID: 280-174807-D-1-C MSD**  
**Matrix: Water**  
**Analysis Batch: 608584**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total Recoverable**  
**Prep Batch: 608294**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit	
Calcium	41000	B	10000	55400	4	ug/L		140	48 - 153		1	20
Magnesium	32000	B	40000	75800		ug/L		110	62 - 146		1	20
Manganese	11	B	1000	1040		ug/L		103	79 - 121		0	20
Sodium	1900	B	50000	50400		ug/L		97	70 - 203		1	20

**Lab Sample ID: 280-174807-D-1-C MSD**  
**Matrix: Water**  
**Analysis Batch: 608928**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total Recoverable**  
**Prep Batch: 608294**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit	
Iron	110	B	5000	5530		ug/L		108	52 - 155		1	20

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 280-610035/48**  
**Matrix: Water**  
**Analysis Batch: 610035**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	ND		3.0	1.0	mg/L			04/25/23 22:37	1

**Lab Sample ID: LCS 280-610035/46**  
**Matrix: Water**  
**Analysis Batch: 610035**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	
Chloride	50.0	47.3		mg/L		95	90 - 110	



# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174817-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 280-610035/47  
 Matrix: Water  
 Analysis Batch: 610035

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	50.0	47.2		mg/L		94	90 - 110	0	10

Lab Sample ID: MRL 280-610035/3  
 Matrix: Water  
 Analysis Batch: 610035

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	2.50	2.06	J	mg/L		82	50 - 150		

Lab Sample ID: 280-174817-2 MS  
 Matrix: Water  
 Analysis Batch: 610035

Client Sample ID: VLF-230408-21  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	13		50.0	69.0		mg/L		112	80 - 120		

Lab Sample ID: 280-174817-2 MSD  
 Matrix: Water  
 Analysis Batch: 610035

Client Sample ID: VLF-230408-21  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	13		50.0	70.3		mg/L		115	80 - 120	2	20

Lab Sample ID: 280-174817-2 DU  
 Matrix: Water  
 Analysis Batch: 610035

Client Sample ID: VLF-230408-21  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	13		50.0	12.8		mg/L				0.3	15

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-608534/31  
 Matrix: Water  
 Analysis Batch: 608534

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	3.80	J	10	3.1	mg/L			04/12/23 14:21	1

Lab Sample ID: MB 280-608534/5  
 Matrix: Water  
 Analysis Batch: 608534

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	ND		10	3.1	mg/L			04/12/23 11:09	1

# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174817-1

## Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 280-174814-A-13 DU  
 Matrix: Water  
 Analysis Batch: 608534

Client Sample ID: Duplicate  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Bicarbonate Alkalinity as CaCO3	860	B	864		mg/L		0	20

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 280-608599/1  
 Matrix: Water  
 Analysis Batch: 608599

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	4.7	mg/L			04/13/23 12:50	1

Lab Sample ID: LCS 280-608599/2  
 Matrix: Water  
 Analysis Batch: 608599

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	504	446		mg/L		89	88 - 114

Lab Sample ID: 280-174811-P-1 DU  
 Matrix: Water  
 Analysis Batch: 608599

Client Sample ID: Duplicate  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	5500		5700		mg/L		4	10

# QC Association Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174817-1

## Metals

### Prep Batch: 608294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174817-1	VLF-230407-4	Dissolved	Water	3005A	
280-174817-2	VLF-230408-21	Dissolved	Water	3005A	
280-174817-3	VLF-230408-22	Dissolved	Water	3005A	
MB 280-608294/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-608294/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 280-608294/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
280-174807-D-1-B MS	Matrix Spike	Total Recoverable	Water	3005A	
280-174807-D-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

### Analysis Batch: 608584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174817-1	VLF-230407-4	Dissolved	Water	6010B	608294
280-174817-2	VLF-230408-21	Dissolved	Water	6010B	608294
280-174817-3	VLF-230408-22	Dissolved	Water	6010B	608294
MB 280-608294/1-A	Method Blank	Total Recoverable	Water	6010B	608294
LCS 280-608294/2-A	Lab Control Sample	Total Recoverable	Water	6010B	608294
LCSD 280-608294/3-A	Lab Control Sample Dup	Total Recoverable	Water	6010B	608294
280-174807-D-1-B MS	Matrix Spike	Total Recoverable	Water	6010B	608294
280-174807-D-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010B	608294

### Analysis Batch: 608928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174817-1	VLF-230407-4	Dissolved	Water	6010B	608294
280-174817-2	VLF-230408-21	Dissolved	Water	6010B	608294
280-174817-3	VLF-230408-22	Dissolved	Water	6010B	608294
MB 280-608294/1-A	Method Blank	Total Recoverable	Water	6010B	608294
LCS 280-608294/2-A	Lab Control Sample	Total Recoverable	Water	6010B	608294
LCSD 280-608294/3-A	Lab Control Sample Dup	Total Recoverable	Water	6010B	608294
280-174807-D-1-B MS	Matrix Spike	Total Recoverable	Water	6010B	608294
280-174807-D-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010B	608294

## General Chemistry

### Analysis Batch: 608534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174817-1	VLF-230407-4	Total/NA	Water	SM 2320B	
280-174817-2	VLF-230408-21	Total/NA	Water	SM 2320B	
280-174817-3	VLF-230408-22	Total/NA	Water	SM 2320B	
MB 280-608534/31	Method Blank	Total/NA	Water	SM 2320B	
MB 280-608534/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-608534/30	Lab Control Sample	Total/NA	Water	SM 2320B	
280-174814-A-13 DU	Duplicate	Total/NA	Water	SM 2320B	

### Analysis Batch: 608599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174817-1	VLF-230407-4	Total/NA	Water	SM 2540C	
280-174817-2	VLF-230408-21	Total/NA	Water	SM 2540C	
280-174817-3	VLF-230408-22	Total/NA	Water	SM 2540C	
MB 280-608599/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-608599/2	Lab Control Sample	Total/NA	Water	SM 2540C	
280-174811-P-1 DU	Duplicate	Total/NA	Water	SM 2540C	

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# QC Association Summary

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174817-1

## General Chemistry

### Analysis Batch: 610035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-174817-1	VLf-230407-4	Total/NA	Water	300.0	
280-174817-2	VLf-230408-21	Total/NA	Water	300.0	
280-174817-3	VLf-230408-22	Total/NA	Water	300.0	
MB 280-610035/48	Method Blank	Total/NA	Water	300.0	
LCS 280-610035/46	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-610035/47	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-610035/3	Lab Control Sample	Total/NA	Water	300.0	
280-174817-2 MS	VLf-230408-21	Total/NA	Water	300.0	
280-174817-2 MSD	VLf-230408-21	Total/NA	Water	300.0	
280-174817-2 DU	VLf-230408-21	Total/NA	Water	300.0	

# Lab Chronicle

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-174817-1

## Client Sample ID: VLF-230407-4

## Lab Sample ID: 280-174817-1

Date Collected: 04/07/23 10:00

Matrix: Water

Date Received: 04/11/23 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	608294	04/12/23 08:05	LJS	EET DEN
Dissolved	Analysis	6010B		1			608928	04/15/23 02:51	ADL	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	608294	04/12/23 08:05	LJS	EET DEN
Dissolved	Analysis	6010B		1			608584	04/13/23 05:35	KRP	EET DEN
Total/NA	Analysis	300.0		2	5 mL	5 mL	610035	04/26/23 01:48	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			608534	04/12/23 16:44	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	608599	04/13/23 12:50	MCR	EET DEN

## Client Sample ID: VLF-230408-21

## Lab Sample ID: 280-174817-2

Date Collected: 04/08/23 12:10

Matrix: Water

Date Received: 04/11/23 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	608294	04/12/23 08:05	LJS	EET DEN
Dissolved	Analysis	6010B		1			608928	04/15/23 02:55	ADL	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	608294	04/12/23 08:05	LJS	EET DEN
Dissolved	Analysis	6010B		1			608584	04/13/23 05:39	KRP	EET DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	610035	04/26/23 02:24	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			608534	04/12/23 16:50	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	608599	04/13/23 12:50	MCR	EET DEN

## Client Sample ID: VLF-230408-22

## Lab Sample ID: 280-174817-3

Date Collected: 04/08/23 13:15

Matrix: Water


Date Received: 04/11/23 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	608294	04/12/23 08:05	LJS	EET DEN
Dissolved	Analysis	6010B		1			608928	04/15/23 02:59	ADL	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	608294	04/12/23 08:05	LJS	EET DEN
Dissolved	Analysis	6010B		1			608584	04/13/23 05:44	KRP	EET DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	610035	04/26/23 03:12	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			608534	04/12/23 16:56	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	608599	04/13/23 12:50	MCR	EET DEN

**Laboratory References:**

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

### Chain of Custody Record

<b>Client Information</b>		<b>Sampler:</b> <i>S. Hargrave</i>		<b>Carrier Tracking No(s):</b>			
Client Contact: <i>Jan Muehle</i>		Lab PM: Collins, Janice S		COC No: 280-97584-22898.1			
Company: Valley Landfills, Inc. Republic Services		E-Mail: Janice.Collins@et.eurofins.com		Page:			
Address: 28972 Coffin Butte Road		Due Date Requested:		Job #:			
City: Corvallis		TAT Requested (days):		Preservation Codes:			
State, Zip: OR, 97330		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:			
Phone: 503-675-1335 (Tel)		PO #: 1584668		M - Hexane N - None O - AshNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - NCAAA W - pH 4-5 Z - other (specify)			
Email:		WO #:		Total Number of Containers: <input checked="" type="checkbox"/>			
Project #: 28003197 "Underdrains"		Project Name: Coffin Butte/Valley Landfills		Special Instructions/Note:			
Site: <i>Seagraves OK</i>		SSOW#:		 280-174817 Chain of Custody			
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)			Matrix (W=water, S=solid, O=waste/oil, BT=tissue, A=air)	Field Filtered Sample (Yes or No)
<i>VLF-230407-4</i>	<i>4/7/23</i>	<i>10:00</i>	<i>G</i>			<i>W</i>	<i>X</i>
<i>VLF-230408-21</i>	<i>4/8/23</i>	<i>12:10</i>	<i>G</i>			<i>W</i>	<i>X</i>
<i>VLF-230408-22</i>	<i>4/8/23</i>	<i>13:15</i>	<i>G</i>	<i>W</i>	<i>X</i>		
Possible Hazard Identification		Sample Date		6010B - Dissolved Metals (FF)			
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Time		Biocarb Alk/CTDS			
Deliverable Requested: I, II, III, IV, Other (specify)		Sample Date		Perform MS/MSD (Yes or No)			
Empty Kit Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)			
Relinquished by: <i>[Signature]</i>		Sample Date		N			
Relinquished by: <i>[Signature]</i>		Sample Time		D			
Relinquished by:		Sample Date		X			
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Sample Time		X			
Custody Seal No.:		Sample Date		X			



# Login Sample Receipt Checklist

Client: Tuppan Consultants LLC

Job Number: 280-174817-1

**Login Number: 174817**

**List Number: 1**

**Creator: Roehsner, Karen P**

**List Source: Eurofins Denver**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Mr. Eric J Tuppan  
Tuppan Consultants LLC  
460 Second Street Suite 103  
Lake Oswego, Oregon 97034

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**JOB DESCRIPTION**

Valley LF - Republic Serv Coffin Butte

**JOB NUMBER**

280-183061-1



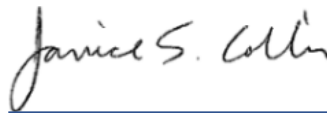
# Eurofins Denver

## Job Notes

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## Authorization



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Authorized for release by  
Janice Collins, Project Manager  
[Janice.Collins@et.eurofinsus.com](mailto:Janice.Collins@et.eurofinsus.com)  
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# Definitions/Glossary

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### General Chemistry

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
B	Compound was found in the blank and sample.
b	Result Detected in the Unseeded Control blank (USB).
F1	MS and/or MSD recovery exceeds control limits.
F3	Duplicate RPD exceeds the control limit
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL, and the absolute difference between results is < the upper reporting limits for both.
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control

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# Definitions/Glossary

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

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# Case Narrative

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

**Job ID: 280-183061-1**

**Laboratory: Eurofins Denver**

**Narrative**

## CASE NARRATIVE

**Client: Tuppan Consultants LLC**

**Project: Valley LF - Republic Serv Coffin Butte**

**Report Number: 280-183061-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

This report may include reporting limits (RLs) less than Eurofins TestAmerica's standard reporting limit. The reported sample results and associated reporting limits are being used specifically to meet the needs of this project. Note that data are not normally reported to these levels without qualification because they are inherently less reliable and potentially less defensible than required by the latest industry standards.

### RECEIPT

The samples were received on 10/17/2023; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 0.4°C, 0.9°C, 1.2°C, 1.5°C, 1.9°C, 2.1°C, 2.7°C, 5.0°C and 5.7°C.

### DRINKING WATER VOLATILES (GC-MS)

Sample VLF-231015-30 (280-183061-30) was analyzed for drinking water volatiles (GC-MS) in accordance with EPA Method 524.2. The samples were analyzed on 10/20/2023.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-375534. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

The method blank for analytical batch 570-375534 contained Methylene Chloride above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples VLF-231013-1 (280-183061-1), VLF-231013-2 (280-183061-2), VLF-231013-3 (280-183061-3), VLF-231013-4 (280-183061-4), VLF-231013-5 (280-183061-5), VLF-231013-6 (280-183061-6), VLF-231013-7 (280-183061-7), VLF-231013-8 (280-183061-8), VLF-231013-9 (280-183061-9), VLF-231013-10 (280-183061-10), VLF-231013-11 (280-183061-11), VLF-231013-12 (280-183061-12), VLF-231014-13 (280-183061-13), VLF-231014-14 (280-183061-14), VLF-231014-16 (280-183061-16), VLF-231014-17 (280-183061-17), VLF-231014-18 (280-183061-18), VLF-231014-20 (280-183061-20), VLF-231014-21 (280-183061-21), VLF-231015-23 (280-183061-23), VLF-231015-24 (280-183061-24), VLF-231015-25 (280-183061-25), VLF-231015-26 (280-183061-26), VLF-231015-27 (280-183061-27), VLF-231015-28 (280-183061-28), VLF-231015-29 (280-183061-29), VLF-231015-31 (280-183061-31), Trip Blanks (280-183061-32), VLF-231016-36 (280-183061-37) and Trip Blanks (280-183061-38) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 10/26/2023.

The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 280-631189 recovered outside control limits for the following analytes: Acetone @ 28% limit is 21%, Carbon disulfide @ 21% limit is 20%, 2-Butanone (MEK) @ 25% limit is 20%, 1,1-Dichloroethane @ 23% limit is 20%, Methylene Chloride @ 23% limit is 20% and trans-1,2-Dichloroethene @ 21% limit is 20%. The LCS/LCSD spike percent recoveries are within control limits.

The laboratory control sample duplicate (LCSD) for analytical batch 280-631189 recovered outside control limits for the following analytes: 1,3-Dichloropropane @ 120% UCL is 118%. This analyte was biased high in the LCSD and was not detected in the associated samples;

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### Laboratory: Eurofins Denver (Continued)

therefore, the data have been reported.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with analytical batch 280-631189. An LCS/LCSD was analyzed for precision and accuracy.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 280-631197. An LCS/LCSD was analyzed for precision and accuracy.

Method 8260B: The following volatiles samples were diluted due to foaming at the time of purging during the original sample analysis: 280-183061-16 and 280-183061-37. Elevated reporting limits (RLs) are provided.

Method 8260B: The following sample(s) was collected in a properly preserved vial; however, the pH of 6 was outside the required criteria when verified by the laboratory. The samples were analyzed outside the 7-day holding time specified for unpreserved samples but within the 14-day holding time specified for preserved samples: 280-183061-16 and 280-183061-37.

Method 8260B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 280-631377 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane(124% limit 72%-122%), 1,3-Dichloropropane (121% limit 80%-118%) and 1,2-Dibromoethane (119% limit 81% limit 81%-118%). These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 280-631377 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

The matrix spike / matrix spike duplicate (MS/MSD/DUP) precision for analytical batch 280-631377 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Due to the high concentration of m-Xylene & p-Xylene, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 280-631377 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### **TOTAL METALS (ICPMS)**

Samples VLF-231013-1 (280-183061-1), VLF-231013-2 (280-183061-2), VLF-231013-3 (280-183061-3), VLF-231013-4 (280-183061-4), VLF-231013-5 (280-183061-5), VLF-231013-6 (280-183061-6), VLF-231013-7 (280-183061-7), VLF-231013-8 (280-183061-8), VLF-231013-9 (280-183061-9), VLF-231013-10 (280-183061-10), VLF-231013-11 (280-183061-11), VLF-231013-12 (280-183061-12), VLF-231014-13 (280-183061-13), VLF-231014-14 (280-183061-14), VLF-231014-16 (280-183061-16), VLF-231014-17 (280-183061-17), VLF-231014-18 (280-183061-18), VLF-231014-20 (280-183061-20), VLF-231014-21 (280-183061-21), VLF-231015-23 (280-183061-23), VLF-231015-24 (280-183061-24), VLF-231015-25 (280-183061-25), VLF-231015-26 (280-183061-26), VLF-231015-27 (280-183061-27), VLF-231015-28 (280-183061-28), VLF-231015-29 (280-183061-29), VLF-231015-30 (280-183061-30), VLF-231015-31 (280-183061-31) and VLF-231016-36 (280-183061-37) were analyzed for total metals (ICPMS) in accordance with EPA Method 200.8. The samples were prepared on 11/06/2023, 11/19/2023 and 11/20/2023 and analyzed on 11/06/2023 and 11/20/2023.

Zinc was detected in method blank MB 280-632528/1-A at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Method 200.8: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 280-634473 and analytical batch 280-634631 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 6010B: The following samples were diluted to bring the concentration of target analytes within the calibration range: 280-183061-16 and 280-183061-37. Elevated reporting limits (RLs) are provided.

# Case Narrative

Client: Tuppan Consultants LLC  
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Job ID: 280-183061-1

## Job ID: 280-183061-1 (Continued)

### Laboratory: Eurofins Denver (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### DISSOLVED METALS (ICP)

Samples VLF-231013-1 (280-183061-1), VLF-231013-2 (280-183061-2), VLF-231013-3 (280-183061-3), VLF-231013-4 (280-183061-4), VLF-231013-5 (280-183061-5), VLF-231013-6 (280-183061-6), VLF-231013-7 (280-183061-7), VLF-231013-8 (280-183061-8), VLF-231013-9 (280-183061-9), VLF-231013-10 (280-183061-10), VLF-231013-11 (280-183061-11), VLF-231013-12 (280-183061-12), VLF-231014-13 (280-183061-13), VLF-231014-14 (280-183061-14), VLF-231014-15 (280-183061-15), VLF-231014-16 (280-183061-16), VLF-231014-17 (280-183061-17), VLF-231014-18 (280-183061-18), VLF-231014-19 (280-183061-19), VLF-231014-20 (280-183061-20), VLF-231014-21 (280-183061-21), VLF-231014-22 (280-183061-22), VLF-231015-23 (280-183061-23), VLF-231015-24 (280-183061-24), VLF-231015-25 (280-183061-25), VLF-231015-26 (280-183061-26), VLF-231015-27 (280-183061-27), VLF-231015-28 (280-183061-28), VLF-231015-29 (280-183061-29), VLF-231015-30 (280-183061-30), VLF-231015-31 (280-183061-31), VLF-231016-32 (280-183061-33), VLF-231016-33 (280-183061-34), VLF-231016-34 (280-183061-35), VLF-231016-35 (280-183061-36) and VLF-231016-36 (280-183061-37) were analyzed for dissolved metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 11/03/2023 and analyzed on 11/04/2023 and 11/07/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### ALKALINITY

Samples VLF-231013-1 (280-183061-1), VLF-231013-2 (280-183061-2), VLF-231013-3 (280-183061-3), VLF-231013-4 (280-183061-4), VLF-231013-5 (280-183061-5), VLF-231013-6 (280-183061-6), VLF-231013-7 (280-183061-7), VLF-231013-8 (280-183061-8), VLF-231013-9 (280-183061-9), VLF-231013-10 (280-183061-10), VLF-231013-11 (280-183061-11), VLF-231013-12 (280-183061-12), VLF-231014-13 (280-183061-13), VLF-231014-14 (280-183061-14), VLF-231014-15 (280-183061-15), VLF-231014-16 (280-183061-16), VLF-231014-17 (280-183061-17), VLF-231014-18 (280-183061-18), VLF-231014-19 (280-183061-19), VLF-231014-20 (280-183061-20), VLF-231014-21 (280-183061-21), VLF-231014-22 (280-183061-22), VLF-231015-23 (280-183061-23), VLF-231015-24 (280-183061-24), VLF-231015-25 (280-183061-25), VLF-231015-26 (280-183061-26), VLF-231015-27 (280-183061-27), VLF-231015-28 (280-183061-28), VLF-231015-29 (280-183061-29), VLF-231015-30 (280-183061-30), VLF-231015-31 (280-183061-31) and VLF-231016-36 (280-183061-37) were analyzed for Alkalinity in accordance with SM20 2320B. The samples were analyzed on 10/20/2023, 10/21/2023 and 10/25/2023.

The method blank for analytical batch 280-630779 contained Bicarbonate Alkalinity as CaCO<sub>3</sub> above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

The method blank for analytical batch 280-631150 contained Bicarbonate Alkalinity as CaCO<sub>3</sub> above the method detection limit (MDL). Associated sample was not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### TOTAL DISSOLVED SOLIDS

Samples VLF-231013-1 (280-183061-1), VLF-231013-2 (280-183061-2), VLF-231013-3 (280-183061-3), VLF-231013-4 (280-183061-4), VLF-231013-5 (280-183061-5), VLF-231013-6 (280-183061-6), VLF-231013-7 (280-183061-7), VLF-231013-8 (280-183061-8), VLF-231013-9 (280-183061-9), VLF-231013-10 (280-183061-10), VLF-231013-11 (280-183061-11), VLF-231013-12 (280-183061-12), VLF-231014-13 (280-183061-13), VLF-231014-14 (280-183061-14), VLF-231014-15 (280-183061-15), VLF-231014-16 (280-183061-16), VLF-231014-17 (280-183061-17), VLF-231014-18 (280-183061-18), VLF-231014-19 (280-183061-19), VLF-231014-20 (280-183061-20), VLF-231014-21 (280-183061-21), VLF-231014-22 (280-183061-22), VLF-231015-23 (280-183061-23), VLF-231015-24 (280-183061-24), VLF-231015-25 (280-183061-25), VLF-231015-26 (280-183061-26), VLF-231015-27 (280-183061-27), VLF-231015-28 (280-183061-28), VLF-231015-29 (280-183061-29), VLF-231015-30 (280-183061-30), VLF-231015-31 (280-183061-31) and VLF-231016-36 (280-183061-37) were analyzed for total dissolved solids in accordance with SM20 2540C. The samples were analyzed on 10/20/2023 and 10/23/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### TOTAL SUSPENDED SOLIDS

Samples VLF-231013-1 (280-183061-1), VLF-231013-2 (280-183061-2), VLF-231013-3 (280-183061-3), VLF-231013-4 (280-183061-4), VLF-231013-5 (280-183061-5), VLF-231013-6 (280-183061-6), VLF-231013-7 (280-183061-7), VLF-231013-8 (280-183061-8),

# Case Narrative

Client: Tuppan Consultants LLC  
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Job ID: 280-183061-1

## Job ID: 280-183061-1 (Continued)

### Laboratory: Eurofins Denver (Continued)

VLF-231013-9 (280-183061-9), VLF-231013-10 (280-183061-10), VLF-231013-11 (280-183061-11), VLF-231013-12 (280-183061-12), VLF-231014-13 (280-183061-13), VLF-231014-14 (280-183061-14), VLF-231014-16 (280-183061-16), VLF-231014-17 (280-183061-17), VLF-231014-18 (280-183061-18), VLF-231014-20 (280-183061-20), VLF-231014-21 (280-183061-21), VLF-231015-23 (280-183061-23), VLF-231015-24 (280-183061-24), VLF-231015-25 (280-183061-25), VLF-231015-26 (280-183061-26), VLF-231015-27 (280-183061-27), VLF-231015-28 (280-183061-28), VLF-231015-29 (280-183061-29), VLF-231015-30 (280-183061-30), VLF-231015-31 (280-183061-31) and VLF-231016-36 (280-183061-37) were analyzed for total suspended solids in accordance with SM20 2540D. The samples were analyzed on 10/19/2023, 10/20/2023 and 10/23/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### ANIONS (28 DAYS)

Samples VLF-231013-1 (280-183061-1), VLF-231013-2 (280-183061-2), VLF-231013-3 (280-183061-3), VLF-231013-4 (280-183061-4), VLF-231013-5 (280-183061-5), VLF-231013-6 (280-183061-6), VLF-231013-7 (280-183061-7), VLF-231013-8 (280-183061-8), VLF-231013-9 (280-183061-9), VLF-231013-10 (280-183061-10), VLF-231013-11 (280-183061-11), VLF-231013-12 (280-183061-12), VLF-231014-13 (280-183061-13), VLF-231014-14 (280-183061-14), VLF-231014-15 (280-183061-15), VLF-231014-16 (280-183061-16), VLF-231014-17 (280-183061-17), VLF-231014-18 (280-183061-18), VLF-231014-19 (280-183061-19), VLF-231014-20 (280-183061-20), VLF-231014-21 (280-183061-21), VLF-231014-22 (280-183061-22), VLF-231015-23 (280-183061-23), VLF-231015-24 (280-183061-24), VLF-231015-25 (280-183061-25), VLF-231015-26 (280-183061-26), VLF-231015-27 (280-183061-27), VLF-231015-28 (280-183061-28), VLF-231015-29 (280-183061-29), VLF-231015-30 (280-183061-30), VLF-231015-31 (280-183061-31), VLF-231016-32 (280-183061-33), VLF-231016-33 (280-183061-34), VLF-231016-34 (280-183061-35), VLF-231016-35 (280-183061-36) and VLF-231016-36 (280-183061-37) were analyzed for anions (28 days) in accordance with EPA Method 300.0 (28 Days). The samples were analyzed on 11/10/2023, 11/15/2023, 11/20/2023 and 11/25/2023.

The following samples were analyzed outside of analytical holding time due to capacity issues: 280-183061-13, 280-183061-18, 280-183061-19, 280-183061-20 and 280-183061-21.

Reanalysis of the following samples were performed outside of the analytical holding time due to the sample requiring a dilution for a target compound: 280-183061-14, 280-183061-15, 280-183061-16 and 280-183061-17.

The following sample was analyzed outside of analytical holding time due to capacity issues: 280-183061-27.

The following samples were analyzed outside of analytical holding time due to laboratory error: 280-183061-22, 280-183061-23, 280-183061-24, 280-183061-25, 280-183061-26, 280-183061-28, 280-183061-29, 280-183061-30, 280-183061-31, 280-183061-33, 280-183061-34, 280-183061-35 and 280-183061-36.

Method 300.0\_28D: Reanalysis of the following sample was performed outside of the analytical holding time due to the sample requiring a dilution for the target compounds : 280-183061-37.

The sample duplicate (DUP) precision for analytical batch 280-633248 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Due to the high concentration of Chloride, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 280-633915 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 300.0\_28D: Due to the high concentration of Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 280-635091 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS/LCSD) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### AMMONIA

Sample VLF-231016-36 (280-183061-37) was analyzed for ammonia in accordance with EPA Method 350.1. The samples were analyzed on 11/02/2023.



# Case Narrative

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Job ID: 280-183061-1 (Continued)

### Laboratory: Eurofins Denver (Continued)

The following sample was received with insufficient preservation to analyze for ammonia by method 350.1: 280-183061-37. An aliquot of the sample was preserved at the bench top prior to analysis. The desired pH was achieved.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### **TOTAL KJELDAHL NITROGEN**

Samples VLF-231016-32 (280-183061-33), VLF-231016-33 (280-183061-34), VLF-231016-34 (280-183061-35) and VLF-231016-35 (280-183061-36) were analyzed for total kjeldahl nitrogen in accordance with EPA Method 351.2. The samples were prepared on 10/20/2023 and analyzed on 10/23/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### **NITRATE-NITRITE AS NITROGEN**

Sample VLF-231016-36 (280-183061-37) was analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353.2. The samples were analyzed on 10/24/2023.

Nitrate Nitrite as N failed the recovery criteria low for the MS of sample 280-183241-4 in batch 280-631023.

Nitrate Nitrite as N failed the recovery criteria low for the MSD of sample 280-183241-4 in batch 280-631023.

Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### **TOTAL PHOSPHORUS**

Samples VLF-231016-32 (280-183061-33), VLF-231016-33 (280-183061-34), VLF-231016-34 (280-183061-35) and VLF-231016-35 (280-183061-36) were analyzed for total phosphorus in accordance with EPA Method 365.1. The samples were prepared and analyzed on 10/19/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### **ORTHOPHOSPHATE**

Samples VLF-231016-32 (280-183061-33), VLF-231016-33 (280-183061-34), VLF-231016-34 (280-183061-35) and VLF-231016-35 (280-183061-36) were analyzed for orthophosphate in accordance with EPA Method 365.1. The samples were analyzed on 10/17/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### **CHEMICAL OXYGEN DEMAND**

Sample VLF-231016-36 (280-183061-37) was analyzed for chemical oxygen demand in accordance with EPA Method 410.4. The samples were analyzed on 10/19/2023.

The following sample was received with insufficient preservation to analyze for method 410.4: 280-183061-37. An aliquot of the sample was preserved at the bench top prior to analysis. The desired pH was achieved.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### **BIOCHEMICAL OXYGEN DEMAND**

Samples VLF-231016-32 (280-183061-33), VLF-231016-33 (280-183061-34), VLF-231016-34 (280-183061-35), VLF-231016-35 (280-183061-36) and VLF-231016-36 (280-183061-37) were analyzed for Biochemical Oxygen Demand in accordance with SM20 5210B. The samples were analyzed on 10/18/2023.

Biochemical Oxygen Demand was detected in method blank SCB 280-630142/41 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged..

# Case Narrative

Client: Tuppan Consultants LLC  
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Job ID: 280-183061-1

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## Job ID: 280-183061-1 (Continued)

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### Laboratory: Eurofins Denver (Continued)

The glucose-glutamic acid standard (LCS/LCSD) recovered outside the recovery limits specified in the method in batch 280-630142. The method holding time had expired, therefore the analysis was not repeated. The data was qualified and reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### **TOTAL ORGANIC CARBON**

Sample VLF-231016-36 (280-183061-37) was analyzed for total organic carbon in accordance with SM20 5310B. The samples were analyzed on 10/26/2023.

The following sample(s) was improperly preserved in the field: The pH measured at the bench was >2, it was reduced to <2 using concentrated Sulfuric acid prior to analysis.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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# Detection Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Client Sample ID: VLF-231013-1

## Lab Sample ID: 280-183061-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nickel	8.7		3.0	0.83	ug/L	1		200.8	Total/NA
Barium	3.2		3.0	0.38	ug/L	1		200.8	Total/NA
Chromium	1.1	J	3.0	0.50	ug/L	1		200.8	Total/NA
Zinc	3.8	J	10	2.0	ug/L	1		200.8	Total/NA
Calcium	120000		200	24	ug/L	1		6010B	Dissolved
Iron	16	J	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	54000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	160		10	0.45	ug/L	1		6010B	Dissolved
Sodium	26000		1000	97	ug/L	1		6010B	Dissolved
Chloride	83	F1	30	10	mg/L	10		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	390	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	520		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	11		4.0	1.1	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: VLF-231013-2

## Lab Sample ID: 280-183061-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	2.7	J	3.0	0.38	ug/L	1		200.8	Total/NA
Zinc	2.1	J	10	2.0	ug/L	1		200.8	Total/NA
Calcium	100000		200	24	ug/L	1		6010B	Dissolved
Magnesium	38000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	790		10	0.45	ug/L	1		6010B	Dissolved
Sodium	28000		1000	97	ug/L	1		6010B	Dissolved
Chloride	110		30	10	mg/L	10		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	130	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	550		10	4.7	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-231013-3

## Lab Sample ID: 280-183061-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	1.1		1.0	0.22	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	0.70	J	1.0	0.32	ug/L	1		8260B	Total/NA
Dichlorodifluoromethane	3.5		3.0	0.96	ug/L	1		8260B	Total/NA
Tetrachloroethene	1.2		1.0	0.40	ug/L	1		8260B	Total/NA
Trichloroethene	1.4		1.0	0.30	ug/L	1		8260B	Total/NA
Barium	0.62	J	3.0	0.38	ug/L	1		200.8	Total/NA
Chromium	1.1	J	3.0	0.50	ug/L	1		200.8	Total/NA
Calcium	100000		200	24	ug/L	1		6010B	Dissolved
Magnesium	42000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	3.0	J	10	0.45	ug/L	1		6010B	Dissolved
Sodium	28000		1000	97	ug/L	1		6010B	Dissolved
Chloride	260		30	10	mg/L	10		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	42	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	700		10	4.7	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-231013-4

## Lab Sample ID: 280-183061-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.34	J	1.0	0.23	ug/L	1		200.8	Total/NA
Barium	0.98	J	3.0	0.38	ug/L	1		200.8	Total/NA
Chromium	1.1	J	3.0	0.50	ug/L	1		200.8	Total/NA
Zinc	2.1	J	10	2.0	ug/L	1		200.8	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Denver

# Detection Summary

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Client Sample ID: VLF-231013-4 (Continued)

## Lab Sample ID: 280-183061-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	32000		200	24	ug/L	1		6010B	Dissolved
Magnesium	12000		200	4.2	ug/L	1		6010B	Dissolved
Sodium	12000		1000	97	ug/L	1		6010B	Dissolved
Chloride	3.6		3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	77	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	230		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	2.8	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: VLF-231013-5

## Lab Sample ID: 280-183061-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	0.44	J	1.0	0.22	ug/L	1		8260B	Total/NA
Nickel	22		3.0	0.83	ug/L	1		200.8	Total/NA
Barium	12		3.0	0.38	ug/L	1		200.8	Total/NA
Zinc	2.0	J	10	2.0	ug/L	1		200.8	Total/NA
Calcium	340000		200	24	ug/L	1		6010B	Dissolved
Magnesium	150000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	48		10	0.45	ug/L	1		6010B	Dissolved
Sodium	36000		1000	97	ug/L	1		6010B	Dissolved
Chloride	480		60	20	mg/L	20		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	620	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	1600		20	9.4	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-231013-6

## Lab Sample ID: 280-183061-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	0.30	J	1.0	0.22	ug/L	1		8260B	Total/NA
Arsenic	0.81	J	5.0	0.50	ug/L	1		200.8	Total/NA
Nickel	11		3.0	0.83	ug/L	1		200.8	Total/NA
Barium	10		3.0	0.38	ug/L	1		200.8	Total/NA
Calcium	85000		200	24	ug/L	1		6010B	Dissolved
Magnesium	55000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	5.1	J	10	0.45	ug/L	1		6010B	Dissolved
Sodium	36000		1000	97	ug/L	1		6010B	Dissolved
Chloride	68		30	10	mg/L	10		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	420	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	1200		20	9.4	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-231013-7

## Lab Sample ID: 280-183061-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	17		5.0	0.50	ug/L	1		200.8	Total/NA
Lead	0.76	J	1.0	0.23	ug/L	1		200.8	Total/NA
Barium	54		3.0	0.38	ug/L	1		200.8	Total/NA
Zinc	5.3	J	10	2.0	ug/L	1		200.8	Total/NA
Calcium	35000		200	24	ug/L	1		6010B	Dissolved
Iron	3400		100	9.1	ug/L	1		6010B	Dissolved
Magnesium	14000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	1400		10	0.45	ug/L	1		6010B	Dissolved
Sodium	26000		1000	97	ug/L	1		6010B	Dissolved
Chloride	16		3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	160	B	10	3.1	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Denver

# Detection Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Client Sample ID: VLF-231013-7 (Continued)

## Lab Sample ID: 280-183061-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	420		20	9.4	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	14		4.0	1.1	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: VLF-231013-8

## Lab Sample ID: 280-183061-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16		5.0	0.50	ug/L	1		200.8	Total/NA
Lead	0.46	J	1.0	0.23	ug/L	1		200.8	Total/NA
Barium	50		3.0	0.38	ug/L	1		200.8	Total/NA
Zinc	6.5	J	10	2.0	ug/L	1		200.8	Total/NA
Calcium	34000		200	24	ug/L	1		6010B	Dissolved
Iron	3500		100	9.1	ug/L	1		6010B	Dissolved
Magnesium	14000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	1400		10	0.45	ug/L	1		6010B	Dissolved
Sodium	26000		1000	97	ug/L	1		6010B	Dissolved
Chloride	17		3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	160	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	430		20	9.4	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	15		4.0	1.1	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: VLF-231013-9

## Lab Sample ID: 280-183061-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.70	J	5.0	0.50	ug/L	1		200.8	Total/NA
Barium	0.56	J	3.0	0.38	ug/L	1		200.8	Total/NA
Chromium	0.51	J	3.0	0.50	ug/L	1		200.8	Total/NA
Zinc	3.3	J	10	2.0	ug/L	1		200.8	Total/NA
Calcium	37000		200	24	ug/L	1		6010B	Dissolved
Iron	9.8	J	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	14000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	0.59	J	10	0.45	ug/L	1		6010B	Dissolved
Sodium	22000		1000	97	ug/L	1		6010B	Dissolved
Chloride	5.2		3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	170	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	430		20	9.4	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-231013-10

## Lab Sample ID: 280-183061-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.26	J	1.0	0.23	ug/L	1		200.8	Total/NA
Barium	15		3.0	0.38	ug/L	1		200.8	Total/NA
Chromium	0.53	J	3.0	0.50	ug/L	1		200.8	Total/NA
Zinc	2.7	J	10	2.0	ug/L	1		200.8	Total/NA
Calcium	41000		200	24	ug/L	1		6010B	Dissolved
Magnesium	20000		200	4.2	ug/L	1		6010B	Dissolved
Sodium	27000		1000	97	ug/L	1		6010B	Dissolved
Chloride	440		300	100	mg/L	100		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	140	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	500		20	9.4	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Denver

# Detection Summary

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Client Sample ID: VLF-231013-11

## Lab Sample ID: 280-183061-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.54	J	5.0	0.50	ug/L	1		200.8	Total/NA
Lead	0.25	J	1.0	0.23	ug/L	1		200.8	Total/NA
Nickel	2.8	J	3.0	0.83	ug/L	1		200.8	Total/NA
Barium	2.4	J	3.0	0.38	ug/L	1		200.8	Total/NA
Chromium	2.2	J	3.0	0.50	ug/L	1		200.8	Total/NA
Zinc	3.7	J	10	2.0	ug/L	1		200.8	Total/NA
Calcium	36000		200	24	ug/L	1		6010B	Dissolved
Magnesium	15000		200	4.2	ug/L	1		6010B	Dissolved
Sodium	19000		1000	97	ug/L	1		6010B	Dissolved
Chloride	14		6.0	2.0	mg/L	2		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	140	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	230		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	4.4		4.0	1.1	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: VLF-231013-12

## Lab Sample ID: 280-183061-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.23	J	1.0	0.23	ug/L	1		200.8	Total/NA
Nickel	2.5	J	3.0	0.83	ug/L	1		200.8	Total/NA
Barium	2.2	J	3.0	0.38	ug/L	1		200.8	Total/NA
Chromium	2.2	J	3.0	0.50	ug/L	1		200.8	Total/NA
Zinc	13		10	2.0	ug/L	1		200.8	Total/NA
Calcium	36000		200	24	ug/L	1		6010B	Dissolved
Magnesium	15000		200	4.2	ug/L	1		6010B	Dissolved
Sodium	19000		1000	97	ug/L	1		6010B	Dissolved
Chloride	15		6.0	2.0	mg/L	2		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	150	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	220		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	7.6		4.0	1.1	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: VLF-231014-13

## Lab Sample ID: 280-183061-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.49	J	3.0	0.38	ug/L	1		200.8	Total/NA
Chromium	4.0		3.0	0.50	ug/L	1		200.8	Total/NA
Zinc	2.2	J	10	2.0	ug/L	1		200.8	Total/NA
Calcium	27000		200	24	ug/L	1		6010B	Dissolved
Magnesium	12000		200	4.2	ug/L	1		6010B	Dissolved
Sodium	19000		1000	97	ug/L	1		6010B	Dissolved
Chloride	10	H	3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	96	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	230		10	4.7	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-231014-14

## Lab Sample ID: 280-183061-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.9	J	5.0	0.50	ug/L	1		200.8	Total/NA
Calcium	120000		200	24	ug/L	1		6010B	Dissolved
Iron	57	J	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	53000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	220		10	0.45	ug/L	1		6010B	Dissolved
Sodium	370000		1000	97	ug/L	1		6010B	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Denver

# Detection Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Client Sample ID: VLF-231014-14 (Continued)

## Lab Sample ID: 280-183061-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	370	H	15	5.1	mg/L	5		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	140	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	1100		20	9.4	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-231014-15

## Lab Sample ID: 280-183061-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	56000		200	24	ug/L	1		6010B	Dissolved
Iron	32	J	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	21000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	22		10	0.45	ug/L	1		6010B	Dissolved
Sodium	91000		1000	97	ug/L	1		6010B	Dissolved
Chloride	140	H	15	5.1	mg/L	5		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	67	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	590		10	4.7	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-231014-16

## Lab Sample ID: 280-183061-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	3.4	J	10	3.2	ug/L	5		8260B	Total/NA
Arsenic	34		5.0	0.50	ug/L	1		200.8	Total/NA
Calcium	260000		200	24	ug/L	1		6010B	Dissolved
Iron	11000		100	9.1	ug/L	1		6010B	Dissolved
Magnesium	160000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	5600		10	0.45	ug/L	1		6010B	Dissolved
Sodium	1400000		10000	970	ug/L	10		6010B	Dissolved
Chloride	1600	H	300	100	mg/L	100		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	1800	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	4800		1000	470	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-231014-17

## Lab Sample ID: 280-183061-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.65	J	5.0	0.50	ug/L	1		200.8	Total/NA
Calcium	110000		200	24	ug/L	1		6010B	Dissolved
Iron	9.6	J	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	51000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	2.4	J	10	0.45	ug/L	1		6010B	Dissolved
Sodium	120000		1000	97	ug/L	1		6010B	Dissolved
Chloride	170	H	15	5.1	mg/L	5		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	330	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	820		20	9.4	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-231014-18

## Lab Sample ID: 280-183061-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.87	J	5.0	0.50	ug/L	1		200.8	Total/NA
Calcium	35000		200	24	ug/L	1		6010B	Dissolved
Iron	31	J	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	13000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	17		10	0.45	ug/L	1		6010B	Dissolved
Sodium	95000		1000	97	ug/L	1		6010B	Dissolved
Chloride	86	H	3.0	1.0	mg/L	1		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Denver

# Detection Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Client Sample ID: VLF-231014-18 (Continued)

## Lab Sample ID: 280-183061-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bicarbonate Alkalinity as CaCO3	180	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	410		10	4.7	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-231014-19

## Lab Sample ID: 280-183061-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	19000		200	24	ug/L	1		6010B	Dissolved
Iron	33	J	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	8600		200	4.2	ug/L	1		6010B	Dissolved
Manganese	4.0	J	10	0.45	ug/L	1		6010B	Dissolved
Sodium	9000		1000	97	ug/L	1		6010B	Dissolved
Chloride	2.9	J H	3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	95	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	140		10	4.7	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-231014-20

## Lab Sample ID: 280-183061-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	50		5.0	0.50	ug/L	1		200.8	Total/NA
Nickel	6.7		3.0	0.83	ug/L	1		200.8	Total/NA
Barium	200		3.0	0.38	ug/L	1		200.8	Total/NA
Zinc	3.1	J	10	2.0	ug/L	1		200.8	Total/NA
Calcium	94000		200	24	ug/L	1		6010B	Dissolved
Iron	7400		100	9.1	ug/L	1		6010B	Dissolved
Magnesium	41000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	11000		10	0.45	ug/L	1		6010B	Dissolved
Sodium	38000		1000	97	ug/L	1		6010B	Dissolved
Chloride	13	H	3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	460	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	480		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	56		4.0	1.1	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: VLF-231014-21

## Lab Sample ID: 280-183061-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16		5.0	0.50	ug/L	1		200.8	Total/NA
Lead	0.52	J	1.0	0.23	ug/L	1		200.8	Total/NA
Barium	33		3.0	0.38	ug/L	1		200.8	Total/NA
Chromium	0.85	J	3.0	0.50	ug/L	1		200.8	Total/NA
Zinc	5.5	J	10	2.0	ug/L	1		200.8	Total/NA
Calcium	26000		200	24	ug/L	1		6010B	Dissolved
Iron	350		100	9.1	ug/L	1		6010B	Dissolved
Magnesium	10000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	610		10	0.45	ug/L	1		6010B	Dissolved
Sodium	27000		1000	97	ug/L	1		6010B	Dissolved
Chloride	4.9	H	3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	160	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	190		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	14		4.0	1.1	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Denver



# Detection Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Client Sample ID: VLF-231014-22

## Lab Sample ID: 280-183061-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	34000		200	24	ug/L	1		6010B	Dissolved
Iron	12	J	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	18000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	0.54	J	10	0.45	ug/L	1		6010B	Dissolved
Sodium	10000		1000	97	ug/L	1		6010B	Dissolved
Chloride	7.5	H	3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	150	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	210		10	4.7	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-231015-23

## Lab Sample ID: 280-183061-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nickel	4.1		3.0	0.83	ug/L	1		200.8	Total/NA
Barium	11		3.0	0.38	ug/L	1		200.8	Total/NA
Zinc	2.1	J	10	2.0	ug/L	1		200.8	Total/NA
Calcium	210000		200	24	ug/L	1		6010B	Dissolved
Iron	75	J	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	89000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	12		10	0.45	ug/L	1		6010B	Dissolved
Sodium	32000		1000	97	ug/L	1		6010B	Dissolved
Chloride	43	H	3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	770	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	850		20	9.4	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	1.2	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: VLF-231015-24

## Lab Sample ID: 280-183061-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nickel	9.0		3.0	0.83	ug/L	1		200.8	Total/NA
Barium	7.8		3.0	0.38	ug/L	1		200.8	Total/NA
Calcium	250000		200	24	ug/L	1		6010B	Dissolved
Iron	26	J	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	110000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	22		10	0.45	ug/L	1		6010B	Dissolved
Sodium	41000		1000	97	ug/L	1		6010B	Dissolved
Chloride	100	H	3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	880	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	1100		20	9.4	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-231015-25

## Lab Sample ID: 280-183061-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.66	J	5.0	0.50	ug/L	1		200.8	Total/NA
Barium	7.7		3.0	0.38	ug/L	1		200.8	Total/NA
Zinc	5.0	J	10	2.0	ug/L	1		200.8	Total/NA
Calcium	43000		200	24	ug/L	1		6010B	Dissolved
Iron	13	J	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	19000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	0.88	J	10	0.45	ug/L	1		6010B	Dissolved
Sodium	20000		1000	97	ug/L	1		6010B	Dissolved
Chloride	47	H	3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	160	B	10	3.1	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Denver

# Detection Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Client Sample ID: VLF-231015-25 (Continued)

## Lab Sample ID: 280-183061-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	260		10	4.7	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-231015-26

## Lab Sample ID: 280-183061-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.2		1.0	0.32	ug/L	1		8260B	Total/NA
Tetrachloroethene	2.7		1.0	0.40	ug/L	1		8260B	Total/NA
Trichloroethene	3.2		1.0	0.30	ug/L	1		8260B	Total/NA
Arsenic	1.3	J	5.0	0.50	ug/L	1		200.8	Total/NA
Lead	0.34	J F1	1.0	0.23	ug/L	1		200.8	Total/NA
Nickel	2.5	J F1	3.0	0.83	ug/L	1		200.8	Total/NA
Barium	8.7	F1	3.0	0.38	ug/L	1		200.8	Total/NA
Chromium	0.61	J	3.0	0.50	ug/L	1		200.8	Total/NA
Zinc	5.8	J F1	10	2.0	ug/L	1		200.8	Total/NA
Calcium	65000		200	24	ug/L	1		6010B	Dissolved
Iron	170		100	9.1	ug/L	1		6010B	Dissolved
Magnesium	32000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	1100		10	0.45	ug/L	1		6010B	Dissolved
Sodium	39000		1000	97	ug/L	1		6010B	Dissolved
Chloride	36	H	3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	300	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	380		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	30		4.0	1.1	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: VLF-231015-27

## Lab Sample ID: 280-183061-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	1.6		1.0	0.40	ug/L	1		8260B	Total/NA
Barium	0.46	J	3.0	0.38	ug/L	1		200.8	Total/NA
Chromium	0.90	J	3.0	0.50	ug/L	1		200.8	Total/NA
Calcium	24000		200	24	ug/L	1		6010B	Dissolved
Magnesium	11000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	0.53	J	10	0.45	ug/L	1		6010B	Dissolved
Sodium	23000		1000	97	ug/L	1		6010B	Dissolved
Chloride	8.7	H	3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	150	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	200		10	4.7	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-231015-28

## Lab Sample ID: 280-183061-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	1.9		1.0	0.40	ug/L	1		8260B	Total/NA
Barium	0.98	J	3.0	0.38	ug/L	1		200.8	Total/NA
Chromium	0.88	J	3.0	0.50	ug/L	1		200.8	Total/NA
Calcium	25000		200	24	ug/L	1		6010B	Dissolved
Magnesium	12000		200	4.2	ug/L	1		6010B	Dissolved
Sodium	23000		1000	97	ug/L	1		6010B	Dissolved
Chloride	8.8	H	3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	140	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	190		10	4.7	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Denver

# Detection Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Client Sample ID: VLF-231015-29

## Lab Sample ID: 280-183061-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	1.2	J	3.0	0.38	ug/L	1		200.8	Total/NA
Chromium	0.69	J	3.0	0.50	ug/L	1		200.8	Total/NA
Zinc	2.5	J	10	2.0	ug/L	1		200.8	Total/NA
Calcium	29000		200	24	ug/L	1		6010B	Dissolved
Iron	14	J	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	14000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	7.9	J	10	0.45	ug/L	1		6010B	Dissolved
Sodium	27000		1000	97	ug/L	1		6010B	Dissolved
Chloride	10	H	3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	150	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	220		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	1.2	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: VLF-231015-30

## Lab Sample ID: 280-183061-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.61	J	5.0	0.50	ug/L	1		200.8	Total/NA
Chromium	0.78	J	3.0	0.50	ug/L	1		200.8	Total/NA
Zinc	6.4	J	10	2.0	ug/L	1		200.8	Total/NA
Calcium	26000		200	24	ug/L	1		6010B	Dissolved
Iron	9.2	J	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	11000		200	4.2	ug/L	1		6010B	Dissolved
Sodium	20000		1000	97	ug/L	1		6010B	Dissolved
Chloride	7.5	H	3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	140	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	190		10	4.7	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: VLF-231015-31

## Lab Sample ID: 280-183061-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	4.6		3.0	0.38	ug/L	1		200.8	Total/NA
Chromium	0.76	J	3.0	0.50	ug/L	1		200.8	Total/NA
Calcium	28000		200	24	ug/L	1		6010B	Dissolved
Magnesium	12000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	0.81	J	10	0.45	ug/L	1		6010B	Dissolved
Sodium	25000		1000	97	ug/L	1		6010B	Dissolved
Chloride	6.9	H	3.0	1.0	mg/L	1		300.0	Total/NA
Bicarbonate Alkalinity as CaCO3	170	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	200		10	4.7	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: Trip Blanks

## Lab Sample ID: 280-183061-32

No Detections.

## Client Sample ID: VLF-231016-32

## Lab Sample ID: 280-183061-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	26000		200	24	ug/L	1		6010B	Dissolved
Iron	48	J	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	10000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	12		10	0.45	ug/L	1		6010B	Dissolved
Sodium	11000		1000	97	ug/L	1		6010B	Dissolved
Chloride	14	H	3.0	1.0	mg/L	1		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Denver

# Detection Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Client Sample ID: VLF-231016-32 (Continued)

## Lab Sample ID: 280-183061-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
ortho-Phosphate	0.021	J	0.050	0.018	mg/L	1		365.1	Total/NA
Biochemical Oxygen Demand	1.6	J b *-	5.0	0.59	mg/L	1		SM5210B	Total/NA

## Client Sample ID: VLF-231016-33

## Lab Sample ID: 280-183061-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	25000		200	24	ug/L	1		6010B	Dissolved
Iron	56	J	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	10000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	12		10	0.45	ug/L	1		6010B	Dissolved
Sodium	11000		1000	97	ug/L	1		6010B	Dissolved
Chloride	14	H	3.0	1.0	mg/L	1		300.0	Total/NA
ortho-Phosphate	0.022	J	0.050	0.018	mg/L	1		365.1	Total/NA
Biochemical Oxygen Demand	2.5	J b *-	10	1.2	mg/L	1		SM5210B	Total/NA

## Client Sample ID: VLF-231016-34

## Lab Sample ID: 280-183061-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	26000		200	24	ug/L	1		6010B	Dissolved
Iron	63	J	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	10000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	11		10	0.45	ug/L	1		6010B	Dissolved
Sodium	11000		1000	97	ug/L	1		6010B	Dissolved
Chloride	15	H	3.0	1.0	mg/L	1		300.0	Total/NA
ortho-Phosphate	0.020	J	0.050	0.018	mg/L	1		365.1	Total/NA
Biochemical Oxygen Demand	1.3	J b *-	5.0	0.59	mg/L	1		SM5210B	Total/NA

## Client Sample ID: VLF-231016-35

## Lab Sample ID: 280-183061-36

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	26000		200	24	ug/L	1		6010B	Dissolved
Iron	70	J	100	9.1	ug/L	1		6010B	Dissolved
Magnesium	10000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	10		10	0.45	ug/L	1		6010B	Dissolved
Sodium	11000		1000	97	ug/L	1		6010B	Dissolved
Chloride	14	H	3.0	1.0	mg/L	1		300.0	Total/NA
ortho-Phosphate	0.022	J	0.050	0.018	mg/L	1		365.1	Total/NA
Biochemical Oxygen Demand	6.0	J b *-	24	2.8	mg/L	1		SM5210B	Total/NA

## Client Sample ID: VLF-231016-36

## Lab Sample ID: 280-183061-37

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	2.8	J	5.0	0.75	ug/L	5		8260B	Total/NA
1,4-Dichlorobenzene	2.6	J	5.0	1.9	ug/L	5		8260B	Total/NA
2-Butanone (MEK)	3400		75	30	ug/L	5		8260B	Total/NA
2-Hexanone	110		25	8.5	ug/L	5		8260B	Total/NA
4-Isopropyltoluene	3.3	J	5.0	2.1	ug/L	5		8260B	Total/NA
4-Methyl-2-pentanone (MIBK)	73		25	4.9	ug/L	5		8260B	Total/NA
Acetone	3600		75	33	ug/L	5		8260B	Total/NA
Benzene	6.3		5.0	1.5	ug/L	5		8260B	Total/NA
Carbon disulfide	5.0	J	10	3.2	ug/L	5		8260B	Total/NA
Ethylbenzene	6.4		5.0	1.5	ug/L	5		8260B	Total/NA
m-Xylene & p-Xylene	7.9	J	10	1.8	ug/L	5		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Denver

# Detection Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

**Client Sample ID: VLF-231016-36 (Continued)**

**Lab Sample ID: 280-183061-37**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	11		10	3.2	ug/L	5		8260B	Total/NA
o-Xylene	5.0		5.0	1.7	ug/L	5		8260B	Total/NA
Toluene	33		5.0	1.6	ug/L	5		8260B	Total/NA
Antimony	20		2.0	0.40	ug/L	1		200.8	Total/NA
Arsenic	130		5.0	0.50	ug/L	1		200.8	Total/NA
Lead	1.7		1.0	0.23	ug/L	1		200.8	Total/NA
Nickel	140		3.0	0.83	ug/L	1		200.8	Total/NA
Barium	570		3.0	0.38	ug/L	1		200.8	Total/NA
Selenium	1.2	J	5.0	1.0	ug/L	1		200.8	Total/NA
Chromium	190		3.0	0.50	ug/L	1		200.8	Total/NA
Cobalt	38		1.0	0.33	ug/L	1		200.8	Total/NA
Copper	8.7		2.0	0.71	ug/L	1		200.8	Total/NA
Vanadium	160		5.0	1.1	ug/L	1		200.8	Total/NA
Zinc	55	B	10	2.0	ug/L	1		200.8	Total/NA
Calcium	130000		200	24	ug/L	1		6010B	Dissolved
Iron	2000		100	9.1	ug/L	1		6010B	Dissolved
Magnesium	150000		200	4.2	ug/L	1		6010B	Dissolved
Manganese	980		10	0.45	ug/L	1		6010B	Dissolved
Potassium	630000		30000	2400	ug/L	10		6010B	Dissolved
Silicon	23000		500	16	ug/L	1		6010B	Dissolved
Sodium	2200000		10000	970	ug/L	10		6010B	Dissolved
Chloride	4300	H	300	100	mg/L	100		300.0	Total/NA
Sulfate	1800	H	500	100	mg/L	100		300.0	Total/NA
Ammonia	1200		25	7.3	mg/L	250		350.1	Total/NA
Nitrate Nitrite as N	0.063	J	0.20	0.044	mg/L	1		353.2	Total/NA
Chemical Oxygen Demand	6400		2000	870	mg/L	100		410.4	Total/NA
Bicarbonate Alkalinity as CaCO3	5200	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8400		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	39		5.9	1.6	mg/L	1		SM 2540D	Total/NA
TOC Result 1	1900		500	170	mg/L	500		SM 5310B	Total/NA
TOC Result 2	1900		500	170	mg/L	500		SM 5310B	Total/NA
TOC Result 3	1900		500	170	mg/L	500		SM 5310B	Total/NA
TOC Result 4	1900		500	170	mg/L	500		SM 5310B	Total/NA
Total Organic Carbon - Quad	1900		500	170	mg/L	500		SM 5310B	Total/NA
Biochemical Oxygen Demand	150	b*-	50	5.9	mg/L	10		SM5210B	Total/NA

**Client Sample ID: Trip Blanks**

**Lab Sample ID: 280-183061-38**

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Denver

# Method Summary

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

Method	Method Description	Protocol	Laboratory
524.2	Volatile Organic Compounds (GC/MS)	EPA-DW	EET CAL 4
8260B	Volatile Organic Compounds (GC/MS)	SW846	EET DEN
200.8	Metals (ICP/MS)	EPA	EET DEN
6010B	Dissolved Metals	SW846	EET DEN
300.0	Anions, Ion Chromatography	EPA	EET DEN
350.1	Nitrogen, Ammonia	EPA	EET DEN
351.2	Nitrogen, Total Kjeldahl	EPA	EET DEN
353.2	Nitrogen, Nitrate-Nitrite	EPA	EET DEN
365.1	Phosphorus, Ortho	EPA	EET DEN
365.1	Phosphorus, Total	EPA	EET DEN
410.4	COD	EPA	EET DEN
SM 2320B	Alkalinity	SM	EET DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	EET DEN
SM 5310B	Organic Carbon, Total (TOC)	SM	EET DEN
SM5210B	BOD, 5 Day	SM	EET DEN
200.8	Preparation, Total Metals	EPA	EET DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET DEN
351.2	Nitrogen, Total Kjeldahl	EPA	EET DEN
365.2/365.3/365	Phosphorus, Total	EPA	EET DEN
5030B	Purge and Trap	SW846	EET DEN

#### Protocol References:

EPA = US Environmental Protection Agency

EPA-DW = "Methods For The Determination Of Organic Compounds In Drinking Water", EPA/600/4-88/039, December 1988 And Its Supplements.

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

# Sample Summary

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-183061-1	VLf-231013-1	Water	10/13/23 11:00	10/17/23 10:22
280-183061-2	VLf-231013-2	Water	10/13/23 11:30	10/17/23 10:22
280-183061-3	VLf-231013-3	Water	10/13/23 12:05	10/17/23 10:22
280-183061-4	VLf-231013-4	Water	10/13/23 12:30	10/17/23 10:22
280-183061-5	VLf-231013-5	Water	10/13/23 13:15	10/17/23 10:22
280-183061-6	VLf-231013-6	Water	10/13/23 13:35	10/17/23 10:22
280-183061-7	VLf-231013-7	Water	10/13/23 14:15	10/17/23 10:22
280-183061-8	VLf-231013-8	Water	10/13/23 14:25	10/17/23 10:22
280-183061-9	VLf-231013-9	Water	10/13/23 15:00	10/17/23 10:22
280-183061-10	VLf-231013-10	Water	10/13/23 15:45	10/17/23 10:22
280-183061-11	VLf-231013-11	Water	10/13/23 16:15	10/17/23 10:22
280-183061-12	VLf-231013-12	Water	10/13/23 16:25	10/17/23 10:22
280-183061-13	VLf-231014-13	Water	10/14/23 07:30	10/17/23 10:22
280-183061-14	VLf-231014-14	Water	10/14/23 08:05	10/17/23 10:22
280-183061-15	VLf-231014-15	Water	10/14/23 08:25	10/17/23 10:22
280-183061-16	VLf-231014-16	Water	10/14/23 09:10	10/17/23 10:22
280-183061-17	VLf-231014-17	Water	10/14/23 09:25	10/17/23 10:22
280-183061-18	VLf-231014-18	Water	10/14/23 09:50	10/17/23 10:22
280-183061-19	VLf-231014-19	Water	10/14/23 10:15	10/17/23 10:22
280-183061-20	VLf-231014-20	Water	10/14/23 10:55	10/17/23 10:22
280-183061-21	VLf-231014-21	Water	10/14/23 11:35	10/17/23 10:22
280-183061-22	VLf-231014-22	Water	10/14/23 12:00	10/17/23 10:22
280-183061-23	VLf-231015-23	Water	10/15/23 07:30	10/17/23 10:22
280-183061-24	VLf-231015-24	Water	10/15/23 08:05	10/17/23 10:22
280-183061-25	VLf-231015-25	Water	10/15/23 09:30	10/17/23 10:22
280-183061-26	VLf-231015-26	Water	10/15/23 09:10	10/17/23 10:22
280-183061-27	VLf-231015-27	Water	10/15/23 09:40	10/17/23 10:22
280-183061-28	VLf-231015-28	Water	10/15/23 09:45	10/17/23 10:22
280-183061-29	VLf-231015-29	Water	10/15/23 10:15	10/17/23 10:22
280-183061-30	VLf-231015-30	Water	10/15/23 10:45	10/17/23 10:22
280-183061-31	VLf-231015-31	Water	10/15/23 11:30	10/17/23 10:22
280-183061-32	Trip Blanks	Water	10/13/23 11:00	10/17/23 10:22
280-183061-33	VLf-231016-32	Water	10/16/23 08:35	10/17/23 10:22
280-183061-34	VLf-231016-33	Water	10/16/23 08:45	10/17/23 10:22
280-183061-35	VLf-231016-34	Water	10/16/23 09:30	10/17/23 10:22
280-183061-36	VLf-231016-35	Water	10/16/23 10:20	10/17/23 10:22
280-183061-37	VLf-231016-36	Water	10/16/23 11:30	10/17/23 10:22
280-183061-38	Trip Blanks	Water	10/13/23 11:00	10/17/23 10:22



# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: EPA-DW 524.2 - Volatile Organic Compounds (GC/MS)

**Client Sample ID: VLF-231015-30**

**Date Collected: 10/15/23 10:45**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-30**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.21	ug/L			10/20/23 12:15	1
1,1,1-Trichloroethane	ND		0.50	0.012	ug/L			10/20/23 12:15	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.021	ug/L			10/20/23 12:15	1
1,1,2-Trichloroethane	ND		0.50	0.020	ug/L			10/20/23 12:15	1
1,1-Dichloroethane	ND		0.50	0.018	ug/L			10/20/23 12:15	1
1,1-Dichloroethene	ND		0.50	0.050	ug/L			10/20/23 12:15	1
1,1-Dichloropropene	ND		0.50	0.23	ug/L			10/20/23 12:15	1
1,2,3-Trichlorobenzene	ND		0.50	0.21	ug/L			10/20/23 12:15	1
1,2,3-Trichloropropane	ND		0.50	0.11	ug/L			10/20/23 12:15	1
1,2,4-Trichlorobenzene	ND		0.50	0.31	ug/L			10/20/23 12:15	1
1,2,4-Trimethylbenzene	ND		0.50	0.31	ug/L			10/20/23 12:15	1
1,2-Dibromo-3-Chloropropane	ND		0.50	0.20	ug/L			10/20/23 12:15	1
1,2-Dibromoethane (EDB)	ND		0.50	0.021	ug/L			10/20/23 12:15	1
1,2-Dichlorobenzene	ND		0.50	0.015	ug/L			10/20/23 12:15	1
1,2-Dichloroethane	ND		0.50	0.014	ug/L			10/20/23 12:15	1
1,2-Dichloropropane	ND		0.50	0.015	ug/L			10/20/23 12:15	1
1,3,5-Trimethylbenzene	ND		0.50	0.30	ug/L			10/20/23 12:15	1
1,3-Dichlorobenzene	ND		0.50	0.018	ug/L			10/20/23 12:15	1
1,3-Dichloropropane	ND		0.50	0.18	ug/L			10/20/23 12:15	1
1,4-Dichlorobenzene	ND		0.50	0.023	ug/L			10/20/23 12:15	1
2,2-Dichloropropane	ND		0.50	0.13	ug/L			10/20/23 12:15	1
2-Chlorotoluene	ND		0.50	0.24	ug/L			10/20/23 12:15	1
4-Chlorotoluene	ND		0.50	0.24	ug/L			10/20/23 12:15	1
Benzene	ND		0.50	0.14	ug/L			10/20/23 12:15	1
Bromobenzene	ND		0.50	0.14	ug/L			10/20/23 12:15	1
Bromochloromethane	ND		0.50	0.11	ug/L			10/20/23 12:15	1
Bromodichloromethane	ND		0.50	0.019	ug/L			10/20/23 12:15	1
Bromoform	ND		0.50	0.075	ug/L			10/20/23 12:15	1
Bromomethane	ND		0.50	0.023	ug/L			10/20/23 12:15	1
Carbon tetrachloride	ND		0.50	0.014	ug/L			10/20/23 12:15	1
Chlorobenzene	ND		0.50	0.016	ug/L			10/20/23 12:15	1
Chloroethane	ND		0.50	0.028	ug/L			10/20/23 12:15	1
Chloroform	ND		0.50	0.016	ug/L			10/20/23 12:15	1
Chloromethane	ND		0.50	0.20	ug/L			10/20/23 12:15	1
cis-1,2-Dichloroethene	ND		0.50	0.023	ug/L			10/20/23 12:15	1
cis-1,3-Dichloropropene	ND		0.50	0.021	ug/L			10/20/23 12:15	1
Dibromochloromethane	ND		0.50	0.026	ug/L			10/20/23 12:15	1
Dibromomethane	ND		0.50	0.17	ug/L			10/20/23 12:15	1
Dichlorodifluoromethane	ND		0.50	0.24	ug/L			10/20/23 12:15	1
Ethylbenzene	ND		0.50	0.33	ug/L			10/20/23 12:15	1
Hexachlorobutadiene	ND		0.50	0.13	ug/L			10/20/23 12:15	1
Isopropylbenzene	ND		0.50	0.32	ug/L			10/20/23 12:15	1
m,p-Xylene	ND		0.50	0.12	ug/L			10/20/23 12:15	1
Methylene Chloride	ND		0.50	0.21	ug/L			10/20/23 12:15	1
Methyl-t-Butyl Ether (MTBE)	ND		0.50	0.12	ug/L			10/20/23 12:15	1
Naphthalene	ND		0.50	0.27	ug/L			10/20/23 12:15	1
n-Butylbenzene	ND		0.50	0.27	ug/L			10/20/23 12:15	1
N-Propylbenzene	ND		0.50	0.28	ug/L			10/20/23 12:15	1
o-Xylene	ND		0.50	0.24	ug/L			10/20/23 12:15	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: EPA-DW 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231015-30**

**Date Collected: 10/15/23 10:45**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-30**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		0.50	0.25	ug/L			10/20/23 12:15	1
sec-Butylbenzene	ND		0.50	0.25	ug/L			10/20/23 12:15	1
Styrene	ND		0.50	0.16	ug/L			10/20/23 12:15	1
tert-Butylbenzene	ND		0.50	0.31	ug/L			10/20/23 12:15	1
Tetrachloroethene	ND		0.50	0.014	ug/L			10/20/23 12:15	1
Toluene	ND		0.50	0.29	ug/L			10/20/23 12:15	1
trans-1,2-Dichloroethene	ND		0.50	0.025	ug/L			10/20/23 12:15	1
trans-1,3-Dichloropropene	ND		0.50	0.032	ug/L			10/20/23 12:15	1
Trichloroethene	ND		0.50	0.028	ug/L			10/20/23 12:15	1
Trichlorofluoromethane	ND		0.50	0.037	ug/L			10/20/23 12:15	1
Vinyl chloride	ND		0.50	0.035	ug/L			10/20/23 12:15	1
Xylenes, Total	ND		0.50	0.24	ug/L			10/20/23 12:15	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichlorobenzene-d4	119		70 - 130					10/20/23 12:15	1
4-Bromofluorobenzene (Surr)	97		70 - 130					10/20/23 12:15	1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: VLF-231013-1**

**Date Collected: 10/13/23 11:00**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 10:08	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 10:08	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 10:08	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 10:08	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			10/26/23 10:08	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 10:08	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 10:08	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 10:08	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 10:08	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 10:08	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 10:08	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 10:08	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 10:08	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 10:08	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 10:08	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 10:08	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 10:08	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 10:08	1
1,3-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 10:08	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 10:08	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 10:08	1
2-Butanone (MEK)	ND		15	6.0	ug/L			10/26/23 10:08	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 10:08	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 10:08	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 10:08	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 10:08	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 10:08	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231013-1**

**Date Collected: 10/13/23 11:00**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		15	6.6	ug/L			10/26/23 10:08	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 10:08	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 10:08	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 10:08	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 10:08	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 10:08	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 10:08	1
Carbon disulfide	ND		2.0	0.63	ug/L			10/26/23 10:08	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 10:08	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 10:08	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 10:08	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 10:08	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 10:08	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 10:08	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 10:08	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 10:08	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 10:08	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 10:08	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 10:08	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 10:08	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 10:08	1
Methylene Chloride	ND		2.0	0.94	ug/L			10/26/23 10:08	1
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 10:08	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 10:08	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 10:08	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 10:08	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 10:08	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 10:08	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 10:08	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 10:08	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 10:08	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 10:08	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			10/26/23 10:08	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 10:08	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 10:08	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 10:08	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 10:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 127		10/26/23 10:08	1
4-Bromofluorobenzene (Surr)	112		78 - 120		10/26/23 10:08	1
Dibromofluoromethane (Surr)	95		77 - 120		10/26/23 10:08	1
Toluene-d8 (Surr)	104		80 - 125		10/26/23 10:08	1

**Client Sample ID: VLF-231013-2**

**Date Collected: 10/13/23 11:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-2**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 10:29	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 10:29	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231013-2**

**Date Collected: 10/13/23 11:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-2**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 10:29	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 10:29	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			10/26/23 10:29	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 10:29	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 10:29	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 10:29	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 10:29	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 10:29	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 10:29	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 10:29	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 10:29	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 10:29	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 10:29	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 10:29	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 10:29	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 10:29	1
1,3-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 10:29	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 10:29	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 10:29	1
2-Butanone (MEK)	ND		15	6.0	ug/L			10/26/23 10:29	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 10:29	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 10:29	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 10:29	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 10:29	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 10:29	1
Acetone	ND		15	6.6	ug/L			10/26/23 10:29	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 10:29	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 10:29	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 10:29	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 10:29	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 10:29	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 10:29	1
Carbon disulfide	ND		2.0	0.63	ug/L			10/26/23 10:29	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 10:29	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 10:29	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 10:29	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 10:29	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 10:29	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 10:29	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 10:29	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 10:29	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 10:29	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 10:29	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 10:29	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 10:29	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 10:29	1
Methylene Chloride	ND		2.0	0.94	ug/L			10/26/23 10:29	1
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 10:29	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 10:29	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231013-2**

**Date Collected: 10/13/23 11:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-2**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 10:29	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 10:29	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 10:29	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 10:29	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 10:29	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 10:29	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 10:29	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 10:29	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			10/26/23 10:29	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 10:29	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 10:29	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 10:29	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 10:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 127					10/26/23 10:29	1
4-Bromofluorobenzene (Surr)	110		78 - 120					10/26/23 10:29	1
Dibromofluoromethane (Surr)	96		77 - 120					10/26/23 10:29	1
Toluene-d8 (Surr)	105		80 - 125					10/26/23 10:29	1

**Client Sample ID: VLF-231013-3**

**Date Collected: 10/13/23 12:05**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-3**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 10:50	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 10:50	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 10:50	1
1,1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 10:50	1
<b>1,1-Dichloroethane</b>	<b>1.1</b>		1.0	0.22	ug/L			10/26/23 10:50	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 10:50	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 10:50	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 10:50	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 10:50	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 10:50	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 10:50	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 10:50	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 10:50	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 10:50	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 10:50	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 10:50	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 10:50	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 10:50	1
1,3-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 10:50	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 10:50	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 10:50	1
2-Butanone (MEK)	ND		15	6.0	ug/L			10/26/23 10:50	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 10:50	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 10:50	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 10:50	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 10:50	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231013-3**

**Date Collected: 10/13/23 12:05**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-3**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 10:50	1
Acetone	ND		15	6.6	ug/L			10/26/23 10:50	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 10:50	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 10:50	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 10:50	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 10:50	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 10:50	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 10:50	1
Carbon disulfide	ND		2.0	0.63	ug/L			10/26/23 10:50	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 10:50	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 10:50	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 10:50	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 10:50	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 10:50	1
<b>cis-1,2-Dichloroethene</b>	<b>0.70</b>	<b>J</b>	1.0	0.32	ug/L			10/26/23 10:50	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 10:50	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 10:50	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 10:50	1
<b>Dichlorodifluoromethane</b>	<b>3.5</b>		3.0	0.96	ug/L			10/26/23 10:50	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 10:50	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 10:50	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 10:50	1
Methylene Chloride	ND		2.0	0.94	ug/L			10/26/23 10:50	1
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 10:50	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 10:50	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 10:50	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 10:50	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 10:50	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 10:50	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 10:50	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 10:50	1
<b>Tetrachloroethene</b>	<b>1.2</b>		1.0	0.40	ug/L			10/26/23 10:50	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 10:50	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			10/26/23 10:50	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 10:50	1
<b>Trichloroethene</b>	<b>1.4</b>		1.0	0.30	ug/L			10/26/23 10:50	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 10:50	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 10:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 127		10/26/23 10:50	1
4-Bromofluorobenzene (Surr)	112		78 - 120		10/26/23 10:50	1
Dibromofluoromethane (Surr)	95		77 - 120		10/26/23 10:50	1
Toluene-d8 (Surr)	106		80 - 125		10/26/23 10:50	1

**Client Sample ID: VLF-231013-4**

**Date Collected: 10/13/23 12:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-4**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 11:11	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231013-4**

**Date Collected: 10/13/23 12:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-4**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 11:11	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 11:11	1
1,1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 11:11	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			10/26/23 11:11	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 11:11	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 11:11	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 11:11	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 11:11	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 11:11	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 11:11	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 11:11	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 11:11	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 11:11	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 11:11	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 11:11	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 11:11	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 11:11	1
1,3-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 11:11	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 11:11	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 11:11	1
2-Butanone (MEK)	ND		15	6.0	ug/L			10/26/23 11:11	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 11:11	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 11:11	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 11:11	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 11:11	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 11:11	1
Acetone	ND		15	6.6	ug/L			10/26/23 11:11	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 11:11	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 11:11	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 11:11	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 11:11	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 11:11	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 11:11	1
Carbon disulfide	ND		2.0	0.63	ug/L			10/26/23 11:11	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 11:11	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 11:11	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 11:11	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 11:11	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 11:11	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 11:11	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 11:11	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 11:11	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 11:11	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 11:11	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 11:11	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 11:11	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 11:11	1
Methylene Chloride	ND		2.0	0.94	ug/L			10/26/23 11:11	1
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 11:11	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231013-4**

**Date Collected: 10/13/23 12:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-4**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 11:11	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 11:11	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 11:11	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 11:11	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 11:11	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 11:11	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 11:11	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 11:11	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 11:11	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			10/26/23 11:11	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 11:11	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 11:11	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 11:11	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 11:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 127					10/26/23 11:11	1
4-Bromofluorobenzene (Surr)	112		78 - 120					10/26/23 11:11	1
Dibromofluoromethane (Surr)	94		77 - 120					10/26/23 11:11	1
Toluene-d8 (Surr)	105		80 - 125					10/26/23 11:11	1

**Client Sample ID: VLF-231013-5**

**Date Collected: 10/13/23 13:15**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-5**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 11:33	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 11:33	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 11:33	1
1,1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 11:33	1
<b>1,1-Dichloroethane</b>	<b>0.44</b>	<b>J</b>	1.0	0.22	ug/L			10/26/23 11:33	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 11:33	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 11:33	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 11:33	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 11:33	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 11:33	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 11:33	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 11:33	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 11:33	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 11:33	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 11:33	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 11:33	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 11:33	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 11:33	1
1,3-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 11:33	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 11:33	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 11:33	1
2-Butanone (MEK)	ND		15	6.0	ug/L			10/26/23 11:33	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 11:33	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 11:33	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 11:33	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231013-5**

**Date Collected: 10/13/23 13:15**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-5**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 11:33	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 11:33	1
Acetone	ND		15	6.6	ug/L			10/26/23 11:33	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 11:33	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 11:33	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 11:33	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 11:33	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 11:33	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 11:33	1
Carbon disulfide	ND		2.0	0.63	ug/L			10/26/23 11:33	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 11:33	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 11:33	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 11:33	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 11:33	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 11:33	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 11:33	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 11:33	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 11:33	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 11:33	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 11:33	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 11:33	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 11:33	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 11:33	1
Methylene Chloride	ND		2.0	0.94	ug/L			10/26/23 11:33	1
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 11:33	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 11:33	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 11:33	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 11:33	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 11:33	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 11:33	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 11:33	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 11:33	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 11:33	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 11:33	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			10/26/23 11:33	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 11:33	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 11:33	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 11:33	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 11:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 127		10/26/23 11:33	1
4-Bromofluorobenzene (Surr)	111		78 - 120		10/26/23 11:33	1
Dibromofluoromethane (Surr)	96		77 - 120		10/26/23 11:33	1
Toluene-d8 (Surr)	103		80 - 125		10/26/23 11:33	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: VLF-231013-6**

**Date Collected: 10/13/23 13:35**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-6**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 11:54	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 11:54	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 11:54	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 11:54	1
<b>1,1-Dichloroethane</b>	<b>0.30</b>	<b>J</b>	1.0	0.22	ug/L			10/26/23 11:54	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 11:54	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 11:54	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 11:54	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 11:54	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 11:54	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 11:54	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 11:54	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 11:54	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 11:54	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 11:54	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 11:54	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 11:54	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 11:54	1
1,3-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 11:54	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 11:54	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 11:54	1
2-Butanone (MEK)	ND		15	6.0	ug/L			10/26/23 11:54	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 11:54	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 11:54	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 11:54	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 11:54	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 11:54	1
Acetone	ND		15	6.6	ug/L			10/26/23 11:54	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 11:54	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 11:54	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 11:54	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 11:54	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 11:54	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 11:54	1
Carbon disulfide	ND		2.0	0.63	ug/L			10/26/23 11:54	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 11:54	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 11:54	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 11:54	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 11:54	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 11:54	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 11:54	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 11:54	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 11:54	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 11:54	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 11:54	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 11:54	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 11:54	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 11:54	1
Methylene Chloride	ND		2.0	0.94	ug/L			10/26/23 11:54	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231013-6**

**Date Collected: 10/13/23 13:35**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-6**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 11:54	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 11:54	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 11:54	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 11:54	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 11:54	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 11:54	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 11:54	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 11:54	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 11:54	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 11:54	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			10/26/23 11:54	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 11:54	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 11:54	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 11:54	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 11:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 127					10/26/23 11:54	1
4-Bromofluorobenzene (Surr)	110		78 - 120					10/26/23 11:54	1
Dibromofluoromethane (Surr)	96		77 - 120					10/26/23 11:54	1
Toluene-d8 (Surr)	104		80 - 125					10/26/23 11:54	1

**Client Sample ID: VLF-231013-7**

**Date Collected: 10/13/23 14:15**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-7**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 12:15	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 12:15	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 12:15	1
1,1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 12:15	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			10/26/23 12:15	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 12:15	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 12:15	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 12:15	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 12:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 12:15	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 12:15	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 12:15	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 12:15	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 12:15	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 12:15	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 12:15	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 12:15	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 12:15	1
1,3-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 12:15	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 12:15	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 12:15	1
2-Butanone (MEK)	ND		15	6.0	ug/L			10/26/23 12:15	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 12:15	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 12:15	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231013-7**

**Date Collected: 10/13/23 14:15**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-7**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 12:15	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 12:15	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 12:15	1
Acetone	ND		15	6.6	ug/L			10/26/23 12:15	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 12:15	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 12:15	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 12:15	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 12:15	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 12:15	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 12:15	1
Carbon disulfide	ND		2.0	0.63	ug/L			10/26/23 12:15	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 12:15	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 12:15	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 12:15	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 12:15	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 12:15	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 12:15	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 12:15	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 12:15	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 12:15	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 12:15	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 12:15	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 12:15	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 12:15	1
Methylene Chloride	ND		2.0	0.94	ug/L			10/26/23 12:15	1
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 12:15	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 12:15	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 12:15	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 12:15	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 12:15	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 12:15	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 12:15	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 12:15	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 12:15	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 12:15	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			10/26/23 12:15	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 12:15	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 12:15	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 12:15	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 12:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 127		10/26/23 12:15	1
4-Bromofluorobenzene (Surr)	110		78 - 120		10/26/23 12:15	1
Dibromofluoromethane (Surr)	96		77 - 120		10/26/23 12:15	1
Toluene-d8 (Surr)	106		80 - 125		10/26/23 12:15	1

# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: VLF-231013-8**

**Date Collected: 10/13/23 14:25**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-8**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 12:37	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 12:37	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 12:37	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 12:37	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			10/26/23 12:37	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 12:37	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 12:37	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 12:37	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 12:37	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 12:37	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 12:37	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 12:37	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 12:37	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 12:37	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 12:37	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 12:37	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 12:37	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 12:37	1
1,3-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 12:37	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 12:37	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 12:37	1
2-Butanone (MEK)	ND		15	6.0	ug/L			10/26/23 12:37	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 12:37	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 12:37	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 12:37	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 12:37	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 12:37	1
Acetone	ND		15	6.6	ug/L			10/26/23 12:37	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 12:37	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 12:37	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 12:37	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 12:37	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 12:37	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 12:37	1
Carbon disulfide	ND		2.0	0.63	ug/L			10/26/23 12:37	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 12:37	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 12:37	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 12:37	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 12:37	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 12:37	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 12:37	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 12:37	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 12:37	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 12:37	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 12:37	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 12:37	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 12:37	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 12:37	1
Methylene Chloride	ND		2.0	0.94	ug/L			10/26/23 12:37	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231013-8**

**Date Collected: 10/13/23 14:25**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-8**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 12:37	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 12:37	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 12:37	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 12:37	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 12:37	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 12:37	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 12:37	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 12:37	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 12:37	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 12:37	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			10/26/23 12:37	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 12:37	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 12:37	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 12:37	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 12:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 127					10/26/23 12:37	1
4-Bromofluorobenzene (Surr)	111		78 - 120					10/26/23 12:37	1
Dibromofluoromethane (Surr)	94		77 - 120					10/26/23 12:37	1
Toluene-d8 (Surr)	104		80 - 125					10/26/23 12:37	1

**Client Sample ID: VLF-231013-9**

**Date Collected: 10/13/23 15:00**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-9**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 12:58	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 12:58	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 12:58	1
1,1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 12:58	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			10/26/23 12:58	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 12:58	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 12:58	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 12:58	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 12:58	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 12:58	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 12:58	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 12:58	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 12:58	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 12:58	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 12:58	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 12:58	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 12:58	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 12:58	1
1,3-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 12:58	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 12:58	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 12:58	1
2-Butanone (MEK)	ND		15	6.0	ug/L			10/26/23 12:58	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 12:58	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 12:58	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231013-9**

**Date Collected: 10/13/23 15:00**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-9**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 12:58	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 12:58	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 12:58	1
Acetone	ND		15	6.6	ug/L			10/26/23 12:58	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 12:58	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 12:58	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 12:58	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 12:58	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 12:58	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 12:58	1
Carbon disulfide	ND		2.0	0.63	ug/L			10/26/23 12:58	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 12:58	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 12:58	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 12:58	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 12:58	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 12:58	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 12:58	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 12:58	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 12:58	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 12:58	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 12:58	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 12:58	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 12:58	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 12:58	1
Methylene Chloride	ND		2.0	0.94	ug/L			10/26/23 12:58	1
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 12:58	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 12:58	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 12:58	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 12:58	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 12:58	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 12:58	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 12:58	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 12:58	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 12:58	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 12:58	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			10/26/23 12:58	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 12:58	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 12:58	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 12:58	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 12:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 127		10/26/23 12:58	1
4-Bromofluorobenzene (Surr)	111		78 - 120		10/26/23 12:58	1
Dibromofluoromethane (Surr)	95		77 - 120		10/26/23 12:58	1
Toluene-d8 (Surr)	106		80 - 125		10/26/23 12:58	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: VLF-231013-10**

**Date Collected: 10/13/23 15:45**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-10**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 13:19	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 13:19	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 13:19	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 13:19	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			10/26/23 13:19	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 13:19	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 13:19	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 13:19	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 13:19	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 13:19	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 13:19	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 13:19	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 13:19	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 13:19	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 13:19	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 13:19	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 13:19	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 13:19	1
1,3-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 13:19	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 13:19	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 13:19	1
2-Butanone (MEK)	ND		15	6.0	ug/L			10/26/23 13:19	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 13:19	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 13:19	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 13:19	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 13:19	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 13:19	1
Acetone	ND		15	6.6	ug/L			10/26/23 13:19	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 13:19	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 13:19	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 13:19	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 13:19	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 13:19	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 13:19	1
Carbon disulfide	ND		2.0	0.63	ug/L			10/26/23 13:19	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 13:19	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 13:19	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 13:19	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 13:19	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 13:19	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 13:19	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 13:19	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 13:19	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 13:19	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 13:19	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 13:19	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 13:19	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 13:19	1
Methylene Chloride	ND		2.0	0.94	ug/L			10/26/23 13:19	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231013-10**

**Date Collected: 10/13/23 15:45**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-10**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 13:19	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 13:19	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 13:19	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 13:19	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 13:19	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 13:19	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 13:19	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 13:19	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 13:19	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 13:19	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			10/26/23 13:19	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 13:19	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 13:19	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 13:19	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 13:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 127					10/26/23 13:19	1
4-Bromofluorobenzene (Surr)	111		78 - 120					10/26/23 13:19	1
Dibromofluoromethane (Surr)	94		77 - 120					10/26/23 13:19	1
Toluene-d8 (Surr)	104		80 - 125					10/26/23 13:19	1

**Client Sample ID: VLF-231013-11**

**Date Collected: 10/13/23 16:15**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-11**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 13:41	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 13:41	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 13:41	1
1,1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 13:41	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			10/26/23 13:41	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 13:41	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 13:41	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 13:41	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 13:41	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 13:41	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 13:41	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 13:41	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 13:41	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 13:41	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 13:41	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 13:41	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 13:41	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 13:41	1
1,3-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 13:41	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 13:41	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 13:41	1
2-Butanone (MEK)	ND		15	6.0	ug/L			10/26/23 13:41	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 13:41	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 13:41	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231013-11**

**Date Collected: 10/13/23 16:15**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-11**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 13:41	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 13:41	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 13:41	1
Acetone	ND		15	6.6	ug/L			10/26/23 13:41	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 13:41	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 13:41	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 13:41	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 13:41	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 13:41	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 13:41	1
Carbon disulfide	ND		2.0	0.63	ug/L			10/26/23 13:41	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 13:41	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 13:41	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 13:41	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 13:41	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 13:41	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 13:41	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 13:41	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 13:41	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 13:41	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 13:41	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 13:41	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 13:41	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 13:41	1
Methylene Chloride	ND		2.0	0.94	ug/L			10/26/23 13:41	1
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 13:41	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 13:41	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 13:41	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 13:41	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 13:41	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 13:41	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 13:41	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 13:41	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 13:41	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 13:41	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			10/26/23 13:41	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 13:41	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 13:41	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 13:41	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 13:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 127		10/26/23 13:41	1
4-Bromofluorobenzene (Surr)	111		78 - 120		10/26/23 13:41	1
Dibromofluoromethane (Surr)	94		77 - 120		10/26/23 13:41	1
Toluene-d8 (Surr)	106		80 - 125		10/26/23 13:41	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: VLF-231013-12**

**Date Collected: 10/13/23 16:25**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-12**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 14:02	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 14:02	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 14:02	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 14:02	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			10/26/23 14:02	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 14:02	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 14:02	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 14:02	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 14:02	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 14:02	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 14:02	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 14:02	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 14:02	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 14:02	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 14:02	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 14:02	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 14:02	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 14:02	1
1,3-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 14:02	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 14:02	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 14:02	1
2-Butanone (MEK)	ND		15	6.0	ug/L			10/26/23 14:02	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 14:02	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 14:02	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 14:02	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 14:02	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 14:02	1
Acetone	ND		15	6.6	ug/L			10/26/23 14:02	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 14:02	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 14:02	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 14:02	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 14:02	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 14:02	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 14:02	1
Carbon disulfide	ND		2.0	0.63	ug/L			10/26/23 14:02	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 14:02	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 14:02	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 14:02	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 14:02	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 14:02	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 14:02	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 14:02	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 14:02	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 14:02	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 14:02	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 14:02	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 14:02	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 14:02	1
Methylene Chloride	ND		2.0	0.94	ug/L			10/26/23 14:02	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231013-12**

**Date Collected: 10/13/23 16:25**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-12**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 14:02	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 14:02	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 14:02	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 14:02	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 14:02	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 14:02	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 14:02	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 14:02	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 14:02	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 14:02	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			10/26/23 14:02	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 14:02	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 14:02	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 14:02	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 14:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 127					10/26/23 14:02	1
4-Bromofluorobenzene (Surr)	111		78 - 120					10/26/23 14:02	1
Dibromofluoromethane (Surr)	93		77 - 120					10/26/23 14:02	1
Toluene-d8 (Surr)	104		80 - 125					10/26/23 14:02	1

**Client Sample ID: VLF-231014-13**

**Date Collected: 10/14/23 07:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-13**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 22:10	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 22:10	1
1,1,2,2-Tetrachloroethane	ND	*+	1.0	0.21	ug/L			10/26/23 22:10	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 22:10	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			10/26/23 22:10	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 22:10	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 22:10	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 22:10	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 22:10	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 22:10	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 22:10	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 22:10	1
1,2-Dibromoethane	ND	*+	1.0	0.40	ug/L			10/26/23 22:10	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 22:10	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 22:10	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 22:10	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 22:10	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 22:10	1
1,3-Dichloropropane	ND	*+	1.0	0.38	ug/L			10/26/23 22:10	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 22:10	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 22:10	1
2-Butanone (MEK)	ND		15	6.0	ug/L			10/26/23 22:10	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 22:10	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 22:10	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231014-13**

**Date Collected: 10/14/23 07:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-13**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 22:10	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 22:10	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 22:10	1
Acetone	ND		15	6.6	ug/L			10/26/23 22:10	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 22:10	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 22:10	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 22:10	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 22:10	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 22:10	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 22:10	1
Carbon disulfide	ND		2.0	0.63	ug/L			10/26/23 22:10	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 22:10	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 22:10	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 22:10	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 22:10	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 22:10	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 22:10	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 22:10	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 22:10	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 22:10	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 22:10	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 22:10	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 22:10	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 22:10	1
Methylene Chloride	ND		2.0	0.94	ug/L			10/26/23 22:10	1
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 22:10	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 22:10	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 22:10	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 22:10	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 22:10	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 22:10	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 22:10	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 22:10	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 22:10	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 22:10	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			10/26/23 22:10	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 22:10	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 22:10	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 22:10	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 22:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 127		10/26/23 22:10	1
4-Bromofluorobenzene (Surr)	112		78 - 120		10/26/23 22:10	1
Dibromofluoromethane (Surr)	94		77 - 120		10/26/23 22:10	1
Toluene-d8 (Surr)	105		80 - 125		10/26/23 22:10	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: VLF-231014-14**

**Date Collected: 10/14/23 08:05**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-14**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 22:31	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 22:31	1
1,1,2,2-Tetrachloroethane	ND	*+	1.0	0.21	ug/L			10/26/23 22:31	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 22:31	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			10/26/23 22:31	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 22:31	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 22:31	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 22:31	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 22:31	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 22:31	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 22:31	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 22:31	1
1,2-Dibromoethane	ND	*+	1.0	0.40	ug/L			10/26/23 22:31	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 22:31	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 22:31	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 22:31	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 22:31	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 22:31	1
1,3-Dichloropropane	ND	*+	1.0	0.38	ug/L			10/26/23 22:31	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 22:31	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 22:31	1
2-Butanone (MEK)	ND		15	6.0	ug/L			10/26/23 22:31	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 22:31	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 22:31	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 22:31	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 22:31	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 22:31	1
Acetone	ND		15	6.6	ug/L			10/26/23 22:31	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 22:31	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 22:31	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 22:31	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 22:31	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 22:31	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 22:31	1
Carbon disulfide	ND		2.0	0.63	ug/L			10/26/23 22:31	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 22:31	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 22:31	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 22:31	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 22:31	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 22:31	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 22:31	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 22:31	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 22:31	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 22:31	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 22:31	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 22:31	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 22:31	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 22:31	1
Methylene Chloride	ND		2.0	0.94	ug/L			10/26/23 22:31	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231014-14**

**Date Collected: 10/14/23 08:05**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-14**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 22:31	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 22:31	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 22:31	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 22:31	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 22:31	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 22:31	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 22:31	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 22:31	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 22:31	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 22:31	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			10/26/23 22:31	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 22:31	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 22:31	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 22:31	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 22:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 127					10/26/23 22:31	1
4-Bromofluorobenzene (Surr)	111		78 - 120					10/26/23 22:31	1
Dibromofluoromethane (Surr)	96		77 - 120					10/26/23 22:31	1
Toluene-d8 (Surr)	105		80 - 125					10/26/23 22:31	1

**Client Sample ID: VLF-231014-16**

**Date Collected: 10/14/23 09:10**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-16**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	2.9	ug/L			10/26/23 15:48	5
1,1,1-Trichloroethane	ND		5.0	2.0	ug/L			10/26/23 15:48	5
1,1,1,2,2-Tetrachloroethane	ND		5.0	1.1	ug/L			10/26/23 15:48	5
1,1,1,2-Trichloroethane	ND		5.0	1.4	ug/L			10/26/23 15:48	5
1,1-Dichloroethane	ND		5.0	1.1	ug/L			10/26/23 15:48	5
1,1-Dichloroethene	ND		5.0	1.2	ug/L			10/26/23 15:48	5
1,1-Dichloropropene	ND		5.0	2.1	ug/L			10/26/23 15:48	5
1,2,3-Trichlorobenzene	ND		10	3.5	ug/L			10/26/23 15:48	5
1,2,3-Trichloropropane	ND		13	4.3	ug/L			10/26/23 15:48	5
1,2,4-Trichlorobenzene	ND		5.0	2.9	ug/L			10/26/23 15:48	5
1,2,4-Trimethylbenzene	ND		5.0	0.75	ug/L			10/26/23 15:48	5
1,2-Dibromo-3-Chloropropane	ND		25	8.8	ug/L			10/26/23 15:48	5
1,2-Dibromoethane	ND		5.0	2.0	ug/L			10/26/23 15:48	5
1,2-Dichlorobenzene	ND		5.0	1.9	ug/L			10/26/23 15:48	5
1,2-Dichloroethane	ND		5.0	2.7	ug/L			10/26/23 15:48	5
1,2-Dichloropropane	ND		5.0	2.6	ug/L			10/26/23 15:48	5
1,3,5-Trimethylbenzene	ND		5.0	1.8	ug/L			10/26/23 15:48	5
1,3-Dichlorobenzene	ND		5.0	1.7	ug/L			10/26/23 15:48	5
1,3-Dichloropropane	ND		5.0	1.9	ug/L			10/26/23 15:48	5
1,4-Dichlorobenzene	ND		5.0	1.9	ug/L			10/26/23 15:48	5
2,2-Dichloropropane	ND		5.0	1.9	ug/L			10/26/23 15:48	5
2-Butanone (MEK)	ND		75	30	ug/L			10/26/23 15:48	5
2-Chlorotoluene	ND		5.0	1.7	ug/L			10/26/23 15:48	5
2-Hexanone	ND		25	8.5	ug/L			10/26/23 15:48	5

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231014-16**

**Date Collected: 10/14/23 09:10**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-16**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		5.0	1.1	ug/L			10/26/23 15:48	5
4-Isopropyltoluene	ND		5.0	2.1	ug/L			10/26/23 15:48	5
4-Methyl-2-pentanone (MIBK)	ND		25	4.9	ug/L			10/26/23 15:48	5
Acetone	ND		75	33	ug/L			10/26/23 15:48	5
Benzene	ND		5.0	1.5	ug/L			10/26/23 15:48	5
Bromobenzene	ND		5.0	2.0	ug/L			10/26/23 15:48	5
Bromochloromethane	ND		5.0	2.0	ug/L			10/26/23 15:48	5
Bromodichloromethane	ND		5.0	1.9	ug/L			10/26/23 15:48	5
Bromoform	ND		10	6.1	ug/L			10/26/23 15:48	5
Bromomethane	ND		25	12	ug/L			10/26/23 15:48	5
Carbon disulfide	ND		10	3.2	ug/L			10/26/23 15:48	5
Carbon tetrachloride	ND		5.0	2.8	ug/L			10/26/23 15:48	5
Chlorobenzene	ND		5.0	2.1	ug/L			10/26/23 15:48	5
Chloroethane	ND		20	6.9	ug/L			10/26/23 15:48	5
Chloroform	ND		5.0	1.8	ug/L			10/26/23 15:48	5
Chloromethane	ND		10	3.8	ug/L			10/26/23 15:48	5
cis-1,2-Dichloroethene	ND		5.0	1.6	ug/L			10/26/23 15:48	5
cis-1,3-Dichloropropene	ND		10	3.1	ug/L			10/26/23 15:48	5
Dibromochloromethane	ND		10	3.1	ug/L			10/26/23 15:48	5
Dibromomethane	ND		5.0	1.7	ug/L			10/26/23 15:48	5
Dichlorodifluoromethane	ND		15	4.8	ug/L			10/26/23 15:48	5
Ethylbenzene	ND		5.0	1.5	ug/L			10/26/23 15:48	5
Hexachlorobutadiene	ND		10	5.9	ug/L			10/26/23 15:48	5
Isopropylbenzene	ND		5.0	1.8	ug/L			10/26/23 15:48	5
Methylene Chloride	ND		10	4.7	ug/L			10/26/23 15:48	5
m-Xylene & p-Xylene	ND		10	1.8	ug/L			10/26/23 15:48	5
<b>Naphthalene</b>	<b>3.4</b>	<b>J</b>	10	3.2	ug/L			10/26/23 15:48	5
n-Butylbenzene	ND		5.0	2.4	ug/L			10/26/23 15:48	5
N-Propylbenzene	ND		5.0	2.7	ug/L			10/26/23 15:48	5
o-Xylene	ND		5.0	1.7	ug/L			10/26/23 15:48	5
sec-Butylbenzene	ND		5.0	2.2	ug/L			10/26/23 15:48	5
Styrene	ND		5.0	1.8	ug/L			10/26/23 15:48	5
tert-Butylbenzene	ND		5.0	2.1	ug/L			10/26/23 15:48	5
Tetrachloroethene	ND		5.0	2.0	ug/L			10/26/23 15:48	5
Toluene	ND		5.0	1.6	ug/L			10/26/23 15:48	5
trans-1,2-Dichloroethene	ND		5.0	1.8	ug/L			10/26/23 15:48	5
trans-1,3-Dichloropropene	ND		10	3.2	ug/L			10/26/23 15:48	5
Trichloroethene	ND		5.0	1.5	ug/L			10/26/23 15:48	5
Trichlorofluoromethane	ND		10	2.8	ug/L			10/26/23 15:48	5
Vinyl chloride	ND		10	2.5	ug/L			10/26/23 15:48	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 127		10/26/23 15:48	5
4-Bromofluorobenzene (Surr)	110		78 - 120		10/26/23 15:48	5
Dibromofluoromethane (Surr)	93		77 - 120		10/26/23 15:48	5
Toluene-d8 (Surr)	105		80 - 125		10/26/23 15:48	5

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: VLF-231014-17**

**Date Collected: 10/14/23 09:25**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-17**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 14:23	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 14:23	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 14:23	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 14:23	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			10/26/23 14:23	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 14:23	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 14:23	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 14:23	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 14:23	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 14:23	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 14:23	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 14:23	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 14:23	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 14:23	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 14:23	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 14:23	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 14:23	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 14:23	1
1,3-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 14:23	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 14:23	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 14:23	1
2-Butanone (MEK)	ND		15	6.0	ug/L			10/26/23 14:23	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 14:23	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 14:23	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 14:23	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 14:23	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 14:23	1
Acetone	ND		15	6.6	ug/L			10/26/23 14:23	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 14:23	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 14:23	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 14:23	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 14:23	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 14:23	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 14:23	1
Carbon disulfide	ND		2.0	0.63	ug/L			10/26/23 14:23	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 14:23	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 14:23	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 14:23	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 14:23	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 14:23	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 14:23	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 14:23	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 14:23	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 14:23	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 14:23	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 14:23	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 14:23	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 14:23	1
Methylene Chloride	ND		2.0	0.94	ug/L			10/26/23 14:23	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231014-17**

**Date Collected: 10/14/23 09:25**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-17**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 14:23	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 14:23	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 14:23	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 14:23	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 14:23	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 14:23	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 14:23	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 14:23	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 14:23	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 14:23	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			10/26/23 14:23	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 14:23	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 14:23	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 14:23	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 14:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 127					10/26/23 14:23	1
4-Bromofluorobenzene (Surr)	112		78 - 120					10/26/23 14:23	1
Dibromofluoromethane (Surr)	96		77 - 120					10/26/23 14:23	1
Toluene-d8 (Surr)	106		80 - 125					10/26/23 14:23	1

**Client Sample ID: VLF-231014-18**

**Date Collected: 10/14/23 09:50**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-18**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 14:44	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 14:44	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 14:44	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 14:44	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			10/26/23 14:44	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 14:44	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 14:44	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 14:44	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 14:44	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 14:44	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 14:44	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 14:44	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 14:44	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 14:44	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 14:44	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 14:44	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 14:44	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 14:44	1
1,3-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 14:44	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 14:44	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 14:44	1
2-Butanone (MEK)	ND		15	6.0	ug/L			10/26/23 14:44	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 14:44	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 14:44	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231014-18**

**Date Collected: 10/14/23 09:50**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-18**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 14:44	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 14:44	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 14:44	1
Acetone	ND		15	6.6	ug/L			10/26/23 14:44	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 14:44	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 14:44	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 14:44	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 14:44	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 14:44	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 14:44	1
Carbon disulfide	ND		2.0	0.63	ug/L			10/26/23 14:44	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 14:44	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 14:44	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 14:44	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 14:44	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 14:44	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 14:44	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 14:44	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 14:44	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 14:44	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 14:44	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 14:44	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 14:44	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 14:44	1
Methylene Chloride	ND		2.0	0.94	ug/L			10/26/23 14:44	1
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 14:44	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 14:44	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 14:44	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 14:44	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 14:44	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 14:44	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 14:44	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 14:44	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 14:44	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 14:44	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			10/26/23 14:44	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 14:44	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 14:44	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 14:44	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 14:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 127		10/26/23 14:44	1
4-Bromofluorobenzene (Surr)	111		78 - 120		10/26/23 14:44	1
Dibromofluoromethane (Surr)	95		77 - 120		10/26/23 14:44	1
Toluene-d8 (Surr)	105		80 - 125		10/26/23 14:44	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: VLF-231014-20**

**Date Collected: 10/14/23 10:55**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-20**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 15:05	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 15:05	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 15:05	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 15:05	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			10/26/23 15:05	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 15:05	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 15:05	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 15:05	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 15:05	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 15:05	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 15:05	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 15:05	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 15:05	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 15:05	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 15:05	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 15:05	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 15:05	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 15:05	1
1,3-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 15:05	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 15:05	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 15:05	1
2-Butanone (MEK)	ND		15	6.0	ug/L			10/26/23 15:05	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 15:05	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 15:05	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 15:05	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 15:05	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 15:05	1
Acetone	ND		15	6.6	ug/L			10/26/23 15:05	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 15:05	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 15:05	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 15:05	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 15:05	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 15:05	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 15:05	1
Carbon disulfide	ND		2.0	0.63	ug/L			10/26/23 15:05	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 15:05	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 15:05	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 15:05	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 15:05	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 15:05	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 15:05	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 15:05	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 15:05	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 15:05	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 15:05	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 15:05	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 15:05	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 15:05	1
Methylene Chloride	ND		2.0	0.94	ug/L			10/26/23 15:05	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231014-20**

**Date Collected: 10/14/23 10:55**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-20**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 15:05	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 15:05	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 15:05	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 15:05	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 15:05	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 15:05	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 15:05	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 15:05	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 15:05	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 15:05	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			10/26/23 15:05	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 15:05	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 15:05	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 15:05	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 15:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 127					10/26/23 15:05	1
4-Bromofluorobenzene (Surr)	109		78 - 120					10/26/23 15:05	1
Dibromofluoromethane (Surr)	95		77 - 120					10/26/23 15:05	1
Toluene-d8 (Surr)	104		80 - 125					10/26/23 15:05	1

**Client Sample ID: VLF-231014-21**

**Date Collected: 10/14/23 11:35**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-21**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 15:27	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 15:27	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 15:27	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 15:27	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			10/26/23 15:27	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 15:27	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 15:27	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 15:27	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 15:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 15:27	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 15:27	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 15:27	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 15:27	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 15:27	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 15:27	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 15:27	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 15:27	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 15:27	1
1,3-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 15:27	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 15:27	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 15:27	1
2-Butanone (MEK)	ND		15	6.0	ug/L			10/26/23 15:27	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 15:27	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 15:27	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231014-21**

**Date Collected: 10/14/23 11:35**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-21**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 15:27	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 15:27	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 15:27	1
Acetone	ND		15	6.6	ug/L			10/26/23 15:27	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 15:27	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 15:27	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 15:27	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 15:27	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 15:27	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 15:27	1
Carbon disulfide	ND		2.0	0.63	ug/L			10/26/23 15:27	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 15:27	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 15:27	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 15:27	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 15:27	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 15:27	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 15:27	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 15:27	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 15:27	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 15:27	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 15:27	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 15:27	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 15:27	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 15:27	1
Methylene Chloride	ND		2.0	0.94	ug/L			10/26/23 15:27	1
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 15:27	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 15:27	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 15:27	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 15:27	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 15:27	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 15:27	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 15:27	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 15:27	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 15:27	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 15:27	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			10/26/23 15:27	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 15:27	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 15:27	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 15:27	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 15:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 127		10/26/23 15:27	1
4-Bromofluorobenzene (Surr)	110		78 - 120		10/26/23 15:27	1
Dibromofluoromethane (Surr)	94		77 - 120		10/26/23 15:27	1
Toluene-d8 (Surr)	104		80 - 125		10/26/23 15:27	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: VLF-231015-23**

**Date Collected: 10/15/23 07:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-23**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 03:58	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 03:58	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 03:58	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 03:58	1
1,1-Dichloroethane	ND	*1	1.0	0.22	ug/L			10/26/23 03:58	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 03:58	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 03:58	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 03:58	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 03:58	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 03:58	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 03:58	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 03:58	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 03:58	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 03:58	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 03:58	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 03:58	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 03:58	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 03:58	1
1,3-Dichloropropane	ND	*+	1.0	0.38	ug/L			10/26/23 03:58	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 03:58	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 03:58	1
2-Butanone (MEK)	ND	*1	15	6.0	ug/L			10/26/23 03:58	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 03:58	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 03:58	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 03:58	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 03:58	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 03:58	1
Acetone	ND	*1	15	6.6	ug/L			10/26/23 03:58	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 03:58	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 03:58	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 03:58	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 03:58	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 03:58	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 03:58	1
Carbon disulfide	ND	*1	2.0	0.63	ug/L			10/26/23 03:58	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 03:58	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 03:58	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 03:58	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 03:58	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 03:58	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 03:58	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 03:58	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 03:58	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 03:58	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 03:58	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 03:58	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 03:58	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 03:58	1
Methylene Chloride	ND	*1	2.0	0.94	ug/L			10/26/23 03:58	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231015-23**

**Date Collected: 10/15/23 07:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-23**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 03:58	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 03:58	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 03:58	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 03:58	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 03:58	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 03:58	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 03:58	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 03:58	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 03:58	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 03:58	1
trans-1,2-Dichloroethene	ND	*1	1.0	0.37	ug/L			10/26/23 03:58	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 03:58	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 03:58	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 03:58	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 03:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 127					10/26/23 03:58	1
4-Bromofluorobenzene (Surr)	113		78 - 120					10/26/23 03:58	1
Dibromofluoromethane (Surr)	96		77 - 120					10/26/23 03:58	1
Toluene-d8 (Surr)	105		80 - 125					10/26/23 03:58	1

**Client Sample ID: VLF-231015-24**

**Date Collected: 10/15/23 08:05**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-24**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 04:19	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 04:19	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 04:19	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 04:19	1
1,1-Dichloroethane	ND	*1	1.0	0.22	ug/L			10/26/23 04:19	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 04:19	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 04:19	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 04:19	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 04:19	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 04:19	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 04:19	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 04:19	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 04:19	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 04:19	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 04:19	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 04:19	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 04:19	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 04:19	1
1,3-Dichloropropane	ND	*+	1.0	0.38	ug/L			10/26/23 04:19	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 04:19	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 04:19	1
2-Butanone (MEK)	ND	*1	15	6.0	ug/L			10/26/23 04:19	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 04:19	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 04:19	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231015-24**

**Date Collected: 10/15/23 08:05**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-24**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 04:19	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 04:19	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 04:19	1
Acetone	ND	*1	15	6.6	ug/L			10/26/23 04:19	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 04:19	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 04:19	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 04:19	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 04:19	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 04:19	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 04:19	1
Carbon disulfide	ND	*1	2.0	0.63	ug/L			10/26/23 04:19	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 04:19	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 04:19	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 04:19	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 04:19	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 04:19	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 04:19	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 04:19	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 04:19	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 04:19	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 04:19	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 04:19	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 04:19	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 04:19	1
Methylene Chloride	ND	*1	2.0	0.94	ug/L			10/26/23 04:19	1
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 04:19	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 04:19	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 04:19	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 04:19	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 04:19	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 04:19	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 04:19	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 04:19	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 04:19	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 04:19	1
trans-1,2-Dichloroethene	ND	*1	1.0	0.37	ug/L			10/26/23 04:19	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 04:19	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 04:19	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 04:19	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 04:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 127		10/26/23 04:19	1
4-Bromofluorobenzene (Surr)	111		78 - 120		10/26/23 04:19	1
Dibromofluoromethane (Surr)	96		77 - 120		10/26/23 04:19	1
Toluene-d8 (Surr)	106		80 - 125		10/26/23 04:19	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: VLF-231015-25**

**Date Collected: 10/15/23 09:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-25**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 04:39	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 04:39	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 04:39	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 04:39	1
1,1-Dichloroethane	ND	*1	1.0	0.22	ug/L			10/26/23 04:39	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 04:39	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 04:39	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 04:39	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 04:39	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 04:39	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 04:39	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 04:39	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 04:39	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 04:39	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 04:39	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 04:39	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 04:39	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 04:39	1
1,3-Dichloropropane	ND	*+	1.0	0.38	ug/L			10/26/23 04:39	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 04:39	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 04:39	1
2-Butanone (MEK)	ND	*1	15	6.0	ug/L			10/26/23 04:39	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 04:39	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 04:39	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 04:39	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 04:39	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 04:39	1
Acetone	ND	*1	15	6.6	ug/L			10/26/23 04:39	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 04:39	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 04:39	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 04:39	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 04:39	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 04:39	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 04:39	1
Carbon disulfide	ND	*1	2.0	0.63	ug/L			10/26/23 04:39	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 04:39	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 04:39	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 04:39	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 04:39	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 04:39	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 04:39	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 04:39	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 04:39	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 04:39	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 04:39	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 04:39	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 04:39	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 04:39	1
Methylene Chloride	ND	*1	2.0	0.94	ug/L			10/26/23 04:39	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231015-25**

**Date Collected: 10/15/23 09:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-25**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 04:39	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 04:39	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 04:39	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 04:39	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 04:39	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 04:39	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 04:39	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 04:39	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 04:39	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 04:39	1
trans-1,2-Dichloroethene	ND	*1	1.0	0.37	ug/L			10/26/23 04:39	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 04:39	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 04:39	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 04:39	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 04:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 127					10/26/23 04:39	1
4-Bromofluorobenzene (Surr)	111		78 - 120					10/26/23 04:39	1
Dibromofluoromethane (Surr)	95		77 - 120					10/26/23 04:39	1
Toluene-d8 (Surr)	107		80 - 125					10/26/23 04:39	1

**Client Sample ID: VLF-231015-26**

**Date Collected: 10/15/23 09:10**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-26**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 05:00	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 05:00	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 05:00	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 05:00	1
1,1-Dichloroethane	ND	*1	1.0	0.22	ug/L			10/26/23 05:00	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 05:00	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 05:00	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 05:00	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 05:00	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 05:00	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 05:00	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 05:00	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 05:00	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 05:00	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 05:00	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 05:00	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 05:00	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 05:00	1
1,3-Dichloropropane	ND	*+	1.0	0.38	ug/L			10/26/23 05:00	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 05:00	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 05:00	1
2-Butanone (MEK)	ND	*1	15	6.0	ug/L			10/26/23 05:00	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 05:00	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 05:00	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231015-26**

**Date Collected: 10/15/23 09:10**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-26**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 05:00	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 05:00	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 05:00	1
Acetone	ND	*1	15	6.6	ug/L			10/26/23 05:00	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 05:00	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 05:00	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 05:00	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 05:00	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 05:00	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 05:00	1
Carbon disulfide	ND	*1	2.0	0.63	ug/L			10/26/23 05:00	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 05:00	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 05:00	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 05:00	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 05:00	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 05:00	1
<b>cis-1,2-Dichloroethene</b>	<b>1.2</b>		1.0	0.32	ug/L			10/26/23 05:00	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 05:00	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 05:00	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 05:00	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 05:00	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 05:00	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 05:00	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 05:00	1
Methylene Chloride	ND	*1	2.0	0.94	ug/L			10/26/23 05:00	1
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 05:00	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 05:00	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 05:00	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 05:00	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 05:00	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 05:00	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 05:00	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 05:00	1
<b>Tetrachloroethene</b>	<b>2.7</b>		1.0	0.40	ug/L			10/26/23 05:00	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 05:00	1
trans-1,2-Dichloroethene	ND	*1	1.0	0.37	ug/L			10/26/23 05:00	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 05:00	1
<b>Trichloroethene</b>	<b>3.2</b>		1.0	0.30	ug/L			10/26/23 05:00	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 05:00	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 05:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 127		10/26/23 05:00	1
4-Bromofluorobenzene (Surr)	113		78 - 120		10/26/23 05:00	1
Dibromofluoromethane (Surr)	95		77 - 120		10/26/23 05:00	1
Toluene-d8 (Surr)	106		80 - 125		10/26/23 05:00	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: VLF-231015-27**

**Date Collected: 10/15/23 09:40**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-27**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 05:20	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 05:20	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 05:20	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 05:20	1
1,1-Dichloroethane	ND	*1	1.0	0.22	ug/L			10/26/23 05:20	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 05:20	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 05:20	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 05:20	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 05:20	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 05:20	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 05:20	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 05:20	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 05:20	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 05:20	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 05:20	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 05:20	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 05:20	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 05:20	1
1,3-Dichloropropane	ND	*+	1.0	0.38	ug/L			10/26/23 05:20	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 05:20	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 05:20	1
2-Butanone (MEK)	ND	*1	15	6.0	ug/L			10/26/23 05:20	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 05:20	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 05:20	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 05:20	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 05:20	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 05:20	1
Acetone	ND	*1	15	6.6	ug/L			10/26/23 05:20	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 05:20	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 05:20	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 05:20	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 05:20	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 05:20	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 05:20	1
Carbon disulfide	ND	*1	2.0	0.63	ug/L			10/26/23 05:20	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 05:20	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 05:20	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 05:20	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 05:20	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 05:20	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 05:20	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 05:20	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 05:20	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 05:20	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 05:20	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 05:20	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 05:20	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 05:20	1
Methylene Chloride	ND	*1	2.0	0.94	ug/L			10/26/23 05:20	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231015-27**

**Date Collected: 10/15/23 09:40**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-27**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 05:20	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 05:20	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 05:20	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 05:20	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 05:20	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 05:20	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 05:20	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 05:20	1
<b>Tetrachloroethene</b>	<b>1.6</b>		1.0	0.40	ug/L			10/26/23 05:20	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 05:20	1
trans-1,2-Dichloroethene	ND	*1	1.0	0.37	ug/L			10/26/23 05:20	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 05:20	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 05:20	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 05:20	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 05:20	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	112		70 - 127					10/26/23 05:20	1
4-Bromofluorobenzene (Surr)	111		78 - 120					10/26/23 05:20	1
Dibromofluoromethane (Surr)	99		77 - 120					10/26/23 05:20	1
Toluene-d8 (Surr)	104		80 - 125					10/26/23 05:20	1

**Client Sample ID: VLF-231015-28**

**Date Collected: 10/15/23 09:45**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-28**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 05:40	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 05:40	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 05:40	1
1,1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 05:40	1
1,1-Dichloroethane	ND	*1	1.0	0.22	ug/L			10/26/23 05:40	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 05:40	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 05:40	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 05:40	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 05:40	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 05:40	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 05:40	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 05:40	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 05:40	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 05:40	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 05:40	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 05:40	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 05:40	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 05:40	1
1,3-Dichloropropane	ND	*+	1.0	0.38	ug/L			10/26/23 05:40	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 05:40	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 05:40	1
2-Butanone (MEK)	ND	*1	15	6.0	ug/L			10/26/23 05:40	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 05:40	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 05:40	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231015-28**

**Date Collected: 10/15/23 09:45**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-28**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 05:40	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 05:40	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 05:40	1
Acetone	ND	*1	15	6.6	ug/L			10/26/23 05:40	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 05:40	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 05:40	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 05:40	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 05:40	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 05:40	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 05:40	1
Carbon disulfide	ND	*1	2.0	0.63	ug/L			10/26/23 05:40	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 05:40	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 05:40	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 05:40	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 05:40	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 05:40	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 05:40	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 05:40	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 05:40	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 05:40	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 05:40	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 05:40	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 05:40	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 05:40	1
Methylene Chloride	ND	*1	2.0	0.94	ug/L			10/26/23 05:40	1
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 05:40	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 05:40	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 05:40	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 05:40	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 05:40	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 05:40	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 05:40	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 05:40	1
<b>Tetrachloroethene</b>	<b>1.9</b>		1.0	0.40	ug/L			10/26/23 05:40	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 05:40	1
trans-1,2-Dichloroethene	ND	*1	1.0	0.37	ug/L			10/26/23 05:40	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 05:40	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 05:40	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 05:40	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 05:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 127		10/26/23 05:40	1
4-Bromofluorobenzene (Surr)	112		78 - 120		10/26/23 05:40	1
Dibromofluoromethane (Surr)	97		77 - 120		10/26/23 05:40	1
Toluene-d8 (Surr)	106		80 - 125		10/26/23 05:40	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: VLF-231015-29**

**Date Collected: 10/15/23 10:15**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-29**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 06:01	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 06:01	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 06:01	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 06:01	1
1,1-Dichloroethane	ND	*1	1.0	0.22	ug/L			10/26/23 06:01	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 06:01	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 06:01	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 06:01	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 06:01	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 06:01	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 06:01	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 06:01	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 06:01	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 06:01	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 06:01	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 06:01	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 06:01	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 06:01	1
1,3-Dichloropropane	ND	*+	1.0	0.38	ug/L			10/26/23 06:01	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 06:01	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 06:01	1
2-Butanone (MEK)	ND	*1	15	6.0	ug/L			10/26/23 06:01	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 06:01	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 06:01	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 06:01	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 06:01	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 06:01	1
Acetone	ND	*1	15	6.6	ug/L			10/26/23 06:01	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 06:01	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 06:01	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 06:01	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 06:01	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 06:01	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 06:01	1
Carbon disulfide	ND	*1	2.0	0.63	ug/L			10/26/23 06:01	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 06:01	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 06:01	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 06:01	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 06:01	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 06:01	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 06:01	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 06:01	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 06:01	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 06:01	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 06:01	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 06:01	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 06:01	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 06:01	1
Methylene Chloride	ND	*1	2.0	0.94	ug/L			10/26/23 06:01	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231015-29**

**Date Collected: 10/15/23 10:15**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-29**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 06:01	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 06:01	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 06:01	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 06:01	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 06:01	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 06:01	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 06:01	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 06:01	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 06:01	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 06:01	1
trans-1,2-Dichloroethene	ND	*1	1.0	0.37	ug/L			10/26/23 06:01	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 06:01	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 06:01	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 06:01	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 06:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 127					10/26/23 06:01	1
4-Bromofluorobenzene (Surr)	112		78 - 120					10/26/23 06:01	1
Dibromofluoromethane (Surr)	97		77 - 120					10/26/23 06:01	1
Toluene-d8 (Surr)	107		80 - 125					10/26/23 06:01	1

**Client Sample ID: VLF-231015-31**

**Date Collected: 10/15/23 11:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-31**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 06:21	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 06:21	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 06:21	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 06:21	1
1,1-Dichloroethane	ND	*1	1.0	0.22	ug/L			10/26/23 06:21	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 06:21	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 06:21	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 06:21	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 06:21	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 06:21	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 06:21	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 06:21	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 06:21	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 06:21	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 06:21	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 06:21	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 06:21	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 06:21	1
1,3-Dichloropropane	ND	*+	1.0	0.38	ug/L			10/26/23 06:21	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 06:21	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 06:21	1
2-Butanone (MEK)	ND	*1	15	6.0	ug/L			10/26/23 06:21	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 06:21	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 06:21	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231015-31**

**Date Collected: 10/15/23 11:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-31**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 06:21	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 06:21	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 06:21	1
Acetone	ND	*1	15	6.6	ug/L			10/26/23 06:21	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 06:21	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 06:21	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 06:21	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 06:21	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 06:21	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 06:21	1
Carbon disulfide	ND	*1	2.0	0.63	ug/L			10/26/23 06:21	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 06:21	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 06:21	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 06:21	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 06:21	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 06:21	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 06:21	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 06:21	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 06:21	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 06:21	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 06:21	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 06:21	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 06:21	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 06:21	1
Methylene Chloride	ND	*1	2.0	0.94	ug/L			10/26/23 06:21	1
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 06:21	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 06:21	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 06:21	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 06:21	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 06:21	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 06:21	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 06:21	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 06:21	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 06:21	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 06:21	1
trans-1,2-Dichloroethene	ND	*1	1.0	0.37	ug/L			10/26/23 06:21	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 06:21	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 06:21	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 06:21	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 06:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 127		10/26/23 06:21	1
4-Bromofluorobenzene (Surr)	111		78 - 120		10/26/23 06:21	1
Dibromofluoromethane (Surr)	97		77 - 120		10/26/23 06:21	1
Toluene-d8 (Surr)	106		80 - 125		10/26/23 06:21	1

# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: Trip Blanks**  
**Date Collected: 10/13/23 11:00**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-32**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 09:25	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 09:25	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 09:25	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 09:25	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			10/26/23 09:25	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 09:25	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 09:25	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 09:25	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 09:25	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 09:25	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 09:25	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 09:25	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 09:25	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 09:25	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 09:25	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 09:25	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 09:25	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 09:25	1
1,3-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 09:25	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 09:25	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 09:25	1
2-Butanone (MEK)	ND		15	6.0	ug/L			10/26/23 09:25	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 09:25	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 09:25	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 09:25	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 09:25	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 09:25	1
Acetone	ND		15	6.6	ug/L			10/26/23 09:25	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 09:25	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 09:25	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 09:25	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 09:25	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 09:25	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 09:25	1
Carbon disulfide	ND		2.0	0.63	ug/L			10/26/23 09:25	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 09:25	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 09:25	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 09:25	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 09:25	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 09:25	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 09:25	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 09:25	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 09:25	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 09:25	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 09:25	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 09:25	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 09:25	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 09:25	1
Methylene Chloride	ND		2.0	0.94	ug/L			10/26/23 09:25	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: Trip Blanks**  
**Date Collected: 10/13/23 11:00**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-32**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 09:25	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 09:25	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 09:25	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 09:25	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 09:25	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 09:25	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 09:25	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 09:25	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 09:25	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 09:25	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			10/26/23 09:25	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 09:25	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 09:25	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 09:25	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 09:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 127					10/26/23 09:25	1
4-Bromofluorobenzene (Surr)	109		78 - 120					10/26/23 09:25	1
Dibromofluoromethane (Surr)	95		77 - 120					10/26/23 09:25	1
Toluene-d8 (Surr)	106		80 - 125					10/26/23 09:25	1

**Client Sample ID: VLF-231016-36**  
**Date Collected: 10/16/23 11:30**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-37**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	2.9	ug/L			10/26/23 16:10	5
1,1,1-Trichloroethane	ND		5.0	2.0	ug/L			10/26/23 16:10	5
1,1,2,2-Tetrachloroethane	ND		5.0	1.1	ug/L			10/26/23 16:10	5
1,1,2-Trichloroethane	ND		5.0	1.4	ug/L			10/26/23 16:10	5
1,1-Dichloroethane	ND		5.0	1.1	ug/L			10/26/23 16:10	5
1,1-Dichloroethene	ND		5.0	1.2	ug/L			10/26/23 16:10	5
1,1-Dichloropropene	ND		5.0	2.1	ug/L			10/26/23 16:10	5
1,2,3-Trichlorobenzene	ND		10	3.5	ug/L			10/26/23 16:10	5
1,2,3-Trichloropropane	ND		13	4.3	ug/L			10/26/23 16:10	5
1,2,4-Trichlorobenzene	ND		5.0	2.9	ug/L			10/26/23 16:10	5
<b>1,2,4-Trimethylbenzene</b>	<b>2.8</b>	<b>J</b>	5.0	0.75	ug/L			10/26/23 16:10	5
1,2-Dibromo-3-Chloropropane	ND		25	8.8	ug/L			10/26/23 16:10	5
1,2-Dibromoethane	ND		5.0	2.0	ug/L			10/26/23 16:10	5
1,2-Dichlorobenzene	ND		5.0	1.9	ug/L			10/26/23 16:10	5
1,2-Dichloroethane	ND		5.0	2.7	ug/L			10/26/23 16:10	5
1,2-Dichloropropane	ND		5.0	2.6	ug/L			10/26/23 16:10	5
1,3,5-Trimethylbenzene	ND		5.0	1.8	ug/L			10/26/23 16:10	5
1,3-Dichlorobenzene	ND		5.0	1.7	ug/L			10/26/23 16:10	5
1,3-Dichloropropane	ND		5.0	1.9	ug/L			10/26/23 16:10	5
<b>1,4-Dichlorobenzene</b>	<b>2.6</b>	<b>J</b>	5.0	1.9	ug/L			10/26/23 16:10	5
2,2-Dichloropropane	ND		5.0	1.9	ug/L			10/26/23 16:10	5
<b>2-Butanone (MEK)</b>	<b>3400</b>		75	30	ug/L			10/26/23 16:10	5
2-Chlorotoluene	ND		5.0	1.7	ug/L			10/26/23 16:10	5
<b>2-Hexanone</b>	<b>110</b>		25	8.5	ug/L			10/26/23 16:10	5

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: VLF-231016-36**

**Lab Sample ID: 280-183061-37**

**Date Collected: 10/16/23 11:30**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		5.0	1.1	ug/L			10/26/23 16:10	5
<b>4-Isopropyltoluene</b>	<b>3.3</b>	<b>J</b>	5.0	2.1	ug/L			10/26/23 16:10	5
<b>4-Methyl-2-pentanone (MIBK)</b>	<b>73</b>		25	4.9	ug/L			10/26/23 16:10	5
<b>Acetone</b>	<b>3600</b>		75	33	ug/L			10/26/23 16:10	5
<b>Benzene</b>	<b>6.3</b>		5.0	1.5	ug/L			10/26/23 16:10	5
Bromobenzene	ND		5.0	2.0	ug/L			10/26/23 16:10	5
Bromochloromethane	ND		5.0	2.0	ug/L			10/26/23 16:10	5
Bromodichloromethane	ND		5.0	1.9	ug/L			10/26/23 16:10	5
Bromoform	ND		10	6.1	ug/L			10/26/23 16:10	5
Bromomethane	ND		25	12	ug/L			10/26/23 16:10	5
<b>Carbon disulfide</b>	<b>5.0</b>	<b>J</b>	10	3.2	ug/L			10/26/23 16:10	5
Carbon tetrachloride	ND		5.0	2.8	ug/L			10/26/23 16:10	5
Chlorobenzene	ND		5.0	2.1	ug/L			10/26/23 16:10	5
Chloroethane	ND		20	6.9	ug/L			10/26/23 16:10	5
Chloroform	ND		5.0	1.8	ug/L			10/26/23 16:10	5
Chloromethane	ND		10	3.8	ug/L			10/26/23 16:10	5
cis-1,2-Dichloroethene	ND		5.0	1.6	ug/L			10/26/23 16:10	5
cis-1,3-Dichloropropene	ND		10	3.1	ug/L			10/26/23 16:10	5
Dibromochloromethane	ND		10	3.1	ug/L			10/26/23 16:10	5
Dibromomethane	ND		5.0	1.7	ug/L			10/26/23 16:10	5
Dichlorodifluoromethane	ND		15	4.8	ug/L			10/26/23 16:10	5
<b>Ethylbenzene</b>	<b>6.4</b>		5.0	1.5	ug/L			10/26/23 16:10	5
Hexachlorobutadiene	ND		10	5.9	ug/L			10/26/23 16:10	5
Isopropylbenzene	ND		5.0	1.8	ug/L			10/26/23 16:10	5
Methylene Chloride	ND		10	4.7	ug/L			10/26/23 16:10	5
<b>m-Xylene &amp; p-Xylene</b>	<b>7.9</b>	<b>J</b>	10	1.8	ug/L			10/26/23 16:10	5
<b>Naphthalene</b>	<b>11</b>		10	3.2	ug/L			10/26/23 16:10	5
n-Butylbenzene	ND		5.0	2.4	ug/L			10/26/23 16:10	5
N-Propylbenzene	ND		5.0	2.7	ug/L			10/26/23 16:10	5
<b>o-Xylene</b>	<b>5.0</b>		5.0	1.7	ug/L			10/26/23 16:10	5
sec-Butylbenzene	ND		5.0	2.2	ug/L			10/26/23 16:10	5
Styrene	ND		5.0	1.8	ug/L			10/26/23 16:10	5
tert-Butylbenzene	ND		5.0	2.1	ug/L			10/26/23 16:10	5
Tetrachloroethene	ND		5.0	2.0	ug/L			10/26/23 16:10	5
<b>Toluene</b>	<b>33</b>		5.0	1.6	ug/L			10/26/23 16:10	5
trans-1,2-Dichloroethene	ND		5.0	1.8	ug/L			10/26/23 16:10	5
trans-1,3-Dichloropropene	ND		10	3.2	ug/L			10/26/23 16:10	5
Trichloroethene	ND		5.0	1.5	ug/L			10/26/23 16:10	5
Trichlorofluoromethane	ND		10	2.8	ug/L			10/26/23 16:10	5
Vinyl chloride	ND		10	2.5	ug/L			10/26/23 16:10	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 127		10/26/23 16:10	5
4-Bromofluorobenzene (Surr)	109		78 - 120		10/26/23 16:10	5
Dibromofluoromethane (Surr)	95		77 - 120		10/26/23 16:10	5
Toluene-d8 (Surr)	106		80 - 125		10/26/23 16:10	5

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: Trip Blanks**  
**Date Collected: 10/13/23 11:00**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-38**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 09:46	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 09:46	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 09:46	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 09:46	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			10/26/23 09:46	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 09:46	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 09:46	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 09:46	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 09:46	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 09:46	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 09:46	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 09:46	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 09:46	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 09:46	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 09:46	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 09:46	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 09:46	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 09:46	1
1,3-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 09:46	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 09:46	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 09:46	1
2-Butanone (MEK)	ND		15	6.0	ug/L			10/26/23 09:46	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 09:46	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 09:46	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 09:46	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 09:46	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 09:46	1
Acetone	ND		15	6.6	ug/L			10/26/23 09:46	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 09:46	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 09:46	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 09:46	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 09:46	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 09:46	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 09:46	1
Carbon disulfide	ND		2.0	0.63	ug/L			10/26/23 09:46	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 09:46	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 09:46	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 09:46	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 09:46	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 09:46	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 09:46	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 09:46	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 09:46	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 09:46	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 09:46	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 09:46	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 09:46	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 09:46	1
Methylene Chloride	ND		2.0	0.94	ug/L			10/26/23 09:46	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: Trip Blanks**  
**Date Collected: 10/13/23 11:00**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-38**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 09:46	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 09:46	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 09:46	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 09:46	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 09:46	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 09:46	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 09:46	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 09:46	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 09:46	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 09:46	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			10/26/23 09:46	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 09:46	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 09:46	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 09:46	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 09:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 127					10/26/23 09:46	1
4-Bromofluorobenzene (Surr)	111		78 - 120					10/26/23 09:46	1
Dibromofluoromethane (Surr)	96		77 - 120					10/26/23 09:46	1
Toluene-d8 (Surr)	105		80 - 125					10/26/23 09:46	1

## Method: EPA 200.8 - Metals (ICP/MS)

**Client Sample ID: VLF-231013-1**  
**Date Collected: 10/13/23 11:00**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-1**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/20/23 08:41	11/20/23 18:38	1
Arsenic	ND		5.0	0.50	ug/L		11/20/23 08:41	11/20/23 18:38	1
Lead	ND		1.0	0.23	ug/L		11/20/23 08:41	11/20/23 18:38	1
<b>Nickel</b>	<b>8.7</b>		3.0	0.83	ug/L		11/20/23 08:41	11/20/23 18:38	1
<b>Barium</b>	<b>3.2</b>		3.0	0.38	ug/L		11/20/23 08:41	11/20/23 18:38	1
Selenium	ND		5.0	1.0	ug/L		11/20/23 08:41	11/20/23 18:38	1
<b>Chromium</b>	<b>1.1</b>	<b>J</b>	3.0	0.50	ug/L		11/20/23 08:41	11/20/23 18:38	1
<b>Zinc</b>	<b>3.8</b>	<b>J</b>	10	2.0	ug/L		11/20/23 08:41	11/20/23 18:38	1

**Client Sample ID: VLF-231013-2**  
**Date Collected: 10/13/23 11:30**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-2**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/20/23 08:41	11/20/23 18:50	1
Arsenic	ND		5.0	0.50	ug/L		11/20/23 08:41	11/20/23 18:50	1
Lead	ND		1.0	0.23	ug/L		11/20/23 08:41	11/20/23 18:50	1
Nickel	ND		3.0	0.83	ug/L		11/20/23 08:41	11/20/23 18:50	1
<b>Barium</b>	<b>2.7</b>	<b>J</b>	3.0	0.38	ug/L		11/20/23 08:41	11/20/23 18:50	1
Selenium	ND		5.0	1.0	ug/L		11/20/23 08:41	11/20/23 18:50	1
Chromium	ND		3.0	0.50	ug/L		11/20/23 08:41	11/20/23 18:50	1
<b>Zinc</b>	<b>2.1</b>	<b>J</b>	10	2.0	ug/L		11/20/23 08:41	11/20/23 18:50	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: EPA 200.8 - Metals (ICP/MS)

**Client Sample ID: VLF-231013-3**  
**Date Collected: 10/13/23 12:05**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-3**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/20/23 08:41	11/20/23 18:56	1
Arsenic	ND		5.0	0.50	ug/L		11/20/23 08:41	11/20/23 18:56	1
Lead	ND		1.0	0.23	ug/L		11/20/23 08:41	11/20/23 18:56	1
Nickel	ND		3.0	0.83	ug/L		11/20/23 08:41	11/20/23 18:56	1
<b>Barium</b>	<b>0.62</b>	<b>J</b>	3.0	0.38	ug/L		11/20/23 08:41	11/20/23 18:56	1
Selenium	ND		5.0	1.0	ug/L		11/20/23 08:41	11/20/23 18:56	1
<b>Chromium</b>	<b>1.1</b>	<b>J</b>	3.0	0.50	ug/L		11/20/23 08:41	11/20/23 18:56	1
Zinc	ND		10	2.0	ug/L		11/20/23 08:41	11/20/23 18:56	1

**Client Sample ID: VLF-231013-4**  
**Date Collected: 10/13/23 12:30**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-4**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/20/23 08:41	11/20/23 18:59	1
Arsenic	ND		5.0	0.50	ug/L		11/20/23 08:41	11/20/23 18:59	1
<b>Lead</b>	<b>0.34</b>	<b>J</b>	1.0	0.23	ug/L		11/20/23 08:41	11/20/23 18:59	1
Nickel	ND		3.0	0.83	ug/L		11/20/23 08:41	11/20/23 18:59	1
<b>Barium</b>	<b>0.98</b>	<b>J</b>	3.0	0.38	ug/L		11/20/23 08:41	11/20/23 18:59	1
Selenium	ND		5.0	1.0	ug/L		11/20/23 08:41	11/20/23 18:59	1
<b>Chromium</b>	<b>1.1</b>	<b>J</b>	3.0	0.50	ug/L		11/20/23 08:41	11/20/23 18:59	1
<b>Zinc</b>	<b>2.1</b>	<b>J</b>	10	2.0	ug/L		11/20/23 08:41	11/20/23 18:59	1

**Client Sample ID: VLF-231013-5**  
**Date Collected: 10/13/23 13:15**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-5**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/20/23 08:41	11/20/23 19:01	1
Arsenic	ND		5.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:01	1
Lead	ND		1.0	0.23	ug/L		11/20/23 08:41	11/20/23 19:01	1
<b>Nickel</b>	<b>22</b>		3.0	0.83	ug/L		11/20/23 08:41	11/20/23 19:01	1
<b>Barium</b>	<b>12</b>		3.0	0.38	ug/L		11/20/23 08:41	11/20/23 19:01	1
Selenium	ND		5.0	1.0	ug/L		11/20/23 08:41	11/20/23 19:01	1
Chromium	ND		3.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:01	1
<b>Zinc</b>	<b>2.0</b>	<b>J</b>	10	2.0	ug/L		11/20/23 08:41	11/20/23 19:01	1

**Client Sample ID: VLF-231013-6**  
**Date Collected: 10/13/23 13:35**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-6**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/20/23 08:41	11/20/23 19:03	1
<b>Arsenic</b>	<b>0.81</b>	<b>J</b>	5.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:03	1
Lead	ND		1.0	0.23	ug/L		11/20/23 08:41	11/20/23 19:03	1
<b>Nickel</b>	<b>11</b>		3.0	0.83	ug/L		11/20/23 08:41	11/20/23 19:03	1
<b>Barium</b>	<b>10</b>		3.0	0.38	ug/L		11/20/23 08:41	11/20/23 19:03	1
Selenium	ND		5.0	1.0	ug/L		11/20/23 08:41	11/20/23 19:03	1
Chromium	ND		3.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:03	1
Zinc	ND		10	2.0	ug/L		11/20/23 08:41	11/20/23 19:03	1

# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: EPA 200.8 - Metals (ICP/MS)

**Client Sample ID: VLF-231013-7**

**Date Collected: 10/13/23 14:15**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-7**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/20/23 08:41	11/20/23 19:05	1
<b>Arsenic</b>	<b>17</b>		5.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:05	1
<b>Lead</b>	<b>0.76</b>	<b>J</b>	1.0	0.23	ug/L		11/20/23 08:41	11/20/23 19:05	1
Nickel	ND		3.0	0.83	ug/L		11/20/23 08:41	11/20/23 19:05	1
<b>Barium</b>	<b>54</b>		3.0	0.38	ug/L		11/20/23 08:41	11/20/23 19:05	1
Selenium	ND		5.0	1.0	ug/L		11/20/23 08:41	11/20/23 19:05	1
Chromium	ND		3.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:05	1
<b>Zinc</b>	<b>5.3</b>	<b>J</b>	10	2.0	ug/L		11/20/23 08:41	11/20/23 19:05	1

**Client Sample ID: VLF-231013-8**

**Date Collected: 10/13/23 14:25**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-8**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/20/23 08:41	11/20/23 19:08	1
<b>Arsenic</b>	<b>16</b>		5.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:08	1
<b>Lead</b>	<b>0.46</b>	<b>J</b>	1.0	0.23	ug/L		11/20/23 08:41	11/20/23 19:08	1
Nickel	ND		3.0	0.83	ug/L		11/20/23 08:41	11/20/23 19:08	1
<b>Barium</b>	<b>50</b>		3.0	0.38	ug/L		11/20/23 08:41	11/20/23 19:08	1
Selenium	ND		5.0	1.0	ug/L		11/20/23 08:41	11/20/23 19:08	1
Chromium	ND		3.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:08	1
<b>Zinc</b>	<b>6.5</b>	<b>J</b>	10	2.0	ug/L		11/20/23 08:41	11/20/23 19:08	1

**Client Sample ID: VLF-231013-9**

**Date Collected: 10/13/23 15:00**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-9**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/20/23 08:41	11/20/23 19:10	1
<b>Arsenic</b>	<b>0.70</b>	<b>J</b>	5.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:10	1
Lead	ND		1.0	0.23	ug/L		11/20/23 08:41	11/20/23 19:10	1
Nickel	ND		3.0	0.83	ug/L		11/20/23 08:41	11/20/23 19:10	1
<b>Barium</b>	<b>0.56</b>	<b>J</b>	3.0	0.38	ug/L		11/20/23 08:41	11/20/23 19:10	1
Selenium	ND		5.0	1.0	ug/L		11/20/23 08:41	11/20/23 19:10	1
<b>Chromium</b>	<b>0.51</b>	<b>J</b>	3.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:10	1
<b>Zinc</b>	<b>3.3</b>	<b>J</b>	10	2.0	ug/L		11/20/23 08:41	11/20/23 19:10	1

**Client Sample ID: VLF-231013-10**

**Date Collected: 10/13/23 15:45**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-10**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/20/23 08:41	11/20/23 19:12	1
Arsenic	ND		5.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:12	1
<b>Lead</b>	<b>0.26</b>	<b>J</b>	1.0	0.23	ug/L		11/20/23 08:41	11/20/23 19:12	1
Nickel	ND		3.0	0.83	ug/L		11/20/23 08:41	11/20/23 19:12	1
<b>Barium</b>	<b>15</b>		3.0	0.38	ug/L		11/20/23 08:41	11/20/23 19:12	1
Selenium	ND		5.0	1.0	ug/L		11/20/23 08:41	11/20/23 19:12	1
<b>Chromium</b>	<b>0.53</b>	<b>J</b>	3.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:12	1
<b>Zinc</b>	<b>2.7</b>	<b>J</b>	10	2.0	ug/L		11/20/23 08:41	11/20/23 19:12	1



# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: EPA 200.8 - Metals (ICP/MS)

**Client Sample ID: VLF-231013-11**  
**Date Collected: 10/13/23 16:15**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-11**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/20/23 08:41	11/20/23 19:14	1
<b>Arsenic</b>	<b>0.54</b>	<b>J</b>	5.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:14	1
<b>Lead</b>	<b>0.25</b>	<b>J</b>	1.0	0.23	ug/L		11/20/23 08:41	11/20/23 19:14	1
<b>Nickel</b>	<b>2.8</b>	<b>J</b>	3.0	0.83	ug/L		11/20/23 08:41	11/20/23 19:14	1
<b>Barium</b>	<b>2.4</b>	<b>J</b>	3.0	0.38	ug/L		11/20/23 08:41	11/20/23 19:14	1
Selenium	ND		5.0	1.0	ug/L		11/20/23 08:41	11/20/23 19:14	1
<b>Chromium</b>	<b>2.2</b>	<b>J</b>	3.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:14	1
<b>Zinc</b>	<b>3.7</b>	<b>J</b>	10	2.0	ug/L		11/20/23 08:41	11/20/23 19:14	1

**Client Sample ID: VLF-231013-12**  
**Date Collected: 10/13/23 16:25**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-12**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/20/23 08:41	11/20/23 19:17	1
Arsenic	ND		5.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:17	1
<b>Lead</b>	<b>0.23</b>	<b>J</b>	1.0	0.23	ug/L		11/20/23 08:41	11/20/23 19:17	1
<b>Nickel</b>	<b>2.5</b>	<b>J</b>	3.0	0.83	ug/L		11/20/23 08:41	11/20/23 19:17	1
<b>Barium</b>	<b>2.2</b>	<b>J</b>	3.0	0.38	ug/L		11/20/23 08:41	11/20/23 19:17	1
Selenium	ND		5.0	1.0	ug/L		11/20/23 08:41	11/20/23 19:17	1
<b>Chromium</b>	<b>2.2</b>	<b>J</b>	3.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:17	1
<b>Zinc</b>	<b>13</b>		10	2.0	ug/L		11/20/23 08:41	11/20/23 19:17	1

**Client Sample ID: VLF-231014-13**  
**Date Collected: 10/14/23 07:30**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-13**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/20/23 08:41	11/20/23 19:23	1
Arsenic	ND		5.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:23	1
Lead	ND		1.0	0.23	ug/L		11/20/23 08:41	11/20/23 19:23	1
Nickel	ND		3.0	0.83	ug/L		11/20/23 08:41	11/20/23 19:23	1
<b>Barium</b>	<b>0.49</b>	<b>J</b>	3.0	0.38	ug/L		11/20/23 08:41	11/20/23 19:23	1
Selenium	ND		5.0	1.0	ug/L		11/20/23 08:41	11/20/23 19:23	1
<b>Chromium</b>	<b>4.0</b>		3.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:23	1
<b>Zinc</b>	<b>2.2</b>	<b>J</b>	10	2.0	ug/L		11/20/23 08:41	11/20/23 19:23	1

**Client Sample ID: VLF-231014-14**  
**Date Collected: 10/14/23 08:05**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-14**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Arsenic</b>	<b>3.9</b>	<b>J</b>	5.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:25	1

**Client Sample ID: VLF-231014-16**  
**Date Collected: 10/14/23 09:10**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-16**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Arsenic</b>	<b>34</b>		5.0	0.50	ug/L		11/06/23 08:40	11/06/23 20:19	1

# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: EPA 200.8 - Metals (ICP/MS)

**Client Sample ID: VLF-231014-17**

**Date Collected: 10/14/23 09:25**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-17**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.65	J	5.0	0.50	ug/L		11/06/23 08:40	11/06/23 20:21	1

**Client Sample ID: VLF-231014-18**

**Date Collected: 10/14/23 09:50**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-18**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.87	J	5.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:28	1

**Client Sample ID: VLF-231014-20**

**Date Collected: 10/14/23 10:55**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-20**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/20/23 08:41	11/20/23 19:30	1
Arsenic	50		5.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:30	1
Lead	ND		1.0	0.23	ug/L		11/20/23 08:41	11/20/23 19:30	1
Nickel	6.7		3.0	0.83	ug/L		11/20/23 08:41	11/20/23 19:30	1
Barium	200		3.0	0.38	ug/L		11/20/23 08:41	11/20/23 19:30	1
Selenium	ND		5.0	1.0	ug/L		11/20/23 08:41	11/20/23 19:30	1
Chromium	ND		3.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:30	1
Zinc	3.1	J	10	2.0	ug/L		11/20/23 08:41	11/20/23 19:30	1

**Client Sample ID: VLF-231014-21**

**Date Collected: 10/14/23 11:35**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-21**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/20/23 08:41	11/20/23 19:32	1
Arsenic	16		5.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:32	1
Lead	0.52	J	1.0	0.23	ug/L		11/20/23 08:41	11/20/23 19:32	1
Nickel	ND		3.0	0.83	ug/L		11/20/23 08:41	11/20/23 19:32	1
Barium	33		3.0	0.38	ug/L		11/20/23 08:41	11/20/23 19:32	1
Selenium	ND		5.0	1.0	ug/L		11/20/23 08:41	11/20/23 19:32	1
Chromium	0.85	J	3.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:32	1
Zinc	5.5	J	10	2.0	ug/L		11/20/23 08:41	11/20/23 19:32	1

**Client Sample ID: VLF-231015-23**

**Date Collected: 10/15/23 07:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-23**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/20/23 08:41	11/20/23 19:34	1
Arsenic	ND		5.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:34	1
Lead	ND		1.0	0.23	ug/L		11/20/23 08:41	11/20/23 19:34	1
Nickel	4.1		3.0	0.83	ug/L		11/20/23 08:41	11/20/23 19:34	1
Barium	11		3.0	0.38	ug/L		11/20/23 08:41	11/20/23 19:34	1
Selenium	ND		5.0	1.0	ug/L		11/20/23 08:41	11/20/23 19:34	1
Chromium	ND		3.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:34	1
Zinc	2.1	J	10	2.0	ug/L		11/20/23 08:41	11/20/23 19:34	1

# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: EPA 200.8 - Metals (ICP/MS)

**Client Sample ID: VLF-231015-24**  
**Date Collected: 10/15/23 08:05**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-24**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/20/23 08:41	11/20/23 19:37	1
Arsenic	ND		5.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:37	1
Lead	ND		1.0	0.23	ug/L		11/20/23 08:41	11/20/23 19:37	1
<b>Nickel</b>	<b>9.0</b>		3.0	0.83	ug/L		11/20/23 08:41	11/20/23 19:37	1
<b>Barium</b>	<b>7.8</b>		3.0	0.38	ug/L		11/20/23 08:41	11/20/23 19:37	1
Selenium	ND		5.0	1.0	ug/L		11/20/23 08:41	11/20/23 19:37	1
Chromium	ND		3.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:37	1
Zinc	ND		10	2.0	ug/L		11/20/23 08:41	11/20/23 19:37	1

**Client Sample ID: VLF-231015-25**  
**Date Collected: 10/15/23 09:30**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-25**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/20/23 08:41	11/20/23 19:39	1
<b>Arsenic</b>	<b>0.66</b>	<b>J</b>	5.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:39	1
Lead	ND		1.0	0.23	ug/L		11/20/23 08:41	11/20/23 19:39	1
Nickel	ND		3.0	0.83	ug/L		11/20/23 08:41	11/20/23 19:39	1
<b>Barium</b>	<b>7.7</b>		3.0	0.38	ug/L		11/20/23 08:41	11/20/23 19:39	1
Selenium	ND		5.0	1.0	ug/L		11/20/23 08:41	11/20/23 19:39	1
Chromium	ND		3.0	0.50	ug/L		11/20/23 08:41	11/20/23 19:39	1
<b>Zinc</b>	<b>5.0</b>	<b>J</b>	10	2.0	ug/L		11/20/23 08:41	11/20/23 19:39	1

**Client Sample ID: VLF-231015-26**  
**Date Collected: 10/15/23 09:10**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-26**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/19/23 13:10	11/20/23 09:16	1
<b>Arsenic</b>	<b>1.3</b>	<b>J</b>	5.0	0.50	ug/L		11/19/23 13:10	11/20/23 09:16	1
<b>Lead</b>	<b>0.34</b>	<b>J F1</b>	1.0	0.23	ug/L		11/19/23 13:10	11/20/23 09:16	1
<b>Nickel</b>	<b>2.5</b>	<b>J F1</b>	3.0	0.83	ug/L		11/19/23 13:10	11/20/23 09:16	1
<b>Barium</b>	<b>8.7</b>	<b>F1</b>	3.0	0.38	ug/L		11/19/23 13:10	11/20/23 09:16	1
Selenium	ND		5.0	1.0	ug/L		11/19/23 13:10	11/20/23 09:16	1
<b>Chromium</b>	<b>0.61</b>	<b>J</b>	3.0	0.50	ug/L		11/19/23 13:10	11/20/23 09:16	1
<b>Zinc</b>	<b>5.8</b>	<b>J F1</b>	10	2.0	ug/L		11/19/23 13:10	11/20/23 09:16	1

**Client Sample ID: VLF-231015-27**  
**Date Collected: 10/15/23 09:40**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-27**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/19/23 13:10	11/20/23 09:27	1
Arsenic	ND		5.0	0.50	ug/L		11/19/23 13:10	11/20/23 09:27	1
Lead	ND		1.0	0.23	ug/L		11/19/23 13:10	11/20/23 09:27	1
Nickel	ND		3.0	0.83	ug/L		11/19/23 13:10	11/20/23 09:27	1
<b>Barium</b>	<b>0.46</b>	<b>J</b>	3.0	0.38	ug/L		11/19/23 13:10	11/20/23 09:27	1
Selenium	ND		5.0	1.0	ug/L		11/19/23 13:10	11/20/23 09:27	1
<b>Chromium</b>	<b>0.90</b>	<b>J</b>	3.0	0.50	ug/L		11/19/23 13:10	11/20/23 09:27	1
Zinc	ND		10	2.0	ug/L		11/19/23 13:10	11/20/23 09:27	1

# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: EPA 200.8 - Metals (ICP/MS)

**Client Sample ID: VLF-231015-28**  
**Date Collected: 10/15/23 09:45**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-28**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/19/23 13:10	11/20/23 09:30	1
Arsenic	ND		5.0	0.50	ug/L		11/19/23 13:10	11/20/23 09:30	1
Lead	ND		1.0	0.23	ug/L		11/19/23 13:10	11/20/23 09:30	1
Nickel	ND		3.0	0.83	ug/L		11/19/23 13:10	11/20/23 09:30	1
<b>Barium</b>	<b>0.98</b>	<b>J</b>	3.0	0.38	ug/L		11/19/23 13:10	11/20/23 09:30	1
Selenium	ND		5.0	1.0	ug/L		11/19/23 13:10	11/20/23 09:30	1
<b>Chromium</b>	<b>0.88</b>	<b>J</b>	3.0	0.50	ug/L		11/19/23 13:10	11/20/23 09:30	1
Zinc	ND		10	2.0	ug/L		11/19/23 13:10	11/20/23 09:30	1

**Client Sample ID: VLF-231015-29**  
**Date Collected: 10/15/23 10:15**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-29**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/19/23 13:10	11/20/23 09:35	1
Arsenic	ND		5.0	0.50	ug/L		11/19/23 13:10	11/20/23 09:35	1
Lead	ND		1.0	0.23	ug/L		11/19/23 13:10	11/20/23 09:35	1
Nickel	ND		3.0	0.83	ug/L		11/19/23 13:10	11/20/23 09:35	1
<b>Barium</b>	<b>1.2</b>	<b>J</b>	3.0	0.38	ug/L		11/19/23 13:10	11/20/23 09:35	1
Selenium	ND		5.0	1.0	ug/L		11/19/23 13:10	11/20/23 09:35	1
<b>Chromium</b>	<b>0.69</b>	<b>J</b>	3.0	0.50	ug/L		11/19/23 13:10	11/20/23 09:35	1
<b>Zinc</b>	<b>2.5</b>	<b>J</b>	10	2.0	ug/L		11/19/23 13:10	11/20/23 09:35	1

**Client Sample ID: VLF-231015-30**  
**Date Collected: 10/15/23 10:45**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-30**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/19/23 13:10	11/20/23 09:38	1
<b>Arsenic</b>	<b>0.61</b>	<b>J</b>	5.0	0.50	ug/L		11/19/23 13:10	11/20/23 09:38	1
Lead	ND		1.0	0.23	ug/L		11/19/23 13:10	11/20/23 09:38	1
Nickel	ND		3.0	0.83	ug/L		11/19/23 13:10	11/20/23 09:38	1
Barium	ND		3.0	0.38	ug/L		11/19/23 13:10	11/20/23 09:38	1
Selenium	ND		5.0	1.0	ug/L		11/19/23 13:10	11/20/23 09:38	1
<b>Chromium</b>	<b>0.78</b>	<b>J</b>	3.0	0.50	ug/L		11/19/23 13:10	11/20/23 09:38	1
<b>Zinc</b>	<b>6.4</b>	<b>J</b>	10	2.0	ug/L		11/19/23 13:10	11/20/23 09:38	1

**Client Sample ID: VLF-231015-31**  
**Date Collected: 10/15/23 11:30**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-31**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/19/23 13:10	11/20/23 09:49	1
Arsenic	ND		5.0	0.50	ug/L		11/19/23 13:10	11/20/23 09:49	1
Lead	ND		1.0	0.23	ug/L		11/19/23 13:10	11/20/23 09:49	1
Nickel	ND		3.0	0.83	ug/L		11/19/23 13:10	11/20/23 09:49	1
<b>Barium</b>	<b>4.6</b>		3.0	0.38	ug/L		11/19/23 13:10	11/20/23 09:49	1
Selenium	ND		5.0	1.0	ug/L		11/19/23 13:10	11/20/23 09:49	1
<b>Chromium</b>	<b>0.76</b>	<b>J</b>	3.0	0.50	ug/L		11/19/23 13:10	11/20/23 09:49	1
Zinc	ND		10	2.0	ug/L		11/19/23 13:10	11/20/23 09:49	1

# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: EPA 200.8 - Metals (ICP/MS)

**Client Sample ID: VLF-231016-36**  
**Date Collected: 10/16/23 11:30**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-37**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	20		2.0	0.40	ug/L		11/06/23 08:40	11/06/23 20:30	1
Arsenic	130		5.0	0.50	ug/L		11/06/23 08:40	11/06/23 20:30	1
Lead	1.7		1.0	0.23	ug/L		11/06/23 08:40	11/06/23 20:30	1
Nickel	140		3.0	0.83	ug/L		11/06/23 08:40	11/06/23 20:30	1
Barium	570		3.0	0.38	ug/L		11/06/23 08:40	11/06/23 20:30	1
Selenium	1.2	J	5.0	1.0	ug/L		11/06/23 08:40	11/06/23 20:30	1
Beryllium	ND		1.0	0.30	ug/L		11/06/23 08:40	11/06/23 20:30	1
Cadmium	ND		1.0	0.19	ug/L		11/06/23 08:40	11/06/23 20:30	1
Chromium	190		3.0	0.50	ug/L		11/06/23 08:40	11/06/23 20:30	1
Cobalt	38		1.0	0.33	ug/L		11/06/23 08:40	11/06/23 20:30	1
Copper	8.7		2.0	0.71	ug/L		11/06/23 08:40	11/06/23 20:30	1
Silver	ND		1.0	0.045	ug/L		11/06/23 08:40	11/06/23 20:30	1
Thallium	ND		1.0	0.21	ug/L		11/06/23 08:40	11/06/23 20:30	1
Vanadium	160		5.0	1.1	ug/L		11/06/23 08:40	11/06/23 20:30	1
Zinc	55	B	10	2.0	ug/L		11/06/23 08:40	11/06/23 20:30	1

## Method: SW846 6010B - Dissolved Metals - Dissolved

**Client Sample ID: VLF-231013-1**  
**Date Collected: 10/13/23 11:00**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-1**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	120000		200	24	ug/L		11/03/23 15:27	11/04/23 16:57	1
Iron	16	J	100	9.1	ug/L		11/03/23 15:27	11/04/23 16:57	1
Magnesium	54000		200	4.2	ug/L		11/03/23 15:27	11/04/23 16:57	1
Manganese	160		10	0.45	ug/L		11/03/23 15:27	11/04/23 16:57	1
Sodium	26000		1000	97	ug/L		11/03/23 15:27	11/04/23 16:57	1

**Client Sample ID: VLF-231013-2**  
**Date Collected: 10/13/23 11:30**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-2**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	100000		200	24	ug/L		11/03/23 15:27	11/04/23 17:13	1
Iron	ND		100	9.1	ug/L		11/03/23 15:27	11/04/23 17:13	1
Magnesium	38000		200	4.2	ug/L		11/03/23 15:27	11/04/23 17:13	1
Manganese	790		10	0.45	ug/L		11/03/23 15:27	11/04/23 17:13	1
Sodium	28000		1000	97	ug/L		11/03/23 15:27	11/04/23 17:13	1

**Client Sample ID: VLF-231013-3**  
**Date Collected: 10/13/23 12:05**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-3**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	100000		200	24	ug/L		11/03/23 15:27	11/04/23 17:17	1
Iron	ND		100	9.1	ug/L		11/03/23 15:27	11/04/23 17:17	1
Magnesium	42000		200	4.2	ug/L		11/03/23 15:27	11/04/23 17:17	1
Manganese	3.0	J	10	0.45	ug/L		11/03/23 15:27	11/04/23 17:17	1
Sodium	28000		1000	97	ug/L		11/03/23 15:27	11/04/23 17:17	1

# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 6010B - Dissolved Metals - Dissolved

**Client Sample ID: VLF-231013-4**  
**Date Collected: 10/13/23 12:30**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-4**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	32000		200	24	ug/L		11/03/23 15:27	11/04/23 17:21	1
Iron	ND		100	9.1	ug/L		11/03/23 15:27	11/04/23 17:21	1
Magnesium	12000		200	4.2	ug/L		11/03/23 15:27	11/04/23 17:21	1
Manganese	ND		10	0.45	ug/L		11/03/23 15:27	11/04/23 17:21	1
Sodium	12000		1000	97	ug/L		11/03/23 15:27	11/04/23 17:21	1

**Client Sample ID: VLF-231013-5**  
**Date Collected: 10/13/23 13:15**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-5**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	340000		200	24	ug/L		11/03/23 15:27	11/04/23 17:25	1
Iron	ND		100	9.1	ug/L		11/03/23 15:27	11/04/23 17:25	1
Magnesium	150000		200	4.2	ug/L		11/03/23 15:27	11/04/23 17:25	1
Manganese	48		10	0.45	ug/L		11/03/23 15:27	11/04/23 17:25	1
Sodium	36000		1000	97	ug/L		11/03/23 15:27	11/04/23 17:25	1

**Client Sample ID: VLF-231013-6**  
**Date Collected: 10/13/23 13:35**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-6**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	85000		200	24	ug/L		11/03/23 15:27	11/04/23 17:45	1
Iron	ND		100	9.1	ug/L		11/03/23 15:27	11/04/23 17:45	1
Magnesium	55000		200	4.2	ug/L		11/03/23 15:27	11/04/23 17:45	1
Manganese	5.1	J	10	0.45	ug/L		11/03/23 15:27	11/04/23 17:45	1
Sodium	36000		1000	97	ug/L		11/03/23 15:27	11/04/23 17:45	1

**Client Sample ID: VLF-231013-7**  
**Date Collected: 10/13/23 14:15**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-7**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	35000		200	24	ug/L		11/03/23 15:27	11/04/23 17:49	1
Iron	3400		100	9.1	ug/L		11/03/23 15:27	11/04/23 17:49	1
Magnesium	14000		200	4.2	ug/L		11/03/23 15:27	11/04/23 17:49	1
Manganese	1400		10	0.45	ug/L		11/03/23 15:27	11/04/23 17:49	1
Sodium	26000		1000	97	ug/L		11/03/23 15:27	11/04/23 17:49	1

**Client Sample ID: VLF-231013-8**  
**Date Collected: 10/13/23 14:25**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-8**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	34000		200	24	ug/L		11/03/23 15:27	11/04/23 17:53	1
Iron	3500		100	9.1	ug/L		11/03/23 15:27	11/04/23 17:53	1
Magnesium	14000		200	4.2	ug/L		11/03/23 15:27	11/04/23 17:53	1
Manganese	1400		10	0.45	ug/L		11/03/23 15:27	11/04/23 17:53	1
Sodium	26000		1000	97	ug/L		11/03/23 15:27	11/04/23 17:53	1

**Client Sample ID: VLF-231013-9**  
**Date Collected: 10/13/23 15:00**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-9**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	37000		200	24	ug/L		11/03/23 15:27	11/04/23 17:57	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 6010B - Dissolved Metals - Dissolved (Continued)

**Client Sample ID: VLF-231013-9**

**Date Collected: 10/13/23 15:00**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-9**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	9.8	J	100	9.1	ug/L		11/03/23 15:27	11/04/23 17:57	1
Magnesium	14000		200	4.2	ug/L		11/03/23 15:27	11/04/23 17:57	1
Manganese	0.59	J	10	0.45	ug/L		11/03/23 15:27	11/04/23 17:57	1
Sodium	22000		1000	97	ug/L		11/03/23 15:27	11/04/23 17:57	1

**Client Sample ID: VLF-231013-10**

**Date Collected: 10/13/23 15:45**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-10**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	41000		200	24	ug/L		11/03/23 15:27	11/04/23 18:02	1
Iron	ND		100	9.1	ug/L		11/03/23 15:27	11/04/23 18:02	1
Magnesium	20000		200	4.2	ug/L		11/03/23 15:27	11/04/23 18:02	1
Manganese	ND		10	0.45	ug/L		11/03/23 15:27	11/04/23 18:02	1
Sodium	27000		1000	97	ug/L		11/03/23 15:27	11/04/23 18:02	1

**Client Sample ID: VLF-231013-11**

**Date Collected: 10/13/23 16:15**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-11**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	36000		200	24	ug/L		11/03/23 15:27	11/04/23 18:06	1
Iron	ND		100	9.1	ug/L		11/03/23 15:27	11/04/23 18:06	1
Magnesium	15000		200	4.2	ug/L		11/03/23 15:27	11/04/23 18:06	1
Manganese	ND		10	0.45	ug/L		11/03/23 15:27	11/04/23 18:06	1
Sodium	19000		1000	97	ug/L		11/03/23 15:27	11/04/23 18:06	1

**Client Sample ID: VLF-231013-12**

**Date Collected: 10/13/23 16:25**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-12**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	36000		200	24	ug/L		11/03/23 15:27	11/04/23 18:10	1
Iron	ND		100	9.1	ug/L		11/03/23 15:27	11/04/23 18:10	1
Magnesium	15000		200	4.2	ug/L		11/03/23 15:27	11/04/23 18:10	1
Manganese	ND		10	0.45	ug/L		11/03/23 15:27	11/04/23 18:10	1
Sodium	19000		1000	97	ug/L		11/03/23 15:27	11/04/23 18:10	1

**Client Sample ID: VLF-231014-13**

**Date Collected: 10/14/23 07:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-13**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	27000		200	24	ug/L		11/03/23 15:27	11/04/23 18:14	1
Iron	ND		100	9.1	ug/L		11/03/23 15:27	11/04/23 18:14	1
Magnesium	12000		200	4.2	ug/L		11/03/23 15:27	11/04/23 18:14	1
Manganese	ND		10	0.45	ug/L		11/03/23 15:27	11/04/23 18:14	1
Sodium	19000		1000	97	ug/L		11/03/23 15:27	11/04/23 18:14	1

**Client Sample ID: VLF-231014-14**

**Date Collected: 10/14/23 08:05**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-14**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	120000		200	24	ug/L		11/03/23 15:27	11/04/23 18:18	1
Iron	57	J	100	9.1	ug/L		11/03/23 15:27	11/04/23 18:18	1

Eurofins Denver

# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 6010B - Dissolved Metals - Dissolved (Continued)

**Client Sample ID: VLF-231014-14**  
**Date Collected: 10/14/23 08:05**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-14**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	53000		200	4.2	ug/L		11/03/23 15:27	11/04/23 18:18	1
Manganese	220		10	0.45	ug/L		11/03/23 15:27	11/04/23 18:18	1
Sodium	370000		1000	97	ug/L		11/03/23 15:27	11/04/23 18:18	1

**Client Sample ID: VLF-231014-15**  
**Date Collected: 10/14/23 08:25**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-15**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	56000		200	24	ug/L		11/03/23 15:27	11/04/23 18:22	1
Iron	32	J	100	9.1	ug/L		11/03/23 15:27	11/04/23 18:22	1
Magnesium	21000		200	4.2	ug/L		11/03/23 15:27	11/04/23 18:22	1
Manganese	22		10	0.45	ug/L		11/03/23 15:27	11/04/23 18:22	1
Sodium	91000		1000	97	ug/L		11/03/23 15:27	11/04/23 18:22	1

**Client Sample ID: VLF-231014-16**  
**Date Collected: 10/14/23 09:10**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-16**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	260000		200	24	ug/L		11/03/23 15:27	11/04/23 18:42	1
Iron	11000		100	9.1	ug/L		11/03/23 15:27	11/04/23 18:42	1
Magnesium	160000		200	4.2	ug/L		11/03/23 15:27	11/04/23 18:42	1
Manganese	5600		10	0.45	ug/L		11/03/23 15:27	11/04/23 18:42	1
Sodium	1400000		10000	970	ug/L		11/03/23 15:27	11/07/23 04:39	10

**Client Sample ID: VLF-231014-17**  
**Date Collected: 10/14/23 09:25**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-17**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	110000		200	24	ug/L		11/03/23 15:27	11/04/23 18:46	1
Iron	9.6	J	100	9.1	ug/L		11/03/23 15:27	11/04/23 18:46	1
Magnesium	51000		200	4.2	ug/L		11/03/23 15:27	11/04/23 18:46	1
Manganese	2.4	J	10	0.45	ug/L		11/03/23 15:27	11/04/23 18:46	1
Sodium	120000		1000	97	ug/L		11/03/23 15:27	11/04/23 18:46	1

**Client Sample ID: VLF-231014-18**  
**Date Collected: 10/14/23 09:50**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-18**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	35000		200	24	ug/L		11/03/23 15:27	11/04/23 18:50	1
Iron	31	J	100	9.1	ug/L		11/03/23 15:27	11/04/23 18:50	1
Magnesium	13000		200	4.2	ug/L		11/03/23 15:27	11/04/23 18:50	1
Manganese	17		10	0.45	ug/L		11/03/23 15:27	11/04/23 18:50	1
Sodium	95000		1000	97	ug/L		11/03/23 15:27	11/04/23 18:50	1

**Client Sample ID: VLF-231014-19**  
**Date Collected: 10/14/23 10:15**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-19**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	19000		200	24	ug/L		11/03/23 15:27	11/04/23 18:54	1
Iron	33	J	100	9.1	ug/L		11/03/23 15:27	11/04/23 18:54	1
Magnesium	8600		200	4.2	ug/L		11/03/23 15:27	11/04/23 18:54	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 6010B - Dissolved Metals - Dissolved (Continued)

**Client Sample ID: VLF-231014-19**

**Date Collected: 10/14/23 10:15**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-19**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	4.0	J	10	0.45	ug/L		11/03/23 15:27	11/04/23 18:54	1
Sodium	9000		1000	97	ug/L		11/03/23 15:27	11/04/23 18:54	1

**Client Sample ID: VLF-231014-20**

**Date Collected: 10/14/23 10:55**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-20**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	94000		200	24	ug/L		11/03/23 15:27	11/04/23 18:58	1
Iron	7400		100	9.1	ug/L		11/03/23 15:27	11/04/23 18:58	1
Magnesium	41000		200	4.2	ug/L		11/03/23 15:27	11/04/23 18:58	1
Manganese	11000		10	0.45	ug/L		11/03/23 15:27	11/04/23 18:58	1
Sodium	38000		1000	97	ug/L		11/03/23 15:27	11/04/23 18:58	1

**Client Sample ID: VLF-231014-21**

**Date Collected: 10/14/23 11:35**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-21**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	26000		200	24	ug/L		11/03/23 15:27	11/04/23 14:23	1
Iron	350		100	9.1	ug/L		11/03/23 15:27	11/04/23 14:23	1
Magnesium	10000		200	4.2	ug/L		11/03/23 15:27	11/04/23 14:23	1
Manganese	610		10	0.45	ug/L		11/03/23 15:27	11/04/23 14:23	1
Sodium	27000		1000	97	ug/L		11/03/23 15:27	11/04/23 14:23	1

**Client Sample ID: VLF-231014-22**

**Date Collected: 10/14/23 12:00**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-22**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	34000		200	24	ug/L		11/03/23 15:27	11/04/23 14:27	1
Iron	12	J	100	9.1	ug/L		11/03/23 15:27	11/04/23 14:27	1
Magnesium	18000		200	4.2	ug/L		11/03/23 15:27	11/04/23 14:27	1
Manganese	0.54	J	10	0.45	ug/L		11/03/23 15:27	11/04/23 14:27	1
Sodium	10000		1000	97	ug/L		11/03/23 15:27	11/04/23 14:27	1

**Client Sample ID: VLF-231015-23**

**Date Collected: 10/15/23 07:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-23**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	210000		200	24	ug/L		11/03/23 15:27	11/04/23 14:31	1
Iron	75	J	100	9.1	ug/L		11/03/23 15:27	11/04/23 14:31	1
Magnesium	89000		200	4.2	ug/L		11/03/23 15:27	11/04/23 14:31	1
Manganese	12		10	0.45	ug/L		11/03/23 15:27	11/04/23 14:31	1
Sodium	32000		1000	97	ug/L		11/03/23 15:27	11/04/23 14:31	1

**Client Sample ID: VLF-231015-24**

**Date Collected: 10/15/23 08:05**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-24**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	250000		200	24	ug/L		11/03/23 15:27	11/04/23 14:35	1
Iron	26	J	100	9.1	ug/L		11/03/23 15:27	11/04/23 14:35	1
Magnesium	110000		200	4.2	ug/L		11/03/23 15:27	11/04/23 14:35	1
Manganese	22		10	0.45	ug/L		11/03/23 15:27	11/04/23 14:35	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 6010B - Dissolved Metals - Dissolved (Continued)

**Client Sample ID: VLF-231015-24**

**Date Collected: 10/15/23 08:05**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-24**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	41000		1000	97	ug/L		11/03/23 15:27	11/04/23 14:35	1

**Client Sample ID: VLF-231015-25**

**Date Collected: 10/15/23 09:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-25**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	43000		200	24	ug/L		11/03/23 15:27	11/04/23 14:39	1
Iron	13	J	100	9.1	ug/L		11/03/23 15:27	11/04/23 14:39	1
Magnesium	19000		200	4.2	ug/L		11/03/23 15:27	11/04/23 14:39	1
Manganese	0.88	J	10	0.45	ug/L		11/03/23 15:27	11/04/23 14:39	1
Sodium	20000		1000	97	ug/L		11/03/23 15:27	11/04/23 14:39	1

**Client Sample ID: VLF-231015-26**

**Date Collected: 10/15/23 09:10**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-26**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	65000		200	24	ug/L		11/03/23 15:27	11/04/23 14:43	1
Iron	170		100	9.1	ug/L		11/03/23 15:27	11/04/23 14:43	1
Magnesium	32000		200	4.2	ug/L		11/03/23 15:27	11/04/23 14:43	1
Manganese	1100		10	0.45	ug/L		11/03/23 15:27	11/04/23 14:43	1
Sodium	39000		1000	97	ug/L		11/03/23 15:27	11/04/23 14:43	1

**Client Sample ID: VLF-231015-27**

**Date Collected: 10/15/23 09:40**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-27**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	24000		200	24	ug/L		11/03/23 15:27	11/04/23 14:47	1
Iron	ND		100	9.1	ug/L		11/03/23 15:27	11/04/23 14:47	1
Magnesium	11000		200	4.2	ug/L		11/03/23 15:27	11/04/23 14:47	1
Manganese	0.53	J	10	0.45	ug/L		11/03/23 15:27	11/04/23 14:47	1
Sodium	23000		1000	97	ug/L		11/03/23 15:27	11/04/23 14:47	1

**Client Sample ID: VLF-231015-28**

**Date Collected: 10/15/23 09:45**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-28**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	25000		200	24	ug/L		11/03/23 15:27	11/04/23 14:51	1
Iron	ND		100	9.1	ug/L		11/03/23 15:27	11/04/23 14:51	1
Magnesium	12000		200	4.2	ug/L		11/03/23 15:27	11/04/23 14:51	1
Manganese	ND		10	0.45	ug/L		11/03/23 15:27	11/04/23 14:51	1
Sodium	23000		1000	97	ug/L		11/03/23 15:27	11/04/23 14:51	1

**Client Sample ID: VLF-231015-29**

**Date Collected: 10/15/23 10:15**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-29**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	29000		200	24	ug/L		11/03/23 15:27	11/04/23 15:11	1
Iron	14	J	100	9.1	ug/L		11/03/23 15:27	11/04/23 15:11	1
Magnesium	14000		200	4.2	ug/L		11/03/23 15:27	11/04/23 15:11	1
Manganese	7.9	J	10	0.45	ug/L		11/03/23 15:27	11/04/23 15:11	1
Sodium	27000		1000	97	ug/L		11/03/23 15:27	11/04/23 15:11	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 6010B - Dissolved Metals - Dissolved

**Client Sample ID: VLF-231015-30**

**Date Collected: 10/15/23 10:45**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-30**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	26000		200	24	ug/L		11/03/23 15:27	11/04/23 15:15	1
Iron	9.2	J	100	9.1	ug/L		11/03/23 15:27	11/04/23 15:15	1
Magnesium	11000		200	4.2	ug/L		11/03/23 15:27	11/04/23 15:15	1
Manganese	ND		10	0.45	ug/L		11/03/23 15:27	11/04/23 15:15	1
Sodium	20000		1000	97	ug/L		11/03/23 15:27	11/04/23 15:15	1

**Client Sample ID: VLF-231015-31**

**Date Collected: 10/15/23 11:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-31**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	28000		200	24	ug/L		11/03/23 15:27	11/04/23 15:23	1
Iron	ND		100	9.1	ug/L		11/03/23 15:27	11/04/23 15:23	1
Magnesium	12000		200	4.2	ug/L		11/03/23 15:27	11/04/23 15:23	1
Manganese	0.81	J	10	0.45	ug/L		11/03/23 15:27	11/04/23 15:23	1
Sodium	25000		1000	97	ug/L		11/03/23 15:27	11/04/23 15:23	1

**Client Sample ID: VLF-231016-32**

**Date Collected: 10/16/23 08:35**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-33**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	26000		200	24	ug/L		11/03/23 15:27	11/04/23 15:27	1
Iron	48	J	100	9.1	ug/L		11/03/23 15:27	11/04/23 15:27	1
Magnesium	10000		200	4.2	ug/L		11/03/23 15:27	11/04/23 15:27	1
Manganese	12		10	0.45	ug/L		11/03/23 15:27	11/04/23 15:27	1
Sodium	11000		1000	97	ug/L		11/03/23 15:27	11/04/23 15:27	1

**Client Sample ID: VLF-231016-33**

**Date Collected: 10/16/23 08:45**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-34**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	25000		200	24	ug/L		11/03/23 15:27	11/04/23 15:32	1
Iron	56	J	100	9.1	ug/L		11/03/23 15:27	11/04/23 15:32	1
Magnesium	10000		200	4.2	ug/L		11/03/23 15:27	11/04/23 15:32	1
Manganese	12		10	0.45	ug/L		11/03/23 15:27	11/04/23 15:32	1
Sodium	11000		1000	97	ug/L		11/03/23 15:27	11/04/23 15:32	1

**Client Sample ID: VLF-231016-34**

**Date Collected: 10/16/23 09:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-35**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	26000		200	24	ug/L		11/03/23 15:27	11/04/23 15:36	1
Iron	63	J	100	9.1	ug/L		11/03/23 15:27	11/04/23 15:36	1
Magnesium	10000		200	4.2	ug/L		11/03/23 15:27	11/04/23 15:36	1
Manganese	11		10	0.45	ug/L		11/03/23 15:27	11/04/23 15:36	1
Sodium	11000		1000	97	ug/L		11/03/23 15:27	11/04/23 15:36	1

**Client Sample ID: VLF-231016-35**

**Date Collected: 10/16/23 10:20**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-36**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	26000		200	24	ug/L		11/03/23 15:27	11/04/23 15:40	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SW846 6010B - Dissolved Metals - Dissolved (Continued)

**Client Sample ID: VLF-231016-35**

**Date Collected: 10/16/23 10:20**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-36**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	70	J	100	9.1	ug/L		11/03/23 15:27	11/04/23 15:40	1
Magnesium	10000		200	4.2	ug/L		11/03/23 15:27	11/04/23 15:40	1
Manganese	10		10	0.45	ug/L		11/03/23 15:27	11/04/23 15:40	1
Sodium	11000		1000	97	ug/L		11/03/23 15:27	11/04/23 15:40	1

**Client Sample ID: VLF-231016-36**

**Date Collected: 10/16/23 11:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-37**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	130000		200	24	ug/L		11/03/23 15:27	11/04/23 15:44	1
Iron	2000		100	9.1	ug/L		11/03/23 15:27	11/04/23 15:44	1
Magnesium	150000		200	4.2	ug/L		11/03/23 15:27	11/04/23 15:44	1
Manganese	980		10	0.45	ug/L		11/03/23 15:27	11/04/23 15:44	1
Potassium	630000		30000	2400	ug/L		11/03/23 15:27	11/07/23 04:35	10
Silicon	23000		500	16	ug/L		11/03/23 15:27	11/04/23 15:44	1
Sodium	2200000		10000	970	ug/L		11/03/23 15:27	11/07/23 04:35	10

## General Chemistry

**Client Sample ID: VLF-231013-1**

**Date Collected: 10/13/23 11:00**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	83	F1	30	10	mg/L			11/10/23 02:21	10
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	390	B	10	3.1	mg/L			10/20/23 20:08	1
Total Dissolved Solids (SM 2540C)	520		10	4.7	mg/L			10/20/23 16:49	1
Total Suspended Solids (SM 2540D)	11		4.0	1.1	mg/L			10/19/23 13:21	1

**Client Sample ID: VLF-231013-2**

**Date Collected: 10/13/23 11:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-2**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	110		30	10	mg/L			11/10/23 04:48	10
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	130	B	10	3.1	mg/L			10/20/23 20:14	1
Total Dissolved Solids (SM 2540C)	550		10	4.7	mg/L			10/20/23 16:49	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			10/19/23 13:21	1

**Client Sample ID: VLF-231013-3**

**Date Collected: 10/13/23 12:05**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-3**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	260		30	10	mg/L			11/10/23 05:33	10
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	42	B	10	3.1	mg/L			10/20/23 20:19	1
Total Dissolved Solids (SM 2540C)	700		10	4.7	mg/L			10/20/23 16:49	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			10/19/23 13:21	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## General Chemistry

**Client Sample ID: VLF-231013-4**  
**Date Collected: 10/13/23 12:30**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-4**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	3.6		3.0	1.0	mg/L			11/10/23 05:00	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	77	B	10	3.1	mg/L			10/20/23 20:24	1
Total Dissolved Solids (SM 2540C)	230		10	4.7	mg/L			10/20/23 16:49	1
Total Suspended Solids (SM 2540D)	2.8	J	4.0	1.1	mg/L			10/19/23 13:21	1

**Client Sample ID: VLF-231013-5**  
**Date Collected: 10/13/23 13:15**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-5**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	480		60	20	mg/L			11/10/23 03:29	20
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	620	B	10	3.1	mg/L			10/20/23 20:34	1
Total Dissolved Solids (SM 2540C)	1600		20	9.4	mg/L			10/20/23 16:49	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			10/19/23 13:21	1

**Client Sample ID: VLF-231013-6**  
**Date Collected: 10/13/23 13:35**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-6**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	68		30	10	mg/L			11/10/23 03:40	10
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	420	B	10	3.1	mg/L			10/20/23 20:42	1
Total Dissolved Solids (SM 2540C)	1200		20	9.4	mg/L			10/20/23 16:49	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			10/19/23 13:21	1

**Client Sample ID: VLF-231013-7**  
**Date Collected: 10/13/23 14:15**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-7**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	16		3.0	1.0	mg/L			11/10/23 04:14	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	160	B	10	3.1	mg/L			10/20/23 20:48	1
Total Dissolved Solids (SM 2540C)	420		20	9.4	mg/L			10/20/23 16:49	1
Total Suspended Solids (SM 2540D)	14		4.0	1.1	mg/L			10/19/23 13:21	1

**Client Sample ID: VLF-231013-8**  
**Date Collected: 10/13/23 14:25**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-8**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	17		3.0	1.0	mg/L			11/10/23 04:37	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	160	B	10	3.1	mg/L			10/20/23 20:54	1
Total Dissolved Solids (SM 2540C)	430		20	9.4	mg/L			10/20/23 16:49	1
Total Suspended Solids (SM 2540D)	15		4.0	1.1	mg/L			10/19/23 13:21	1

# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## General Chemistry

**Client Sample ID: VLF-231013-9**  
**Date Collected: 10/13/23 15:00**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-9**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	5.2		3.0	1.0	mg/L			11/10/23 04:26	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	170	B	10	3.1	mg/L			10/20/23 21:01	1
Total Dissolved Solids (SM 2540C)	430		20	9.4	mg/L			10/20/23 16:49	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			10/19/23 13:21	1

**Client Sample ID: VLF-231013-10**  
**Date Collected: 10/13/23 15:45**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-10**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	440		300	100	mg/L			11/10/23 01:13	100
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	140	B	10	3.1	mg/L			10/20/23 21:06	1
Total Dissolved Solids (SM 2540C)	500		20	9.4	mg/L			10/20/23 16:49	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			10/19/23 13:21	1

**Client Sample ID: VLF-231013-11**  
**Date Collected: 10/13/23 16:15**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-11**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	14		6.0	2.0	mg/L			11/10/23 03:52	2
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	140	B	10	3.1	mg/L			10/20/23 21:39	1
Total Dissolved Solids (SM 2540C)	230		10	4.7	mg/L			10/20/23 16:49	1
Total Suspended Solids (SM 2540D)	4.4		4.0	1.1	mg/L			10/19/23 13:21	1

**Client Sample ID: VLF-231013-12**  
**Date Collected: 10/13/23 16:25**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-12**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	15		6.0	2.0	mg/L			11/10/23 04:03	2
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	150	B	10	3.1	mg/L			10/20/23 21:51	1
Total Dissolved Solids (SM 2540C)	220		10	4.7	mg/L			10/20/23 16:49	1
Total Suspended Solids (SM 2540D)	7.6		4.0	1.1	mg/L			10/19/23 13:21	1

**Client Sample ID: VLF-231014-13**  
**Date Collected: 10/14/23 07:30**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-13**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	10	H	3.0	1.0	mg/L			11/15/23 07:31	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	96	B	10	3.1	mg/L			10/20/23 21:57	1
Total Dissolved Solids (SM 2540C)	230		10	4.7	mg/L			10/20/23 16:49	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			10/20/23 10:25	1

# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## General Chemistry

**Client Sample ID: VLF-231014-14**  
**Date Collected: 10/14/23 08:05**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-14**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	370	H	15	5.1	mg/L			11/15/23 07:42	5
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	140	B	10	3.1	mg/L			10/20/23 22:03	1
Total Dissolved Solids (SM 2540C)	1100		20	9.4	mg/L			10/20/23 16:49	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			10/20/23 10:25	1

**Client Sample ID: VLF-231014-15**  
**Date Collected: 10/14/23 08:25**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-15**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	140	H	15	5.1	mg/L			11/15/23 08:16	5
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	67	B	10	3.1	mg/L			10/20/23 22:08	1
Total Dissolved Solids (SM 2540C)	590		10	4.7	mg/L			10/20/23 16:49	1

**Client Sample ID: VLF-231014-16**  
**Date Collected: 10/14/23 09:10**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-16**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	1600	H	300	100	mg/L			11/15/23 08:28	100
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	1800	B	10	3.1	mg/L			10/20/23 22:26	1
Total Dissolved Solids (SM 2540C)	4800		1000	470	mg/L			10/20/23 16:49	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			10/20/23 10:25	1

**Client Sample ID: VLF-231014-17**  
**Date Collected: 10/14/23 09:25**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-17**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	170	H	15	5.1	mg/L			11/15/23 08:39	5
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	330	B	10	3.1	mg/L			10/20/23 22:34	1
Total Dissolved Solids (SM 2540C)	820		20	9.4	mg/L			10/20/23 16:49	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			10/20/23 10:25	1

**Client Sample ID: VLF-231014-18**  
**Date Collected: 10/14/23 09:50**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-18**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	86	H	3.0	1.0	mg/L			11/15/23 08:50	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	180	B	10	3.1	mg/L			10/20/23 22:40	1
Total Dissolved Solids (SM 2540C)	410		10	4.7	mg/L			10/20/23 16:49	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			10/20/23 10:29	1

**Client Sample ID: VLF-231014-19**  
**Date Collected: 10/14/23 10:15**  
**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-19**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	2.9	J H	3.0	1.0	mg/L			11/15/23 09:47	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	95	B	10	3.1	mg/L			10/20/23 22:45	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## General Chemistry (Continued)

**Client Sample ID: VLF-231014-19**

**Date Collected: 10/14/23 10:15**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-19**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	140		10	4.7	mg/L			10/20/23 16:49	1

**Client Sample ID: VLF-231014-20**

**Date Collected: 10/14/23 10:55**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-20**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	13	H	3.0	1.0	mg/L			11/15/23 09:58	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	460	B	10	3.1	mg/L			10/20/23 23:07	1
Total Dissolved Solids (SM 2540C)	480		10	4.7	mg/L			10/20/23 16:51	1
Total Suspended Solids (SM 2540D)	56		4.0	1.1	mg/L			10/20/23 10:25	1

**Client Sample ID: VLF-231014-21**

**Date Collected: 10/14/23 11:35**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-21**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	4.9	H	3.0	1.0	mg/L			11/15/23 10:32	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	160	B	10	3.1	mg/L			10/20/23 23:14	1
Total Dissolved Solids (SM 2540C)	190		10	4.7	mg/L			10/20/23 16:49	1
Total Suspended Solids (SM 2540D)	14		4.0	1.1	mg/L			10/20/23 10:25	1

**Client Sample ID: VLF-231014-22**

**Date Collected: 10/14/23 12:00**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-22**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	7.5	H	3.0	1.0	mg/L			11/20/23 19:42	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	150	B	10	3.1	mg/L			10/20/23 23:20	1
Total Dissolved Solids (SM 2540C)	210		10	4.7	mg/L			10/20/23 16:51	1

**Client Sample ID: VLF-231015-23**

**Date Collected: 10/15/23 07:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-23**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	43	H	3.0	1.0	mg/L			11/20/23 20:26	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	770	B	10	3.1	mg/L			10/20/23 23:31	1
Total Dissolved Solids (SM 2540C)	850		20	9.4	mg/L			10/20/23 16:51	1
Total Suspended Solids (SM 2540D)	1.2	J	4.0	1.1	mg/L			10/20/23 10:25	1

**Client Sample ID: VLF-231015-24**

**Date Collected: 10/15/23 08:05**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-24**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	100	H	3.0	1.0	mg/L			11/20/23 20:37	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	880	B	10	3.1	mg/L			10/20/23 23:43	1
Total Dissolved Solids (SM 2540C)	1100		20	9.4	mg/L			10/20/23 16:51	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			10/20/23 10:25	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## General Chemistry

**Client Sample ID: VLF-231015-25**

**Date Collected: 10/15/23 09:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-25**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	47	H	3.0	1.0	mg/L			11/20/23 20:48	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	160	B	10	3.1	mg/L			10/20/23 23:49	1
Total Dissolved Solids (SM 2540C)	260		10	4.7	mg/L			10/20/23 16:51	1
Total Suspended Solids (SM 2540D)	ND		5.6	1.5	mg/L			10/20/23 10:25	1

**Client Sample ID: VLF-231015-26**

**Date Collected: 10/15/23 09:10**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-26**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	36	H	3.0	1.0	mg/L			11/20/23 20:59	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	300	B	10	3.1	mg/L			10/20/23 23:56	1
Total Dissolved Solids (SM 2540C)	380		10	4.7	mg/L			10/20/23 16:51	1
Total Suspended Solids (SM 2540D)	30		4.0	1.1	mg/L			10/20/23 10:27	1

**Client Sample ID: VLF-231015-27**

**Date Collected: 10/15/23 09:40**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-27**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	8.7	H	3.0	1.0	mg/L			11/15/23 21:18	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	150	B	10	3.1	mg/L			10/21/23 00:02	1
Total Dissolved Solids (SM 2540C)	200		10	4.7	mg/L			10/20/23 16:51	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			10/20/23 10:27	1

**Client Sample ID: VLF-231015-28**

**Date Collected: 10/15/23 09:45**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-28**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	8.8	H	3.0	1.0	mg/L			11/20/23 21:10	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	140	B	10	3.1	mg/L			10/21/23 00:08	1
Total Dissolved Solids (SM 2540C)	190		10	4.7	mg/L			10/20/23 16:51	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			10/20/23 10:25	1

**Client Sample ID: VLF-231015-29**

**Date Collected: 10/15/23 10:15**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-29**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	10	H	3.0	1.0	mg/L			11/20/23 21:21	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	150	B	10	3.1	mg/L			10/21/23 00:14	1
Total Dissolved Solids (SM 2540C)	220		10	4.7	mg/L			10/20/23 16:51	1
Total Suspended Solids (SM 2540D)	1.2	J	4.0	1.1	mg/L			10/20/23 10:25	1

# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## General Chemistry

**Client Sample ID: VLF-231015-30**

**Date Collected: 10/15/23 10:45**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-30**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	7.5	H	3.0	1.0	mg/L			11/20/23 21:32	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	140	B	10	3.1	mg/L			10/21/23 00:48	1
Total Dissolved Solids (SM 2540C)	190		10	4.7	mg/L			10/20/23 16:51	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			10/20/23 10:25	1

**Client Sample ID: VLF-231015-31**

**Date Collected: 10/15/23 11:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-31**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	6.9	H	3.0	1.0	mg/L			11/20/23 21:43	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	170	B	10	3.1	mg/L			10/21/23 01:00	1
Total Dissolved Solids (SM 2540C)	200		10	4.7	mg/L			10/20/23 16:51	1
Total Suspended Solids (SM 2540D)	ND		4.0	1.1	mg/L			10/20/23 10:25	1

**Client Sample ID: VLF-231016-32**

**Date Collected: 10/16/23 08:35**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-33**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	14	H	3.0	1.0	mg/L			11/20/23 21:54	1
Nitrogen, Kjeldahl (EPA 351.2)	ND		0.70	0.69	mg/L		10/20/23 11:01	10/23/23 15:27	1
ortho-Phosphate (EPA 365.1)	0.021	J	0.050	0.018	mg/L			10/17/23 17:44	1
Phosphorus, Total (EPA 365.1)	ND		0.050	0.025	mg/L		10/19/23 11:18	10/19/23 17:15	1
Biochemical Oxygen Demand (SM5210B)	1.6	J b *-	5.0	0.59	mg/L			10/18/23 09:18	1

**Client Sample ID: VLF-231016-33**

**Date Collected: 10/16/23 08:45**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-34**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	14	H	3.0	1.0	mg/L			11/20/23 22:27	1
Nitrogen, Kjeldahl (EPA 351.2)	ND		0.70	0.69	mg/L		10/20/23 11:01	10/23/23 15:28	1
ortho-Phosphate (EPA 365.1)	0.022	J	0.050	0.018	mg/L			10/17/23 17:45	1
Phosphorus, Total (EPA 365.1)	ND		0.050	0.025	mg/L		10/19/23 11:18	10/19/23 17:15	1
Biochemical Oxygen Demand (SM5210B)	2.5	J b *-	10	1.2	mg/L			10/18/23 09:18	1

**Client Sample ID: VLF-231016-34**

**Date Collected: 10/16/23 09:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-35**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	15	H	3.0	1.0	mg/L			11/20/23 23:11	1
Nitrogen, Kjeldahl (EPA 351.2)	ND		0.70	0.69	mg/L		10/20/23 11:01	10/23/23 15:28	1
ortho-Phosphate (EPA 365.1)	0.020	J	0.050	0.018	mg/L			10/17/23 17:45	1
Phosphorus, Total (EPA 365.1)	ND		0.050	0.025	mg/L		10/19/23 11:18	10/19/23 17:15	1
Biochemical Oxygen Demand (SM5210B)	1.3	J b *-	5.0	0.59	mg/L			10/18/23 09:18	1

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# Client Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## General Chemistry

**Client Sample ID: VLF-231016-35**

**Date Collected: 10/16/23 10:20**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-36**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride (EPA 300.0)</b>	<b>14</b>	<b>H</b>	3.0	1.0	mg/L			11/20/23 23:22	1
Nitrogen, Kjeldahl (EPA 351.2)	ND		0.70	0.69	mg/L		10/20/23 11:01	10/23/23 15:28	1
<b>ortho-Phosphate (EPA 365.1)</b>	<b>0.022</b>	<b>J</b>	0.050	0.018	mg/L			10/17/23 17:45	1
Phosphorus, Total (EPA 365.1)	ND		0.050	0.025	mg/L		10/19/23 11:18	10/19/23 17:16	1
<b>Biochemical Oxygen Demand (SM5210B)</b>	<b>6.0</b>	<b>J b *-</b>	24	2.8	mg/L			10/18/23 09:18	1

**Client Sample ID: VLF-231016-36**

**Date Collected: 10/16/23 11:30**

**Date Received: 10/17/23 10:22**

**Lab Sample ID: 280-183061-37**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride (EPA 300.0)</b>	<b>4300</b>	<b>H</b>	300	100	mg/L			11/25/23 20:38	100
<b>Sulfate (EPA 300.0)</b>	<b>1800</b>	<b>H</b>	500	100	mg/L			11/25/23 20:38	100
<b>Ammonia (EPA 350.1)</b>	<b>1200</b>		25	7.3	mg/L			11/02/23 18:27	250
<b>Nitrate Nitrite as N (EPA 353.2)</b>	<b>0.063</b>	<b>J</b>	0.20	0.044	mg/L			10/24/23 17:31	1
<b>Chemical Oxygen Demand (EPA 410.4)</b>	<b>6400</b>		2000	870	mg/L			10/19/23 11:17	100
<b>Bicarbonate Alkalinity as CaCO3 (SM 2320B)</b>	<b>5200</b>	<b>B</b>	10	3.1	mg/L			10/25/23 11:41	1
<b>Total Dissolved Solids (SM 2540C)</b>	<b>8400</b>		1000	470	mg/L			10/23/23 12:32	1
<b>Total Suspended Solids (SM 2540D)</b>	<b>39</b>		5.9	1.6	mg/L			10/23/23 16:39	1
<b>TOC Result 1 (SM 5310B)</b>	<b>1900</b>		500	170	mg/L			10/26/23 05:08	500
<b>TOC Result 2 (SM 5310B)</b>	<b>1900</b>		500	170	mg/L			10/26/23 05:08	500
<b>TOC Result 3 (SM 5310B)</b>	<b>1900</b>		500	170	mg/L			10/26/23 05:08	500
<b>TOC Result 4 (SM 5310B)</b>	<b>1900</b>		500	170	mg/L			10/26/23 05:08	500
<b>Total Organic Carbon - Quad (SM 5310B)</b>	<b>1900</b>		500	170	mg/L			10/26/23 05:08	500
<b>Biochemical Oxygen Demand (SM5210B)</b>	<b>150</b>	<b>b *-</b>	50	5.9	mg/L			10/18/23 09:18	10

# Surrogate Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCZ	BFB
		(70-130)	(70-130)
280-183061-30	VLF-231015-30	119	97
LCS 570-375534/1003	Lab Control Sample	105	111
LCSD 570-375534/4	Lab Control Sample Dup	100	110
MB 570-375534/6	Method Blank	115	94

#### Surrogate Legend

DCZ = 1,2-Dichlorobenzene-d4

BFB = 4-Bromofluorobenzene (Surr)

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA	BFB	DBFM	TOL
		(70-127)	(78-120)	(77-120)	(80-125)
280-183060-B-21 MS	Matrix Spike	96	112	97	104
280-183060-B-21 MSD	Matrix Spike Duplicate	95	112	96	104
280-183061-1	VLF-231013-1	96	112	95	104
280-183061-2	VLF-231013-2	97	110	96	105
280-183061-3	VLF-231013-3	95	112	95	106
280-183061-4	VLF-231013-4	95	112	94	105
280-183061-5	VLF-231013-5	98	111	96	103
280-183061-6	VLF-231013-6	97	110	96	104
280-183061-7	VLF-231013-7	96	110	96	106
280-183061-8	VLF-231013-8	96	111	94	104
280-183061-9	VLF-231013-9	96	111	95	106
280-183061-10	VLF-231013-10	97	111	94	104
280-183061-11	VLF-231013-11	94	111	94	106
280-183061-12	VLF-231013-12	95	111	93	104
280-183061-13	VLF-231014-13	95	112	94	105
280-183061-14	VLF-231014-14	98	111	96	105
280-183061-16	VLF-231014-16	96	110	93	105
280-183061-17	VLF-231014-17	98	112	96	106
280-183061-18	VLF-231014-18	98	111	95	105
280-183061-20	VLF-231014-20	98	109	95	104
280-183061-21	VLF-231014-21	98	110	94	104
280-183061-23	VLF-231015-23	109	113	96	105
280-183061-24	VLF-231015-24	110	111	96	106
280-183061-25	VLF-231015-25	108	111	95	107
280-183061-26	VLF-231015-26	109	113	95	106
280-183061-27	VLF-231015-27	112	111	99	104
280-183061-28	VLF-231015-28	109	112	97	106
280-183061-29	VLF-231015-29	111	112	97	107
280-183061-31	VLF-231015-31	110	111	97	106
280-183061-32	Trip Blanks	98	109	95	106
280-183061-37	VLF-231016-36	95	109	95	106
280-183061-38	Trip Blanks	97	111	96	105
LCS 280-631189/4	Lab Control Sample	105	111	95	106
LCS 280-631197/4	Lab Control Sample	95	112	96	106
LCS 280-631377/4	Lab Control Sample	95	111	95	105

# Surrogate Summary

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

**Matrix: Water**

**Prep Type: Total/NA**

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (70-127)	BFB (78-120)	DBFM (77-120)	TOL (80-125)
LCSD 280-631189/5	Lab Control Sample Dup	106	112	95	105
LCSD 280-631197/6	Lab Control Sample Dup	94	112	95	105
LCSD 280-631377/6	Lab Control Sample Dup	97	111	96	107
MB 280-631189/9	Method Blank	107	113	96	106
MB 280-631197/9	Method Blank	96	109	94	105
MB 280-631377/9	Method Blank	97	110	93	105

### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 570-375534/6**  
**Matrix: Water**  
**Analysis Batch: 375534**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1,2-Tetrachloroethane	ND		0.50	0.21	ug/L			10/20/23 08:06	1
1,1,1-Trichloroethane	ND		0.50	0.012	ug/L			10/20/23 08:06	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.021	ug/L			10/20/23 08:06	1
1,1,2-Trichloroethane	ND		0.50	0.020	ug/L			10/20/23 08:06	1
1,1-Dichloroethane	ND		0.50	0.018	ug/L			10/20/23 08:06	1
1,1-Dichloroethene	ND		0.50	0.050	ug/L			10/20/23 08:06	1
1,1-Dichloropropene	ND		0.50	0.23	ug/L			10/20/23 08:06	1
1,2,3-Trichlorobenzene	ND		0.50	0.21	ug/L			10/20/23 08:06	1
1,2,3-Trichloropropane	ND		0.50	0.11	ug/L			10/20/23 08:06	1
1,2,4-Trichlorobenzene	ND		0.50	0.31	ug/L			10/20/23 08:06	1
1,2,4-Trimethylbenzene	ND		0.50	0.31	ug/L			10/20/23 08:06	1
1,2-Dibromo-3-Chloropropane	ND		0.50	0.20	ug/L			10/20/23 08:06	1
1,2-Dibromoethane (EDB)	ND		0.50	0.021	ug/L			10/20/23 08:06	1
1,2-Dichlorobenzene	ND		0.50	0.015	ug/L			10/20/23 08:06	1
1,2-Dichloroethane	ND		0.50	0.014	ug/L			10/20/23 08:06	1
1,2-Dichloropropane	ND		0.50	0.015	ug/L			10/20/23 08:06	1
1,3,5-Trimethylbenzene	ND		0.50	0.30	ug/L			10/20/23 08:06	1
1,3-Dichlorobenzene	ND		0.50	0.018	ug/L			10/20/23 08:06	1
1,3-Dichloropropane	ND		0.50	0.18	ug/L			10/20/23 08:06	1
1,4-Dichlorobenzene	ND		0.50	0.023	ug/L			10/20/23 08:06	1
2,2-Dichloropropane	ND		0.50	0.13	ug/L			10/20/23 08:06	1
2-Chlorotoluene	ND		0.50	0.24	ug/L			10/20/23 08:06	1
4-Chlorotoluene	ND		0.50	0.24	ug/L			10/20/23 08:06	1
Benzene	ND		0.50	0.14	ug/L			10/20/23 08:06	1
Bromobenzene	ND		0.50	0.14	ug/L			10/20/23 08:06	1
Bromochloromethane	ND		0.50	0.11	ug/L			10/20/23 08:06	1
Bromodichloromethane	ND		0.50	0.019	ug/L			10/20/23 08:06	1
Bromoform	ND		0.50	0.075	ug/L			10/20/23 08:06	1
Bromomethane	ND		0.50	0.023	ug/L			10/20/23 08:06	1
Carbon tetrachloride	ND		0.50	0.014	ug/L			10/20/23 08:06	1
Chlorobenzene	ND		0.50	0.016	ug/L			10/20/23 08:06	1
Chloroethane	ND		0.50	0.028	ug/L			10/20/23 08:06	1
Chloroform	ND		0.50	0.016	ug/L			10/20/23 08:06	1
Chloromethane	ND		0.50	0.20	ug/L			10/20/23 08:06	1
cis-1,2-Dichloroethene	ND		0.50	0.023	ug/L			10/20/23 08:06	1
cis-1,3-Dichloropropene	ND		0.50	0.021	ug/L			10/20/23 08:06	1
Dibromochloromethane	ND		0.50	0.026	ug/L			10/20/23 08:06	1
Dibromomethane	ND		0.50	0.17	ug/L			10/20/23 08:06	1
Dichlorodifluoromethane	ND		0.50	0.24	ug/L			10/20/23 08:06	1
Ethylbenzene	ND		0.50	0.33	ug/L			10/20/23 08:06	1
Hexachlorobutadiene	ND		0.50	0.13	ug/L			10/20/23 08:06	1
Isopropylbenzene	ND		0.50	0.32	ug/L			10/20/23 08:06	1
m,p-Xylene	ND		0.50	0.12	ug/L			10/20/23 08:06	1
Methylene Chloride	0.235	J	0.50	0.21	ug/L			10/20/23 08:06	1
Methyl-t-Butyl Ether (MTBE)	ND		0.50	0.12	ug/L			10/20/23 08:06	1
Naphthalene	ND		0.50	0.27	ug/L			10/20/23 08:06	1
n-Butylbenzene	ND		0.50	0.27	ug/L			10/20/23 08:06	1
N-Propylbenzene	ND		0.50	0.28	ug/L			10/20/23 08:06	1

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 570-375534/6**  
**Matrix: Water**  
**Analysis Batch: 375534**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50	0.24	ug/L			10/20/23 08:06	1
p-Isopropyltoluene	ND		0.50	0.25	ug/L			10/20/23 08:06	1
sec-Butylbenzene	ND		0.50	0.25	ug/L			10/20/23 08:06	1
Styrene	ND		0.50	0.16	ug/L			10/20/23 08:06	1
tert-Butylbenzene	ND		0.50	0.31	ug/L			10/20/23 08:06	1
Tetrachloroethene	ND		0.50	0.014	ug/L			10/20/23 08:06	1
Toluene	ND		0.50	0.29	ug/L			10/20/23 08:06	1
trans-1,2-Dichloroethene	ND		0.50	0.025	ug/L			10/20/23 08:06	1
trans-1,3-Dichloropropene	ND		0.50	0.032	ug/L			10/20/23 08:06	1
Trichloroethene	ND		0.50	0.028	ug/L			10/20/23 08:06	1
Trichlorofluoromethane	ND		0.50	0.037	ug/L			10/20/23 08:06	1
Vinyl chloride	ND		0.50	0.035	ug/L			10/20/23 08:06	1
Xylenes, Total	ND		0.50	0.24	ug/L			10/20/23 08:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene-d4	115		70 - 130		10/20/23 08:06	1
4-Bromofluorobenzene (Surr)	94		70 - 130		10/20/23 08:06	1

**Lab Sample ID: LCS 570-375534/1003**  
**Matrix: Water**  
**Analysis Batch: 375534**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	10.0	11.1		ug/L		111	70 - 130
1,1,1-Trichloroethane	10.0	11.7		ug/L		117	70 - 130
1,1,1,2,2-Tetrachloroethane	10.0	9.53		ug/L		95	70 - 130
1,1,1,2-Trichloroethane	10.0	9.41		ug/L		94	70 - 130
1,1-Dichloroethane	10.0	9.62		ug/L		96	70 - 130
1,1-Dichloroethene	10.0	10.1		ug/L		101	70 - 130
1,1-Dichloropropene	10.0	11.0		ug/L		110	70 - 130
1,2,3-Trichlorobenzene	10.0	11.2		ug/L		112	70 - 130
1,2,3-Trichloropropane	10.0	10.1		ug/L		101	70 - 130
1,2,4-Trichlorobenzene	10.0	11.0		ug/L		110	70 - 130
1,2,4-Trimethylbenzene	10.0	12.0		ug/L		120	70 - 130
1,2-Dibromo-3-Chloropropane	10.0	8.96		ug/L		90	70 - 130
1,2-Dibromoethane (EDB)	10.0	9.73		ug/L		97	70 - 130
1,2-Dichlorobenzene	10.0	10.2		ug/L		102	70 - 130
1,2-Dichloroethane	10.0	10.7		ug/L		107	70 - 130
1,2-Dichloropropane	10.0	9.91		ug/L		99	70 - 130
1,3,5-Trimethylbenzene	10.0	12.1		ug/L		121	70 - 130
1,3-Dichlorobenzene	10.0	10.9		ug/L		109	70 - 130
1,3-Dichloropropane	10.0	10.3		ug/L		103	70 - 130
1,4-Dichlorobenzene	10.0	11.1		ug/L		111	70 - 130
2,2-Dichloropropane	10.0	11.6		ug/L		116	70 - 130
2-Chlorotoluene	10.0	11.4		ug/L		114	70 - 130
4-Chlorotoluene	10.0	11.7		ug/L		117	70 - 130
Benzene	10.0	10.6		ug/L		106	70 - 130
Bromobenzene	10.0	11.0		ug/L		110	70 - 130

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 570-375534/1003**  
**Matrix: Water**  
**Analysis Batch: 375534**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromochloromethane	10.0	9.86		ug/L		99	70 - 130
Bromodichloromethane	10.0	10.1		ug/L		101	70 - 130
Bromoform	10.0	10.8		ug/L		108	70 - 130
Bromomethane	10.0	10.8		ug/L		108	70 - 130
Carbon tetrachloride	10.0	11.0		ug/L		110	70 - 130
Chlorobenzene	10.0	11.4		ug/L		114	70 - 130
Chloroethane	10.0	10.3		ug/L		103	70 - 130
Chloroform	10.0	11.4		ug/L		114	70 - 130
Chloromethane	10.0	9.84		ug/L		98	70 - 130
cis-1,2-Dichloroethene	10.0	10.7		ug/L		107	70 - 130
cis-1,3-Dichloropropene	10.0	10.9		ug/L		109	70 - 130
Dibromochloromethane	10.0	10.2		ug/L		102	70 - 130
Dibromomethane	10.0	10.0		ug/L		100	70 - 130
Dichlorodifluoromethane	10.0	11.1		ug/L		111	70 - 130
Ethylbenzene	10.0	12.4		ug/L		124	70 - 130
Hexachlorobutadiene	10.0	12.1		ug/L		121	70 - 130
Isopropylbenzene	10.0	12.3		ug/L		123	70 - 130
m,p-Xylene	20.0	25.1		ug/L		126	70 - 130
Methylene Chloride	10.0	9.55		ug/L		95	70 - 130
Methyl-t-Butyl Ether (MTBE)	10.0	10.3		ug/L		103	70 - 130
Naphthalene	10.0	10.0		ug/L		100	70 - 130
n-Butylbenzene	10.0	10.9		ug/L		109	70 - 130
N-Propylbenzene	10.0	11.9		ug/L		119	70 - 130
o-Xylene	10.0	12.1		ug/L		121	70 - 130
p-Isopropyltoluene	10.0	11.7		ug/L		117	70 - 130
sec-Butylbenzene	10.0	11.6		ug/L		116	70 - 130
Styrene	10.0	9.91		ug/L		99	70 - 130
tert-Butylbenzene	10.0	12.3		ug/L		123	70 - 130
Tetrachloroethene	10.0	10.7		ug/L		107	70 - 130
Toluene	10.0	11.6		ug/L		116	70 - 130
trans-1,2-Dichloroethene	10.0	9.16		ug/L		92	70 - 130
trans-1,3-Dichloropropene	10.0	10.9		ug/L		109	70 - 130
Trichloroethene	10.0	10.1		ug/L		101	70 - 130
Trichlorofluoromethane	10.0	11.3		ug/L		113	70 - 130
Vinyl chloride	10.0	8.77		ug/L		88	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichlorobenzene-d4	105		70 - 130
4-Bromofluorobenzene (Surr)	111		70 - 130

**Lab Sample ID: LCSD 570-375534/4**  
**Matrix: Water**  
**Analysis Batch: 375534**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	10.0	11.1		ug/L		111	70 - 130	0	20
1,1,1-Trichloroethane	10.0	11.6		ug/L		116	70 - 130	1	20
1,1,2,2-Tetrachloroethane	10.0	9.11		ug/L		91	70 - 130	5	20

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 570-375534/4**  
**Matrix: Water**  
**Analysis Batch: 375534**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,2-Trichloroethane	10.0	9.61		ug/L		96	70 - 130	2	20
1,1-Dichloroethane	10.0	9.68		ug/L		97	70 - 130	1	20
1,1-Dichloroethene	10.0	10.7		ug/L		107	70 - 130	6	20
1,1-Dichloropropene	10.0	11.3		ug/L		113	70 - 130	3	20
1,2,3-Trichlorobenzene	10.0	10.8		ug/L		108	70 - 130	4	20
1,2,3-Trichloropropane	10.0	10.0		ug/L		100	70 - 130	0	20
1,2,4-Trichlorobenzene	10.0	10.9		ug/L		109	70 - 130	1	20
1,2,4-Trimethylbenzene	10.0	11.9		ug/L		119	70 - 130	1	20
1,2-Dibromo-3-Chloropropane	10.0	9.07		ug/L		91	70 - 130	1	20
1,2-Dibromoethane (EDB)	10.0	9.56		ug/L		96	70 - 130	2	20
1,2-Dichlorobenzene	10.0	9.83		ug/L		98	70 - 130	4	20
1,2-Dichloroethane	10.0	10.4		ug/L		104	70 - 130	2	20
1,2-Dichloropropane	10.0	9.64		ug/L		96	70 - 130	3	20
1,3,5-Trimethylbenzene	10.0	12.0		ug/L		120	70 - 130	1	20
1,3-Dichlorobenzene	10.0	10.7		ug/L		107	70 - 130	2	20
1,3-Dichloropropane	10.0	10.1		ug/L		101	70 - 130	2	20
1,4-Dichlorobenzene	10.0	10.7		ug/L		107	70 - 130	4	20
2,2-Dichloropropane	10.0	11.4		ug/L		114	70 - 130	2	20
2-Chlorotoluene	10.0	11.4		ug/L		114	70 - 130	1	20
4-Chlorotoluene	10.0	11.7		ug/L		117	70 - 130	0	20
Benzene	10.0	10.5		ug/L		105	70 - 130	1	20
Bromobenzene	10.0	11.1		ug/L		111	70 - 130	1	20
Bromochloromethane	10.0	9.68		ug/L		97	70 - 130	2	20
Bromodichloromethane	10.0	10.1		ug/L		101	70 - 130	1	20
Bromoform	10.0	10.4		ug/L		104	70 - 130	4	20
Bromomethane	10.0	11.2		ug/L		112	70 - 130	3	20
Carbon tetrachloride	10.0	11.2		ug/L		112	70 - 130	1	20
Chlorobenzene	10.0	11.5		ug/L		115	70 - 130	1	20
Chloroethane	10.0	10.4		ug/L		104	70 - 130	1	20
Chloroform	10.0	11.3		ug/L		113	70 - 130	2	20
Chloromethane	10.0	9.37		ug/L		94	70 - 130	5	20
cis-1,2-Dichloroethene	10.0	10.5		ug/L		105	70 - 130	2	20
cis-1,3-Dichloropropene	10.0	10.6		ug/L		106	70 - 130	3	20
Dibromochloromethane	10.0	10.1		ug/L		101	70 - 130	1	20
Dibromomethane	10.0	9.83		ug/L		98	70 - 130	2	20
Dichlorodifluoromethane	10.0	11.0		ug/L		110	70 - 130	1	20
Ethylbenzene	10.0	12.6		ug/L		126	70 - 130	1	20
Hexachlorobutadiene	10.0	11.7		ug/L		117	70 - 130	3	20
Isopropylbenzene	10.0	12.2		ug/L		122	70 - 130	1	20
m,p-Xylene	20.0	24.6		ug/L		123	70 - 130	2	20
Methylene Chloride	10.0	9.55		ug/L		95	70 - 130	0	20
Methyl-t-Butyl Ether (MTBE)	10.0	10.1		ug/L		101	70 - 130	2	20
Naphthalene	10.0	9.80		ug/L		98	70 - 130	2	20
n-Butylbenzene	10.0	10.9		ug/L		109	70 - 130	0	20
N-Propylbenzene	10.0	11.9		ug/L		119	70 - 130	0	20
o-Xylene	10.0	11.9		ug/L		119	70 - 130	2	20
p-Isopropyltoluene	10.0	11.5		ug/L		115	70 - 130	1	20
sec-Butylbenzene	10.0	11.6		ug/L		116	70 - 130	0	20
Styrene	10.0	9.78		ug/L		98	70 - 130	1	20

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 570-375534/4**  
**Matrix: Water**  
**Analysis Batch: 375534**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
tert-Butylbenzene	10.0	12.0		ug/L		120	70 - 130	2	20
Tetrachloroethene	10.0	10.7		ug/L		107	70 - 130	0	20
Toluene	10.0	11.6		ug/L		116	70 - 130	0	20
trans-1,2-Dichloroethene	10.0	9.20		ug/L		92	70 - 130	0	20
trans-1,3-Dichloropropene	10.0	11.0		ug/L		110	70 - 130	1	20
Trichloroethene	10.0	10.1		ug/L		101	70 - 130	1	20
Trichlorofluoromethane	10.0	11.5		ug/L		115	70 - 130	2	20
Vinyl chloride	10.0	8.55		ug/L		86	70 - 130	3	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichlorobenzene-d4	100		70 - 130
4-Bromofluorobenzene (Surr)	110		70 - 130

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 280-631189/9**  
**Matrix: Water**  
**Analysis Batch: 631189**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/25/23 23:52	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/25/23 23:52	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/25/23 23:52	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/25/23 23:52	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			10/25/23 23:52	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/25/23 23:52	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/25/23 23:52	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/25/23 23:52	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/25/23 23:52	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/25/23 23:52	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/25/23 23:52	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/25/23 23:52	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/25/23 23:52	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/25/23 23:52	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/25/23 23:52	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/25/23 23:52	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/25/23 23:52	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/25/23 23:52	1
1,3-Dichloropropane	ND		1.0	0.38	ug/L			10/25/23 23:52	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/25/23 23:52	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/25/23 23:52	1
2-Butanone (MEK)	ND		15	6.0	ug/L			10/25/23 23:52	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/25/23 23:52	1
2-Hexanone	ND		5.0	1.7	ug/L			10/25/23 23:52	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/25/23 23:52	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/25/23 23:52	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/25/23 23:52	1
Acetone	ND		15	6.6	ug/L			10/25/23 23:52	1
Benzene	ND		1.0	0.31	ug/L			10/25/23 23:52	1

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 280-631189/9**  
**Matrix: Water**  
**Analysis Batch: 631189**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	ND		1.0	0.40	ug/L			10/25/23 23:52	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/25/23 23:52	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/25/23 23:52	1
Bromoform	ND		2.0	1.2	ug/L			10/25/23 23:52	1
Bromomethane	ND		5.0	2.4	ug/L			10/25/23 23:52	1
Carbon disulfide	ND		2.0	0.63	ug/L			10/25/23 23:52	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/25/23 23:52	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/25/23 23:52	1
Chloroethane	ND		4.0	1.4	ug/L			10/25/23 23:52	1
Chloroform	ND		1.0	0.36	ug/L			10/25/23 23:52	1
Chloromethane	ND		2.0	0.75	ug/L			10/25/23 23:52	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/25/23 23:52	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/25/23 23:52	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/25/23 23:52	1
Dibromomethane	ND		1.0	0.34	ug/L			10/25/23 23:52	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/25/23 23:52	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/25/23 23:52	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/25/23 23:52	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/25/23 23:52	1
Methylene Chloride	ND		2.0	0.94	ug/L			10/25/23 23:52	1
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/25/23 23:52	1
Naphthalene	ND		2.0	0.63	ug/L			10/25/23 23:52	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/25/23 23:52	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/25/23 23:52	1
o-Xylene	ND		1.0	0.33	ug/L			10/25/23 23:52	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/25/23 23:52	1
Styrene	ND		1.0	0.36	ug/L			10/25/23 23:52	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/25/23 23:52	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/25/23 23:52	1
Toluene	ND		1.0	0.32	ug/L			10/25/23 23:52	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			10/25/23 23:52	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/25/23 23:52	1
Trichloroethene	ND		1.0	0.30	ug/L			10/25/23 23:52	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/25/23 23:52	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/25/23 23:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 127		10/25/23 23:52	1
4-Bromofluorobenzene (Surr)	113		78 - 120		10/25/23 23:52	1
Dibromofluoromethane (Surr)	96		77 - 120		10/25/23 23:52	1
Toluene-d8 (Surr)	106		80 - 125		10/25/23 23:52	1

**Lab Sample ID: LCS 280-631189/4**  
**Matrix: Water**  
**Analysis Batch: 631189**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	50.0	46.8		ug/L		94	74 - 121

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 280-631189/4**  
**Matrix: Water**  
**Analysis Batch: 631189**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	48.7		ug/L		97	62 - 132
1,1,2,2-Tetrachloroethane	50.0	54.2		ug/L		108	72 - 122
1,1,2-Trichloroethane	50.0	44.9		ug/L		90	72 - 128
1,1-Dichloroethane	50.0	44.7		ug/L		89	66 - 130
1,1-Dichloroethene	50.0	40.2		ug/L		80	62 - 130
1,1-Dichloropropene	50.0	51.8		ug/L		104	64 - 133
1,2,3-Trichlorobenzene	50.0	43.5		ug/L		87	70 - 127
1,2,3-Trichloropropane	50.0	49.8		ug/L		100	74 - 123
1,2,4-Trichlorobenzene	50.0	47.7		ug/L		95	73 - 124
1,2,4-Trimethylbenzene	50.0	54.2		ug/L		108	74 - 124
1,2-Dibromo-3-Chloropropane	50.0	40.6		ug/L		81	58 - 122
1,2-Dibromoethane	50.0	48.3		ug/L		97	81 - 118
1,2-Dichlorobenzene	50.0	50.4		ug/L		101	77 - 121
1,2-Dichloroethane	50.0	53.0		ug/L		106	61 - 130
1,2-Dichloropropane	50.0	50.9		ug/L		102	68 - 127
1,3,5-Trimethylbenzene	50.0	53.7		ug/L		107	73 - 127
1,3-Dichlorobenzene	50.0	52.1		ug/L		104	76 - 121
1,3-Dichloropropane	50.0	54.5		ug/L		109	80 - 118
1,4-Dichlorobenzene	50.0	50.4		ug/L		101	76 - 119
2,2-Dichloropropane	50.0	41.7		ug/L		83	57 - 140
2-Butanone (MEK)	200	168		ug/L		84	53 - 135
2-Chlorotoluene	50.0	51.9		ug/L		104	75 - 123
2-Hexanone	200	208		ug/L		104	58 - 134
4-Chlorotoluene	50.0	51.5		ug/L		103	74 - 124
4-Isopropyltoluene	50.0	50.8		ug/L		102	74 - 127
4-Methyl-2-pentanone (MIBK)	200	194		ug/L		97	56 - 135
Acetone	200	164		ug/L		82	50 - 137
Benzene	50.0	49.7		ug/L		99	69 - 126
Bromobenzene	50.0	51.0		ug/L		102	75 - 122
Bromochloromethane	50.0	44.3		ug/L		89	71 - 130
Bromodichloromethane	50.0	46.5		ug/L		93	67 - 126
Bromoform	50.0	40.7		ug/L		81	57 - 125
Bromomethane	50.0	40.2		ug/L		80	25 - 163
Carbon disulfide	50.0	42.6		ug/L		85	56 - 128
Carbon tetrachloride	50.0	43.0		ug/L		86	60 - 133
Chlorobenzene	50.0	49.2		ug/L		98	78 - 118
Chloroethane	50.0	46.1		ug/L		92	52 - 144
Chloroform	50.0	49.0		ug/L		98	68 - 128
Chloromethane	50.0	56.0		ug/L		112	43 - 142
cis-1,2-Dichloroethene	50.0	40.3		ug/L		81	69 - 126
cis-1,3-Dichloropropene	50.0	53.9		ug/L		108	75 - 120
Dibromochloromethane	50.0	44.4		ug/L		89	71 - 122
Dibromomethane	50.0	47.7		ug/L		95	68 - 129
Dichlorodifluoromethane	50.0	53.1		ug/L		106	26 - 152
Ethylbenzene	50.0	49.5		ug/L		99	76 - 121
Hexachlorobutadiene	50.0	45.5		ug/L		91	69 - 133
Isopropylbenzene	50.0	54.1		ug/L		108	70 - 127
Methylene Chloride	50.0	41.2		ug/L		82	64 - 128
m-Xylene & p-Xylene	50.0	52.0		ug/L		104	76 - 122

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 280-631189/4**  
**Matrix: Water**  
**Analysis Batch: 631189**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Naphthalene	50.0	44.8		ug/L		90	63 - 129
n-Butylbenzene	50.0	54.7		ug/L		109	69 - 130
N-Propylbenzene	50.0	52.9		ug/L		106	73 - 127
o-Xylene	50.0	50.9		ug/L		102	77 - 120
sec-Butylbenzene	50.0	51.4		ug/L		103	72 - 127
Styrene	50.0	49.9		ug/L		100	79 - 120
tert-Butylbenzene	50.0	50.5		ug/L		101	72 - 126
Tetrachloroethene	50.0	47.8		ug/L		96	72 - 127
Toluene	50.0	46.7		ug/L		93	68 - 127
trans-1,2-Dichloroethene	50.0	37.7		ug/L		75	66 - 129
trans-1,3-Dichloropropene	50.0	48.2		ug/L		96	66 - 127
Trichloroethene	50.0	50.2		ug/L		100	70 - 125
Trichlorofluoromethane	50.0	39.5		ug/L		79	57 - 144
Vinyl chloride	50.0	55.5		ug/L		111	53 - 141

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
1,2-Dichloroethane-d4 (Surr)	105		70 - 127
4-Bromofluorobenzene (Surr)	111		78 - 120
Dibromofluoromethane (Surr)	95		77 - 120
Toluene-d8 (Surr)	106		80 - 125

**Lab Sample ID: LCSD 280-631189/5**  
**Matrix: Water**  
**Analysis Batch: 631189**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50.0	51.5		ug/L		103	74 - 121	10	20
1,1,1-Trichloroethane	50.0	51.2		ug/L		102	62 - 132	5	20
1,1,1,2,2-Tetrachloroethane	50.0	60.0		ug/L		120	72 - 122	10	20
1,1,2-Trichloroethane	50.0	49.1		ug/L		98	72 - 128	9	20
1,1-Dichloroethane	50.0	56.4	*1	ug/L		113	66 - 130	23	20
1,1-Dichloroethene	50.0	49.0		ug/L		98	62 - 130	20	21
1,1-Dichloropropene	50.0	54.3		ug/L		109	64 - 133	5	20
1,2,3-Trichlorobenzene	50.0	49.2		ug/L		98	70 - 127	12	20
1,2,3-Trichloropropane	50.0	56.7		ug/L		113	74 - 123	13	20
1,2,4-Trichlorobenzene	50.0	51.9		ug/L		104	73 - 124	8	20
1,2,4-Trimethylbenzene	50.0	58.4		ug/L		117	74 - 124	7	20
1,2-Dibromo-3-Chloropropane	50.0	45.1		ug/L		90	58 - 122	10	21
1,2-Dibromoethane	50.0	52.8		ug/L		106	81 - 118	9	20
1,2-Dichlorobenzene	50.0	56.8		ug/L		114	77 - 121	12	20
1,2-Dichloroethane	50.0	57.0		ug/L		114	61 - 130	7	20
1,2-Dichloropropane	50.0	55.8		ug/L		112	68 - 127	9	20
1,3,5-Trimethylbenzene	50.0	58.4		ug/L		117	73 - 127	8	20
1,3-Dichlorobenzene	50.0	57.1		ug/L		114	76 - 121	9	20
1,3-Dichloropropane	50.0	59.8	*+	ug/L		120	80 - 118	9	20
1,4-Dichlorobenzene	50.0	55.9		ug/L		112	76 - 119	10	20
2,2-Dichloropropane	50.0	52.0		ug/L		104	57 - 140	22	22
2-Butanone (MEK)	200	216	*1	ug/L		108	53 - 135	25	20

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 280-631189/5**  
**Matrix: Water**  
**Analysis Batch: 631189**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2-Chlorotoluene	50.0	57.0		ug/L		114	75 - 123	9	20
2-Hexanone	200	231		ug/L		115	58 - 134	11	21
4-Chlorotoluene	50.0	56.4		ug/L		113	74 - 124	9	20
4-Isopropyltoluene	50.0	55.6		ug/L		111	74 - 127	9	20
4-Methyl-2-pentanone (MIBK)	200	214		ug/L		107	56 - 135	10	20
Acetone	200	217	*1	ug/L		109	50 - 137	28	21
Benzene	50.0	53.1		ug/L		106	69 - 126	7	20
Bromobenzene	50.0	56.8		ug/L		114	75 - 122	11	20
Bromochloromethane	50.0	47.4		ug/L		95	71 - 130	7	20
Bromodichloromethane	50.0	49.7		ug/L		99	67 - 126	7	20
Bromoform	50.0	44.4		ug/L		89	57 - 125	9	20
Bromomethane	50.0	42.5		ug/L		85	25 - 163	6	40
Carbon disulfide	50.0	52.7	*1	ug/L		105	56 - 128	21	20
Carbon tetrachloride	50.0	45.2		ug/L		90	60 - 133	5	20
Chlorobenzene	50.0	52.8		ug/L		106	78 - 118	7	20
Chloroethane	50.0	47.4		ug/L		95	52 - 144	3	30
Chloroform	50.0	53.1		ug/L		106	68 - 128	8	20
Chloromethane	50.0	57.3		ug/L		115	43 - 142	2	20
cis-1,2-Dichloroethene	50.0	48.3		ug/L		97	69 - 126	18	20
cis-1,3-Dichloropropene	50.0	58.0		ug/L		116	75 - 120	7	20
Dibromochloromethane	50.0	47.5		ug/L		95	71 - 122	7	20
Dibromomethane	50.0	52.2		ug/L		104	68 - 129	9	20
Dichlorodifluoromethane	50.0	53.6		ug/L		107	26 - 152	1	21
Ethylbenzene	50.0	53.4		ug/L		107	76 - 121	8	20
Hexachlorobutadiene	50.0	49.3		ug/L		99	69 - 133	8	20
Isopropylbenzene	50.0	58.2		ug/L		116	70 - 127	7	20
Methylene Chloride	50.0	51.8	*1	ug/L		104	64 - 128	23	20
m-Xylene & p-Xylene	50.0	55.7		ug/L		111	76 - 122	7	20
Naphthalene	50.0	50.6		ug/L		101	63 - 129	12	21
n-Butylbenzene	50.0	60.4		ug/L		121	69 - 130	10	20
N-Propylbenzene	50.0	56.4		ug/L		113	73 - 127	6	20
o-Xylene	50.0	53.5		ug/L		107	77 - 120	5	20
sec-Butylbenzene	50.0	55.0		ug/L		110	72 - 127	7	20
Styrene	50.0	53.5		ug/L		107	79 - 120	7	20
tert-Butylbenzene	50.0	54.6		ug/L		109	72 - 126	8	20
Tetrachloroethene	50.0	49.6		ug/L		99	72 - 127	4	20
Toluene	50.0	50.2		ug/L		100	68 - 127	7	20
trans-1,2-Dichloroethene	50.0	46.8	*1	ug/L		94	66 - 129	21	20
trans-1,3-Dichloropropene	50.0	51.7		ug/L		103	66 - 127	7	20
Trichloroethene	50.0	54.5		ug/L		109	70 - 125	8	20
Trichlorofluoromethane	50.0	47.6		ug/L		95	57 - 144	19	28
Vinyl chloride	50.0	56.2		ug/L		112	53 - 141	1	25

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	106		70 - 127
4-Bromofluorobenzene (Surr)	112		78 - 120
Dibromofluoromethane (Surr)	95		77 - 120
Toluene-d8 (Surr)	105		80 - 125

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 280-631197/9**  
**Matrix: Water**  
**Analysis Batch: 631197**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 08:59	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 08:59	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 08:59	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 08:59	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			10/26/23 08:59	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 08:59	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 08:59	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 08:59	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 08:59	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 08:59	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 08:59	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 08:59	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 08:59	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 08:59	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 08:59	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 08:59	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 08:59	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 08:59	1
1,3-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 08:59	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 08:59	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 08:59	1
2-Butanone (MEK)	ND		15	6.0	ug/L			10/26/23 08:59	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 08:59	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 08:59	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 08:59	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 08:59	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 08:59	1
Acetone	ND		15	6.6	ug/L			10/26/23 08:59	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 08:59	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 08:59	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 08:59	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 08:59	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 08:59	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 08:59	1
Carbon disulfide	ND		2.0	0.63	ug/L			10/26/23 08:59	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 08:59	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 08:59	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 08:59	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 08:59	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 08:59	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 08:59	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 08:59	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 08:59	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 08:59	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 08:59	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 08:59	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 08:59	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 08:59	1

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 280-631197/9**  
**Matrix: Water**  
**Analysis Batch: 631197**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.94	ug/L			10/26/23 08:59	1
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 08:59	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 08:59	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 08:59	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 08:59	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 08:59	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 08:59	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 08:59	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 08:59	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 08:59	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 08:59	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			10/26/23 08:59	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 08:59	1
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 08:59	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 08:59	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 08:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 127		10/26/23 08:59	1
4-Bromofluorobenzene (Surr)	109		78 - 120		10/26/23 08:59	1
Dibromofluoromethane (Surr)	94		77 - 120		10/26/23 08:59	1
Toluene-d8 (Surr)	105		80 - 125		10/26/23 08:59	1

**Lab Sample ID: LCS 280-631197/4**  
**Matrix: Water**  
**Analysis Batch: 631197**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	50.0	45.9		ug/L		92	74 - 121
1,1,1-Trichloroethane	50.0	48.2		ug/L		96	62 - 132
1,1,1,2-Tetrachloroethane	50.0	59.4		ug/L		119	72 - 122
1,1,2-Trichloroethane	50.0	52.3		ug/L		105	72 - 128
1,1-Dichloroethane	50.0	52.2		ug/L		104	66 - 130
1,1-Dichloroethene	50.0	47.5		ug/L		95	62 - 130
1,1-Dichloropropene	50.0	48.7		ug/L		97	64 - 133
1,2,3-Trichlorobenzene	50.0	45.4		ug/L		91	70 - 127
1,2,3-Trichloropropane	50.0	54.6		ug/L		109	74 - 123
1,2,4-Trichlorobenzene	50.0	50.0		ug/L		100	73 - 124
1,2,4-Trimethylbenzene	50.0	57.1		ug/L		114	74 - 124
1,2-Dibromo-3-Chloropropane	50.0	46.4		ug/L		93	58 - 122
1,2-Dibromoethane	50.0	56.9		ug/L		114	81 - 118
1,2-Dichlorobenzene	50.0	51.7		ug/L		103	77 - 121
1,2-Dichloroethane	50.0	44.6		ug/L		89	61 - 130
1,2-Dichloropropane	50.0	54.8		ug/L		110	68 - 127
1,3,5-Trimethylbenzene	50.0	56.4		ug/L		113	73 - 127
1,3-Dichlorobenzene	50.0	51.9		ug/L		104	76 - 121
1,3-Dichloropropane	50.0	57.6		ug/L		115	80 - 118
1,4-Dichlorobenzene	50.0	50.0		ug/L		100	76 - 119

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 280-631197/4**  
**Matrix: Water**  
**Analysis Batch: 631197**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,2-Dichloropropane	50.0	44.7		ug/L		89	57 - 140
2-Butanone (MEK)	200	229		ug/L		115	53 - 135
2-Chlorotoluene	50.0	52.3		ug/L		105	75 - 123
2-Hexanone	200	250		ug/L		125	58 - 134
4-Chlorotoluene	50.0	53.2		ug/L		106	74 - 124
4-Isopropyltoluene	50.0	55.8		ug/L		112	74 - 127
4-Methyl-2-pentanone (MIBK)	200	239		ug/L		119	56 - 135
Acetone	200	193		ug/L		96	50 - 137
Benzene	50.0	52.7		ug/L		105	69 - 126
Bromobenzene	50.0	51.7		ug/L		103	75 - 122
Bromochloromethane	50.0	46.5		ug/L		93	71 - 130
Bromodichloromethane	50.0	50.8		ug/L		102	67 - 126
Bromoform	50.0	45.8		ug/L		92	57 - 125
Bromomethane	50.0	39.5		ug/L		79	25 - 163
Carbon disulfide	50.0	50.3		ug/L		101	56 - 128
Carbon tetrachloride	50.0	40.6		ug/L		81	60 - 133
Chlorobenzene	50.0	50.8		ug/L		102	78 - 118
Chloroethane	50.0	54.9		ug/L		110	52 - 144
Chloroform	50.0	48.8		ug/L		98	68 - 128
Chloromethane	50.0	56.3		ug/L		113	43 - 142
cis-1,2-Dichloroethene	50.0	50.0		ug/L		100	69 - 126
cis-1,3-Dichloropropene	50.0	51.5		ug/L		103	75 - 120
Dibromochloromethane	50.0	53.8		ug/L		108	71 - 122
Dibromomethane	50.0	49.5		ug/L		99	68 - 129
Dichlorodifluoromethane	50.0	47.9		ug/L		96	26 - 152
Ethylbenzene	50.0	52.7		ug/L		105	76 - 121
Hexachlorobutadiene	50.0	43.0		ug/L		86	69 - 133
Isopropylbenzene	50.0	54.2		ug/L		108	70 - 127
Methylene Chloride	50.0	52.5		ug/L		105	64 - 128
m-Xylene & p-Xylene	50.0	53.4		ug/L		107	76 - 122
Naphthalene	50.0	51.7		ug/L		103	63 - 129
n-Butylbenzene	50.0	56.9		ug/L		114	69 - 130
N-Propylbenzene	50.0	54.1		ug/L		108	73 - 127
o-Xylene	50.0	53.6		ug/L		107	77 - 120
sec-Butylbenzene	50.0	52.5		ug/L		105	72 - 127
Styrene	50.0	54.4		ug/L		109	79 - 120
tert-Butylbenzene	50.0	54.4		ug/L		109	72 - 126
Tetrachloroethene	50.0	48.3		ug/L		97	72 - 127
Toluene	50.0	49.8		ug/L		100	68 - 127
trans-1,2-Dichloroethene	50.0	48.8		ug/L		98	66 - 129
trans-1,3-Dichloropropene	50.0	50.0		ug/L		100	66 - 127
Trichloroethene	50.0	51.8		ug/L		104	70 - 125
Trichlorofluoromethane	50.0	44.9		ug/L		90	57 - 144
Vinyl chloride	50.0	51.4		ug/L		103	53 - 141

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 127
4-Bromofluorobenzene (Surr)	112		78 - 120

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 280-631197/4**  
**Matrix: Water**  
**Analysis Batch: 631197**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	96		77 - 120
Toluene-d8 (Surr)	106		80 - 125

**Lab Sample ID: LCSD 280-631197/6**  
**Matrix: Water**  
**Analysis Batch: 631197**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50.0	45.5		ug/L		91	74 - 121	1	20
1,1,1-Trichloroethane	50.0	47.5		ug/L		95	62 - 132	2	20
1,1,2,2-Tetrachloroethane	50.0	57.5		ug/L		115	72 - 122	3	20
1,1,2-Trichloroethane	50.0	51.0		ug/L		102	72 - 128	3	20
1,1-Dichloroethane	50.0	51.1		ug/L		102	66 - 130	2	20
1,1-Dichloroethene	50.0	47.5		ug/L		95	62 - 130	0	21
1,1-Dichloropropene	50.0	47.9		ug/L		96	64 - 133	2	20
1,2,3-Trichlorobenzene	50.0	44.0		ug/L		88	70 - 127	3	20
1,2,3-Trichloropropane	50.0	52.7		ug/L		105	74 - 123	4	20
1,2,4-Trichlorobenzene	50.0	48.2		ug/L		96	73 - 124	4	20
1,2,4-Trimethylbenzene	50.0	57.6		ug/L		115	74 - 124	1	20
1,2-Dibromo-3-Chloropropane	50.0	45.8		ug/L		92	58 - 122	1	21
1,2-Dibromoethane	50.0	56.6		ug/L		113	81 - 118	1	20
1,2-Dichlorobenzene	50.0	52.1		ug/L		104	77 - 121	1	20
1,2-Dichloroethane	50.0	44.6		ug/L		89	61 - 130	0	20
1,2-Dichloropropane	50.0	53.7		ug/L		107	68 - 127	2	20
1,3,5-Trimethylbenzene	50.0	57.6		ug/L		115	73 - 127	2	20
1,3-Dichlorobenzene	50.0	52.1		ug/L		104	76 - 121	0	20
1,3-Dichloropropane	50.0	56.8		ug/L		114	80 - 118	2	20
1,4-Dichlorobenzene	50.0	50.1		ug/L		100	76 - 119	0	20
2,2-Dichloropropane	50.0	44.7		ug/L		89	57 - 140	0	22
2-Butanone (MEK)	200	213		ug/L		106	53 - 135	7	20
2-Chlorotoluene	50.0	52.8		ug/L		106	75 - 123	1	20
2-Hexanone	200	235		ug/L		118	58 - 134	6	21
4-Chlorotoluene	50.0	53.6		ug/L		107	74 - 124	1	20
4-Isopropyltoluene	50.0	56.4		ug/L		113	74 - 127	1	20
4-Methyl-2-pentanone (MIBK)	200	225		ug/L		113	56 - 135	6	20
Acetone	200	181		ug/L		91	50 - 137	6	21
Benzene	50.0	52.0		ug/L		104	69 - 126	1	20
Bromobenzene	50.0	52.0		ug/L		104	75 - 122	1	20
Bromochloromethane	50.0	46.4		ug/L		93	71 - 130	0	20
Bromodichloromethane	50.0	51.0		ug/L		102	67 - 126	0	20
Bromoform	50.0	43.7		ug/L		87	57 - 125	5	20
Bromomethane	50.0	41.9		ug/L		84	25 - 163	6	40
Carbon disulfide	50.0	49.5		ug/L		99	56 - 128	2	20
Carbon tetrachloride	50.0	40.4		ug/L		81	60 - 133	1	20
Chlorobenzene	50.0	49.9		ug/L		100	78 - 118	2	20
Chloroethane	50.0	53.3		ug/L		107	52 - 144	3	30
Chloroform	50.0	48.4		ug/L		97	68 - 128	1	20
Chloromethane	50.0	55.7		ug/L		111	43 - 142	1	20

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 280-631197/6**  
**Matrix: Water**  
**Analysis Batch: 631197**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
cis-1,2-Dichloroethene	50.0	50.2		ug/L		100	69 - 126	0	20
cis-1,3-Dichloropropene	50.0	51.6		ug/L		103	75 - 120	0	20
Dibromochloromethane	50.0	53.7		ug/L		107	71 - 122	0	20
Dibromomethane	50.0	49.6		ug/L		99	68 - 129	0	20
Dichlorodifluoromethane	50.0	46.1		ug/L		92	26 - 152	4	21
Ethylbenzene	50.0	52.7		ug/L		105	76 - 121	0	20
Hexachlorobutadiene	50.0	44.5		ug/L		89	69 - 133	3	20
Isopropylbenzene	50.0	54.9		ug/L		110	70 - 127	1	20
Methylene Chloride	50.0	52.1		ug/L		104	64 - 128	1	20
m-Xylene & p-Xylene	50.0	52.4		ug/L		105	76 - 122	2	20
Naphthalene	50.0	49.1		ug/L		98	63 - 129	5	21
n-Butylbenzene	50.0	57.3		ug/L		115	69 - 130	1	20
N-Propylbenzene	50.0	54.9		ug/L		110	73 - 127	1	20
o-Xylene	50.0	54.3		ug/L		109	77 - 120	1	20
sec-Butylbenzene	50.0	52.5		ug/L		105	72 - 127	0	20
Styrene	50.0	55.0		ug/L		110	79 - 120	1	20
tert-Butylbenzene	50.0	54.6		ug/L		109	72 - 126	0	20
Tetrachloroethene	50.0	48.0		ug/L		96	72 - 127	1	20
Toluene	50.0	49.7		ug/L		99	68 - 127	0	20
trans-1,2-Dichloroethene	50.0	48.1		ug/L		96	66 - 129	1	20
trans-1,3-Dichloropropene	50.0	50.7		ug/L		101	66 - 127	1	20
Trichloroethene	50.0	51.2		ug/L		102	70 - 125	1	20
Trichlorofluoromethane	50.0	42.9		ug/L		86	57 - 144	5	28
Vinyl chloride	50.0	49.6		ug/L		99	53 - 141	3	25

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	94		70 - 127
4-Bromofluorobenzene (Surr)	112		78 - 120
Dibromofluoromethane (Surr)	95		77 - 120
Toluene-d8 (Surr)	105		80 - 125

**Lab Sample ID: MB 280-631377/9**  
**Matrix: Water**  
**Analysis Batch: 631377**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.58	ug/L			10/26/23 19:24	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			10/26/23 19:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			10/26/23 19:24	1
1,1,2-Trichloroethane	ND		1.0	0.27	ug/L			10/26/23 19:24	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			10/26/23 19:24	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			10/26/23 19:24	1
1,1-Dichloropropene	ND		1.0	0.42	ug/L			10/26/23 19:24	1
1,2,3-Trichlorobenzene	ND		2.0	0.70	ug/L			10/26/23 19:24	1
1,2,3-Trichloropropane	ND		2.5	0.86	ug/L			10/26/23 19:24	1
1,2,4-Trichlorobenzene	ND		1.0	0.58	ug/L			10/26/23 19:24	1
1,2,4-Trimethylbenzene	ND		1.0	0.15	ug/L			10/26/23 19:24	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.8	ug/L			10/26/23 19:24	1

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 280-631377/9**  
**Matrix: Water**  
**Analysis Batch: 631377**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		1.0	0.40	ug/L			10/26/23 19:24	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			10/26/23 19:24	1
1,2-Dichloroethane	ND		1.0	0.54	ug/L			10/26/23 19:24	1
1,2-Dichloropropane	ND		1.0	0.52	ug/L			10/26/23 19:24	1
1,3,5-Trimethylbenzene	ND		1.0	0.37	ug/L			10/26/23 19:24	1
1,3-Dichlorobenzene	ND		1.0	0.33	ug/L			10/26/23 19:24	1
1,3-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 19:24	1
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L			10/26/23 19:24	1
2,2-Dichloropropane	ND		1.0	0.38	ug/L			10/26/23 19:24	1
2-Butanone (MEK)	ND		15	6.0	ug/L			10/26/23 19:24	1
2-Chlorotoluene	ND		1.0	0.34	ug/L			10/26/23 19:24	1
2-Hexanone	ND		5.0	1.7	ug/L			10/26/23 19:24	1
4-Chlorotoluene	ND		1.0	0.21	ug/L			10/26/23 19:24	1
4-Isopropyltoluene	ND		1.0	0.43	ug/L			10/26/23 19:24	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.98	ug/L			10/26/23 19:24	1
Acetone	ND		15	6.6	ug/L			10/26/23 19:24	1
Benzene	ND		1.0	0.31	ug/L			10/26/23 19:24	1
Bromobenzene	ND		1.0	0.40	ug/L			10/26/23 19:24	1
Bromochloromethane	ND		1.0	0.40	ug/L			10/26/23 19:24	1
Bromodichloromethane	ND		1.0	0.39	ug/L			10/26/23 19:24	1
Bromoform	ND		2.0	1.2	ug/L			10/26/23 19:24	1
Bromomethane	ND		5.0	2.4	ug/L			10/26/23 19:24	1
Carbon disulfide	ND		2.0	0.63	ug/L			10/26/23 19:24	1
Carbon tetrachloride	ND		1.0	0.57	ug/L			10/26/23 19:24	1
Chlorobenzene	ND		1.0	0.42	ug/L			10/26/23 19:24	1
Chloroethane	ND		4.0	1.4	ug/L			10/26/23 19:24	1
Chloroform	ND		1.0	0.36	ug/L			10/26/23 19:24	1
Chloromethane	ND		2.0	0.75	ug/L			10/26/23 19:24	1
cis-1,2-Dichloroethene	ND		1.0	0.32	ug/L			10/26/23 19:24	1
cis-1,3-Dichloropropene	ND		2.0	0.63	ug/L			10/26/23 19:24	1
Dibromochloromethane	ND		2.0	0.62	ug/L			10/26/23 19:24	1
Dibromomethane	ND		1.0	0.34	ug/L			10/26/23 19:24	1
Dichlorodifluoromethane	ND		3.0	0.96	ug/L			10/26/23 19:24	1
Ethylbenzene	ND		1.0	0.30	ug/L			10/26/23 19:24	1
Hexachlorobutadiene	ND		2.0	1.2	ug/L			10/26/23 19:24	1
Isopropylbenzene	ND		1.0	0.36	ug/L			10/26/23 19:24	1
Methylene Chloride	ND		2.0	0.94	ug/L			10/26/23 19:24	1
m-Xylene & p-Xylene	ND		2.0	0.36	ug/L			10/26/23 19:24	1
Naphthalene	ND		2.0	0.63	ug/L			10/26/23 19:24	1
n-Butylbenzene	ND		1.0	0.48	ug/L			10/26/23 19:24	1
N-Propylbenzene	ND		1.0	0.53	ug/L			10/26/23 19:24	1
o-Xylene	ND		1.0	0.33	ug/L			10/26/23 19:24	1
sec-Butylbenzene	ND		1.0	0.45	ug/L			10/26/23 19:24	1
Styrene	ND		1.0	0.36	ug/L			10/26/23 19:24	1
tert-Butylbenzene	ND		1.0	0.42	ug/L			10/26/23 19:24	1
Tetrachloroethene	ND		1.0	0.40	ug/L			10/26/23 19:24	1
Toluene	ND		1.0	0.32	ug/L			10/26/23 19:24	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			10/26/23 19:24	1
trans-1,3-Dichloropropene	ND		2.0	0.65	ug/L			10/26/23 19:24	1

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 280-631377/9**  
**Matrix: Water**  
**Analysis Batch: 631377**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		1.0	0.30	ug/L			10/26/23 19:24	1
Trichlorofluoromethane	ND		2.0	0.57	ug/L			10/26/23 19:24	1
Vinyl chloride	ND		2.0	0.51	ug/L			10/26/23 19:24	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 127					10/26/23 19:24	1
4-Bromofluorobenzene (Surr)	110		78 - 120					10/26/23 19:24	1
Dibromofluoromethane (Surr)	93		77 - 120					10/26/23 19:24	1
Toluene-d8 (Surr)	105		80 - 125					10/26/23 19:24	1

**Lab Sample ID: LCS 280-631377/4**  
**Matrix: Water**  
**Analysis Batch: 631377**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	50.0	48.7		ug/L		97	74 - 121
1,1,1-Trichloroethane	50.0	51.8		ug/L		104	62 - 132
1,1,2,2-Tetrachloroethane	50.0	61.7	*+	ug/L		123	72 - 122
1,1,2-Trichloroethane	50.0	54.2		ug/L		108	72 - 128
1,1-Dichloroethane	50.0	54.1		ug/L		108	66 - 130
1,1-Dichloroethene	50.0	52.6		ug/L		105	62 - 130
1,1-Dichloropropene	50.0	53.3		ug/L		107	64 - 133
1,2,3-Trichlorobenzene	50.0	48.9		ug/L		98	70 - 127
1,2,3-Trichloropropane	50.0	56.2		ug/L		112	74 - 123
1,2,4-Trichlorobenzene	50.0	52.3		ug/L		105	73 - 124
1,2,4-Trimethylbenzene	50.0	59.5		ug/L		119	74 - 124
1,2-Dibromo-3-Chloropropane	50.0	50.3		ug/L		101	58 - 122
1,2-Dibromoethane	50.0	58.3		ug/L		117	81 - 118
1,2-Dichlorobenzene	50.0	54.4		ug/L		109	77 - 121
1,2-Dichloroethane	50.0	46.2		ug/L		92	61 - 130
1,2-Dichloropropane	50.0	55.9		ug/L		112	68 - 127
1,3,5-Trimethylbenzene	50.0	59.9		ug/L		120	73 - 127
1,3-Dichlorobenzene	50.0	54.8		ug/L		110	76 - 121
1,3-Dichloropropane	50.0	58.2		ug/L		116	80 - 118
1,4-Dichlorobenzene	50.0	52.6		ug/L		105	76 - 119
2,2-Dichloropropane	50.0	48.8		ug/L		98	57 - 140
2-Butanone (MEK)	200	219		ug/L		110	53 - 135
2-Chlorotoluene	50.0	54.8		ug/L		110	75 - 123
2-Hexanone	200	243		ug/L		122	58 - 134
4-Chlorotoluene	50.0	56.4		ug/L		113	74 - 124
4-Isopropyltoluene	50.0	60.1		ug/L		120	74 - 127
4-Methyl-2-pentanone (MIBK)	200	231		ug/L		116	56 - 135
Acetone	200	196		ug/L		98	50 - 137
Benzene	50.0	54.5		ug/L		109	69 - 126
Bromobenzene	50.0	53.4		ug/L		107	75 - 122
Bromochloromethane	50.0	48.1		ug/L		96	71 - 130
Bromodichloromethane	50.0	52.7		ug/L		105	67 - 126
Bromoform	50.0	47.0		ug/L		94	57 - 125

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 280-631377/4**  
**Matrix: Water**  
**Analysis Batch: 631377**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromomethane	50.0	31.0		ug/L		62	25 - 163
Carbon disulfide	50.0	55.0		ug/L		110	56 - 128
Carbon tetrachloride	50.0	44.6		ug/L		89	60 - 133
Chlorobenzene	50.0	52.4		ug/L		105	78 - 118
Chloroethane	50.0	46.8		ug/L		94	52 - 144
Chloroform	50.0	50.4		ug/L		101	68 - 128
Chloromethane	50.0	47.8		ug/L		96	43 - 142
cis-1,2-Dichloroethene	50.0	51.5		ug/L		103	69 - 126
cis-1,3-Dichloropropene	50.0	53.3		ug/L		107	75 - 120
Dibromochloromethane	50.0	56.3		ug/L		113	71 - 122
Dibromomethane	50.0	51.1		ug/L		102	68 - 129
Dichlorodifluoromethane	50.0	41.7		ug/L		83	26 - 152
Ethylbenzene	50.0	55.6		ug/L		111	76 - 121
Hexachlorobutadiene	50.0	47.6		ug/L		95	69 - 133
Isopropylbenzene	50.0	57.8		ug/L		116	70 - 127
Methylene Chloride	50.0	55.0		ug/L		110	64 - 128
m-Xylene & p-Xylene	50.0	55.4		ug/L		111	76 - 122
Naphthalene	50.0	55.2		ug/L		110	63 - 129
n-Butylbenzene	50.0	61.9		ug/L		124	69 - 130
N-Propylbenzene	50.0	57.2		ug/L		114	73 - 127
o-Xylene	50.0	55.6		ug/L		111	77 - 120
sec-Butylbenzene	50.0	57.1		ug/L		114	72 - 127
Styrene	50.0	57.7		ug/L		115	79 - 120
tert-Butylbenzene	50.0	58.1		ug/L		116	72 - 126
Tetrachloroethene	50.0	51.7		ug/L		103	72 - 127
Toluene	50.0	51.8		ug/L		104	68 - 127
trans-1,2-Dichloroethene	50.0	51.2		ug/L		102	66 - 129
trans-1,3-Dichloropropene	50.0	52.2		ug/L		104	66 - 127
Trichloroethene	50.0	53.4		ug/L		107	70 - 125
Trichlorofluoromethane	50.0	41.1		ug/L		82	57 - 144
Vinyl chloride	50.0	44.5		ug/L		89	53 - 141

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 127
4-Bromofluorobenzene (Surr)	111		78 - 120
Dibromofluoromethane (Surr)	95		77 - 120
Toluene-d8 (Surr)	105		80 - 125

**Lab Sample ID: LCSD 280-631377/6**  
**Matrix: Water**  
**Analysis Batch: 631377**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50.0	49.4		ug/L		99	74 - 121	1	20
1,1,1-Trichloroethane	50.0	53.8		ug/L		108	62 - 132	4	20
1,1,1,2,2-Tetrachloroethane	50.0	62.1	*+	ug/L		124	72 - 122	1	20
1,1,2-Trichloroethane	50.0	54.6		ug/L		109	72 - 128	1	20
1,1-Dichloroethane	50.0	55.8		ug/L		112	66 - 130	3	20

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 280-631377/6**  
**Matrix: Water**  
**Analysis Batch: 631377**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethene	50.0	54.4		ug/L		109	62 - 130	3	21
1,1-Dichloropropene	50.0	54.4		ug/L		109	64 - 133	2	20
1,2,3-Trichlorobenzene	50.0	52.0		ug/L		104	70 - 127	6	20
1,2,3-Trichloropropane	50.0	57.0		ug/L		114	74 - 123	1	20
1,2,4-Trichlorobenzene	50.0	54.4		ug/L		109	73 - 124	4	20
1,2,4-Trimethylbenzene	50.0	61.1		ug/L		122	74 - 124	3	20
1,2-Dibromo-3-Chloropropane	50.0	51.1		ug/L		102	58 - 122	2	21
1,2-Dibromoethane	50.0	59.7	*+	ug/L		119	81 - 118	2	20
1,2-Dichlorobenzene	50.0	55.2		ug/L		110	77 - 121	1	20
1,2-Dichloroethane	50.0	48.0		ug/L		96	61 - 130	4	20
1,2-Dichloropropane	50.0	57.6		ug/L		115	68 - 127	3	20
1,3,5-Trimethylbenzene	50.0	61.0		ug/L		122	73 - 127	2	20
1,3-Dichlorobenzene	50.0	55.8		ug/L		112	76 - 121	2	20
1,3-Dichloropropane	50.0	60.3	*+	ug/L		121	80 - 118	4	20
1,4-Dichlorobenzene	50.0	53.0		ug/L		106	76 - 119	1	20
2,2-Dichloropropane	50.0	50.7		ug/L		101	57 - 140	4	22
2-Butanone (MEK)	200	224		ug/L		112	53 - 135	2	20
2-Chlorotoluene	50.0	56.4		ug/L		113	75 - 123	3	20
2-Hexanone	200	249		ug/L		125	58 - 134	3	21
4-Chlorotoluene	50.0	56.3		ug/L		113	74 - 124	0	20
4-Isopropyltoluene	50.0	61.0		ug/L		122	74 - 127	1	20
4-Methyl-2-pentanone (MIBK)	200	234		ug/L		117	56 - 135	1	20
Acetone	200	201		ug/L		101	50 - 137	3	21
Benzene	50.0	56.2		ug/L		112	69 - 126	3	20
Bromobenzene	50.0	54.6		ug/L		109	75 - 122	2	20
Bromochloromethane	50.0	48.4		ug/L		97	71 - 130	1	20
Bromodichloromethane	50.0	54.1		ug/L		108	67 - 126	3	20
Bromoform	50.0	48.4		ug/L		97	57 - 125	3	20
Bromomethane	50.0	36.6		ug/L		73	25 - 163	17	40
Carbon disulfide	50.0	56.5		ug/L		113	56 - 128	3	20
Carbon tetrachloride	50.0	46.2		ug/L		92	60 - 133	3	20
Chlorobenzene	50.0	54.3		ug/L		109	78 - 118	4	20
Chloroethane	50.0	49.1		ug/L		98	52 - 144	5	30
Chloroform	50.0	52.2		ug/L		104	68 - 128	3	20
Chloromethane	50.0	49.3		ug/L		99	43 - 142	3	20
cis-1,2-Dichloroethene	50.0	52.9		ug/L		106	69 - 126	3	20
cis-1,3-Dichloropropene	50.0	55.4		ug/L		111	75 - 120	4	20
Dibromochloromethane	50.0	57.7		ug/L		115	71 - 122	2	20
Dibromomethane	50.0	51.8		ug/L		104	68 - 129	1	20
Dichlorodifluoromethane	50.0	43.9		ug/L		88	26 - 152	5	21
Ethylbenzene	50.0	58.1		ug/L		116	76 - 121	4	20
Hexachlorobutadiene	50.0	49.1		ug/L		98	69 - 133	3	20
Isopropylbenzene	50.0	58.7		ug/L		117	70 - 127	2	20
Methylene Chloride	50.0	56.4		ug/L		113	64 - 128	3	20
m-Xylene & p-Xylene	50.0	57.6		ug/L		115	76 - 122	4	20
Naphthalene	50.0	57.6		ug/L		115	63 - 129	4	21
n-Butylbenzene	50.0	62.5		ug/L		125	69 - 130	1	20
N-Propylbenzene	50.0	58.7		ug/L		117	73 - 127	3	20
o-Xylene	50.0	58.2		ug/L		116	77 - 120	5	20

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 280-631377/6**  
**Matrix: Water**  
**Analysis Batch: 631377**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
sec-Butylbenzene	50.0	57.2		ug/L		114	72 - 127	0	20
Styrene	50.0	58.7		ug/L		117	79 - 120	2	20
tert-Butylbenzene	50.0	59.4		ug/L		119	72 - 126	2	20
Tetrachloroethene	50.0	53.9		ug/L		108	72 - 127	4	20
Toluene	50.0	53.5		ug/L		107	68 - 127	3	20
trans-1,2-Dichloroethene	50.0	52.6		ug/L		105	66 - 129	3	20
trans-1,3-Dichloropropene	50.0	54.6		ug/L		109	66 - 127	4	20
Trichloroethene	50.0	56.1		ug/L		112	70 - 125	5	20
Trichlorofluoromethane	50.0	43.1		ug/L		86	57 - 144	5	28
Vinyl chloride	50.0	46.6		ug/L		93	53 - 141	5	25

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	97		70 - 127
4-Bromofluorobenzene (Surr)	111		78 - 120
Dibromofluoromethane (Surr)	96		77 - 120
Toluene-d8 (Surr)	107		80 - 125

**Lab Sample ID: 280-183060-B-21 MS**  
**Matrix: Water**  
**Analysis Batch: 631377**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	ND		50.0	45.9		ug/L		92	74 - 121
1,1,1-Trichloroethane	ND		50.0	50.9		ug/L		102	62 - 132
1,1,2,2-Tetrachloroethane	ND	*+ F1	50.0	61.6	F1	ug/L		123	72 - 122
1,1,2-Trichloroethane	ND		50.0	51.9		ug/L		104	72 - 128
1,1-Dichloroethane	ND		50.0	53.1		ug/L		106	66 - 130
1,1-Dichloroethene	0.76	J	50.0	51.9		ug/L		102	62 - 130
1,1-Dichloropropene	ND		50.0	52.7		ug/L		105	64 - 133
1,2,3-Trichlorobenzene	ND		50.0	54.3		ug/L		109	70 - 127
1,2,3-Trichloropropane	ND		50.0	55.3		ug/L		111	74 - 123
1,2,4-Trichlorobenzene	ND		50.0	52.2		ug/L		104	73 - 124
1,2,4-Trimethylbenzene	ND		50.0	57.0		ug/L		114	74 - 124
1,2-Dibromo-3-Chloropropane	ND		50.0	52.4		ug/L		105	58 - 122
1,2-Dibromoethane	ND	*+	50.0	55.2		ug/L		110	81 - 118
1,2-Dichlorobenzene	ND		50.0	50.9		ug/L		102	77 - 121
1,2-Dichloroethane	ND		50.0	44.6		ug/L		89	61 - 130
1,2-Dichloropropane	ND		50.0	54.5		ug/L		109	68 - 127
1,3,5-Trimethylbenzene	ND		50.0	57.7		ug/L		115	73 - 127
1,3-Dichlorobenzene	ND		50.0	51.7		ug/L		103	76 - 121
1,3-Dichloropropane	ND	*+	50.0	55.6		ug/L		111	80 - 118
1,4-Dichlorobenzene	ND		50.0	50.1		ug/L		100	76 - 119
2,2-Dichloropropane	ND		50.0	47.0		ug/L		94	57 - 140
2-Butanone (MEK)	ND		200	216		ug/L		108	53 - 135
2-Chlorotoluene	ND		50.0	52.6		ug/L		105	75 - 123
2-Hexanone	ND		200	240		ug/L		120	58 - 134
4-Chlorotoluene	ND		50.0	54.0		ug/L		108	74 - 124
4-Isopropyltoluene	ND		50.0	57.1		ug/L		114	74 - 127

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 280-183060-B-21 MS**  
**Matrix: Water**  
**Analysis Batch: 631377**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
4-Methyl-2-pentanone (MIBK)	ND		200	232		ug/L		116	56 - 135
Acetone	ND		200	168		ug/L		84	50 - 137
Benzene	ND		50.0	53.0		ug/L		106	69 - 126
Bromobenzene	ND		50.0	51.0		ug/L		102	75 - 122
Bromochloromethane	ND		50.0	46.8		ug/L		94	71 - 130
Bromodichloromethane	ND		50.0	50.6		ug/L		101	67 - 126
Bromoform	ND		50.0	44.4		ug/L		89	57 - 125
Bromomethane	ND		50.0	37.3		ug/L		75	25 - 163
Carbon disulfide	ND		50.0	53.8		ug/L		108	56 - 128
Carbon tetrachloride	ND		50.0	44.6		ug/L		89	60 - 133
Chlorobenzene	ND		50.0	48.9		ug/L		98	78 - 118
Chloroethane	ND		50.0	48.1		ug/L		96	52 - 144
Chloroform	ND		50.0	49.5		ug/L		99	68 - 128
Chloromethane	ND		50.0	48.1		ug/L		96	43 - 142
cis-1,2-Dichloroethene	0.34	J	50.0	50.0		ug/L		99	69 - 126
cis-1,3-Dichloropropene	ND		50.0	50.5		ug/L		101	75 - 120
Dibromochloromethane	ND		50.0	54.2		ug/L		108	71 - 122
Dibromomethane	ND		50.0	49.7		ug/L		99	68 - 129
Dichlorodifluoromethane	ND		50.0	41.7		ug/L		83	26 - 152
Ethylbenzene	ND		50.0	53.1		ug/L		106	76 - 121
Hexachlorobutadiene	ND		50.0	46.3		ug/L		93	69 - 133
Isopropylbenzene	ND		50.0	55.7		ug/L		111	70 - 127
Methylene Chloride	ND		50.0	51.3		ug/L		103	64 - 128
m-Xylene & p-Xylene	ND		50.0	52.6		ug/L		105	76 - 122
Naphthalene	ND		50.0	62.0		ug/L		124	63 - 129
n-Butylbenzene	ND		50.0	59.0		ug/L		118	69 - 130
N-Propylbenzene	ND		50.0	55.7		ug/L		111	73 - 127
o-Xylene	ND		50.0	52.5		ug/L		105	77 - 120
sec-Butylbenzene	ND		50.0	54.6		ug/L		109	72 - 127
Styrene	ND		50.0	53.5		ug/L		107	79 - 120
tert-Butylbenzene	ND		50.0	55.9		ug/L		112	72 - 126
Tetrachloroethene	8.7		50.0	56.2		ug/L		95	72 - 127
Toluene	ND		50.0	50.5		ug/L		101	68 - 127
trans-1,2-Dichloroethene	ND		50.0	49.2		ug/L		98	66 - 129
trans-1,3-Dichloropropene	ND		50.0	51.3		ug/L		103	66 - 127
Trichloroethene	49		50.0	90.1		ug/L		82	70 - 125
Trichlorofluoromethane	ND		50.0	42.2		ug/L		84	57 - 144
Vinyl chloride	ND		50.0	45.6		ug/L		91	53 - 141

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		70 - 127
4-Bromofluorobenzene (Surr)	112		78 - 120
Dibromofluoromethane (Surr)	97		77 - 120
Toluene-d8 (Surr)	104		80 - 125

# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 280-183060-B-21 MSD**  
**Matrix: Water**  
**Analysis Batch: 631377**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
1,1,1,2-Tetrachloroethane	ND		50.0	46.8		ug/L		94	74 - 121	2	20
1,1,1-Trichloroethane	ND		50.0	52.5		ug/L		105	62 - 132	3	20
1,1,2,2-Tetrachloroethane	ND	*+ F1	50.0	62.3	F1	ug/L		125	72 - 122	1	20
1,1,2-Trichloroethane	ND		50.0	53.0		ug/L		106	72 - 128	2	20
1,1-Dichloroethane	ND		50.0	53.8		ug/L		108	66 - 130	1	20
1,1-Dichloroethene	0.76	J	50.0	53.1		ug/L		105	62 - 130	2	21
1,1-Dichloropropene	ND		50.0	53.7		ug/L		107	64 - 133	2	20
1,2,3-Trichlorobenzene	ND		50.0	55.7		ug/L		111	70 - 127	3	20
1,2,3-Trichloropropane	ND		50.0	55.3		ug/L		111	74 - 123	0	20
1,2,4-Trichlorobenzene	ND		50.0	53.4		ug/L		107	73 - 124	2	20
1,2,4-Trimethylbenzene	ND		50.0	59.6		ug/L		119	74 - 124	5	20
1,2-Dibromo-3-Chloropropane	ND		50.0	55.7		ug/L		111	58 - 122	6	21
1,2-Dibromoethane	ND	*+	50.0	57.2		ug/L		114	81 - 118	4	20
1,2-Dichlorobenzene	ND		50.0	53.6		ug/L		107	77 - 121	5	20
1,2-Dichloroethane	ND		50.0	45.6		ug/L		91	61 - 130	2	20
1,2-Dichloropropane	ND		50.0	56.2		ug/L		112	68 - 127	3	20
1,3,5-Trimethylbenzene	ND		50.0	59.3		ug/L		119	73 - 127	3	20
1,3-Dichlorobenzene	ND		50.0	54.0		ug/L		108	76 - 121	4	20
1,3-Dichloropropane	ND	*+	50.0	57.4		ug/L		115	80 - 118	3	20
1,4-Dichlorobenzene	ND		50.0	51.0		ug/L		102	76 - 119	2	20
2,2-Dichloropropane	ND		50.0	48.1		ug/L		96	57 - 140	2	22
2-Butanone (MEK)	ND		200	219		ug/L		110	53 - 135	2	20
2-Chlorotoluene	ND		50.0	54.1		ug/L		108	75 - 123	3	20
2-Hexanone	ND		200	245		ug/L		123	58 - 134	2	21
4-Chlorotoluene	ND		50.0	54.6		ug/L		109	74 - 124	1	20
4-Isopropyltoluene	ND		50.0	59.4		ug/L		119	74 - 127	4	20
4-Methyl-2-pentanone (MIBK)	ND		200	234		ug/L		117	56 - 135	1	20
Acetone	ND		200	172		ug/L		86	50 - 137	2	21
Benzene	ND		50.0	54.2		ug/L		108	69 - 126	2	20
Bromobenzene	ND		50.0	52.6		ug/L		105	75 - 122	3	20
Bromochloromethane	ND		50.0	47.7		ug/L		95	71 - 130	2	20
Bromodichloromethane	ND		50.0	52.3		ug/L		105	67 - 126	3	20
Bromoform	ND		50.0	45.7		ug/L		91	57 - 125	3	20
Bromomethane	ND		50.0	41.3		ug/L		83	25 - 163	10	40
Carbon disulfide	ND		50.0	55.6		ug/L		111	56 - 128	3	20
Carbon tetrachloride	ND		50.0	46.0		ug/L		92	60 - 133	3	20
Chlorobenzene	ND		50.0	51.7		ug/L		103	78 - 118	6	20
Chloroethane	ND		50.0	50.2		ug/L		100	52 - 144	4	30
Chloroform	ND		50.0	50.3		ug/L		101	68 - 128	2	20
Chloromethane	ND		50.0	50.9		ug/L		102	43 - 142	6	20
cis-1,2-Dichloroethene	0.34	J	50.0	51.9		ug/L		103	69 - 126	4	20
cis-1,3-Dichloropropene	ND		50.0	52.4		ug/L		105	75 - 120	4	20
Dibromochloromethane	ND		50.0	55.2		ug/L		110	71 - 122	2	20
Dibromomethane	ND		50.0	51.0		ug/L		102	68 - 129	3	20
Dichlorodifluoromethane	ND		50.0	43.5		ug/L		87	26 - 152	4	21
Ethylbenzene	ND		50.0	54.7		ug/L		109	76 - 121	3	20
Hexachlorobutadiene	ND		50.0	48.0		ug/L		96	69 - 133	4	20
Isopropylbenzene	ND		50.0	57.4		ug/L		115	70 - 127	3	20

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-183060-B-21 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 631377

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Methylene Chloride	ND		50.0	53.0		ug/L		106	64 - 128	3	20
m-Xylene & p-Xylene	ND		50.0	53.8		ug/L		108	76 - 122	2	20
Naphthalene	ND		50.0	63.1		ug/L		126	63 - 129	2	21
n-Butylbenzene	ND		50.0	60.9		ug/L		122	69 - 130	3	20
N-Propylbenzene	ND		50.0	57.9		ug/L		116	73 - 127	4	20
o-Xylene	ND		50.0	54.6		ug/L		109	77 - 120	4	20
sec-Butylbenzene	ND		50.0	56.8		ug/L		114	72 - 127	4	20
Styrene	ND		50.0	54.9		ug/L		110	79 - 120	3	20
tert-Butylbenzene	ND		50.0	57.5		ug/L		115	72 - 126	3	20
Tetrachloroethene	8.7		50.0	58.2		ug/L		99	72 - 127	3	20
Toluene	ND		50.0	51.6		ug/L		103	68 - 127	2	20
trans-1,2-Dichloroethene	ND		50.0	50.8		ug/L		102	66 - 129	3	20
trans-1,3-Dichloropropene	ND		50.0	52.6		ug/L		105	66 - 127	2	20
Trichloroethene	49		50.0	94.5		ug/L		91	70 - 125	5	20
Trichlorofluoromethane	ND		50.0	43.4		ug/L		87	57 - 144	3	28
Vinyl chloride	ND		50.0	47.5		ug/L		95	53 - 141	4	25

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 127
4-Bromofluorobenzene (Surr)	112		78 - 120
Dibromofluoromethane (Surr)	96		77 - 120
Toluene-d8 (Surr)	104		80 - 125

## Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 280-632528/1-A

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 632760

Prep Batch: 632528

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/06/23 08:40	11/06/23 19:39	1
Arsenic	ND		5.0	0.50	ug/L		11/06/23 08:40	11/06/23 19:39	1
Lead	ND		1.0	0.23	ug/L		11/06/23 08:40	11/06/23 19:39	1
Nickel	ND		3.0	0.83	ug/L		11/06/23 08:40	11/06/23 19:39	1
Barium	ND		3.0	0.38	ug/L		11/06/23 08:40	11/06/23 19:39	1
Selenium	ND		5.0	1.0	ug/L		11/06/23 08:40	11/06/23 19:39	1
Beryllium	ND		1.0	0.30	ug/L		11/06/23 08:40	11/06/23 19:39	1
Cadmium	ND		1.0	0.19	ug/L		11/06/23 08:40	11/06/23 19:39	1
Chromium	ND		3.0	0.50	ug/L		11/06/23 08:40	11/06/23 19:39	1
Cobalt	ND		1.0	0.33	ug/L		11/06/23 08:40	11/06/23 19:39	1
Copper	ND		2.0	0.71	ug/L		11/06/23 08:40	11/06/23 19:39	1
Silver	ND		1.0	0.045	ug/L		11/06/23 08:40	11/06/23 19:39	1
Thallium	ND		1.0	0.21	ug/L		11/06/23 08:40	11/06/23 19:39	1
Vanadium	ND		5.0	1.1	ug/L		11/06/23 08:40	11/06/23 19:39	1
Zinc	3.16	J	10	2.0	ug/L		11/06/23 08:40	11/06/23 19:39	1

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCS 280-632528/2-A**  
**Matrix: Water**  
**Analysis Batch: 632760**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 632528**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony	40.0	40.4		ug/L		101	85 - 115
Arsenic	40.0	39.7		ug/L		99	89 - 111
Lead	40.0	39.8		ug/L		99	88 - 115
Nickel	40.0	39.9		ug/L		100	86 - 115
Barium	40.0	40.2		ug/L		101	89 - 115
Selenium	40.0	38.6		ug/L		97	85 - 114
Beryllium	40.0	39.1		ug/L		98	85 - 115
Cadmium	40.0	39.6		ug/L		99	89 - 111
Chromium	40.0	39.2		ug/L		98	86 - 115
Cobalt	40.0	39.7		ug/L		99	92 - 115
Copper	40.0	39.9		ug/L		100	90 - 115
Silver	40.0	40.0		ug/L		100	90 - 114
Thallium	40.0	39.8		ug/L		100	86 - 115
Vanadium	40.0	38.8		ug/L		97	90 - 115
Zinc	40.0	43.6		ug/L		109	88 - 115

**Lab Sample ID: 280-183224-A-1-D MS**  
**Matrix: Water**  
**Analysis Batch: 632760**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 632528**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Antimony	ND		40.0	40.5		ug/L		101	85 - 115
Arsenic	ND		40.0	39.2		ug/L		98	79 - 120
Lead	2.3		40.0	41.6		ug/L		98	88 - 115
Nickel	330		40.0	372	4	ug/L		109	86 - 115
Barium	1300		40.0	1550	4	ug/L		550	89 - 115
Selenium	ND		40.0	38.5		ug/L		96	85 - 114
Beryllium	ND		40.0	38.8		ug/L		97	85 - 115
Cadmium	0.19	J	40.0	39.9		ug/L		100	89 - 111
Chromium	1.7	J	40.0	41.0		ug/L		98	86 - 115
Cobalt	3.3		40.0	42.7		ug/L		99	92 - 115
Copper	540		40.0	579	4	ug/L		98	90 - 115
Silver	0.28	J	40.0	40.4		ug/L		100	70 - 130
Thallium	ND		40.0	39.4		ug/L		98	86 - 115
Vanadium	ND		40.0	39.1		ug/L		98	90 - 115
Zinc	39	B	40.0	78.9		ug/L		101	88 - 115

**Lab Sample ID: 280-183224-A-1-E MSD**  
**Matrix: Water**  
**Analysis Batch: 632760**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 632528**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Antimony	ND		40.0	40.3		ug/L		101	85 - 115	1	20
Arsenic	ND		40.0	39.2		ug/L		98	79 - 120	0	20
Lead	2.3		40.0	42.2		ug/L		100	88 - 115	2	20
Nickel	330		40.0	379	4	ug/L		126	86 - 115	2	20
Barium	1300		40.0	1600	4	ug/L		679	89 - 115	3	20
Selenium	ND		40.0	38.7		ug/L		97	85 - 114	1	20
Beryllium	ND		40.0	39.6		ug/L		99	85 - 115	2	20

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: 280-183224-A-1-E MSD**  
**Matrix: Water**  
**Analysis Batch: 632760**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 632528**

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	%Rec		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
Cadmium	0.19	J	40.0	38.5		ug/L		96	89 - 111	3	20	
Chromium	1.7	J	40.0	41.0		ug/L		98	86 - 115	0	20	
Cobalt	3.3		40.0	41.8		ug/L		96	92 - 115	2	20	
Copper	540		40.0	587	4	ug/L		119	90 - 115	1	20	
Silver	0.28	J	40.0	39.5		ug/L		98	70 - 130	2	20	
Thallium	ND		40.0	39.5		ug/L		99	86 - 115	0	20	
Vanadium	ND		40.0	38.9		ug/L		97	90 - 115	1	20	
Zinc	39	B	40.0	83.2		ug/L		111	88 - 115	5	20	

**Lab Sample ID: MB 280-634470/1-A**  
**Matrix: Water**  
**Analysis Batch: 634763**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 634470**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	ND		2.0	0.40	ug/L		11/20/23 08:41	11/20/23 18:34	1
Arsenic	ND		5.0	0.50	ug/L		11/20/23 08:41	11/20/23 18:34	1
Lead	ND		1.0	0.23	ug/L		11/20/23 08:41	11/20/23 18:34	1
Nickel	ND		3.0	0.83	ug/L		11/20/23 08:41	11/20/23 18:34	1
Barium	ND		3.0	0.38	ug/L		11/20/23 08:41	11/20/23 18:34	1
Selenium	ND		5.0	1.0	ug/L		11/20/23 08:41	11/20/23 18:34	1
Chromium	ND		3.0	0.50	ug/L		11/20/23 08:41	11/20/23 18:34	1
Zinc	ND		10	2.0	ug/L		11/20/23 08:41	11/20/23 18:34	1

**Lab Sample ID: LCS 280-634470/2-A**  
**Matrix: Water**  
**Analysis Batch: 634763**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 634470**

Analyte	Spike	LCS		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	RPD
Antimony	40.0	39.9		ug/L		100	85 - 115	
Arsenic	40.0	40.6		ug/L		102	89 - 111	
Lead	40.0	39.0		ug/L		97	88 - 115	
Nickel	40.0	40.0		ug/L		100	86 - 115	
Barium	40.0	39.8		ug/L		99	89 - 115	
Selenium	40.0	39.3		ug/L		98	85 - 114	
Chromium	40.0	38.8		ug/L		97	86 - 115	
Zinc	40.0	39.2		ug/L		98	88 - 115	

**Lab Sample ID: 280-183061-1 MS**  
**Matrix: Water**  
**Analysis Batch: 634763**

**Client Sample ID: VLF-231013-1**  
**Prep Type: Total/NA**  
**Prep Batch: 634470**

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	%Rec	
	Result	Qualifier		Result	Qualifier				Limits	RPD
Antimony	ND		40.0	38.6		ug/L		96	85 - 115	
Arsenic	ND		40.0	38.8		ug/L		97	79 - 120	
Lead	ND		40.0	38.6		ug/L		97	88 - 115	
Nickel	8.7		40.0	48.1		ug/L		98	86 - 115	
Barium	3.2		40.0	43.0		ug/L		100	89 - 115	
Selenium	ND		40.0	39.1		ug/L		98	85 - 114	
Chromium	1.1	J	40.0	39.8		ug/L		97	86 - 115	

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: 280-183061-1 MS**  
**Matrix: Water**  
**Analysis Batch: 634763**

**Client Sample ID: VLF-231013-1**  
**Prep Type: Total/NA**  
**Prep Batch: 634470**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Zinc	3.8	J	40.0	41.9		ug/L		95	88 - 115

**Lab Sample ID: 280-183061-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 634763**

**Client Sample ID: VLF-231013-1**  
**Prep Type: Total/NA**  
**Prep Batch: 634470**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Antimony	ND		40.0	39.5		ug/L		99	85 - 115	2	20
Arsenic	ND		40.0	39.8		ug/L		99	79 - 120	3	20
Lead	ND		40.0	39.4		ug/L		99	88 - 115	2	20
Nickel	8.7		40.0	48.8		ug/L		100	86 - 115	1	20
Barium	3.2		40.0	44.1		ug/L		102	89 - 115	3	20
Selenium	ND		40.0	40.6		ug/L		101	85 - 114	4	20
Chromium	1.1	J	40.0	40.3		ug/L		98	86 - 115	1	20
Zinc	3.8	J	40.0	43.0		ug/L		98	88 - 115	3	20

**Lab Sample ID: 280-183061-25 MS**  
**Matrix: Water**  
**Analysis Batch: 634763**

**Client Sample ID: VLF-231015-25**  
**Prep Type: Total/NA**  
**Prep Batch: 634470**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	ND		40.0	39.4		ug/L		98	85 - 115
Arsenic	0.66	J	40.0	41.0		ug/L		101	79 - 120
Lead	ND		40.0	38.8		ug/L		97	88 - 115
Nickel	ND		40.0	40.2		ug/L		101	86 - 115
Barium	7.7		40.0	47.9		ug/L		101	89 - 115
Selenium	ND		40.0	39.4		ug/L		98	85 - 114
Chromium	ND		40.0	39.5		ug/L		99	86 - 115
Zinc	5.0	J	40.0	40.4		ug/L		88	88 - 115

**Lab Sample ID: 280-183061-25 MSD**  
**Matrix: Water**  
**Analysis Batch: 634763**

**Client Sample ID: VLF-231015-25**  
**Prep Type: Total/NA**  
**Prep Batch: 634470**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Antimony	ND		40.0	39.0		ug/L		98	85 - 115	1	20
Arsenic	0.66	J	40.0	39.6		ug/L		97	79 - 120	3	20
Lead	ND		40.0	38.0		ug/L		95	88 - 115	2	20
Nickel	ND		40.0	40.4		ug/L		101	86 - 115	0	20
Barium	7.7		40.0	46.0		ug/L		96	89 - 115	4	20
Selenium	ND		40.0	38.9		ug/L		97	85 - 114	1	20
Chromium	ND		40.0	38.4		ug/L		96	86 - 115	3	20
Zinc	5.0	J	40.0	44.2		ug/L		98	88 - 115	9	20

**Lab Sample ID: MB 280-634473/1-A**  
**Matrix: Water**  
**Analysis Batch: 634631**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 634473**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.40	ug/L		11/19/23 13:10	11/20/23 09:09	1

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: MB 280-634473/1-A**  
**Matrix: Water**  
**Analysis Batch: 634631**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 634473**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.0	0.50	ug/L		11/19/23 13:10	11/20/23 09:09	1
Lead	ND		1.0	0.23	ug/L		11/19/23 13:10	11/20/23 09:09	1
Nickel	ND		3.0	0.83	ug/L		11/19/23 13:10	11/20/23 09:09	1
Barium	ND		3.0	0.38	ug/L		11/19/23 13:10	11/20/23 09:09	1
Selenium	ND		5.0	1.0	ug/L		11/19/23 13:10	11/20/23 09:09	1
Chromium	ND		3.0	0.50	ug/L		11/19/23 13:10	11/20/23 09:09	1
Zinc	ND		10	2.0	ug/L		11/19/23 13:10	11/20/23 09:09	1

**Lab Sample ID: LCS 280-634473/2-A**  
**Matrix: Water**  
**Analysis Batch: 634631**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 634473**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	40.0	35.8		ug/L		90	85 - 115
Arsenic	40.0	36.4		ug/L		91	89 - 111
Lead	40.0	36.0		ug/L		90	88 - 115
Nickel	40.0	35.1		ug/L		88	86 - 115
Barium	40.0	35.9		ug/L		90	89 - 115
Selenium	40.0	35.9		ug/L		90	85 - 114
Chromium	40.0	37.6		ug/L		94	86 - 115
Zinc	40.0	36.8		ug/L		92	88 - 115

**Lab Sample ID: 280-183061-26 MS**  
**Matrix: Water**  
**Analysis Batch: 634631**

**Client Sample ID: VLF-231015-26**  
**Prep Type: Total/NA**  
**Prep Batch: 634473**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	ND		40.0	35.8		ug/L		90	85 - 115
Arsenic	1.3	J	40.0	37.1		ug/L		90	79 - 120
Lead	0.34	J F1	40.0	35.2	F1	ug/L		87	88 - 115
Nickel	2.5	J F1	40.0	36.5	F1	ug/L		85	86 - 115
Barium	8.7	F1	40.0	43.1	F1	ug/L		86	89 - 115
Selenium	ND		40.0	35.6		ug/L		89	85 - 114
Chromium	0.61	J	40.0	35.7		ug/L		88	86 - 115
Zinc	5.8	J F1	40.0	42.8		ug/L		93	88 - 115

**Lab Sample ID: 280-183061-26 MSD**  
**Matrix: Water**  
**Analysis Batch: 634631**

**Client Sample ID: VLF-231015-26**  
**Prep Type: Total/NA**  
**Prep Batch: 634473**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		40.0	36.1		ug/L		90	85 - 115	1	20
Arsenic	1.3	J	40.0	36.3		ug/L		88	79 - 120	2	20
Lead	0.34	J F1	40.0	34.8	F1	ug/L		86	88 - 115	1	20
Nickel	2.5	J F1	40.0	35.4	F1	ug/L		82	86 - 115	3	20
Barium	8.7	F1	40.0	43.0	F1	ug/L		86	89 - 115	0	20
Selenium	ND		40.0	35.4		ug/L		88	85 - 114	1	20
Chromium	0.61	J	40.0	35.3		ug/L		87	86 - 115	1	20
Zinc	5.8	J F1	40.0	39.0	F1	ug/L		83	88 - 115	9	20

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 6010B - Dissolved Metals

**Lab Sample ID: MB 280-632415/1-A**  
**Matrix: Water**  
**Analysis Batch: 632593**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 632415**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Calcium	ND		200	24	ug/L		11/03/23 15:27	11/04/23 16:49	1
Iron	ND		100	9.1	ug/L		11/03/23 15:27	11/04/23 16:49	1
Magnesium	ND		200	4.2	ug/L		11/03/23 15:27	11/04/23 16:49	1
Manganese	ND		10	0.45	ug/L		11/03/23 15:27	11/04/23 16:49	1
Sodium	ND		1000	97	ug/L		11/03/23 15:27	11/04/23 16:49	1

**Lab Sample ID: LCS 280-632415/2-A**  
**Matrix: Water**  
**Analysis Batch: 632593**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 632415**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	10000	10300		ug/L		103	89 - 115
Magnesium	50000	51300		ug/L		103	90 - 113
Manganese	1000	1020		ug/L		102	90 - 110
Sodium	50000	49500		ug/L		99	90 - 115

**Lab Sample ID: MB 280-632417/1-A**  
**Matrix: Water**  
**Analysis Batch: 632593**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 632417**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Calcium	ND		200	24	ug/L		11/03/23 15:27	11/04/23 14:14	1
Iron	ND		100	9.1	ug/L		11/03/23 15:27	11/04/23 14:14	1
Magnesium	ND		200	4.2	ug/L		11/03/23 15:27	11/04/23 14:14	1
Manganese	ND		10	0.45	ug/L		11/03/23 15:27	11/04/23 14:14	1
Potassium	ND		3000	240	ug/L		11/03/23 15:27	11/04/23 14:14	1
Silicon	ND		500	16	ug/L		11/03/23 15:27	11/04/23 14:14	1
Sodium	ND		1000	97	ug/L		11/03/23 15:27	11/04/23 14:14	1

**Lab Sample ID: LCS 280-632417/2-A**  
**Matrix: Water**  
**Analysis Batch: 632593**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 632417**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	10000	10300		ug/L		103	89 - 115
Magnesium	50000	51600		ug/L		103	90 - 113
Manganese	1000	1030		ug/L		103	90 - 110
Potassium	50000	50600		ug/L		101	89 - 114
Silicon	10000	9530		ug/L		95	90 - 110
Sodium	50000	51000		ug/L		102	90 - 115

**Lab Sample ID: 280-183061-1 MS**  
**Matrix: Water**  
**Analysis Batch: 632593**

**Client Sample ID: VLF-231013-1**  
**Prep Type: Dissolved**  
**Prep Batch: 632415**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 6010B - Dissolved Metals (Continued)

**Lab Sample ID: 280-183061-1 MS**  
**Matrix: Water**  
**Analysis Batch: 632593**

**Client Sample ID: VLF-231013-1**  
**Prep Type: Dissolved**  
**Prep Batch: 632415**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	16	J	10000	10200		ug/L		102	52 - 155
Magnesium	54000		50000	107000		ug/L		106	62 - 146
Manganese	160		1000	1170		ug/L		102	79 - 121
Sodium	26000		50000	75200		ug/L		99	70 - 203

**Lab Sample ID: 280-183061-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 632593**

**Client Sample ID: VLF-231013-1**  
**Prep Type: Dissolved**  
**Prep Batch: 632415**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	120000		50000	167000		ug/L		103	48 - 153	0	20
Iron	16	J	10000	10200		ug/L		102	52 - 155	0	20
Magnesium	54000		50000	107000		ug/L		105	62 - 146	0	20
Manganese	160		1000	1170		ug/L		101	79 - 121	1	20
Sodium	26000		50000	75400		ug/L		99	70 - 203	0	20

**Lab Sample ID: 280-183236-D-3-B MS**  
**Matrix: Water**  
**Analysis Batch: 632593**

**Client Sample ID: Matrix Spike**  
**Prep Type: Dissolved**  
**Prep Batch: 632417**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	110	J	50000	50700		ug/L		101	48 - 153
Iron	ND		10000	10300		ug/L		103	52 - 155
Magnesium	15	J	50000	51700		ug/L		103	62 - 146
Manganese	ND		1000	1030		ug/L		103	79 - 121
Potassium	ND		50000	49800		ug/L		100	76 - 132
Silicon	35	J	10000	9630		ug/L		96	79 - 140
Sodium	450	J	50000	50200		ug/L		99	70 - 203

**Lab Sample ID: 280-183236-D-3-C MSD**  
**Matrix: Water**  
**Analysis Batch: 632593**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Dissolved**  
**Prep Batch: 632417**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	110	J	50000	51300		ug/L		102	48 - 153	1	20
Iron	ND		10000	10400		ug/L		104	52 - 155	1	20
Magnesium	15	J	50000	52200		ug/L		104	62 - 146	1	20
Manganese	ND		1000	1040		ug/L		104	79 - 121	1	20
Potassium	ND		50000	50400		ug/L		101	76 - 132	1	20
Silicon	35	J	10000	9720		ug/L		97	79 - 140	1	20
Sodium	450	J	50000	50700		ug/L		101	70 - 203	1	20

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 280-633248/33**  
**Matrix: Water**  
**Analysis Batch: 633248**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			11/10/23 02:10	1

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 280-633248/6**  
**Matrix: Water**  
**Analysis Batch: 633248**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			11/09/23 11:58	1

**Lab Sample ID: LCS 280-633248/31**  
**Matrix: Water**  
**Analysis Batch: 633248**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	100	99.0		mg/L		99	90 - 110

**Lab Sample ID: LCS 280-633248/4**  
**Matrix: Water**  
**Analysis Batch: 633248**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	100	101		mg/L		101	90 - 110

**Lab Sample ID: LCSD 280-633248/32**  
**Matrix: Water**  
**Analysis Batch: 633248**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	100	99.2		mg/L		99	90 - 110	0	10

**Lab Sample ID: LCSD 280-633248/5**  
**Matrix: Water**  
**Analysis Batch: 633248**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	100	101		mg/L		101	90 - 110	0	10

**Lab Sample ID: MRL 280-633248/3**  
**Matrix: Water**  
**Analysis Batch: 633248**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	5.00	4.36		mg/L		87	50 - 150

**Lab Sample ID: 280-183061-3 MS**  
**Matrix: Water**  
**Analysis Batch: 633248**

**Client Sample ID: VLF-231013-3**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	260		500	815		mg/L		110	80 - 120

**Lab Sample ID: 280-183061-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 633248**

**Client Sample ID: VLF-231013-3**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	260		500	834		mg/L		114	80 - 120	2	20

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: 280-183061-1 DU**  
**Matrix: Water**  
**Analysis Batch: 633248**

**Client Sample ID: VLF-231013-1**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	83	F1	72.8		mg/L		13	15

**Lab Sample ID: 280-183061-3 DU**  
**Matrix: Water**  
**Analysis Batch: 633248**

**Client Sample ID: VLF-231013-3**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	260		309	F3	mg/L		16	15

**Lab Sample ID: MB 280-633915/43**  
**Matrix: Water**  
**Analysis Batch: 633915**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			11/15/23 05:26	1

**Lab Sample ID: MB 280-633915/6**  
**Matrix: Water**  
**Analysis Batch: 633915**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			11/14/23 22:28	1

**Lab Sample ID: LCS 280-633915/41**  
**Matrix: Water**  
**Analysis Batch: 633915**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	100	105		mg/L		105	90 - 110

**Lab Sample ID: LCSD 280-633915/42**  
**Matrix: Water**  
**Analysis Batch: 633915**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	100	106		mg/L		106	90 - 110	0	10

**Lab Sample ID: MRL 280-633915/3**  
**Matrix: Water**  
**Analysis Batch: 633915**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	5.00	4.46		mg/L		89	50 - 150

**Lab Sample ID: MB 280-634057/6**  
**Matrix: Water**  
**Analysis Batch: 634057**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			11/15/23 16:40	1

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: LCS 280-634057/4**  
**Matrix: Water**  
**Analysis Batch: 634057**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	100	97.6		mg/L		98	90 - 110

**Lab Sample ID: LCSD 280-634057/5**  
**Matrix: Water**  
**Analysis Batch: 634057**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	100	98.2		mg/L		98	90 - 110	1	10

**Lab Sample ID: MRL 280-634057/3**  
**Matrix: Water**  
**Analysis Batch: 634057**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	5.00	4.86		mg/L		97	50 - 150

**Lab Sample ID: 280-183212-E-3 MS**  
**Matrix: Water**  
**Analysis Batch: 634057**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	6.4		50.0	53.0		mg/L		93	80 - 120

**Lab Sample ID: 280-183212-E-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 634057**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	6.4		50.0	56.7		mg/L		101	80 - 120	7	20

**Lab Sample ID: 280-183212-E-3 DU**  
**Matrix: Water**  
**Analysis Batch: 634057**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	6.4		6.45		mg/L		1	15

**Lab Sample ID: MB 280-634702/6**  
**Matrix: Water**  
**Analysis Batch: 634702**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			11/20/23 19:31	1

**Lab Sample ID: LCS 280-634702/4**  
**Matrix: Water**  
**Analysis Batch: 634702**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	100	98.3		mg/L		98	90 - 110

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: LCSD 280-634702/5**  
**Matrix: Water**  
**Analysis Batch: 634702**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	100	98.9		mg/L		99	90 - 110	1	10

**Lab Sample ID: 280-183061-22 MS**  
**Matrix: Water**  
**Analysis Batch: 634702**

**Client Sample ID: VLF-231014-22**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	7.5	H	50.0	58.5		mg/L		102	80 - 120

**Lab Sample ID: 280-183061-22 MSD**  
**Matrix: Water**  
**Analysis Batch: 634702**

**Client Sample ID: VLF-231014-22**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	7.5	H	50.0	59.0		mg/L		103	80 - 120	1	20

**Lab Sample ID: 280-183061-34 MS**  
**Matrix: Water**  
**Analysis Batch: 634702**

**Client Sample ID: VLF-231016-33**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	14	H	50.0	67.0		mg/L		105	80 - 120

**Lab Sample ID: 280-183061-34 MSD**  
**Matrix: Water**  
**Analysis Batch: 634702**

**Client Sample ID: VLF-231016-33**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	14	H	50.0	66.5		mg/L		104	80 - 120	1	20

**Lab Sample ID: 280-183061-22 DU**  
**Matrix: Water**  
**Analysis Batch: 634702**

**Client Sample ID: VLF-231014-22**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	7.5	H	7.50		mg/L		0.4	15

**Lab Sample ID: 280-183061-34 DU**  
**Matrix: Water**  
**Analysis Batch: 634702**

**Client Sample ID: VLF-231016-33**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	14	H	14.3		mg/L		0.1	15

**Lab Sample ID: MB 280-635091/6**  
**Matrix: Water**  
**Analysis Batch: 635091**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			11/25/23 19:11	1

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

**Lab Sample ID: MB 280-635091/6**  
**Matrix: Water**  
**Analysis Batch: 635091**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.0	mg/L			11/25/23 19:11	1

**Lab Sample ID: LCS 280-635091/4**  
**Matrix: Water**  
**Analysis Batch: 635091**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	100	97.1		mg/L		97	90 - 110
Sulfate	100	95.0		mg/L		95	90 - 110

**Lab Sample ID: LCSD 280-635091/5**  
**Matrix: Water**  
**Analysis Batch: 635091**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	100	97.1		mg/L		97	90 - 110	0	10
Sulfate	100	94.8		mg/L		95	90 - 110	0	10

**Lab Sample ID: MRL 280-635091/3**  
**Matrix: Water**  
**Analysis Batch: 635091**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	5.00	5.29		mg/L		106	50 - 150
Sulfate	5.00	5.09		mg/L		102	50 - 150

**Lab Sample ID: 280-183761-D-4 MS**  
**Matrix: Water**  
**Analysis Batch: 635091**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	230		250	428		mg/L		81	80 - 120
Sulfate	510	F1	250	643	F1	mg/L		54	80 - 120

**Lab Sample ID: 280-183761-D-4 MSD**  
**Matrix: Water**  
**Analysis Batch: 635091**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	230		250	450		mg/L		89	80 - 120	5	20
Sulfate	510	F1	250	677	F1	mg/L		68	80 - 120	5	20

**Lab Sample ID: 280-183761-D-4 DU**  
**Matrix: Water**  
**Analysis Batch: 635091**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	230		222		mg/L		2	15
Sulfate	510	F1	493		mg/L		3	15

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 300.0 - Anions, Ion Chromatography - DL

**Lab Sample ID: 280-183146-B-9 MS**  
**Matrix: Water**  
**Analysis Batch: 633915**

**Client Sample ID: Matrix Spike**  
**Prep Type: Dissolved**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride - DL	460	F1	250	789	F1	mg/L		131	80 - 120

**Lab Sample ID: 280-183146-B-9 MSD**  
**Matrix: Water**  
**Analysis Batch: 633915**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Dissolved**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride - DL	460	F1	250	798	F1	mg/L		135	80 - 120	1	20

**Lab Sample ID: 280-183146-B-9 DU**  
**Matrix: Water**  
**Analysis Batch: 633915**

**Client Sample ID: Duplicate**  
**Prep Type: Dissolved**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride - DL	460	F1	477		mg/L		4	15

## Method: 350.1 - Nitrogen, Ammonia

**Lab Sample ID: MB 280-632340/207**  
**Matrix: Water**  
**Analysis Batch: 632340**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.10	0.029	mg/L			11/02/23 17:47	1

**Lab Sample ID: LCS 280-632340/208**  
**Matrix: Water**  
**Analysis Batch: 632340**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	2.50	2.51		mg/L		100	90 - 110

**Lab Sample ID: 280-183054-A-1 MS**  
**Matrix: Water**  
**Analysis Batch: 632340**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	ND		1.00	1.02		mg/L		102	90 - 110

**Lab Sample ID: 280-183054-A-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 632340**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	ND		1.00	1.06		mg/L		106	90 - 110	4	10

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 351.2 - Nitrogen, Total Kjeldahl

**Lab Sample ID: MB 280-630520/28-A**  
**Matrix: Water**  
**Analysis Batch: 630835**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 630520**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	ND		0.70	0.69	mg/L		10/20/23 11:01	10/23/23 15:29	1

**Lab Sample ID: MB 280-630520/2-A**  
**Matrix: Water**  
**Analysis Batch: 630835**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 630520**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	ND		0.70	0.69	mg/L		10/20/23 11:01	10/23/23 15:16	1

**Lab Sample ID: LCS 280-630520/1-A**  
**Matrix: Water**  
**Analysis Batch: 630835**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 630520**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrogen, Kjeldahl	6.00	6.12		mg/L		102	90 - 110

**Lab Sample ID: LCS 280-630520/27-A**  
**Matrix: Water**  
**Analysis Batch: 630835**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 630520**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrogen, Kjeldahl	6.00	6.33		mg/L		105	90 - 110

**Lab Sample ID: 280-183231-E-6-B MS**  
**Matrix: Water**  
**Analysis Batch: 630835**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 630520**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrogen, Kjeldahl	ND		3.00	3.07		mg/L		102	90 - 110

**Lab Sample ID: 280-183231-E-6-C MSD**  
**Matrix: Water**  
**Analysis Batch: 630835**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 630520**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	ND		3.00	2.99		mg/L		100	90 - 110	3	25

## Method: 353.2 - Nitrogen, Nitrate-Nitrite

**Lab Sample ID: MB 280-631023/105**  
**Matrix: Water**  
**Analysis Batch: 631023**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.20	0.044	mg/L			10/24/23 17:11	1



# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

**Lab Sample ID: LCS 280-631023/104**  
**Matrix: Water**  
**Analysis Batch: 631023**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	5.00	4.80		mg/L		96	90 - 110

**Lab Sample ID: 280-183241-A-4 MS**  
**Matrix: Water**  
**Analysis Batch: 631023**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	0.060	J F1	4.00	0.0502	J F1	mg/L		-0.3	90 - 110

**Lab Sample ID: 280-183241-A-4 MSD**  
**Matrix: Water**  
**Analysis Batch: 631023**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Nitrate Nitrite as N	0.060	J F1	4.00	0.0513	J F1	mg/L		-0.2	90 - 110	2	10

## Method: 365.1 - Phosphorus, Ortho

**Lab Sample ID: MB 280-630070/11**  
**Matrix: Water**  
**Analysis Batch: 630070**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
ortho-Phosphate	ND		0.050	0.018	mg/L			10/17/23 17:44	1

**Lab Sample ID: LCS 280-630070/9**  
**Matrix: Water**  
**Analysis Batch: 630070**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
ortho-Phosphate	0.500	0.525		mg/L		105	90 - 110

**Lab Sample ID: LCSD 280-630070/10**  
**Matrix: Water**  
**Analysis Batch: 630070**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
ortho-Phosphate	0.500	0.506		mg/L		101	90 - 110	4	10

**Lab Sample ID: 280-183061-33 MS**  
**Matrix: Water**  
**Analysis Batch: 630070**

**Client Sample ID: VLF-231016-32**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
ortho-Phosphate	0.021	J	0.500	0.554		mg/L		107	90 - 110

# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 365.1 - Phosphorus, Ortho (Continued)

Lab Sample ID: 280-183061-33 MSD  
 Matrix: Water  
 Analysis Batch: 630070

Client Sample ID: VLF-231016-32  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
ortho-Phosphate	0.021	J	0.500	0.557		mg/L		107	90 - 110	1	10

## Method: 365.1 - Phosphorus, Total

Lab Sample ID: MB 280-630365/5-A  
 Matrix: Water  
 Analysis Batch: 630437

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 630365

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus, Total	ND		0.050	0.025	mg/L		10/19/23 11:18	10/19/23 17:13	1

Lab Sample ID: LCS 280-630365/3-A  
 Matrix: Water  
 Analysis Batch: 630437

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 630365

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Phosphorus, Total	0.500	0.511		mg/L		102	90 - 110

Lab Sample ID: LCSD 280-630365/4-A  
 Matrix: Water  
 Analysis Batch: 630437

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 630365

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Phosphorus, Total	0.500	0.513		mg/L		103	90 - 110	0	10

Lab Sample ID: 280-183062-R-1-B MS  
 Matrix: Water  
 Analysis Batch: 630437

Client Sample ID: Matrix Spike  
 Prep Type: Total/NA  
 Prep Batch: 630365

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Phosphorus, Total	ND		0.500	0.529		mg/L		106	90 - 110

Lab Sample ID: 280-183062-R-1-C MSD  
 Matrix: Water  
 Analysis Batch: 630437

Client Sample ID: Matrix Spike Duplicate  
 Prep Type: Total/NA  
 Prep Batch: 630365

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Phosphorus, Total	ND		0.500	0.529		mg/L		106	90 - 110	0	10

Lab Sample ID: 280-183117-G-1-B MS  
 Matrix: Water  
 Analysis Batch: 630437

Client Sample ID: Matrix Spike  
 Prep Type: Total/NA  
 Prep Batch: 630365

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Phosphorus, Total	ND		0.500	0.530		mg/L		106	90 - 110

# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: 365.1 - Phosphorus, Total (Continued)

Lab Sample ID: 280-183117-G-1-C MSD  
 Matrix: Water  
 Analysis Batch: 630437

Client Sample ID: Matrix Spike Duplicate  
 Prep Type: Total/NA  
 Prep Batch: 630365

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Phosphorus, Total	ND		0.500	0.539		mg/L		108	90 - 110	2	10

## Method: 410.4 - COD

Lab Sample ID: MB 280-630364/32  
 Matrix: Water  
 Analysis Batch: 630364

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	8.7	mg/L			10/19/23 11:17	1

Lab Sample ID: LCS 280-630364/30  
 Matrix: Water  
 Analysis Batch: 630364

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chemical Oxygen Demand	100	94.9		mg/L		95	90 - 110

Lab Sample ID: LCSD 280-630364/31  
 Matrix: Water  
 Analysis Batch: 630364

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chemical Oxygen Demand	100	95.6		mg/L		96	90 - 110	1	11

Lab Sample ID: 280-182823-C-4 MS  
 Matrix: Water  
 Analysis Batch: 630364

Client Sample ID: Matrix Spike  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chemical Oxygen Demand	39		50.0	93.6		mg/L		109	90 - 110

Lab Sample ID: 280-182823-C-4 MSD  
 Matrix: Water  
 Analysis Batch: 630364

Client Sample ID: Matrix Spike Duplicate  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chemical Oxygen Demand	39		50.0	92.6		mg/L		107	90 - 110	1	11

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-630779/32  
 Matrix: Water  
 Analysis Batch: 630779

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	3.38	J	10	3.1	mg/L			10/20/23 18:21	1

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SM 2320B - Alkalinity (Continued)

**Lab Sample ID: MB 280-630779/58**  
**Matrix: Water**  
**Analysis Batch: 630779**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	3.39	J	10	3.1	mg/L			10/20/23 21:33	1

**Lab Sample ID: MB 280-630779/84**  
**Matrix: Water**  
**Analysis Batch: 630779**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	3.36	J	10	3.1	mg/L			10/21/23 00:42	1

**Lab Sample ID: 280-183061-11 DU**  
**Matrix: Water**  
**Analysis Batch: 630779**

**Client Sample ID: VLF-231013-11**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	Prepared	RPD	RPD Limit
Bicarbonate Alkalinity as CaCO3	140	B	144		mg/L			0.9	20

**Lab Sample ID: 280-183061-30 DU**  
**Matrix: Water**  
**Analysis Batch: 630779**

**Client Sample ID: VLF-231015-30**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	Prepared	RPD	RPD Limit
Bicarbonate Alkalinity as CaCO3	140	B	137		mg/L			1	20

**Lab Sample ID: MB 280-631150/5**  
**Matrix: Water**  
**Analysis Batch: 631150**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	9.02	J	10	3.1	mg/L			10/25/23 11:30	1

**Lab Sample ID: 280-183061-37 DU**  
**Matrix: Water**  
**Analysis Batch: 631150**

**Client Sample ID: VLF-231016-36**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	Prepared	RPD	RPD Limit
Bicarbonate Alkalinity as CaCO3	5200	B	5190		mg/L			0.6	20
Bicarbonate Alkalinity as CaCO3	5200	B	5190		mg/L			0.6	20

## Method: SM 2540C - Solids, Total Dissolved (TDS)

**Lab Sample ID: MB 280-630615/1**  
**Matrix: Water**  
**Analysis Batch: 630615**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	4.7	mg/L			10/20/23 16:49	1

# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

**Lab Sample ID: LCS 280-630615/2**  
**Matrix: Water**  
**Analysis Batch: 630615**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	500	485		mg/L		97	88 - 114

**Lab Sample ID: 280-183061-1 DU**  
**Matrix: Water**  
**Analysis Batch: 630615**

**Client Sample ID: VLF-231013-1**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	520		519		mg/L		0.8	10

**Lab Sample ID: 280-183061-21 DU**  
**Matrix: Water**  
**Analysis Batch: 630615**

**Client Sample ID: VLF-231014-21**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	190		192		mg/L		1	10

**Lab Sample ID: MB 280-630616/1**  
**Matrix: Water**  
**Analysis Batch: 630616**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	4.7	mg/L			10/20/23 16:51	1

**Lab Sample ID: LCS 280-630616/2**  
**Matrix: Water**  
**Analysis Batch: 630616**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	500	480		mg/L		96	88 - 114

**Lab Sample ID: LCSD 280-630616/3**  
**Matrix: Water**  
**Analysis Batch: 630616**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	500	481		mg/L		96	88 - 114	0	20

**Lab Sample ID: 280-183061-22 DU**  
**Matrix: Water**  
**Analysis Batch: 630616**

**Client Sample ID: VLF-231014-22**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	210		210		mg/L		1	10

**Lab Sample ID: MB 280-630782/1**  
**Matrix: Water**  
**Analysis Batch: 630782**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	4.7	mg/L			10/23/23 12:32	1

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SM 2540C - Solids, Total Dissolved (TDS)

**Lab Sample ID: LCS 280-630782/2**  
**Matrix: Water**  
**Analysis Batch: 630782**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	500	484		mg/L		97	88 - 114

**Lab Sample ID: LCSD 280-630782/3**  
**Matrix: Water**  
**Analysis Batch: 630782**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	500	480		mg/L		96	88 - 114	1	20

**Lab Sample ID: 280-183232-A-16 DU**  
**Matrix: Water**  
**Analysis Batch: 630782**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	ND		ND		mg/L		NC	10

## Method: SM 2540D - Solids, Total Suspended (TSS)

**Lab Sample ID: MB 280-630399/3**  
**Matrix: Water**  
**Analysis Batch: 630399**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			10/19/23 13:21	1

**Lab Sample ID: LCS 280-630399/1**  
**Matrix: Water**  
**Analysis Batch: 630399**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	501	411		mg/L		82	79 - 114

**Lab Sample ID: LCSD 280-630399/2**  
**Matrix: Water**  
**Analysis Batch: 630399**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Suspended Solids	501	422		mg/L		84	79 - 114	3	20

**Lab Sample ID: 280-183061-1 DU**  
**Matrix: Water**  
**Analysis Batch: 630399**

**Client Sample ID: VLF-231013-1**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	11		10.8		mg/L		0	10

# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

**Lab Sample ID: 280-183061-8 DU**  
**Matrix: Water**  
**Analysis Batch: 630399**

**Client Sample ID: VLF-231013-8**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	15		14.4		mg/L		3	10

**Lab Sample ID: MB 280-630512/2**  
**Matrix: Water**  
**Analysis Batch: 630512**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			10/20/23 10:25	1

**Lab Sample ID: LCS 280-630512/1**  
**Matrix: Water**  
**Analysis Batch: 630512**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	501	415		mg/L		83	79 - 114

**Lab Sample ID: 280-183061-25 DU**  
**Matrix: Water**  
**Analysis Batch: 630512**

**Client Sample ID: VLF-231015-25**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	ND		1.67	J	mg/L		NC	10

**Lab Sample ID: MB 280-630513/2**  
**Matrix: Water**  
**Analysis Batch: 630513**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			10/20/23 10:27	1

**Lab Sample ID: LCS 280-630513/1**  
**Matrix: Water**  
**Analysis Batch: 630513**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	501	458		mg/L		91	79 - 114

**Lab Sample ID: 280-183061-26 DU**  
**Matrix: Water**  
**Analysis Batch: 630513**

**Client Sample ID: VLF-231015-26**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	30		29.6		mg/L		1	10

**Lab Sample ID: MB 280-630514/3**  
**Matrix: Water**  
**Analysis Batch: 630514**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			10/20/23 10:29	1

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SM 2540D - Solids, Total Suspended (TSS)

**Lab Sample ID: LCS 280-630514/1**  
**Matrix: Water**  
**Analysis Batch: 630514**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	501	519		mg/L		104	79 - 114

**Lab Sample ID: LCSD 280-630514/2**  
**Matrix: Water**  
**Analysis Batch: 630514**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Suspended Solids	501	425		mg/L		85	79 - 114	20	20

**Lab Sample ID: 280-183167-A-3 DU**  
**Matrix: Water**  
**Analysis Batch: 630514**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	ND		ND		mg/L		NC	10

**Lab Sample ID: MB 280-630830/1**  
**Matrix: Water**  
**Analysis Batch: 630830**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			10/23/23 16:39	1

**Lab Sample ID: LCS 280-630830/2**  
**Matrix: Water**  
**Analysis Batch: 630830**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	501	401		mg/L		80	79 - 114

**Lab Sample ID: LCSD 280-630830/3**  
**Matrix: Water**  
**Analysis Batch: 630830**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Suspended Solids	501	399		mg/L		80	79 - 114	0	20

**Lab Sample ID: 280-183056-A-1 DU**  
**Matrix: Water**  
**Analysis Batch: 630830**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	1.2	J	ND		mg/L		NC	10



# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SM 5310B - Organic Carbon, Total (TOC)

**Lab Sample ID: MB 280-631357/35**  
**Matrix: Water**  
**Analysis Batch: 631357**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	ND		1.0	0.35	mg/L			10/26/23 01:35	1
TOC Result 2	ND		1.0	0.35	mg/L			10/26/23 01:35	1
TOC Result 3	ND		1.0	0.35	mg/L			10/26/23 01:35	1
TOC Result 4	ND		1.0	0.35	mg/L			10/26/23 01:35	1
Total Organic Carbon - Quad	ND		1.0	0.35	mg/L			10/26/23 01:35	1

**Lab Sample ID: LCS 280-631357/34**  
**Matrix: Water**  
**Analysis Batch: 631357**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
TOC Result 1	25.0	25.6		mg/L		102	88 - 112
TOC Result 2	25.0	24.7		mg/L		99	88 - 112
TOC Result 3	25.0	25.1		mg/L		100	88 - 112
TOC Result 4	25.0	25.0		mg/L		100	88 - 112
Total Organic Carbon - Quad	25.0	25.1		mg/L		100	88 - 112

**Lab Sample ID: 280-183394-C-4 MS**  
**Matrix: Water**  
**Analysis Batch: 631357**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
TOC Result 1	2.0		25.0	26.3		mg/L		97	88 - 112
TOC Result 2	1.9		25.0	26.3		mg/L		97	88 - 112
TOC Result 3	2.0		25.0	26.6		mg/L		98	88 - 112
TOC Result 4	2.0		25.0	27.1		mg/L		100	88 - 112
Total Organic Carbon - Quad	2.0		25.0	26.5		mg/L		98	88 - 112

**Lab Sample ID: 280-183394-C-4 MSD**  
**Matrix: Water**  
**Analysis Batch: 631357**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
TOC Result 1	2.0		25.0	25.8		mg/L		95	88 - 112	2	15
TOC Result 2	1.9		25.0	25.4		mg/L		94	88 - 112	3	15
TOC Result 3	2.0		25.0	25.3		mg/L		93	88 - 112	5	15
TOC Result 4	2.0		25.0	25.9		mg/L		96	88 - 112	4	15
Total Organic Carbon - Quad	2.0		25.0	25.6		mg/L		94	88 - 112	4	15

## Method: SM5210B - BOD, 5 Day

**Lab Sample ID: MB 280-630142/27**  
**Matrix: Water**  
**Analysis Batch: 630142**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	0.24	mg/L			10/18/23 09:18	1

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# QC Sample Results

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Method: SM5210B - BOD, 5 Day (Continued)

**Lab Sample ID: SCB 280-630142/41**  
**Matrix: Water**  
**Analysis Batch: 630142**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	SCB Result	SCB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	0.743	J	2.0	0.24	mg/L	-		10/18/23 18:09	1

**Lab Sample ID: USB 280-630142/2**  
**Matrix: Water**  
**Analysis Batch: 630142**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	0.707	J	2.0	0.24	mg/L	-		10/18/23 09:18	1

**Lab Sample ID: LCS 280-630142/26**  
**Matrix: Water**  
**Analysis Batch: 630142**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	198	150	*-	mg/L	-	76	85 - 115

**Lab Sample ID: LCSD 280-630142/40**  
**Matrix: Water**  
**Analysis Batch: 630142**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Biochemical Oxygen Demand	198	146	*-	mg/L	-	74	85 - 115	3	20

**Lab Sample ID: 280-183062-G-2 DU**  
**Matrix: Water**  
**Analysis Batch: 630142**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Biochemical Oxygen Demand	6.6	J b *-	1.83	J F5 *-	mg/L	-	113	20

# QC Association Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## GC/MS VOA

### Analysis Batch: 375534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-30	VLF-231015-30	Total/NA	Water	524.2	
MB 570-375534/6	Method Blank	Total/NA	Water	524.2	
LCS 570-375534/1003	Lab Control Sample	Total/NA	Water	524.2	
LCSD 570-375534/4	Lab Control Sample Dup	Total/NA	Water	524.2	

### Analysis Batch: 631189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-23	VLF-231015-23	Total/NA	Water	8260B	
280-183061-24	VLF-231015-24	Total/NA	Water	8260B	
280-183061-25	VLF-231015-25	Total/NA	Water	8260B	
280-183061-26	VLF-231015-26	Total/NA	Water	8260B	
280-183061-27	VLF-231015-27	Total/NA	Water	8260B	
280-183061-28	VLF-231015-28	Total/NA	Water	8260B	
280-183061-29	VLF-231015-29	Total/NA	Water	8260B	
280-183061-31	VLF-231015-31	Total/NA	Water	8260B	
MB 280-631189/9	Method Blank	Total/NA	Water	8260B	
LCS 280-631189/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 280-631189/5	Lab Control Sample Dup	Total/NA	Water	8260B	

### Analysis Batch: 631197

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-1	VLF-231013-1	Total/NA	Water	8260B	
280-183061-2	VLF-231013-2	Total/NA	Water	8260B	
280-183061-3	VLF-231013-3	Total/NA	Water	8260B	
280-183061-4	VLF-231013-4	Total/NA	Water	8260B	
280-183061-5	VLF-231013-5	Total/NA	Water	8260B	
280-183061-6	VLF-231013-6	Total/NA	Water	8260B	
280-183061-7	VLF-231013-7	Total/NA	Water	8260B	
280-183061-8	VLF-231013-8	Total/NA	Water	8260B	
280-183061-9	VLF-231013-9	Total/NA	Water	8260B	
280-183061-10	VLF-231013-10	Total/NA	Water	8260B	
280-183061-11	VLF-231013-11	Total/NA	Water	8260B	
280-183061-12	VLF-231013-12	Total/NA	Water	8260B	
280-183061-16	VLF-231014-16	Total/NA	Water	8260B	
280-183061-17	VLF-231014-17	Total/NA	Water	8260B	
280-183061-18	VLF-231014-18	Total/NA	Water	8260B	
280-183061-20	VLF-231014-20	Total/NA	Water	8260B	
280-183061-21	VLF-231014-21	Total/NA	Water	8260B	
280-183061-32	Trip Blanks	Total/NA	Water	8260B	
280-183061-37	VLF-231016-36	Total/NA	Water	8260B	
280-183061-38	Trip Blanks	Total/NA	Water	8260B	
MB 280-631197/9	Method Blank	Total/NA	Water	8260B	
LCS 280-631197/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 280-631197/6	Lab Control Sample Dup	Total/NA	Water	8260B	

### Analysis Batch: 631377

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-13	VLF-231014-13	Total/NA	Water	8260B	
280-183061-14	VLF-231014-14	Total/NA	Water	8260B	
MB 280-631377/9	Method Blank	Total/NA	Water	8260B	
LCS 280-631377/4	Lab Control Sample	Total/NA	Water	8260B	

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# QC Association Summary

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## GC/MS VOA (Continued)

### Analysis Batch: 631377 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 280-631377/6	Lab Control Sample Dup	Total/NA	Water	8260B	
280-183060-B-21 MS	Matrix Spike	Total/NA	Water	8260B	
280-183060-B-21 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

## Metals

### Prep Batch: 632415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-1	VLF-231013-1	Dissolved	Water	3005A	
280-183061-2	VLF-231013-2	Dissolved	Water	3005A	
280-183061-3	VLF-231013-3	Dissolved	Water	3005A	
280-183061-4	VLF-231013-4	Dissolved	Water	3005A	
280-183061-5	VLF-231013-5	Dissolved	Water	3005A	
280-183061-6	VLF-231013-6	Dissolved	Water	3005A	
280-183061-7	VLF-231013-7	Dissolved	Water	3005A	
280-183061-8	VLF-231013-8	Dissolved	Water	3005A	
280-183061-9	VLF-231013-9	Dissolved	Water	3005A	
280-183061-10	VLF-231013-10	Dissolved	Water	3005A	
280-183061-11	VLF-231013-11	Dissolved	Water	3005A	
280-183061-12	VLF-231013-12	Dissolved	Water	3005A	
280-183061-13	VLF-231014-13	Dissolved	Water	3005A	
280-183061-14	VLF-231014-14	Dissolved	Water	3005A	
280-183061-15	VLF-231014-15	Dissolved	Water	3005A	
280-183061-16	VLF-231014-16	Dissolved	Water	3005A	
280-183061-17	VLF-231014-17	Dissolved	Water	3005A	
280-183061-18	VLF-231014-18	Dissolved	Water	3005A	
280-183061-19	VLF-231014-19	Dissolved	Water	3005A	
280-183061-20	VLF-231014-20	Dissolved	Water	3005A	
MB 280-632415/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-632415/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-183061-1 MS	VLF-231013-1	Dissolved	Water	3005A	
280-183061-1 MSD	VLF-231013-1	Dissolved	Water	3005A	

### Prep Batch: 632417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-21	VLF-231014-21	Dissolved	Water	3005A	
280-183061-22	VLF-231014-22	Dissolved	Water	3005A	
280-183061-23	VLF-231015-23	Dissolved	Water	3005A	
280-183061-24	VLF-231015-24	Dissolved	Water	3005A	
280-183061-25	VLF-231015-25	Dissolved	Water	3005A	
280-183061-26	VLF-231015-26	Dissolved	Water	3005A	
280-183061-27	VLF-231015-27	Dissolved	Water	3005A	
280-183061-28	VLF-231015-28	Dissolved	Water	3005A	
280-183061-29	VLF-231015-29	Dissolved	Water	3005A	
280-183061-30	VLF-231015-30	Dissolved	Water	3005A	
280-183061-31	VLF-231015-31	Dissolved	Water	3005A	
280-183061-33	VLF-231016-32	Dissolved	Water	3005A	
280-183061-34	VLF-231016-33	Dissolved	Water	3005A	
280-183061-35	VLF-231016-34	Dissolved	Water	3005A	
280-183061-36	VLF-231016-35	Dissolved	Water	3005A	
280-183061-37	VLF-231016-36	Dissolved	Water	3005A	

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# QC Association Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Metals (Continued)

### Prep Batch: 632417 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-632417/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-632417/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-183236-D-3-B MS	Matrix Spike	Dissolved	Water	3005A	
280-183236-D-3-C MSD	Matrix Spike Duplicate	Dissolved	Water	3005A	

### Prep Batch: 632528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-16	VLf-231014-16	Total/NA	Water	200.8	
280-183061-17	VLf-231014-17	Total/NA	Water	200.8	
280-183061-37	VLf-231016-36	Total/NA	Water	200.8	
MB 280-632528/1-A	Method Blank	Total/NA	Water	200.8	
LCS 280-632528/2-A	Lab Control Sample	Total/NA	Water	200.8	
280-183224-A-1-D MS	Matrix Spike	Total/NA	Water	200.8	
280-183224-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

### Analysis Batch: 632593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-1	VLf-231013-1	Dissolved	Water	6010B	632415
280-183061-2	VLf-231013-2	Dissolved	Water	6010B	632415
280-183061-3	VLf-231013-3	Dissolved	Water	6010B	632415
280-183061-4	VLf-231013-4	Dissolved	Water	6010B	632415
280-183061-5	VLf-231013-5	Dissolved	Water	6010B	632415
280-183061-6	VLf-231013-6	Dissolved	Water	6010B	632415
280-183061-7	VLf-231013-7	Dissolved	Water	6010B	632415
280-183061-8	VLf-231013-8	Dissolved	Water	6010B	632415
280-183061-9	VLf-231013-9	Dissolved	Water	6010B	632415
280-183061-10	VLf-231013-10	Dissolved	Water	6010B	632415
280-183061-11	VLf-231013-11	Dissolved	Water	6010B	632415
280-183061-12	VLf-231013-12	Dissolved	Water	6010B	632415
280-183061-13	VLf-231014-13	Dissolved	Water	6010B	632415
280-183061-14	VLf-231014-14	Dissolved	Water	6010B	632415
280-183061-15	VLf-231014-15	Dissolved	Water	6010B	632415
280-183061-16	VLf-231014-16	Dissolved	Water	6010B	632415
280-183061-17	VLf-231014-17	Dissolved	Water	6010B	632415
280-183061-18	VLf-231014-18	Dissolved	Water	6010B	632415
280-183061-19	VLf-231014-19	Dissolved	Water	6010B	632415
280-183061-20	VLf-231014-20	Dissolved	Water	6010B	632415
280-183061-21	VLf-231014-21	Dissolved	Water	6010B	632417
280-183061-22	VLf-231014-22	Dissolved	Water	6010B	632417
280-183061-23	VLf-231015-23	Dissolved	Water	6010B	632417
280-183061-24	VLf-231015-24	Dissolved	Water	6010B	632417
280-183061-25	VLf-231015-25	Dissolved	Water	6010B	632417
280-183061-26	VLf-231015-26	Dissolved	Water	6010B	632417
280-183061-27	VLf-231015-27	Dissolved	Water	6010B	632417
280-183061-28	VLf-231015-28	Dissolved	Water	6010B	632417
280-183061-29	VLf-231015-29	Dissolved	Water	6010B	632417
280-183061-30	VLf-231015-30	Dissolved	Water	6010B	632417
280-183061-31	VLf-231015-31	Dissolved	Water	6010B	632417
280-183061-33	VLf-231016-32	Dissolved	Water	6010B	632417
280-183061-34	VLf-231016-33	Dissolved	Water	6010B	632417
280-183061-35	VLf-231016-34	Dissolved	Water	6010B	632417

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# QC Association Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Metals (Continued)

### Analysis Batch: 632593 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-36	VLf-231016-35	Dissolved	Water	6010B	632417
280-183061-37	VLf-231016-36	Dissolved	Water	6010B	632417
MB 280-632415/1-A	Method Blank	Total Recoverable	Water	6010B	632415
MB 280-632417/1-A	Method Blank	Total Recoverable	Water	6010B	632417
LCS 280-632415/2-A	Lab Control Sample	Total Recoverable	Water	6010B	632415
LCS 280-632417/2-A	Lab Control Sample	Total Recoverable	Water	6010B	632417
280-183061-1 MS	VLf-231013-1	Dissolved	Water	6010B	632415
280-183061-1 MSD	VLf-231013-1	Dissolved	Water	6010B	632415
280-183236-D-3-B MS	Matrix Spike	Dissolved	Water	6010B	632417
280-183236-D-3-C MSD	Matrix Spike Duplicate	Dissolved	Water	6010B	632417

### Analysis Batch: 632760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-16	VLf-231014-16	Total/NA	Water	200.8	632528
280-183061-17	VLf-231014-17	Total/NA	Water	200.8	632528
280-183061-37	VLf-231016-36	Total/NA	Water	200.8	632528
MB 280-632528/1-A	Method Blank	Total/NA	Water	200.8	632528
LCS 280-632528/2-A	Lab Control Sample	Total/NA	Water	200.8	632528
280-183224-A-1-D MS	Matrix Spike	Total/NA	Water	200.8	632528
280-183224-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	632528

### Analysis Batch: 632775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-16	VLf-231014-16	Dissolved	Water	6010B	632415
280-183061-37	VLf-231016-36	Dissolved	Water	6010B	632417

### Prep Batch: 634470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-1	VLf-231013-1	Total/NA	Water	200.8	
280-183061-2	VLf-231013-2	Total/NA	Water	200.8	
280-183061-3	VLf-231013-3	Total/NA	Water	200.8	
280-183061-4	VLf-231013-4	Total/NA	Water	200.8	
280-183061-5	VLf-231013-5	Total/NA	Water	200.8	
280-183061-6	VLf-231013-6	Total/NA	Water	200.8	
280-183061-7	VLf-231013-7	Total/NA	Water	200.8	
280-183061-8	VLf-231013-8	Total/NA	Water	200.8	
280-183061-9	VLf-231013-9	Total/NA	Water	200.8	
280-183061-10	VLf-231013-10	Total/NA	Water	200.8	
280-183061-11	VLf-231013-11	Total/NA	Water	200.8	
280-183061-12	VLf-231013-12	Total/NA	Water	200.8	
280-183061-13	VLf-231014-13	Total/NA	Water	200.8	
280-183061-14	VLf-231014-14	Total/NA	Water	200.8	
280-183061-18	VLf-231014-18	Total/NA	Water	200.8	
280-183061-20	VLf-231014-20	Total/NA	Water	200.8	
280-183061-21	VLf-231014-21	Total/NA	Water	200.8	
280-183061-23	VLf-231015-23	Total/NA	Water	200.8	
280-183061-24	VLf-231015-24	Total/NA	Water	200.8	
280-183061-25	VLf-231015-25	Total/NA	Water	200.8	
MB 280-634470/1-A	Method Blank	Total/NA	Water	3005A	
LCS 280-634470/2-A	Lab Control Sample	Total/NA	Water	3005A	
280-183061-1 MS	VLf-231013-1	Total/NA	Water	200.8	

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# QC Association Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Metals (Continued)

### Prep Batch: 634470 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-1 MSD	VLf-231013-1	Total/NA	Water	200.8	
280-183061-25 MS	VLf-231015-25	Total/NA	Water	200.8	
280-183061-25 MSD	VLf-231015-25	Total/NA	Water	200.8	

### Prep Batch: 634473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-26	VLf-231015-26	Total/NA	Water	200.8	
280-183061-27	VLf-231015-27	Total/NA	Water	200.8	
280-183061-28	VLf-231015-28	Total/NA	Water	200.8	
280-183061-29	VLf-231015-29	Total/NA	Water	200.8	
280-183061-30	VLf-231015-30	Total/NA	Water	200.8	
280-183061-31	VLf-231015-31	Total/NA	Water	200.8	
MB 280-634473/1-A	Method Blank	Total/NA	Water	3005A	
LCS 280-634473/2-A	Lab Control Sample	Total/NA	Water	3005A	
280-183061-26 MS	VLf-231015-26	Total/NA	Water	200.8	
280-183061-26 MSD	VLf-231015-26	Total/NA	Water	200.8	

### Analysis Batch: 634631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-26	VLf-231015-26	Total/NA	Water	200.8	634473
280-183061-27	VLf-231015-27	Total/NA	Water	200.8	634473
280-183061-28	VLf-231015-28	Total/NA	Water	200.8	634473
280-183061-29	VLf-231015-29	Total/NA	Water	200.8	634473
280-183061-30	VLf-231015-30	Total/NA	Water	200.8	634473
280-183061-31	VLf-231015-31	Total/NA	Water	200.8	634473
MB 280-634473/1-A	Method Blank	Total/NA	Water	200.8	634473
LCS 280-634473/2-A	Lab Control Sample	Total/NA	Water	200.8	634473
280-183061-26 MS	VLf-231015-26	Total/NA	Water	200.8	634473
280-183061-26 MSD	VLf-231015-26	Total/NA	Water	200.8	634473

### Analysis Batch: 634763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-1	VLf-231013-1	Total/NA	Water	200.8	634470
280-183061-2	VLf-231013-2	Total/NA	Water	200.8	634470
280-183061-3	VLf-231013-3	Total/NA	Water	200.8	634470
280-183061-4	VLf-231013-4	Total/NA	Water	200.8	634470
280-183061-5	VLf-231013-5	Total/NA	Water	200.8	634470
280-183061-6	VLf-231013-6	Total/NA	Water	200.8	634470
280-183061-7	VLf-231013-7	Total/NA	Water	200.8	634470
280-183061-8	VLf-231013-8	Total/NA	Water	200.8	634470
280-183061-9	VLf-231013-9	Total/NA	Water	200.8	634470
280-183061-10	VLf-231013-10	Total/NA	Water	200.8	634470
280-183061-11	VLf-231013-11	Total/NA	Water	200.8	634470
280-183061-12	VLf-231013-12	Total/NA	Water	200.8	634470
280-183061-13	VLf-231014-13	Total/NA	Water	200.8	634470
280-183061-14	VLf-231014-14	Total/NA	Water	200.8	634470
280-183061-18	VLf-231014-18	Total/NA	Water	200.8	634470
280-183061-20	VLf-231014-20	Total/NA	Water	200.8	634470
280-183061-21	VLf-231014-21	Total/NA	Water	200.8	634470
280-183061-23	VLf-231015-23	Total/NA	Water	200.8	634470
280-183061-24	VLf-231015-24	Total/NA	Water	200.8	634470

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# QC Association Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Metals (Continued)

### Analysis Batch: 634763 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-25	VLF-231015-25	Total/NA	Water	200.8	634470
MB 280-634470/1-A	Method Blank	Total/NA	Water	200.8	634470
LCS 280-634470/2-A	Lab Control Sample	Total/NA	Water	200.8	634470
280-183061-1 MS	VLF-231013-1	Total/NA	Water	200.8	634470
280-183061-1 MSD	VLF-231013-1	Total/NA	Water	200.8	634470
280-183061-25 MS	VLF-231015-25	Total/NA	Water	200.8	634470
280-183061-25 MSD	VLF-231015-25	Total/NA	Water	200.8	634470

## General Chemistry

### Analysis Batch: 630070

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-33	VLF-231016-32	Total/NA	Water	365.1	
280-183061-34	VLF-231016-33	Total/NA	Water	365.1	
280-183061-35	VLF-231016-34	Total/NA	Water	365.1	
280-183061-36	VLF-231016-35	Total/NA	Water	365.1	
MB 280-630070/11	Method Blank	Total/NA	Water	365.1	
LCS 280-630070/9	Lab Control Sample	Total/NA	Water	365.1	
LCSD 280-630070/10	Lab Control Sample Dup	Total/NA	Water	365.1	
280-183061-33 MS	VLF-231016-32	Total/NA	Water	365.1	
280-183061-33 MSD	VLF-231016-32	Total/NA	Water	365.1	

### Analysis Batch: 630142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-33	VLF-231016-32	Total/NA	Water	SM5210B	
280-183061-34	VLF-231016-33	Total/NA	Water	SM5210B	
280-183061-35	VLF-231016-34	Total/NA	Water	SM5210B	
280-183061-36	VLF-231016-35	Total/NA	Water	SM5210B	
280-183061-37	VLF-231016-36	Total/NA	Water	SM5210B	
MB 280-630142/27	Method Blank	Total/NA	Water	SM5210B	
SCB 280-630142/41	Method Blank	Total/NA	Water	SM5210B	
USB 280-630142/2	Method Blank	Total/NA	Water	SM5210B	
LCS 280-630142/26	Lab Control Sample	Total/NA	Water	SM5210B	
LCSD 280-630142/40	Lab Control Sample Dup	Total/NA	Water	SM5210B	
280-183062-G-2 DU	Duplicate	Total/NA	Water	SM5210B	

### Analysis Batch: 630364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-37	VLF-231016-36	Total/NA	Water	410.4	
MB 280-630364/32	Method Blank	Total/NA	Water	410.4	
LCS 280-630364/30	Lab Control Sample	Total/NA	Water	410.4	
LCSD 280-630364/31	Lab Control Sample Dup	Total/NA	Water	410.4	
280-182823-C-4 MS	Matrix Spike	Total/NA	Water	410.4	
280-182823-C-4 MSD	Matrix Spike Duplicate	Total/NA	Water	410.4	

### Prep Batch: 630365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-33	VLF-231016-32	Total/NA	Water	365.2/365.3/365	
280-183061-34	VLF-231016-33	Total/NA	Water	365.2/365.3/365	
280-183061-35	VLF-231016-34	Total/NA	Water	365.2/365.3/365	
280-183061-36	VLF-231016-35	Total/NA	Water	365.2/365.3/365	

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# QC Association Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## General Chemistry (Continued)

### Prep Batch: 630365 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-630365/5-A	Method Blank	Total/NA	Water	365.2/365.3/365	
LCS 280-630365/3-A	Lab Control Sample	Total/NA	Water	365.2/365.3/365	
LCSD 280-630365/4-A	Lab Control Sample Dup	Total/NA	Water	365.2/365.3/365	
280-183062-R-1-B MS	Matrix Spike	Total/NA	Water	365.2/365.3/365	
280-183062-R-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	365.2/365.3/365	
280-183117-G-1-B MS	Matrix Spike	Total/NA	Water	365.2/365.3/365	
280-183117-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	365.2/365.3/365	

### Analysis Batch: 630399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-1	VLF-231013-1	Total/NA	Water	SM 2540D	
280-183061-2	VLF-231013-2	Total/NA	Water	SM 2540D	
280-183061-3	VLF-231013-3	Total/NA	Water	SM 2540D	
280-183061-4	VLF-231013-4	Total/NA	Water	SM 2540D	
280-183061-5	VLF-231013-5	Total/NA	Water	SM 2540D	
280-183061-6	VLF-231013-6	Total/NA	Water	SM 2540D	
280-183061-7	VLF-231013-7	Total/NA	Water	SM 2540D	
280-183061-8	VLF-231013-8	Total/NA	Water	SM 2540D	
280-183061-9	VLF-231013-9	Total/NA	Water	SM 2540D	
280-183061-10	VLF-231013-10	Total/NA	Water	SM 2540D	
280-183061-11	VLF-231013-11	Total/NA	Water	SM 2540D	
280-183061-12	VLF-231013-12	Total/NA	Water	SM 2540D	
MB 280-630399/3	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-630399/1	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-630399/2	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
280-183061-1 DU	VLF-231013-1	Total/NA	Water	SM 2540D	
280-183061-8 DU	VLF-231013-8	Total/NA	Water	SM 2540D	

### Analysis Batch: 630437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-33	VLF-231016-32	Total/NA	Water	365.1	630365
280-183061-34	VLF-231016-33	Total/NA	Water	365.1	630365
280-183061-35	VLF-231016-34	Total/NA	Water	365.1	630365
280-183061-36	VLF-231016-35	Total/NA	Water	365.1	630365
MB 280-630365/5-A	Method Blank	Total/NA	Water	365.1	630365
LCS 280-630365/3-A	Lab Control Sample	Total/NA	Water	365.1	630365
LCSD 280-630365/4-A	Lab Control Sample Dup	Total/NA	Water	365.1	630365
280-183062-R-1-B MS	Matrix Spike	Total/NA	Water	365.1	630365
280-183062-R-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	365.1	630365
280-183117-G-1-B MS	Matrix Spike	Total/NA	Water	365.1	630365
280-183117-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	365.1	630365

### Analysis Batch: 630512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-13	VLF-231014-13	Total/NA	Water	SM 2540D	
280-183061-14	VLF-231014-14	Total/NA	Water	SM 2540D	
280-183061-16	VLF-231014-16	Total/NA	Water	SM 2540D	
280-183061-17	VLF-231014-17	Total/NA	Water	SM 2540D	
280-183061-20	VLF-231014-20	Total/NA	Water	SM 2540D	
280-183061-21	VLF-231014-21	Total/NA	Water	SM 2540D	
280-183061-23	VLF-231015-23	Total/NA	Water	SM 2540D	

# QC Association Summary

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## General Chemistry (Continued)

### Analysis Batch: 630512 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-24	VLF-231015-24	Total/NA	Water	SM 2540D	
280-183061-25	VLF-231015-25	Total/NA	Water	SM 2540D	
280-183061-28	VLF-231015-28	Total/NA	Water	SM 2540D	
280-183061-29	VLF-231015-29	Total/NA	Water	SM 2540D	
280-183061-30	VLF-231015-30	Total/NA	Water	SM 2540D	
280-183061-31	VLF-231015-31	Total/NA	Water	SM 2540D	
MB 280-630512/2	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-630512/1	Lab Control Sample	Total/NA	Water	SM 2540D	
280-183061-25 DU	VLF-231015-25	Total/NA	Water	SM 2540D	

### Analysis Batch: 630513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-26	VLF-231015-26	Total/NA	Water	SM 2540D	
280-183061-27	VLF-231015-27	Total/NA	Water	SM 2540D	
MB 280-630513/2	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-630513/1	Lab Control Sample	Total/NA	Water	SM 2540D	
280-183061-26 DU	VLF-231015-26	Total/NA	Water	SM 2540D	

### Analysis Batch: 630514

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-18	VLF-231014-18	Total/NA	Water	SM 2540D	
MB 280-630514/3	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-630514/1	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-630514/2	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
280-183167-A-3 DU	Duplicate	Total/NA	Water	SM 2540D	

### Prep Batch: 630520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-33	VLF-231016-32	Total/NA	Water	351.2	
280-183061-34	VLF-231016-33	Total/NA	Water	351.2	
280-183061-35	VLF-231016-34	Total/NA	Water	351.2	
280-183061-36	VLF-231016-35	Total/NA	Water	351.2	
MB 280-630520/28-A	Method Blank	Total/NA	Water	351.2	
MB 280-630520/2-A	Method Blank	Total/NA	Water	351.2	
LCS 280-630520/1-A	Lab Control Sample	Total/NA	Water	351.2	
LCS 280-630520/27-A	Lab Control Sample	Total/NA	Water	351.2	
280-183231-E-6-B MS	Matrix Spike	Total/NA	Water	351.2	
280-183231-E-6-C MSD	Matrix Spike Duplicate	Total/NA	Water	351.2	

### Analysis Batch: 630615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-1	VLF-231013-1	Total/NA	Water	SM 2540C	
280-183061-2	VLF-231013-2	Total/NA	Water	SM 2540C	
280-183061-3	VLF-231013-3	Total/NA	Water	SM 2540C	
280-183061-4	VLF-231013-4	Total/NA	Water	SM 2540C	
280-183061-5	VLF-231013-5	Total/NA	Water	SM 2540C	
280-183061-6	VLF-231013-6	Total/NA	Water	SM 2540C	
280-183061-7	VLF-231013-7	Total/NA	Water	SM 2540C	
280-183061-8	VLF-231013-8	Total/NA	Water	SM 2540C	
280-183061-9	VLF-231013-9	Total/NA	Water	SM 2540C	
280-183061-10	VLF-231013-10	Total/NA	Water	SM 2540C	

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# QC Association Summary

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## General Chemistry (Continued)

### Analysis Batch: 630615 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-11	VLf-231013-11	Total/NA	Water	SM 2540C	
280-183061-12	VLf-231013-12	Total/NA	Water	SM 2540C	
280-183061-13	VLf-231014-13	Total/NA	Water	SM 2540C	
280-183061-14	VLf-231014-14	Total/NA	Water	SM 2540C	
280-183061-15	VLf-231014-15	Total/NA	Water	SM 2540C	
280-183061-16	VLf-231014-16	Total/NA	Water	SM 2540C	
280-183061-17	VLf-231014-17	Total/NA	Water	SM 2540C	
280-183061-18	VLf-231014-18	Total/NA	Water	SM 2540C	
280-183061-19	VLf-231014-19	Total/NA	Water	SM 2540C	
280-183061-21	VLf-231014-21	Total/NA	Water	SM 2540C	
MB 280-630615/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-630615/2	Lab Control Sample	Total/NA	Water	SM 2540C	
280-183061-1 DU	VLf-231013-1	Total/NA	Water	SM 2540C	
280-183061-21 DU	VLf-231014-21	Total/NA	Water	SM 2540C	

### Analysis Batch: 630616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-20	VLf-231014-20	Total/NA	Water	SM 2540C	
280-183061-22	VLf-231014-22	Total/NA	Water	SM 2540C	
280-183061-23	VLf-231015-23	Total/NA	Water	SM 2540C	
280-183061-24	VLf-231015-24	Total/NA	Water	SM 2540C	
280-183061-25	VLf-231015-25	Total/NA	Water	SM 2540C	
280-183061-26	VLf-231015-26	Total/NA	Water	SM 2540C	
280-183061-27	VLf-231015-27	Total/NA	Water	SM 2540C	
280-183061-28	VLf-231015-28	Total/NA	Water	SM 2540C	
280-183061-29	VLf-231015-29	Total/NA	Water	SM 2540C	
280-183061-30	VLf-231015-30	Total/NA	Water	SM 2540C	
280-183061-31	VLf-231015-31	Total/NA	Water	SM 2540C	
MB 280-630616/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-630616/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 280-630616/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
280-183061-22 DU	VLf-231014-22	Total/NA	Water	SM 2540C	

### Analysis Batch: 630779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-1	VLf-231013-1	Total/NA	Water	SM 2320B	
280-183061-2	VLf-231013-2	Total/NA	Water	SM 2320B	
280-183061-3	VLf-231013-3	Total/NA	Water	SM 2320B	
280-183061-4	VLf-231013-4	Total/NA	Water	SM 2320B	
280-183061-5	VLf-231013-5	Total/NA	Water	SM 2320B	
280-183061-6	VLf-231013-6	Total/NA	Water	SM 2320B	
280-183061-7	VLf-231013-7	Total/NA	Water	SM 2320B	
280-183061-8	VLf-231013-8	Total/NA	Water	SM 2320B	
280-183061-9	VLf-231013-9	Total/NA	Water	SM 2320B	
280-183061-10	VLf-231013-10	Total/NA	Water	SM 2320B	
280-183061-11	VLf-231013-11	Total/NA	Water	SM 2320B	
280-183061-12	VLf-231013-12	Total/NA	Water	SM 2320B	
280-183061-13	VLf-231014-13	Total/NA	Water	SM 2320B	
280-183061-14	VLf-231014-14	Total/NA	Water	SM 2320B	
280-183061-15	VLf-231014-15	Total/NA	Water	SM 2320B	
280-183061-16	VLf-231014-16	Total/NA	Water	SM 2320B	

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# QC Association Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## General Chemistry (Continued)

### Analysis Batch: 630779 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-17	VLF-231014-17	Total/NA	Water	SM 2320B	
280-183061-18	VLF-231014-18	Total/NA	Water	SM 2320B	
280-183061-19	VLF-231014-19	Total/NA	Water	SM 2320B	
280-183061-20	VLF-231014-20	Total/NA	Water	SM 2320B	
280-183061-21	VLF-231014-21	Total/NA	Water	SM 2320B	
280-183061-22	VLF-231014-22	Total/NA	Water	SM 2320B	
280-183061-23	VLF-231015-23	Total/NA	Water	SM 2320B	
280-183061-24	VLF-231015-24	Total/NA	Water	SM 2320B	
280-183061-25	VLF-231015-25	Total/NA	Water	SM 2320B	
280-183061-26	VLF-231015-26	Total/NA	Water	SM 2320B	
280-183061-27	VLF-231015-27	Total/NA	Water	SM 2320B	
280-183061-28	VLF-231015-28	Total/NA	Water	SM 2320B	
280-183061-29	VLF-231015-29	Total/NA	Water	SM 2320B	
280-183061-30	VLF-231015-30	Total/NA	Water	SM 2320B	
280-183061-31	VLF-231015-31	Total/NA	Water	SM 2320B	
MB 280-630779/32	Method Blank	Total/NA	Water	SM 2320B	
MB 280-630779/58	Method Blank	Total/NA	Water	SM 2320B	
MB 280-630779/84	Method Blank	Total/NA	Water	SM 2320B	
280-183061-11 DU	VLF-231013-11	Total/NA	Water	SM 2320B	
280-183061-30 DU	VLF-231015-30	Total/NA	Water	SM 2320B	

### Analysis Batch: 630782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-37	VLF-231016-36	Total/NA	Water	SM 2540C	
MB 280-630782/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-630782/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 280-630782/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
280-183232-A-16 DU	Duplicate	Total/NA	Water	SM 2540C	

### Analysis Batch: 630830

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-37	VLF-231016-36	Total/NA	Water	SM 2540D	
MB 280-630830/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-630830/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-630830/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
280-183056-A-1 DU	Duplicate	Total/NA	Water	SM 2540D	

### Analysis Batch: 630835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-33	VLF-231016-32	Total/NA	Water	351.2	630520
280-183061-34	VLF-231016-33	Total/NA	Water	351.2	630520
280-183061-35	VLF-231016-34	Total/NA	Water	351.2	630520
280-183061-36	VLF-231016-35	Total/NA	Water	351.2	630520
MB 280-630520/28-A	Method Blank	Total/NA	Water	351.2	630520
MB 280-630520/2-A	Method Blank	Total/NA	Water	351.2	630520
LCS 280-630520/1-A	Lab Control Sample	Total/NA	Water	351.2	630520
LCS 280-630520/27-A	Lab Control Sample	Total/NA	Water	351.2	630520
280-183231-E-6-B MS	Matrix Spike	Total/NA	Water	351.2	630520
280-183231-E-6-C MSD	Matrix Spike Duplicate	Total/NA	Water	351.2	630520

# QC Association Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## General Chemistry

### Analysis Batch: 631023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-37	VLF-231016-36	Total/NA	Water	353.2	
MB 280-631023/105	Method Blank	Total/NA	Water	353.2	
LCS 280-631023/104	Lab Control Sample	Total/NA	Water	353.2	
280-183241-A-4 MS	Matrix Spike	Total/NA	Water	353.2	
280-183241-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	353.2	

### Analysis Batch: 631150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-37	VLF-231016-36	Total/NA	Water	SM 2320B	
MB 280-631150/5	Method Blank	Total/NA	Water	SM 2320B	
280-183061-37 DU	VLF-231016-36	Total/NA	Water	SM 2320B	

### Analysis Batch: 631357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-37	VLF-231016-36	Total/NA	Water	SM 5310B	
MB 280-631357/35	Method Blank	Total/NA	Water	SM 5310B	
LCS 280-631357/34	Lab Control Sample	Total/NA	Water	SM 5310B	
280-183394-C-4 MS	Matrix Spike	Total/NA	Water	SM 5310B	
280-183394-C-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	

### Analysis Batch: 632340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-37	VLF-231016-36	Total/NA	Water	350.1	
MB 280-632340/207	Method Blank	Total/NA	Water	350.1	
LCS 280-632340/208	Lab Control Sample	Total/NA	Water	350.1	
280-183054-A-1 MS	Matrix Spike	Total/NA	Water	350.1	
280-183054-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

### Analysis Batch: 633248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-1	VLF-231013-1	Total/NA	Water	300.0	
280-183061-2	VLF-231013-2	Total/NA	Water	300.0	
280-183061-3	VLF-231013-3	Total/NA	Water	300.0	
280-183061-4	VLF-231013-4	Total/NA	Water	300.0	
280-183061-5	VLF-231013-5	Total/NA	Water	300.0	
280-183061-6	VLF-231013-6	Total/NA	Water	300.0	
280-183061-7	VLF-231013-7	Total/NA	Water	300.0	
280-183061-8	VLF-231013-8	Total/NA	Water	300.0	
280-183061-9	VLF-231013-9	Total/NA	Water	300.0	
280-183061-10	VLF-231013-10	Total/NA	Water	300.0	
280-183061-11	VLF-231013-11	Total/NA	Water	300.0	
280-183061-12	VLF-231013-12	Total/NA	Water	300.0	
MB 280-633248/33	Method Blank	Total/NA	Water	300.0	
MB 280-633248/6	Method Blank	Total/NA	Water	300.0	
LCS 280-633248/31	Lab Control Sample	Total/NA	Water	300.0	
LCS 280-633248/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-633248/32	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 280-633248/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-633248/3	Lab Control Sample	Total/NA	Water	300.0	
280-183061-3 MS	VLF-231013-3	Total/NA	Water	300.0	
280-183061-3 MSD	VLF-231013-3	Total/NA	Water	300.0	

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# QC Association Summary

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## General Chemistry (Continued)

### Analysis Batch: 633248 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-1 DU	VLf-231013-1	Total/NA	Water	300.0	
280-183061-3 DU	VLf-231013-3	Total/NA	Water	300.0	

### Analysis Batch: 633915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-13	VLf-231014-13	Total/NA	Water	300.0	
280-183061-14	VLf-231014-14	Total/NA	Water	300.0	
280-183061-15	VLf-231014-15	Total/NA	Water	300.0	
280-183061-16	VLf-231014-16	Total/NA	Water	300.0	
280-183061-17	VLf-231014-17	Total/NA	Water	300.0	
280-183061-18	VLf-231014-18	Total/NA	Water	300.0	
280-183061-19	VLf-231014-19	Total/NA	Water	300.0	
280-183061-20	VLf-231014-20	Total/NA	Water	300.0	
280-183061-21	VLf-231014-21	Total/NA	Water	300.0	
MB 280-633915/43	Method Blank	Total/NA	Water	300.0	
MB 280-633915/6	Method Blank	Total/NA	Water	300.0	
LCS 280-633915/41	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-633915/42	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-633915/3	Lab Control Sample	Total/NA	Water	300.0	
280-183146-B-9 MS - DL	Matrix Spike	Dissolved	Water	300.0	
280-183146-B-9 MSD - DL	Matrix Spike Duplicate	Dissolved	Water	300.0	
280-183146-B-9 DU - DL	Duplicate	Dissolved	Water	300.0	

### Analysis Batch: 634057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-27	VLf-231015-27	Total/NA	Water	300.0	
MB 280-634057/6	Method Blank	Total/NA	Water	300.0	
LCS 280-634057/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-634057/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-634057/3	Lab Control Sample	Total/NA	Water	300.0	
280-183212-E-3 MS	Matrix Spike	Total/NA	Water	300.0	
280-183212-E-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
280-183212-E-3 DU	Duplicate	Total/NA	Water	300.0	

### Analysis Batch: 634702

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-22	VLf-231014-22	Total/NA	Water	300.0	
280-183061-23	VLf-231015-23	Total/NA	Water	300.0	
280-183061-24	VLf-231015-24	Total/NA	Water	300.0	
280-183061-25	VLf-231015-25	Total/NA	Water	300.0	
280-183061-26	VLf-231015-26	Total/NA	Water	300.0	
280-183061-28	VLf-231015-28	Total/NA	Water	300.0	
280-183061-29	VLf-231015-29	Total/NA	Water	300.0	
280-183061-30	VLf-231015-30	Total/NA	Water	300.0	
280-183061-31	VLf-231015-31	Total/NA	Water	300.0	
280-183061-33	VLf-231016-32	Total/NA	Water	300.0	
280-183061-34	VLf-231016-33	Total/NA	Water	300.0	
280-183061-35	VLf-231016-34	Total/NA	Water	300.0	
280-183061-36	VLf-231016-35	Total/NA	Water	300.0	
MB 280-634702/6	Method Blank	Total/NA	Water	300.0	
LCS 280-634702/4	Lab Control Sample	Total/NA	Water	300.0	

# QC Association Summary

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## General Chemistry (Continued)

### Analysis Batch: 634702 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 280-634702/5	Lab Control Sample Dup	Total/NA	Water	300.0	
280-183061-22 MS	VLF-231014-22	Total/NA	Water	300.0	
280-183061-22 MSD	VLF-231014-22	Total/NA	Water	300.0	
280-183061-34 MS	VLF-231016-33	Total/NA	Water	300.0	
280-183061-34 MSD	VLF-231016-33	Total/NA	Water	300.0	
280-183061-22 DU	VLF-231014-22	Total/NA	Water	300.0	
280-183061-34 DU	VLF-231016-33	Total/NA	Water	300.0	

### Analysis Batch: 635091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-183061-37	VLF-231016-36	Total/NA	Water	300.0	
MB 280-635091/6	Method Blank	Total/NA	Water	300.0	
LCS 280-635091/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-635091/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-635091/3	Lab Control Sample	Total/NA	Water	300.0	
280-183761-D-4 MS	Matrix Spike	Total/NA	Water	300.0	
280-183761-D-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
280-183761-D-4 DU	Duplicate	Total/NA	Water	300.0	

# Lab Chronicle

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

**Client Sample ID: VLF-231013-1**

**Lab Sample ID: 280-183061-1**

**Date Collected: 10/13/23 11:00**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631197	10/26/23 10:08	TAW	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634470	11/20/23 08:41	MSM	EET DEN
Total/NA	Analysis	200.8		1			634763	11/20/23 18:38	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632415	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 16:57	BN	EET DEN
Total/NA	Analysis	300.0		10	10 mL	10 mL	633248	11/10/23 02:21	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 20:08	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	630615	10/20/23 16:49	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630399	10/19/23 13:21	ABW	EET DEN

**Client Sample ID: VLF-231013-2**

**Lab Sample ID: 280-183061-2**

**Date Collected: 10/13/23 11:30**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631197	10/26/23 10:29	TAW	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634470	11/20/23 08:41	MSM	EET DEN
Total/NA	Analysis	200.8		1			634763	11/20/23 18:50	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632415	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 17:13	BN	EET DEN
Total/NA	Analysis	300.0		10	10 mL	10 mL	633248	11/10/23 04:48	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 20:14	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	630615	10/20/23 16:49	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630399	10/19/23 13:21	ABW	EET DEN

**Client Sample ID: VLF-231013-3**

**Lab Sample ID: 280-183061-3**

**Date Collected: 10/13/23 12:05**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631197	10/26/23 10:50	TAW	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634470	11/20/23 08:41	MSM	EET DEN
Total/NA	Analysis	200.8		1			634763	11/20/23 18:56	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632415	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 17:17	BN	EET DEN
Total/NA	Analysis	300.0		10	10 mL	10 mL	633248	11/10/23 05:33	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 20:19	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	630615	10/20/23 16:49	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630399	10/19/23 13:21	ABW	EET DEN



# Lab Chronicle

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

**Client Sample ID: VLF-231013-4**

**Lab Sample ID: 280-183061-4**

**Date Collected: 10/13/23 12:30**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631197	10/26/23 11:11	TAW	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634470	11/20/23 08:41	MSM	EET DEN
Total/NA	Analysis	200.8		1			634763	11/20/23 18:59	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632415	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 17:21	BN	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	633248	11/10/23 05:00	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 20:24	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	630615	10/20/23 16:49	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630399	10/19/23 13:21	ABW	EET DEN

**Client Sample ID: VLF-231013-5**

**Lab Sample ID: 280-183061-5**

**Date Collected: 10/13/23 13:15**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631197	10/26/23 11:33	TAW	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634470	11/20/23 08:41	MSM	EET DEN
Total/NA	Analysis	200.8		1			634763	11/20/23 19:01	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632415	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 17:25	BN	EET DEN
Total/NA	Analysis	300.0		20	10 mL	10 mL	633248	11/10/23 03:29	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 20:34	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	630615	10/20/23 16:49	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630399	10/19/23 13:21	ABW	EET DEN

**Client Sample ID: VLF-231013-6**

**Lab Sample ID: 280-183061-6**

**Date Collected: 10/13/23 13:35**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631197	10/26/23 11:54	TAW	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634470	11/20/23 08:41	MSM	EET DEN
Total/NA	Analysis	200.8		1			634763	11/20/23 19:03	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632415	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 17:45	BN	EET DEN
Total/NA	Analysis	300.0		10	10 mL	10 mL	633248	11/10/23 03:40	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 20:42	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	630615	10/20/23 16:49	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630399	10/19/23 13:21	ABW	EET DEN

# Lab Chronicle

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

**Client Sample ID: VLF-231013-7**

**Lab Sample ID: 280-183061-7**

**Date Collected: 10/13/23 14:15**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631197	10/26/23 12:15	TAW	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634470	11/20/23 08:41	MSM	EET DEN
Total/NA	Analysis	200.8		1			634763	11/20/23 19:05	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632415	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 17:49	BN	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	633248	11/10/23 04:14	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 20:48	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	630615	10/20/23 16:49	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630399	10/19/23 13:21	ABW	EET DEN

**Client Sample ID: VLF-231013-8**

**Lab Sample ID: 280-183061-8**

**Date Collected: 10/13/23 14:25**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631197	10/26/23 12:37	TAW	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634470	11/20/23 08:41	MSM	EET DEN
Total/NA	Analysis	200.8		1			634763	11/20/23 19:08	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632415	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 17:53	BN	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	633248	11/10/23 04:37	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 20:54	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	630615	10/20/23 16:49	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630399	10/19/23 13:21	ABW	EET DEN

**Client Sample ID: VLF-231013-9**

**Lab Sample ID: 280-183061-9**

**Date Collected: 10/13/23 15:00**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631197	10/26/23 12:58	TAW	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634470	11/20/23 08:41	MSM	EET DEN
Total/NA	Analysis	200.8		1			634763	11/20/23 19:10	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632415	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 17:57	BN	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	633248	11/10/23 04:26	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 21:01	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	630615	10/20/23 16:49	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630399	10/19/23 13:21	ABW	EET DEN

# Lab Chronicle

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

**Client Sample ID: VLF-231013-10**

**Lab Sample ID: 280-183061-10**

**Date Collected: 10/13/23 15:45**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631197	10/26/23 13:19	TAW	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634470	11/20/23 08:41	MSM	EET DEN
Total/NA	Analysis	200.8		1			634763	11/20/23 19:12	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632415	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 18:02	BN	EET DEN
Total/NA	Analysis	300.0		100	10 mL	10 mL	633248	11/10/23 01:13	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 21:06	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	630615	10/20/23 16:49	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630399	10/19/23 13:21	ABW	EET DEN

**Client Sample ID: VLF-231013-11**

**Lab Sample ID: 280-183061-11**

**Date Collected: 10/13/23 16:15**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631197	10/26/23 13:41	TAW	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634470	11/20/23 08:41	MSM	EET DEN
Total/NA	Analysis	200.8		1			634763	11/20/23 19:14	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632415	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 18:06	BN	EET DEN
Total/NA	Analysis	300.0		2	10 mL	10 mL	633248	11/10/23 03:52	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 21:39	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	630615	10/20/23 16:49	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630399	10/19/23 13:21	ABW	EET DEN

**Client Sample ID: VLF-231013-12**

**Lab Sample ID: 280-183061-12**

**Date Collected: 10/13/23 16:25**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631197	10/26/23 14:02	TAW	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634470	11/20/23 08:41	MSM	EET DEN
Total/NA	Analysis	200.8		1			634763	11/20/23 19:17	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632415	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 18:10	BN	EET DEN
Total/NA	Analysis	300.0		2	10 mL	10 mL	633248	11/10/23 04:03	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 21:51	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	630615	10/20/23 16:49	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630399	10/19/23 13:21	ABW	EET DEN

# Lab Chronicle

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Client Sample ID: VLF-231014-13

## Lab Sample ID: 280-183061-13

Date Collected: 10/14/23 07:30

Matrix: Water

Date Received: 10/17/23 10:22

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631377	10/26/23 22:10	BMJ	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634470	11/20/23 08:41	MSM	EET DEN
Total/NA	Analysis	200.8		1			634763	11/20/23 19:23	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632415	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 18:14	BN	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	633915	11/15/23 07:31	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 21:57	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	630615	10/20/23 16:49	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630512	10/20/23 10:25	ABW	EET DEN

## Client Sample ID: VLF-231014-14

## Lab Sample ID: 280-183061-14

Date Collected: 10/14/23 08:05

Matrix: Water

Date Received: 10/17/23 10:22

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631377	10/26/23 22:31	BMJ	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634470	11/20/23 08:41	MSM	EET DEN
Total/NA	Analysis	200.8		1			634763	11/20/23 19:25	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632415	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 18:18	BN	EET DEN
Total/NA	Analysis	300.0		5	10 mL	10 mL	633915	11/15/23 07:42	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 22:03	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	630615	10/20/23 16:49	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630512	10/20/23 10:25	ABW	EET DEN

## Client Sample ID: VLF-231014-15

## Lab Sample ID: 280-183061-15

Date Collected: 10/14/23 08:25

Matrix: Water

Date Received: 10/17/23 10:22

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	632415	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 18:22	BN	EET DEN
Total/NA	Analysis	300.0		5	10 mL	10 mL	633915	11/15/23 08:16	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 22:08	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	630615	10/20/23 16:49	ABW	EET DEN

## Client Sample ID: VLF-231014-16

## Lab Sample ID: 280-183061-16

Date Collected: 10/14/23 09:10

Matrix: Water

Date Received: 10/17/23 10:22

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	5 mL	5 mL	631197	10/26/23 15:48	TAW	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	632528	11/06/23 08:40	MSM	EET DEN
Total/NA	Analysis	200.8		1			632760	11/06/23 20:19	LMT	EET DEN

Eurofins Denver

# Lab Chronicle

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

**Client Sample ID: VLF-231014-16**

**Lab Sample ID: 280-183061-16**

**Date Collected: 10/14/23 09:10**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	632415	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 18:42	BN	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632415	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		10			632775	11/07/23 04:39	ADL	EET DEN
Total/NA	Analysis	300.0		100	10 mL	10 mL	633915	11/15/23 08:28	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 22:26	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	630615	10/20/23 16:49	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630512	10/20/23 10:25	ABW	EET DEN

**Client Sample ID: VLF-231014-17**

**Lab Sample ID: 280-183061-17**

**Date Collected: 10/14/23 09:25**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631197	10/26/23 14:23	TAW	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	632528	11/06/23 08:40	MSM	EET DEN
Total/NA	Analysis	200.8		1			632760	11/06/23 20:21	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632415	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 18:46	BN	EET DEN
Total/NA	Analysis	300.0		5	10 mL	10 mL	633915	11/15/23 08:39	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 22:34	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	630615	10/20/23 16:49	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630512	10/20/23 10:25	ABW	EET DEN

**Client Sample ID: VLF-231014-18**

**Lab Sample ID: 280-183061-18**

**Date Collected: 10/14/23 09:50**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631197	10/26/23 14:44	TAW	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634470	11/20/23 08:41	MSM	EET DEN
Total/NA	Analysis	200.8		1			634763	11/20/23 19:28	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632415	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 18:50	BN	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	633915	11/15/23 08:50	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 22:40	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	630615	10/20/23 16:49	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630514	10/20/23 10:29	ABW	EET DEN

# Lab Chronicle

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Client Sample ID: VLF-231014-19

## Lab Sample ID: 280-183061-19

Date Collected: 10/14/23 10:15

Matrix: Water

Date Received: 10/17/23 10:22

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	632415	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 18:54	BN	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	633915	11/15/23 09:47	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 22:45	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	630615	10/20/23 16:49	ABW	EET DEN

## Client Sample ID: VLF-231014-20

## Lab Sample ID: 280-183061-20

Date Collected: 10/14/23 10:55

Matrix: Water

Date Received: 10/17/23 10:22

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631197	10/26/23 15:05	TAW	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634470	11/20/23 08:41	MSM	EET DEN
Total/NA	Analysis	200.8		1			634763	11/20/23 19:30	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632415	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 18:58	BN	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	633915	11/15/23 09:58	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 23:07	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	630616	10/20/23 16:51	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630512	10/20/23 10:25	ABW	EET DEN

## Client Sample ID: VLF-231014-21

## Lab Sample ID: 280-183061-21

Date Collected: 10/14/23 11:35

Matrix: Water

Date Received: 10/17/23 10:22

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631197	10/26/23 15:27	TAW	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634470	11/20/23 08:41	MSM	EET DEN
Total/NA	Analysis	200.8		1			634763	11/20/23 19:32	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632417	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 14:23	BN	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	633915	11/15/23 10:32	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 23:14	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	630615	10/20/23 16:49	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630512	10/20/23 10:25	ABW	EET DEN

## Client Sample ID: VLF-231014-22

## Lab Sample ID: 280-183061-22

Date Collected: 10/14/23 12:00

Matrix: Water

Date Received: 10/17/23 10:22

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	632417	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 14:27	BN	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	634702	11/20/23 19:42	EJS	EET DEN

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# Lab Chronicle

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

**Client Sample ID: VLF-231014-22**

**Lab Sample ID: 280-183061-22**

**Date Collected: 10/14/23 12:00**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 23:20	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	630616	10/20/23 16:51	ABW	EET DEN

**Client Sample ID: VLF-231015-23**

**Lab Sample ID: 280-183061-23**

**Date Collected: 10/15/23 07:30**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631189	10/26/23 03:58	CCF	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634470	11/20/23 08:41	MSM	EET DEN
Total/NA	Analysis	200.8		1			634763	11/20/23 19:34	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632417	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 14:31	BN	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	634702	11/20/23 20:26	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 23:31	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	630616	10/20/23 16:51	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630512	10/20/23 10:25	ABW	EET DEN

**Client Sample ID: VLF-231015-24**

**Lab Sample ID: 280-183061-24**

**Date Collected: 10/15/23 08:05**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631189	10/26/23 04:19	CCF	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634470	11/20/23 08:41	MSM	EET DEN
Total/NA	Analysis	200.8		1			634763	11/20/23 19:37	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632417	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 14:35	BN	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	634702	11/20/23 20:37	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 23:43	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	630616	10/20/23 16:51	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630512	10/20/23 10:25	ABW	EET DEN

**Client Sample ID: VLF-231015-25**

**Lab Sample ID: 280-183061-25**

**Date Collected: 10/15/23 09:30**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631189	10/26/23 04:39	CCF	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634470	11/20/23 08:41	MSM	EET DEN
Total/NA	Analysis	200.8		1			634763	11/20/23 19:39	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632417	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 14:39	BN	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	634702	11/20/23 20:48	EJS	EET DEN

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# Lab Chronicle

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

**Client Sample ID: VLF-231015-25**

**Lab Sample ID: 280-183061-25**

Date Collected: 10/15/23 09:30

Matrix: Water

Date Received: 10/17/23 10:22

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 23:49	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	630616	10/20/23 16:51	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	180 mL	250 mL	630512	10/20/23 10:25	ABW	EET DEN

**Client Sample ID: VLF-231015-26**

**Lab Sample ID: 280-183061-26**

Date Collected: 10/15/23 09:10

Matrix: Water

Date Received: 10/17/23 10:22

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631189	10/26/23 05:00	CCF	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634473	11/19/23 13:10	MSM	EET DEN
Total/NA	Analysis	200.8		1			634631	11/20/23 09:16	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632417	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 14:43	BN	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	634702	11/20/23 20:59	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/20/23 23:56	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	630616	10/20/23 16:51	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630513	10/20/23 10:27	ABW	EET DEN

**Client Sample ID: VLF-231015-27**

**Lab Sample ID: 280-183061-27**

Date Collected: 10/15/23 09:40

Matrix: Water

Date Received: 10/17/23 10:22

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631189	10/26/23 05:20	CCF	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634473	11/19/23 13:10	MSM	EET DEN
Total/NA	Analysis	200.8		1			634631	11/20/23 09:27	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632417	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 14:47	BN	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	634057	11/15/23 21:18	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/21/23 00:02	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	630616	10/20/23 16:51	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630513	10/20/23 10:27	ABW	EET DEN

**Client Sample ID: VLF-231015-28**

**Lab Sample ID: 280-183061-28**

Date Collected: 10/15/23 09:45

Matrix: Water

Date Received: 10/17/23 10:22

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631189	10/26/23 05:40	CCF	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634473	11/19/23 13:10	MSM	EET DEN
Total/NA	Analysis	200.8		1			634631	11/20/23 09:30	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632417	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 14:51	BN	EET DEN

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# Lab Chronicle

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

## Client Sample ID: VLF-231015-28

## Lab Sample ID: 280-183061-28

Date Collected: 10/15/23 09:45

Matrix: Water

Date Received: 10/17/23 10:22

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	10 mL	10 mL	634702	11/20/23 21:10	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/21/23 00:08	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	630616	10/20/23 16:51	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630512	10/20/23 10:25	ABW	EET DEN

## Client Sample ID: VLF-231015-29

## Lab Sample ID: 280-183061-29

Date Collected: 10/15/23 10:15

Matrix: Water

Date Received: 10/17/23 10:22

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631189	10/26/23 06:01	CCF	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634473	11/19/23 13:10	MSM	EET DEN
Total/NA	Analysis	200.8		1			634631	11/20/23 09:35	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632417	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 15:11	BN	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	634702	11/20/23 21:21	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/21/23 00:14	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	630616	10/20/23 16:51	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630512	10/20/23 10:25	ABW	EET DEN

## Client Sample ID: VLF-231015-30

## Lab Sample ID: 280-183061-30

Date Collected: 10/15/23 10:45

Matrix: Water

Date Received: 10/17/23 10:22

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	524.2		1	25 mL	25 mL	375534	10/20/23 12:15	N5PD	EET CAL 4
Total/NA	Prep	200.8			50 mL	50 mL	634473	11/19/23 13:10	MSM	EET DEN
Total/NA	Analysis	200.8		1			634631	11/20/23 09:38	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632417	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 15:15	BN	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	634702	11/20/23 21:32	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/21/23 00:48	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	630616	10/20/23 16:51	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630512	10/20/23 10:25	ABW	EET DEN

## Client Sample ID: VLF-231015-31

## Lab Sample ID: 280-183061-31

Date Collected: 10/15/23 11:30

Matrix: Water

Date Received: 10/17/23 10:22

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631189	10/26/23 06:21	CCF	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	634473	11/19/23 13:10	MSM	EET DEN
Total/NA	Analysis	200.8		1			634631	11/20/23 09:49	LMT	EET DEN

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# Lab Chronicle

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

**Client Sample ID: VLF-231015-31**

**Lab Sample ID: 280-183061-31**

**Date Collected: 10/15/23 11:30**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	632417	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 15:23	BN	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	634702	11/20/23 21:43	EJS	EET DEN
Total/NA	Analysis	SM 2320B		1			630779	10/21/23 01:00	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	630616	10/20/23 16:51	ABW	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	630512	10/20/23 10:25	ABW	EET DEN

**Client Sample ID: Trip Blanks**

**Lab Sample ID: 280-183061-32**

**Date Collected: 10/13/23 11:00**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631197	10/26/23 09:25	TAW	EET DEN

**Client Sample ID: VLF-231016-32**

**Lab Sample ID: 280-183061-33**

**Date Collected: 10/16/23 08:35**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	632417	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 15:27	BN	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	634702	11/20/23 21:54	EJS	EET DEN
Total/NA	Prep	351.2			25 mL	25 mL	630520	10/20/23 11:01	SL	EET DEN
Total/NA	Analysis	351.2		1			630835	10/23/23 15:27	SL	EET DEN
Total/NA	Analysis	365.1		1	2 mL	2 mL	630070	10/17/23 17:44	LBR	EET DEN
Total/NA	Prep	365.2/365.3/365			50 mL	50 mL	630365	10/19/23 11:18	LBR	EET DEN
Total/NA	Analysis	365.1		1	2 mL	2 mL	630437	10/19/23 17:15	LBR	EET DEN
Total/NA	Analysis	SM5210B		1	120 mL	300 mL	630142	10/18/23 09:18	CLP	EET DEN

**Client Sample ID: VLF-231016-33**

**Lab Sample ID: 280-183061-34**

**Date Collected: 10/16/23 08:45**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	632417	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 15:32	BN	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	634702	11/20/23 22:27	EJS	EET DEN
Total/NA	Prep	351.2			25 mL	25 mL	630520	10/20/23 11:01	SL	EET DEN
Total/NA	Analysis	351.2		1			630835	10/23/23 15:28	SL	EET DEN
Total/NA	Analysis	365.1		1	2 mL	2 mL	630070	10/17/23 17:45	LBR	EET DEN
Total/NA	Prep	365.2/365.3/365			50 mL	50 mL	630365	10/19/23 11:18	LBR	EET DEN
Total/NA	Analysis	365.1		1	2 mL	2 mL	630437	10/19/23 17:15	LBR	EET DEN
Total/NA	Analysis	SM5210B		1	60 mL	300 mL	630142	10/18/23 09:18	CLP	EET DEN

# Lab Chronicle

Client: Tuppan Consultants LLC  
 Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

**Client Sample ID: VLF-231016-34**

**Lab Sample ID: 280-183061-35**

**Date Collected: 10/16/23 09:30**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	632417	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 15:36	BN	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	634702	11/20/23 23:11	EJS	EET DEN
Total/NA	Prep	351.2			25 mL	25 mL	630520	10/20/23 11:01	SL	EET DEN
Total/NA	Analysis	351.2		1			630835	10/23/23 15:28	SL	EET DEN
Total/NA	Analysis	365.1		1	2 mL	2 mL	630070	10/17/23 17:45	LBR	EET DEN
Total/NA	Prep	365.2/365.3/365			50 mL	50 mL	630365	10/19/23 11:18	LBR	EET DEN
Total/NA	Analysis	365.1		1	2 mL	2 mL	630437	10/19/23 17:15	LBR	EET DEN
Total/NA	Analysis	SM5210B		1	120 mL	300 mL	630142	10/18/23 09:18	CLP	EET DEN

**Client Sample ID: VLF-231016-35**

**Lab Sample ID: 280-183061-36**

**Date Collected: 10/16/23 10:20**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	632417	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 15:40	BN	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	634702	11/20/23 23:22	EJS	EET DEN
Total/NA	Prep	351.2			25 mL	25 mL	630520	10/20/23 11:01	SL	EET DEN
Total/NA	Analysis	351.2		1			630835	10/23/23 15:28	SL	EET DEN
Total/NA	Analysis	365.1		1	2 mL	2 mL	630070	10/17/23 17:45	LBR	EET DEN
Total/NA	Prep	365.2/365.3/365			50 mL	50 mL	630365	10/19/23 11:18	LBR	EET DEN
Total/NA	Analysis	365.1		1	2 mL	2 mL	630437	10/19/23 17:16	LBR	EET DEN
Total/NA	Analysis	SM5210B		1	25 mL	300 mL	630142	10/18/23 09:18	CLP	EET DEN

**Client Sample ID: VLF-231016-36**

**Lab Sample ID: 280-183061-37**

**Date Collected: 10/16/23 11:30**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	5 mL	5 mL	631197	10/26/23 16:10	TAW	EET DEN
Total/NA	Prep	200.8			50 mL	50 mL	632528	11/06/23 08:40	MSM	EET DEN
Total/NA	Analysis	200.8		1			632760	11/06/23 20:30	LMT	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632417	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		1			632593	11/04/23 15:44	BN	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	632417	11/03/23 15:27	CAF	EET DEN
Dissolved	Analysis	6010B		10			632775	11/07/23 04:35	ADL	EET DEN
Total/NA	Analysis	300.0		100	10 mL	10 mL	635091	11/25/23 20:38	EJS	EET DEN
Total/NA	Analysis	350.1		250	10 mL	10 mL	632340	11/02/23 18:27	MMP	EET DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	631023	10/24/23 17:31	BCR	EET DEN
Total/NA	Analysis	410.4		100	2 mL	2 mL	630364	10/19/23 11:17	CLP	EET DEN
Total/NA	Analysis	SM 2320B		1			631150	10/25/23 11:41	LL	EET DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	630782	10/23/23 12:32	CAI	EET DEN

Eurofins Denver

# Lab Chronicle

Client: Tuppan Consultants LLC  
Project/Site: Valley LF - Republic Serv Coffin Butte

Job ID: 280-183061-1

**Client Sample ID: VLF-231016-36**

**Lab Sample ID: 280-183061-37**

**Date Collected: 10/16/23 11:30**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540D		1	170 mL	250 mL	630830	10/23/23 16:39	CAI	EET DEN
Total/NA	Analysis	SM 5310B		500	20 mL	20 mL	631357	10/26/23 05:08	ABW	EET DEN
Total/NA	Analysis	SM5210B		10	120 mL	300 mL	630142	10/18/23 09:18	CLP	EET DEN

**Client Sample ID: Trip Blanks**

**Lab Sample ID: 280-183061-38**

**Date Collected: 10/13/23 11:00**

**Matrix: Water**

**Date Received: 10/17/23 10:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	631197	10/26/23 09:46	TAW	EET DEN

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

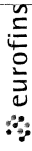
EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

<b>Client Information</b> Client Contact: <i>Tom Manno</i> Company: Valley Landfills, Inc. Republic Services Address: 28972 Coffin Butte Road City: Corvallis State, Zip: OR, 97330 Phone: 503-675-1335 (Tel) Email: Project Name: Coffin Butte/Valley Landfills Site: <i>Central OR</i>		<b>Client Information</b> Supplier: <i>Tom Manno</i> Lab PM: Collins, Janice S E-Mail: Janice.Collins@et.eurofinsus.com Carrier Tracking No(s): COC No: 280-97584-22898.1 Page: Job #:	
<b>Analysis Requested</b> Due Date Requested: TAT Requested (days): Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No PO #: PO# 1584668 WO #: Project #: 28003197 "GW_SLCS_Leachate" SSOW#:		<b>Analysis Requested</b> Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
<b>Sample Identification</b> Sample ID: <i>ULF-231013-1</i> Sample Date: <i>10/13/23</i> Sample Time: <i>11:00</i> Sample Type (C=Comp, G=grab): <i>G</i> Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air): <i>W</i>		<b>Analysis Requested</b> Bicarb Alk/Cl/TDS 6010B - Dissolved Metals (FF) 200.8 - Total Arsenic 2540D - TSS 8260B - VOCs	
<b>Sample Identification</b> Sample ID: <i>2</i> Sample Date: <i>10/13/23</i> Sample Time: <i>11:30</i> Sample Type (C=Comp, G=grab): <i>G</i> Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air): <i>W</i>		<b>Analysis Requested</b> Bicarb Alk/Cl/TDS 6010B - Dissolved Metals (FF) 200.8 - Total Arsenic 2540D - TSS 8260B - VOCs	
<b>Sample Identification</b> Sample ID: <i>3</i> Sample Date: <i>10/13/23</i> Sample Time: <i>12:05</i> Sample Type (C=Comp, G=grab): <i>G</i> Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air): <i>W</i>		<b>Analysis Requested</b> Bicarb Alk/Cl/TDS 6010B - Dissolved Metals (FF) 200.8 - Total Arsenic 2540D - TSS 8260B - VOCs	
<b>Sample Identification</b> Sample ID: <i>4</i> Sample Date: <i>10/13/23</i> Sample Time: <i>12:30</i> Sample Type (C=Comp, G=grab): <i>G</i> Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air): <i>W</i>		<b>Analysis Requested</b> Bicarb Alk/Cl/TDS 6010B - Dissolved Metals (FF) 200.8 - Total Arsenic 2540D - TSS 8260B - VOCs	
<b>Sample Identification</b> Sample ID: <i>5</i> Sample Date: <i>10/13/23</i> Sample Time: <i>1:15</i> Sample Type (C=Comp, G=grab): <i>G</i> Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air): <i>W</i>		<b>Analysis Requested</b> Bicarb Alk/Cl/TDS 6010B - Dissolved Metals (FF) 200.8 - Total Arsenic 2540D - TSS 8260B - VOCs	
<b>Sample Identification</b> Sample ID: <i>6</i> Sample Date: <i>10/13/23</i> Sample Time: <i>1:35</i> Sample Type (C=Comp, G=grab): <i>G</i> Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air): <i>W</i>		<b>Analysis Requested</b> Bicarb Alk/Cl/TDS 6010B - Dissolved Metals (FF) 200.8 - Total Arsenic 2540D - TSS 8260B - VOCs	
<b>Sample Identification</b> Sample ID: <i>7</i> Sample Date: <i>10/13/23</i> Sample Time: <i>2:15</i> Sample Type (C=Comp, G=grab): <i>G</i> Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air): <i>W</i>		<b>Analysis Requested</b> Bicarb Alk/Cl/TDS 6010B - Dissolved Metals (FF) 200.8 - Total Arsenic 2540D - TSS 8260B - VOCs	
<b>Sample Identification</b> Sample ID: <i>8</i> Sample Date: <i>10/13/23</i> Sample Time: <i>2:25</i> Sample Type (C=Comp, G=grab): <i>G</i> Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air): <i>W</i>		<b>Analysis Requested</b> Bicarb Alk/Cl/TDS 6010B - Dissolved Metals (FF) 200.8 - Total Arsenic 2540D - TSS 8260B - VOCs	
<b>Sample Identification</b> Sample ID: <i>9</i> Sample Date: <i>10/13/23</i> Sample Time: <i>3:00</i> Sample Type (C=Comp, G=grab): <i>G</i> Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air): <i>W</i>		<b>Analysis Requested</b> Bicarb Alk/Cl/TDS 6010B - Dissolved Metals (FF) 200.8 - Total Arsenic 2540D - TSS 8260B - VOCs	
<b>Sample Identification</b> Sample ID: <i>10</i> Sample Date: <i>10/13/23</i> Sample Time: <i>3:45</i> Sample Type (C=Comp, G=grab): <i>G</i> Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air): <i>W</i>		<b>Analysis Requested</b> Bicarb Alk/Cl/TDS 6010B - Dissolved Metals (FF) 200.8 - Total Arsenic 2540D - TSS 8260B - VOCs	
<b>Sample Identification</b> Sample ID: <i>11</i> Sample Date: <i>10/13/23</i> Sample Time: <i>4:15</i> Sample Type (C=Comp, G=grab): <i>G</i> Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air): <i>W</i>		<b>Analysis Requested</b> Bicarb Alk/Cl/TDS 6010B - Dissolved Metals (FF) 200.8 - Total Arsenic 2540D - TSS 8260B - VOCs	
<b>Possible Hazard Identification</b> <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		<b>Sample Disposal</b> (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
<b>Deliverable Requested:</b> I, II, III, IV, Other (specify)		<b>Special Instructions/QC Requirements:</b>	
<b>Empty Kit Relinquished by:</b> <i>Tom Manno</i>		<b>Method of Shipment:</b>	
<b>Relinquished by:</b> <i>Tom Manno</i>		<b>Received by:</b> <i>Janice Collins</i>	
<b>Date/Time:</b> 10/16/23 15:00		<b>Date/Time:</b> 10/17/23 10:22	
<b>Date/Time:</b>		<b>Date/Time:</b>	
<b>Date/Time:</b>		<b>Date/Time:</b>	
<b>Custody Seals Intact:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No		<b>Cooler Temperature(s) °C and Other Remarks:</b> <i>4.7, 6.6, 1.3, 0.1, 2.4, 1.6, 5.4, 1.2, 0.9</i>	



**Eurofins Denver**  
 4955 Yarrow Street  
 Arvada, CO 80002  
 Phone (303) 736-0100 Fax (303) 431-7171

# Chain of Custody Record



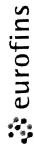
Environment Testing  
 TestAmerica

<b>Client Information</b>		Sample: <i>Van Spinning</i>		Carrier Tracking No(s):		COC No: 280-97584-22898.1	
Client Contact: <i>Jan M. Mad</i>		Lab PM: Collins, Janice S		E-Mail: Janice.Collins@et.eurofins.com		Page:	
Company: Valley Landfills, Inc. Republic Services		Due Date Requested:		Analysis Requested		Job #:	
Address: 28972 Coffin Butte Road		TAT Requested (days):		6010B - Dissolved Metals (FF)		Preservation Codes:	
City: Corvallis		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		200.8 - Total Arsenic		M - Hexane	
State, Zip: OR, 97330		PO #: 503-675-1335(Tel)		2540D - TSS		N - None	
Phone: 503-675-1335(Tel)		WO #: 28003197 "GW_SLCS_Leachate"		8260B - VOCs		O - AsNaO2	
Email:		SSOW#: <i>CP</i>		Beard Aik/CTDS		P - Na2O4S	
Project Name: Coffin Butte/Valley Landfills		Sample Date		Perform MS/MSD (Yes or No)		Q - Na2SO3	
Site: <i>Corvallis OR</i>		Sample Time		Field Filtered Sample (Yes or No)		R - Na2S2O3	
Sample Identification		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=water/soil, BT=Trace, AA=)		S - H2SO4	
<i>VLF-231013-12</i>		<i>G</i>		<i>W</i>		T - TSP Dodecahydrate	
<i>VLF-231014-13</i>		<i>10/13/23 4:25</i>		<i>X</i>		U - Acetone	
<i>14</i>		<i>10/14/23 7:30</i>		<i>X</i>		V - MCAA	
<i>15</i>		<i>8:05</i>		<i>X</i>		W - pH 4-5	
<i>16</i>		<i>8:25</i>		<i>X</i>		Z - other (specify)	
<i>17</i>		<i>9:10</i>		<i>X</i>		Other:	
<i>18</i>		<i>9:25</i>		<i>X</i>		Total Number of Containers	
<i>19</i>		<i>9:50</i>		<i>X</i>		Special Instructions/Note:	
<i>20</i>		<i>10:15</i>		<i>X</i>			
<i>21</i>		<i>10:55</i>		<i>X</i>			
<i>22</i>		<i>11:35</i>		<i>X</i>			
<i>22</i>		<i>12:00</i>		<i>X</i>			
Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		Return To Client <input type="checkbox"/> Disposal By Lab <input checked="" type="checkbox"/> Archive For _____ Months			
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:			
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by: <i>Jan M. Mad</i>		Date: <i>10/16/23</i>		Time: <i>17:00</i>		Company: <i>LEFDIA</i>	
Relinquished by:		Date/Time:		Date/Time:		Company:	
Relinquished by:		Date/Time:		Date/Time:		Company:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		Ver: 01/16/2019	
<i>Δ</i>		<i>Δ</i>		<i>4.7, 0.6, 1.8, 0.1, 2.4, 1.6, 5.4, 1.2, 0.9</i>			





# Chain of Custody Record



<b>Client Information</b>		Sampler: <i>Ina Sommer</i>		Lab PM: Collins, Janice S		Carrier Tracking No(s):		COC No: 280-97584-22898.1	
Client Contact: <i>Mered</i>		Phone:		E-Mail: Janice.Collins@et.eurofins.com				Page:	
Company: Valley Landfills, Inc. Republic Services		Due Date Requested:		Analysis Requested				Job #:	
Address: 28972 Coffin Butte Road		TAT Requested (days):		524.2 (Calciscence) - Sample Phillips only				Preservation Codes:	
City: Corvallis		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		8260B - VOCs				A - HCL M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
State, Zip: OR, 97330		PO # 1584668		TSS				B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Phone: 503-675-1335 (Tel)		WO #:		200.8 - Total Metals				Special Instructions/Note:	
Email:		Project #: 28003197 "GW_SLCS_Leachate"		6010B - Dissolved Metals				Total Number of Containers	
Project Name: Coffin Butte/Valley Landfills		SSOW#:		Biach AI/CI/TDS				X	
Site: <i>Complain OR</i>		Sample Date		Field Filtered Sample (Yes or No)				Perform MS/MSD (Yes or No)	
Sample Identification		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=waste/oi, BT=Titius, A=Air)			
VLF-231016 32		8:35		G		W		X	
33		8:45		G		W		X	
34		9:30		G		W		X	
35		10:20		G		W		X	
36		11:30		G		W		X	
<i>Trip Blanks</i>								metals list	
								O2, Ca, Fe, Mg, K, Mn	
								NA, Si	
								P, S, Se, Ag	
								Ti, V, Zn	
								Tl, Sb, As, Bi, Be, Cd	
								Cr, Co, Cu, Pb, Ni, Se, Ag	
								Zn	
Possible Hazard Identification		<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)				Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Deliverable Requested: I, II, III, IV, Other (specify)		Empty Kit Relinquished by: <i>[Signature]</i>		Date: 12/19/23 15:00		Company: <i>ETI DEN</i>		Date/Time: 10/17/23 10:22	
Relinquished by: <i>[Signature]</i>		Date/Time: 12/19/23 15:00		Company: <i>ETI DEN</i>		Date/Time: 10/17/23 10:22		Company: <i>ETI DEN</i>	
Relinquished by: <i>[Signature]</i>		Date/Time: _____		Company: _____		Date/Time: _____		Company: _____	
Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 4.7, 0.6, 1.8, 0.1, 2.4, 1.6, 5.4, 1.2, 0.9		6-10-3		Til memo	





ORIGIN ID: PDXA

SHIP DATE: 16OCT23  
ACTWGT: 56.55 LB  
CAD: /SSFE2441  
DIMS: 24x13x15 IN

Part # 156297-435 HDB EXP

TO SAMPLE RE  
EUROFINS DENER  
4955 YARROW ST

ARVADA CO 80002-4517

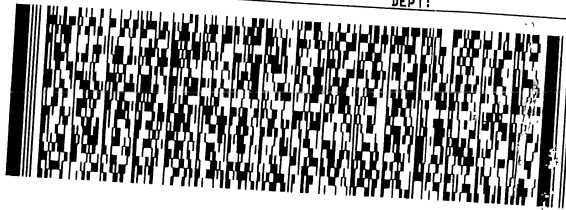
(303) 736-0100

REF:

(US)

INU:

DEPT:



FedEx  
Express

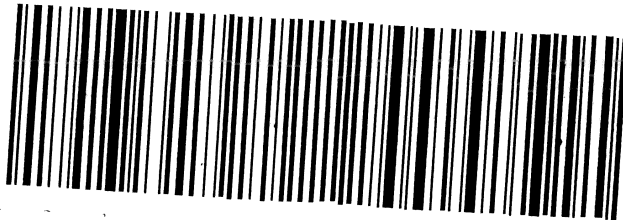


TRK# 8180 3783 4090  
0667

TUE - 17 OCT 10:30A  
PRIORITY OVERNIGHT

**XA LAAA**

80002  
CO-US DEN



Testing



280-183061 Waybill

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ORIGIN ID: PDXA

SHIP DATE: 16OCT23  
ACTWTG: 52.25 LB  
CAD: /SSFE2441  
DIMS: 13x24x14 IN

Part # 156297-135 HBD8 EXP 06/24

TO **SAMPLE RE  
EUROFIN DENER  
4955 YARROW ST**



Environment Testing  
TestAmerica

2313252

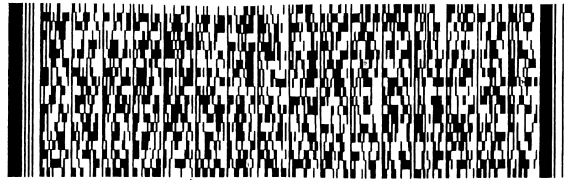
**ARVADA CO 80002-4517**

**(US)**

(303) 736-0100  
REF:  
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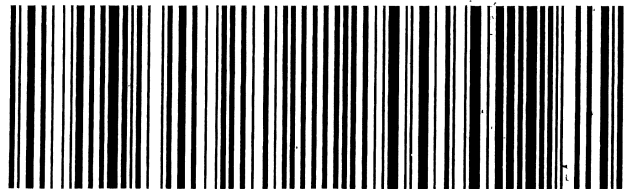


**TUE - 17 OCT 10:30A  
PRIORITY OVERNIGHT**

TRK# 8180 3783 4891  
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**XA LAAA**

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CO-US DEN**



**Do not lift using this tag.**

ORIGIN ID: PDXA

SHIP DATE: 16OCT23  
ACTWGT: 50.85 LB  
CAD: /SSFE2441  
DIMS: 24x14x13 IN

Part # 156297-43844

TO **SAMPLE RECEIVING  
EUROFINS DENVER  
4955 YARROW ST**

**eurofins** | Environment Testing  
TestAmerica  
2313251

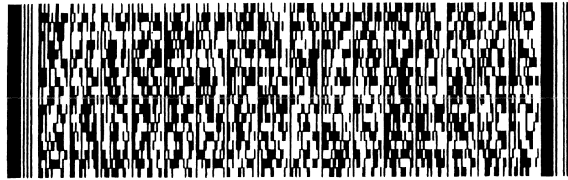
**ARVADA CO 80002 - 4517**

(303) 736-0100

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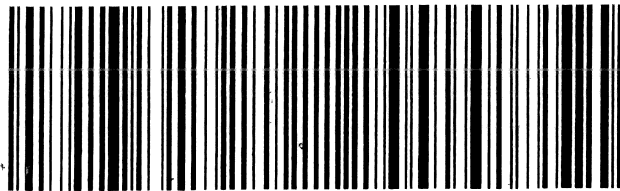


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**XA LAAA**

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ORIGIN ID: PDXA

SHIP DATE: 16OCT23  
ACTWTG: 47.85 LB  
CAD: /SSFE2441  
DIMS: 24x13x15 IN

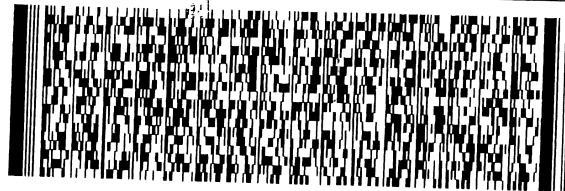
Part # 156297-435 RNDL EXP 06/24

TO SAMPLE RE  
EUROFINS DENER  
4955 YARROW ST

ARVADA CO 80002-4517

(US)

(303) 736-0100  
THU: REF: PO: DEPT:



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Express

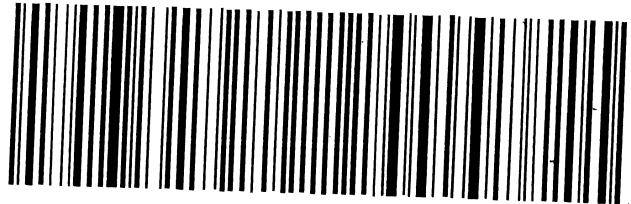


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TUE - 17 OCT 10:30A  
PRIORITY OVERNIGHT

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ORIGIN ID: PDXA

SHIP DATE: 16OCT23  
ACTWGT: 49.55 LB  
CAD: /SSFE2441  
DIMS: 23x13x15 IN

Part # 156297

TO **SAMPLES**  
**EUROFINS DENER**  
**4955 YARROW ST**



Environment Testing  
TestAmerica

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**ARVADA CO 80002-4517**

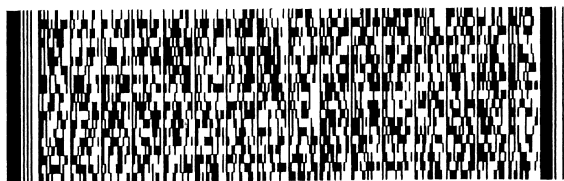
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(303) 736-0100

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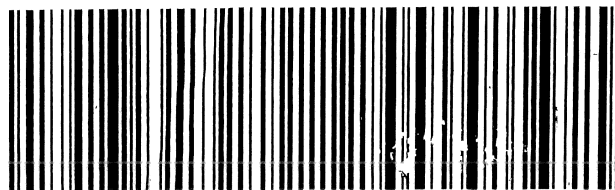
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**CO-US DEN**



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ag.

ORIGIN ID: PDXA

SHIP DATE: 16OCT23  
ACTWT: 48.80 LB  
CAD: ✓SSFE2441  
DIMS: 24x13x15 IN

Part # 156297-435 RFD EXP 06/24  
E3R6/8938/1F585

TO **SAMPLES**  
**EUROFIN DENER**  
**4955 YARROW ST**

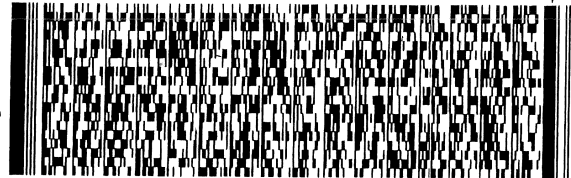
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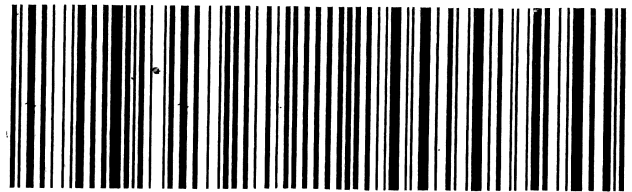
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TRK# 8180 3783 4045  
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CRIGIN ID: PDXA

SHIP DATE: 16OCT23  
 ACTWTG: 40.25 LB  
 CAD: SSFE2441  
 DIMS: 24x13x15 IN

Part # 156297-435 HRDB EXP 06/24  
 E396/RRK/TF88

TO **SAMPLES**  
**EUROFINS DENER**  
**4955 YARROW ST**

**ARVADA CO 80002-4517**

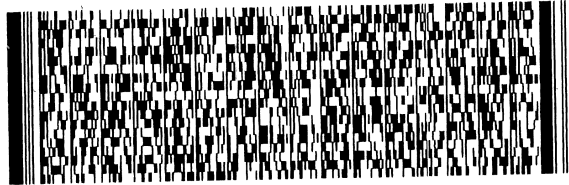
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(303) 736-0100

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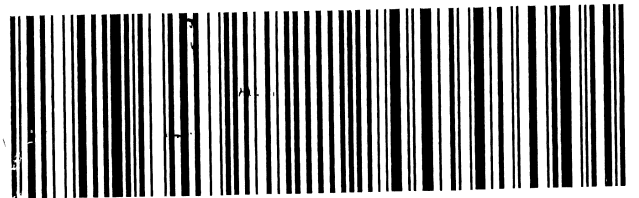


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**Do not lift using this tag.**

ORIGIN ID: PDXA

SHIP DATE: 16OCT23  
ACTWTG: 47.35 LB  
CAD: /SSFE2441  
DIMS: 24x14x15 IN

Part # 156297-435 RRDB EXP 06/24  
E3W6/BB38/TFE95

TO **SAMPLES**  
**EUROFINS DENER**  
**4955 YARROW ST**

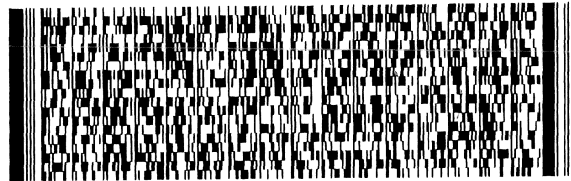
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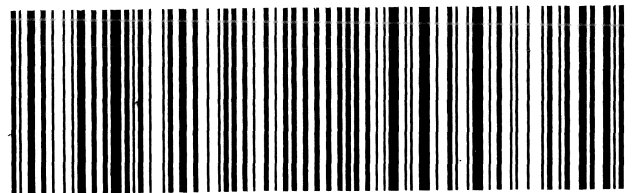


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**PRIORITY OVERNIGHT**

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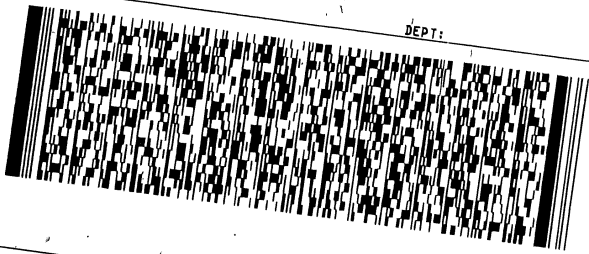
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SHIP DATE: 16OCT23  
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DIMS: 24x13x15 IN

TO **SAMPLES**  
**EUROFIN**  
**4955 YARROW ST**

**ARVADA CO 80002-4517**  
(303) 736-0100  
REF: DEPT:

(US)



TRK# 8180 3783 4078  
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Part # 156297-439 HHD EXP 06/24

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280-183061 Waybill

ORIGIN ID:WHHA (303) 736-0100  
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EUROFINS TESTAMERICA DENVER  
4955 YARROW ST

SHIP DATE: 18OCT23  
ACTWTG: 1.00 LB  
CAD: 290884/CAFE3753

ARVADA, CO 80002  
UNITED STATES US

BILL SENDER

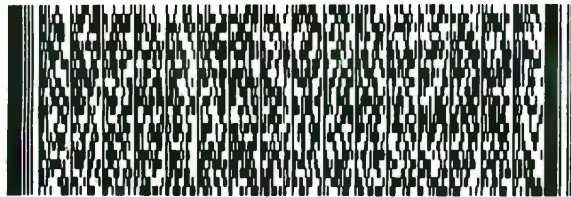
TO SHIPPING/RECEIVING  
EUROFINS ENVIRONMENT TESTING SOUTHW  
2841 DOW AVENUE, SUITE 100

585C1/8CBB/AED7

**TUSTIN CA 92780**

(714) 896-6494  
PO: YES

REF: 6280-134634  
DEPT: BOTTLE PREP



**FedEx**  
Express



J283028051201uy

TRK# 7079 0015 4192  
0201

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PRIORITY OVERNIGHT

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**Eurofins Denver**

4955 Yarrow Street  
 Arvada, CO 80002  
 Phone: 303-736-0100 Fax: 303-431-7171

**Chain of Custody Record**



eurofins

Loc: 280  
**183061**

<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:			
Client Contact:		Phone:	E-Mail:	State of Origin:	Page:			
Shipping/Receiving		E-Mail: Janice.Collins@et.eurofinsus.com		Oregon	Page 1 of 1			
Company: Eurofins Environment Testing Southwest,			Accreditations Required (See note): NELAP - Oregon		Job #: 280-183061-1			
Address: 2841 Dow Avenue, Suite 100,		Due Date Requested: 11/6/2023		<b>Analysis Requested</b>				
City: Tustin		TAT Requested (days):						
State, Zip: CA, 92780		PO #:		Preservation Codes: A - HCL                    M - Hexane B - NaOH                N - None C - Zn Acetate        O - AsNaO2 D - Nitric Acid        P - Na2O4S E - NaHSO4            Q - Na2SO3 F - MeOH                R - Na2S2O3 G - Amchlor            S - H2SO4 H - Ascorbic Acid    T - TSP Dodecahydrate I - Ice                    U - Acetone J - DI Water            V - MCAA K - EDTA                W - pH 4-5 L - EDA                 Y - Trizma Z - other (specify)				
Phone: 714-895-5494(Tel)		WO #:						
Email:		Project #:		Other:				
Project Name: Valley LF - Republic Serv Coffin Butte		28003197						
Site:		SSOW#:		Special Instructions/Note:				
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	524.2 Preserved/ Oregon Drinking Water List - Volatile Or	Total Number of Containers
VLF-231015-30 (280-183061-30)	10/15/23	10:45 Pacific		Water		X		3
Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.								
<b>Possible Hazard Identification</b>				<b>Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)</b>				
Unconfirmed				<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months				
Deliverable Requested: I, II, III, IV, Other (specify)			Primary Deliverable Rank: 2		Special Instructions/QC Requirements:			
Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:				
Relinquished by: <i>[Signature]</i>		Date/Time: 10-18-23 14:59	Company: EETDEN	Received by: <i>[Signature]</i>		Date/Time: 10/19/23	Company: 0948 FL	
Relinquished by:		Date/Time:	Company:	Received by:		Date/Time:	Company:	
Relinquished by:		Date/Time:	Company:	Received by:		Date/Time:	Company:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 2.1/2.0 SC12				

# Login Sample Receipt Checklist

Client: Tuppan Consultants LLC

Job Number: 280-183061-1

**Login Number: 183061**

**List Number: 1**

**Creator: Roehsner, Karen P**

**List Source: Eurofins Denver**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# Login Sample Receipt Checklist

Client: Tuppan Consultants LLC

Job Number: 280-183061-1

**Login Number: 183061**

**List Number: 2**

**Creator: Khana, Piyush**

**List Source: Eurofins Calscience**

**List Creation: 10/19/23 02:44 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	Seal present with no number.
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

**APPENDIX F**  
**HISTORICAL WATER QUALITY DATABASE**  
**(IN EXCEL ON ATTACHED CD)**

**APPENDIX G**  
**UPDATED P-9 INSTALLATION REPORT**  
**(IN PDF ON ATTACHED CD)**

**TUPPAN CONSULTANTS LLC**  
Geology Hydrogeology Environmental Consulting

August 23, 2023  
Project VLI-001-001

Revised 11/20/2023 with  
well development  
information; EJT

Mr. Seth Sadofsky  
Western Region  
Oregon Department of Environmental Quality  
165 East 7<sup>th</sup> Avenue, Suite 100  
Eugene, Oregon 97401

Re: Documentation of Well Replacement (P-9R): Coffin Butte Landfill, Benton County

Dear Seth:

This letter provides information on replacing Piezometer P-9 at the Coffin Butte Landfill (Figure 1). As communicated to you earlier this year, we discovered as part of routine monitoring tasks that the well head for piezometer P-9 (downgradient of the “Former Closed Landfill”) was not present. Republic’s contractor had been excavating the old landfill and moving the materials to Cell 5 in the operating landfill. Apparently, as part of that landfill removal, the contractor also removed the upper part of the piezometer, including the concrete and steel protective casing. The well was originally drilled by 8-inch diameter, hollow-stem augers in 1993. The well was constructed with 2-inch PVC inside an 8-inch borehole, to a total depth of 23 feet with 5.8 feet of slotted well screen at the bottom.

Republic surveyed the former P-9 location to find the well location and explored the surveyed location with a small backhoe, scraping the surface soil in small increments to reveal the remaining well materials as shown in Photo A-1. The upper part of the casing was plugged with soil. Republic subsequently cut off the damaged 2-inch diameter PVC casing and added a 10-foot long piece of 2-inch PVC. That casing was then protected with a 10-foot long, 4-inch diameter piece of PVC (Photo A-2) and the area around the well backfilled to bring the ground surface level with the surrounding topography.

Rather than fully decommission the piezometer, Republic decided to re-install the well, since the driller had to over-drill to the original depth to properly abandon the hole. This was done on July 26, 2023, as described below.

## **PIEZOMETER DECOMMISSIONING**

Decommissioning was performed with a sonic track rig by Cascade Drilling, LP. (Cascade), Portland, Oregon. Drilling methods were consistent with state regulations (OAR 690-240) administered by the Oregon Water Resources Department (WRD). Procedures generally consisted of the following steps:



- The protective 4-inch PVC and inner 2-inch PVC casings were cut off at ground level.
- The driller overdrilled these PVC casings with a 5-inch steel casing to a depth of 10 feet and then withdrew that increment from the hole. This also removed the 4-inch casing and the inner 2-inch casing, which was connected to the original 2-inch well casing, with a slip couple.
- The driller secured the original 2-inch well casing with a strap and slowly pulled out the original length of casing and screen from the hole (Photos A-3 and A-4).
- The boring was then drilled out to its original depth into hard basalt with 5-inch diameter casing. It was then reamed out to 6-inch diameter to a total depth of 24.9 feet below current ground level before Cascade installed the piezometer inside the 6-inch steel drill casing.

## **PIEZOMETER INSTALLATION**

The piezometer was constructed consistent with applicable rules and guidelines described in "*Construction, Maintenance and Abandonment of Monitoring Wells and Other Holes in Oregon*" (OAR 690-240; 2006) and the *DEQ Guidelines for Drilling, Constructing, and Decommissioning Monitoring Wells* (DEQ, 1992) by Cascade. Field location is shown on Figure 1.

Construction and survey information, and volumes of materials used to construct the piezometer are summarized in Tables 1 and 2. Copies of the original boring log, current construction diagram, and driller's log can be found in Attachment B.

As noted, after reaching the final depth, the borehole was reamed to a diameter of 6 inches and the piezometer was installed. The piezometer was constructed of 2-inch-diameter, schedule 40 PVC threaded casing with 5 feet of factory-slotted screen with a slot size of 0.010-inch. An annular filter pack consisting of 2/12 graded silica sand (Cemex Lapis Lustre Sand), was placed around the well screen and extended 2.8 feet above the top of the screen. The depth of the filter pack was measured with a weighted line during placement. Bentonite chips were placed from the top of the filter pack to a depth of 3 feet below ground. During placement, the depth of the bentonite chips was measured with a weighted line. Material volume calculations are presented in Table 2.

After moving the drill rig off the well, a lockable 6-inch diameter steel monument casing was installed and set in concrete. Three protective posts were then installed around the protective casing.

## Well Development

The piezometer will be developed by surging and bailing, consistent with procedures described in DEQ (1992) guidance. Specific conductance, pH, temperature, and visual turbidity will be measured during development. Piezometer development results will be submitted with the 2023 annual environmental monitoring report.


## SURVEYING

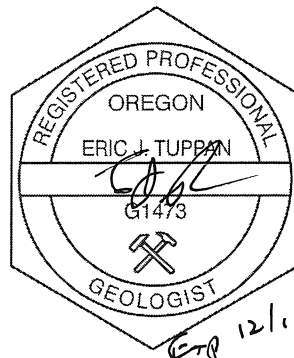
The ground surface beside the wellhead, the top of the steel protective casing, and the top of PVC casing were surveyed vertically and laterally to within 0.01 foot, by Pacific Community Design, of Tigard, Oregon, on August 22, 2023. Survey data are shown in Table 1.

If you have any questions about the information provided, please call me at (503) 675-1335.

Sincerely,

TUPPAN CONSULTANTS LLC

  
Eric J. Tuppan, R.G.  
Project Hydrogeologist



Attachments: Tables 1 and 2  
Attachment A – Field Photographs  
Attachment B – Boring Log and Completion Diagram/  
Well Driller's Log

cc: Ian Macnab; Valley Landfills, Inc.

**Table 1**  
**Well Construction Summary**  
**Well Replacement Report**  
**Coffin Butte Landfill**

MONITORING STATION		Northings	Eastings	Ground Surface Elevation (ft msl)	Surveyed Reference Elevation (ft msl)	Total Depth (ft bgs)	Screened Interval (ft bgs)	Filter Pack Interval (ft bgs)	Seal (ft bgs)	Well Diameter (Inches)	Drilling Method	Date Well Installed	Lithology Screened
Location	Status												
<b>PIEZOMETERS</b>													
P-9	Replaced	388,471.86	7,488,728.28	273.66	276.01	23.3	17.2-23.0	15.0-23.3	0-15.0	2	HSA	07/15/93	Fresh basalt
P-9R		388,474.80	7,488,729.18	273.36	276.09	24.9	20.0-24.4	17.2-24.9	3.0-17.2	2	Sonic	07/26/23	Fresh basalt
NOTE: msl = mean sea level; bgs = below ground surface; OH= open hole; na = not available. Drilling methods: HSA = hollow stem auger													

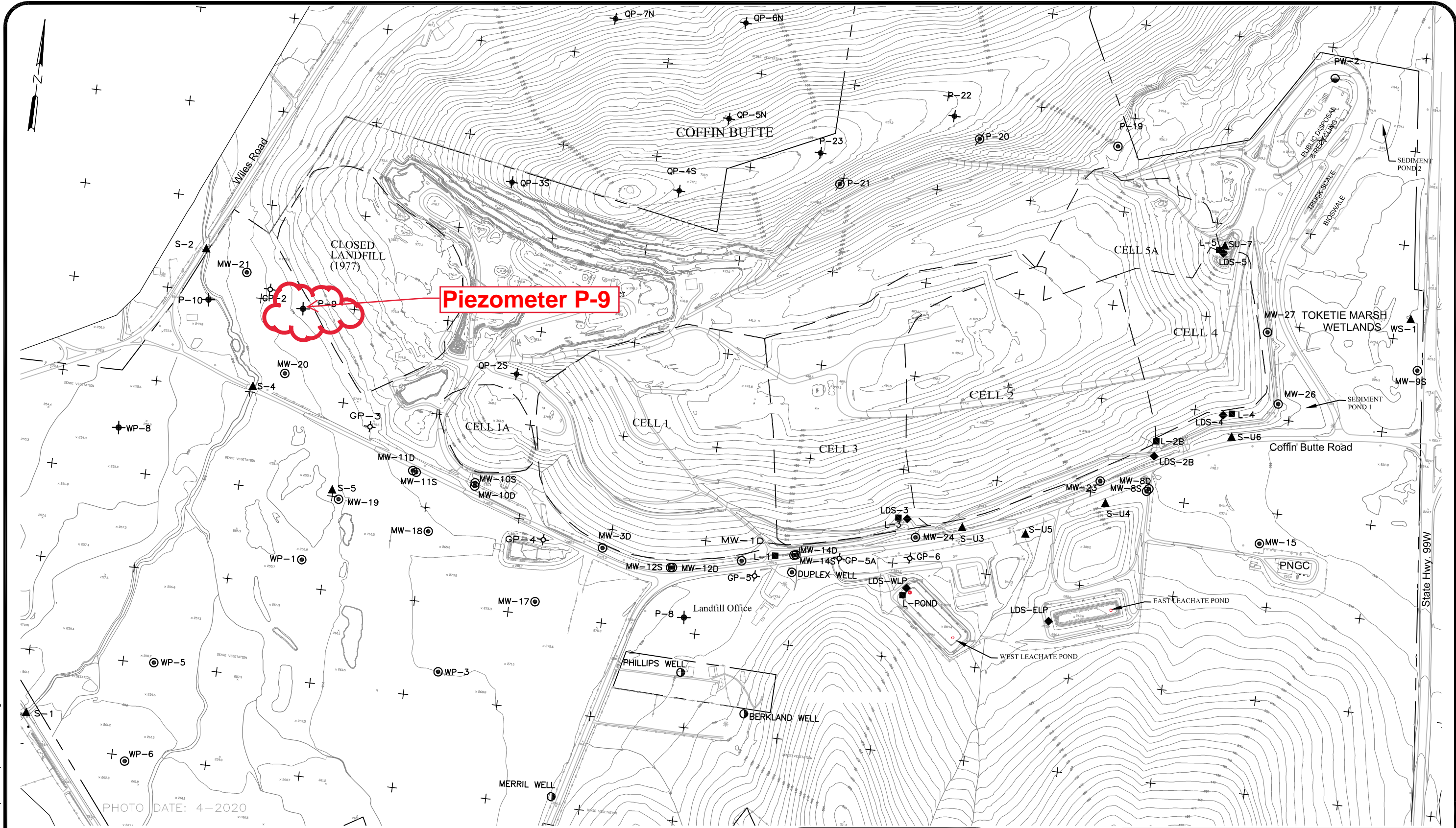
**Table 2**  
**Well Materials Volume Comparisons**  
**Well Replacement Report**  
**Coffin Butte Landfill**

Well	Date	Well Dimensions				Filter Pack				Bentonite Seal (Chips)																	
		Total Depth Boring (ft bgs)	Original Well Depth (ft bgs)	Borehole Diameter (inches)	Well Diameter (inches)	Filter Pack Thickness (ft)	Calc. Filter Pack (ft <sup>3</sup> )	Sand Used (sacks)	Actual Filter Pack (ft <sup>3</sup> )	G/C Seal Length (ft)	G/C Annular Volume (ft <sup>3</sup> )	Bentonite Chips Used (sacks)	Actual Chip Seal Volume (ft <sup>3</sup> )	Combined Grout/ Chip Vol. (ft <sup>3</sup> )	Percent Grout/ Borehole Volume												
<b>Well Replacement</b>																											
P-9R	07/26/23	24.9	—	6	2	7.7	1.3	2.5	1.3	14.2	2.5	3.5	2.5	2.5	102%												
<p>Note: All volumes approximate</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><u>Diameters (hole-casing)</u></td> <td style="width: 50%; border: none; text-align: center;"><u>Annular Volumes</u> ft<sup>3</sup></td> </tr> <tr> <td style="border: none;">6"- 2"</td> <td style="border: none; text-align: center;">0.1745</td> </tr> <tr> <td style="border: none;">6" (open hole)</td> <td style="border: none; text-align: center;">0.1963</td> </tr> <tr> <td colspan="2" style="border: none;"><u>Unit Volumes</u></td> </tr> <tr> <td style="border: none;">Sand (50 lb. sack)</td> <td style="border: none; text-align: center;">0.50 ft<sup>3</sup></td> </tr> <tr> <td style="border: none;">Bent. 3/8" Chips (50 lb. sack)</td> <td style="border: none; text-align: center;">0.72 ft<sup>3</sup></td> </tr> </table> <p>Abbreviations: ft: feet; ft<sup>3</sup>: cubic feet; bgs: below ground surface; lb.: pounds.  G/C: grout and/or chip seal above filter pack seal</p>																<u>Diameters (hole-casing)</u>	<u>Annular Volumes</u> ft <sup>3</sup>	6"- 2"	0.1745	6" (open hole)	0.1963	<u>Unit Volumes</u>		Sand (50 lb. sack)	0.50 ft <sup>3</sup>	Bent. 3/8" Chips (50 lb. sack)	0.72 ft <sup>3</sup>
<u>Diameters (hole-casing)</u>	<u>Annular Volumes</u> ft <sup>3</sup>																										
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Bent. 3/8" Chips (50 lb. sack)	0.72 ft <sup>3</sup>																										

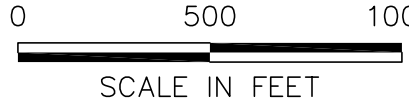
**Table 3**  
**Monitoring Well Development Summary**  
**Well Replacement Report**  
**Coffin Butte Landfill**

Well	Date of Well Development	Initial Depth-to-Water (ft btc)	Final Depth-to-Water (ft btc)	Total Volume Removed (gal)	Specific Conductance ( $\mu\text{S}/\text{cm}$ )	Temperature $^{\circ}\text{C}$	pH (pH Units)	Clarity/ Color/ Remarks
P-9R	11/14/23	8.00	18.00	9.0	100	14.20	6.03	Slightly cloudy, light gray
Note: Final measurements at end of well development on 11/14/23. ft btc: feet below top-of-casing.								

8-13-21  
D:\Tuppan\Coffin Butte\GW Template 2021.dwg



- ⊙ MONITORING WELL/PIEZOMETER
- ⊕ OBSERVATION WELL/PIEZOMETER
- LANDFILL WATER SUPPLY WELL
- ⊖ GAS PROBE
- \* AVERAGE FOR OCTOBER
- PRIVATE WELL
- LEACHATE SUMP
- ◆ LEAK DETECTION SYSTEM
- ▲ SURFACE WATER MONITORING STATION
- ?— GROUNDWATER ELEVATION CONTOUR (FT-MSL) QUERIED WHERE PROJECTED



**Tuppan Consultants LLC**  
460 Second Street, Suite 103  
Lake Oswego, Or 97034  
Ph. 503.675.1335

DATE 8-13-21  
DWN GRH  
APP \_\_\_\_\_  
REV \_\_\_\_\_  
PROJECT NO. VLI-001-005

FIGURE  
COFFIN BUTTE LANDFILL  
BENTON COUNTY, OREGON  
**Piezometer P-9 Location**

PHOTO DATE: 4-2020

**ATTACHMENT A**  
**FIELD PHOTOGRAPHS**



Photo A-1 – Well casing of damaged original piezometer P-9.



Photo A-2 – 4-inch diameter PVC protective casing in fill.





Photo A-3 – Drillers pulling original casing and screen with winch.



Photo A-4 – Five-foot long screen and blank casing of original well.

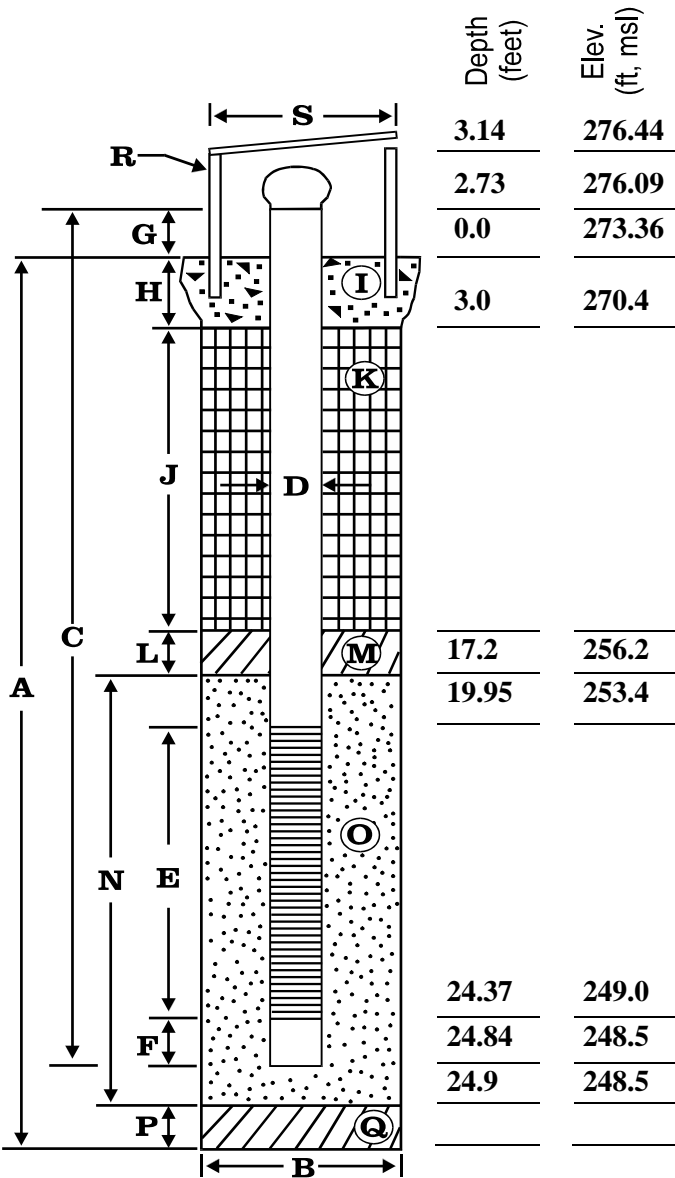
**ATTACHMENT B**

**BORING LOG AND COMPLETION DIAGRAM  
WELL DRILLER'S LOG**

# WELL DETAILS

Project Number: VLI-001-001  
 Client Name: Valley Landfills, Inc.  
 Project Name: Replace Well P-9  
 Location: Coffin Butte Landfill  
 Driller: Cascade Drilling LP

Boring/Well No.: P-9R  
 Top of Casing Elev.: 276.09  
 Ground Surface Elev.: 273.36  
 Installation Date: 7/26/2023  
 Permit/Start Card No.: L142794/1070551



## EXPLORATORY BORING

A. Total depth: 24.9 ft.  
 B. Diameter: 6 in.  
 Drilling method: Sonic

## WELL CONSTRUCTION

C. Well casing length: 27.57ft.  
 Well casing material: Sch. 40 PVC  
 D. Well casing diameter: 2 in.  
 E. Well screen length: 4.42 ft.  
 Well screen type: Machine Slot  
 Well screen slot size: 0.010 in.  
 F. Well sump/end cap length: 0.47 ft.  
 G. Well casing height (stickup): 2.71 ft.  
 H. Surface seal thickness: 3.0 ft.  
 I. Surface seal material: Concrete  
 J. Annular seal thickness: 14.2 ft.  
 K. Annular seal material: Bentonite  
 L. Filter pack seal thickness: NA ft.  
 M. Filter pack seal material: NA  
 N. Sand pack thickness: 7.7 ft.  
 O. Sand pack material: 2/12 Silica Sand  
 P. Bottom material thickness: N/A ft.  
 Q. Bottom material: N/A  
 R. Protective casing material: Steel  
 Well centralizer depths: N/A ft.  
 S. Protective casing diameter: 6 in.

## NOTES:

Original depth of well was 23.3'; during overdrill, deepened to 24.9'. Steel protective cover set in borehole, surrounded by 3 bollards.

Original well elevations for P-9:

Top of Casing Elevation: 276.01

Ground Surface Elevation: 273.66

Installed by: Eric Tuppan

Reviewed by: EJT

Date: 8/23/2023

# LOG OF EXPLORATORY BORING

PROJECT NAME Coffin Butte Landfill  
 LOCATION Coffin Butte, Benton County, Oregon  
 DRILLED BY GeoTech Explorations  
 DRILL METHOD HSA w/CCB  
 LOGGED BY Mike Free

BORING NO. P-9 **P-9R**  
 PAGE 1 OF 2  
 GROUND ELEV. \_\_\_\_\_  
 TOTAL DEPTH 23.30'  
 DATE COMPLETED 09/15/93

Replaced 7/26/2023

SAMPLE TYPE	RECOVERY PERCENT	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
Core	91						0 to 6.0 feet: SILTY CLAYEY GRAVEL (GP), 0 to 1.2 feet black, 1.2 to 6.0 feet dark grayish brown to very dark grayish brown, 50 percent fine to coarse, subangular to subrounded gravel, 40 percent fines, 10 percent basalt cobbles, stiff, moist. (COLLUVIUM)
Core	104		5				6.0 to 12.0 feet: SILTY CLAY (CH), brown, 80 percent silty clay, 10 percent fine to medium, subangular, basalt gravel, 10 percent fine to coarse (subangular to well rounded) sand, stiff, moist. (COLLUVIUM)
Core	111		10				12.0 to 15.0 feet: SANDY CLAYEY GRAVEL (GW), very dark grayish brown, 50 percent fine to coarse, subrounded to subangular gravel, 30 percent fines, 20 percent fine to coarse sand (some coarse grains deeply weathered), stiff, moist, basalt gravel moderately hard to hard, weakly weathered. (COLLUVIUM)
Core	100		15				15.0 to 23.3 feet: BASALT, hard, fresh (hard drilling at 19.0 feet). (BEDROCK)

**REMARKS**


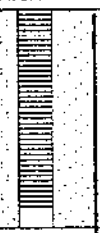
No coring from 15.0 to 23.0 feet; used center bit basalt, hard, fresh, hard drilling at 19.0 feet. Bedrock.



# LOG OF EXPLORATORY BORING

PROJECT NAME Coffin Butte Landfill  
 LOCATION Coffin Butte, Benton County, Oregon  
 DRILLED BY GeoTech Explorations  
 DRILL METHOD HSA w/CCB  
 LOGGED BY Mike Free

BORING NO. P-9 **P-9R**  
 PAGE 2 OF 2  
 GROUND ELEV. \_\_\_\_\_  
 TOTAL DEPTH 23.30'  
 DATE COMPLETED 09/15/93

SAMPLE TYPE	RECOVERY PERCENT	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
		▽	25				15.0 to 23.3 feet: BASALT, continued.  <div style="border: 1px solid red; padding: 5px; color: red; font-weight: bold;">                         Deepened to 24.9' during redrill and recompletion as P-9R                     </div> Total depth drilled = 23.3 feet. Total depth sampled = 15.0 feet.  <b>WELL COMPLETION DETAILS:</b> 0 to 17.2 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC blank riser pipe. 17.2 to 23.0 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC well screen with 0.010-inch machined slots. 23.0 to 23.3 feet: 2-inch-diameter threaded end cap.  0 to 3.0 feet: Concrete. 3.0 to 15.0 feet: Bentonite chips hydrated with potable water. 15.0 to 23.3 feet: 10 - 20 Colorado Silica Sand.
			30				
			35				
			40				

**REMARKS**

No coring from 15.0 to 23.0 feet; used center bit basalt, hard, fresh, hard drilling at 18.0 feet. Bedrock.





7/20/2023

PETER LARSEN; CASCADE DRILLING LP

The online purchase of the following start cards has been processed. Please print this for your records.

SC #	Well Type	Company	First Name	Last Name	Street	City	State	Zip	County	Street of Well	Taxlot	Fee
1070551	Monitor	VALLEY LANDFILL, INC.	110-23-	1025	258942 COFFIN BUTTE RD	CORVALLIS	OR	97330	BENT	COFFIN BUTTE LANDFILL, 258942 COFFIN BUTTE RD, CORVALLIS, OR 97330	1000	\$350.00

[Return to Start Card Cart](#)  
[Return to Main Menu](#)

STATE OF OREGON
MONITORING WELL REPORT

(as required by ORS 537.545 & ORS 537.765 & OAR 690-240-0395)

8/3/2023

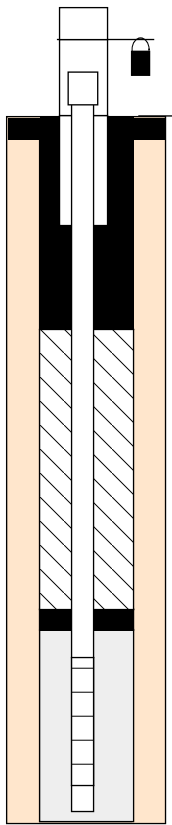
WELL I.D. LABEL# L
START CARD # 1070550
ORIGINAL LOG #

(1) LAND OWNER
Owner Well I.D. P-9
First Name 110-23-1025 Last Name
Company VALLEY LANDFILL, INC.
Address 258942 COFFIN BUTTE RD
City CORVALLIS State OR Zip 97330

(2) TYPE OF WORK
New Deepening Conversion
Alteration (repair/recondition) Abandonment

(3) DRILL METHOD
Rotary Air Rotary Mud Cable Hollow Stem Auger Cable Mud
Reverse Rotary Other SONIC

(4) CONSTRUCTION
Piezometer Well
Depth of Completed Well 23.20 ft. Special Standard



MONUMENT/VAULT Above Ground
From 3 To 3

BORE HOLE
Diameter 6 From 0 To 23.2

CASING
Dia. From To
Gauge Wld Thrd
Material Steel Plastic

LINER
Dia. From To
Gauge Wld Thrd
Material Steel Plastic

SEAL
From 0 To 23.2
Material Bentonite Chips
Amount 6 Sacks Grout weight

SCREEN
Casing/Liner Material
Diameter From To
Slot Size

FILTER
From To Material Size of pack
Seal Placement Begin Date 7/26/2023 Begin Time 13 30

(5) WELL TESTS
Table with columns: Yield gal/min, Drawdown, Drill stem/Pump depth, Duration (hr)

Temperature 52 °F Lab analysis Yes By

Supervising Geologist/Engineer
Water quality concerns? Yes (describe below)
Table with columns: From, To, Description, Amount, Units

(6) LOCATION OF WELL (legal description)
County BENTON Twp 10.00 S N/S Range 5.00 W E/W WM
Sec 13 NW 1/4 of the SE 1/4 Tax Lot 1000
Tax Map Number Lot
Lat or 44.69898800 DMS or DD
Long or -123.24359000 DMS or DD
Street address of well Nearest address

COFFIN BUTTE LANDFILL, 258942 COFFIN BUTTE RD, CORVALLIS, OR 97330

(7) STATIC WATER LEVEL
Table with columns: Date, SWL(psi), + SWL(ft)
Existing Well / Predeepening 7/26/2023 17
Completed Well

WATER BEARING ZONES
Table with columns: SWL Date, From, To, Est Flow, SWL(psi), + SWL(ft)
7/26/2023 17 23.2 17

(8) WELL LOG
Table with columns: Material, From, To
Well materials- concrete/bentonite/sand 0 23.2

Construction
Begin Date 7/26/2023 Begin Time 12 30 End Date 7/26/2023

(unbonded) Monitor Well Constructor Certification
I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon monitoring well construction standards.
License Number 10512 Date 8/3/2023
Signed ARTURO MADRIGAL (E-filed)

(bonded) Monitor Well Constructor Certification
I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above.
License Number 10408 Date 8/3/2023
Signed PETER LARSEN (E-filed)
Contact Info (optional) CDLP # 110-23-1025





MONITORING WELL REPORT - Map with location identified must be attached and shall include an approximate scale and north arrow

BENT 56625

8/3/2023

Map of Hole

<b>STATE OF OREGON WELL LOCATION MAP</b>	<b>Oregon Water Resources Department</b>	 <small>OREGON WATER RESOURCES DEPARTMENT</small>
This map is supplemental to the WATER SUPPLY WELL REPORT	725 Summer St NE, Salem OR 97301 (503)986-0900	
<b>LOCATION OF WELL</b>	<b>Hole Nbr: P-9</b>	
Latitude: 44.69898800 Datum: WGS84	<b>Printed: August 3, 2023</b>	
Longitude: -123.24359000	<small>DISCLAIMER: This map is intended to represent the approximate location of the well. It is not intended to be construed as survey accurate in any manner.</small>	
Township/Range/Section/Quarter-Quarter Section:	<small>Provided by well constructor</small>	
WM10.00S5.00W13NWSE		
Address of Well:		
COFFIN BUTTE LANDFILL, 258942 COFFIN BUTTE RD, CORVALLIS, OR 97330		



STATE OF OREGON
MONITORING WELL REPORT

(as required by ORS 537.545 & ORS 537.765 & OAR 690-240-0395)

8/3/2023

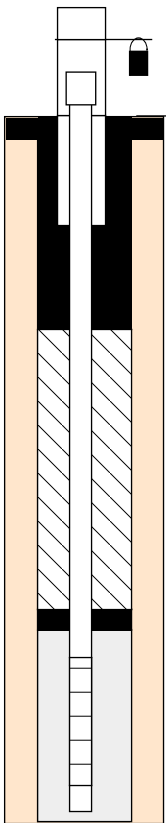
WELL I.D. LABEL# L 142794
START CARD # 1070551
ORIGINAL LOG #

(1) LAND OWNER Owner Well I.D. P-9R
First Name 110-23-1025 Last Name
Company VALLEY LANDFILL, INC.
Address 258942 COFFIN BUTTE RD
City CORVALLIS State OR Zip 97330

(2) TYPE OF WORK [X] New [ ] Deepening [ ] Conversion
[ ] Alteration (repair/recondition) [ ] Abandonment

(3) DRILL METHOD
[ ] Rotary Air [ ] Rotary Mud [ ] Cable [ ] Hollow Stem Auger [ ] Cable Mud
[ ] Reverse Rotary [X] Other SONIC

(4) CONSTRUCTION Piezometer Well [X]
Depth of Completed Well 23.20 ft. Special Standard [ ]



MONUMENT/VAULT Above Ground
From 3 To 3

BORE HOLE Diameter 6 From 0 To 23.2

CASING Dia. 2 From [X] 2.5 To 18.2
Gauge Sch 40 Wld Thrd
Material [ ] Steel [X] Plastic [ ] [X]

LINER Dia. From [ ] To
Gauge Wld Thrd
Material [ ] Steel [ ] Plastic [ ] [ ]

SEAL From 0 To 23.2
Material Bentonite Chips
Amount 4.5 Sacks Grout weight

SCREEN Casing/Liner Casing Material PVC - Sch 40
Diameter 2 From 18.2 To 23.2
Slot Size 0.010

FILTER From 15.2 To 23.2 Material SILICA SAND Size of pack 12 / 20
Seal Placement Begin Date 7/26/2023 Begin Time 15 30

(5) WELL TESTS

Table with 4 columns: Yield gal/min, Drawdown, Drill stem/Pump depth, Duration (hr). Includes radio buttons for Pump, Bailer, Air, Flowing Artesian.

Temperature 52 °F Lab analysis [ ] Yes By

Supervising Geologist/Engineer

Table with 5 columns: From, To, Description, Amount, Units. For water quality concerns.

(6) LOCATION OF WELL (legal description)
County BENTON Twp 10.00 S N/S Range 5.00 W E/W WM
Sec 13 NW 1/4 of the SE 1/4 Tax Lot 1000
Tax Map Number Lot
Lat ° ' " or 44.69898800 DMS or DD
Long ° ' " or -123.24359000 DMS or DD
[ ] Street address of well [X] Nearest address

COFFIN BUTTE LANDFILL, 258942 COFFIN BUTTE RD, CORVALLIS, OR 97330

(7) STATIC WATER LEVEL

Table with columns: Date, SWL(psi), + SWL(ft). Includes rows for Existing Well / Predeepening and Completed Well. Also includes Water Bearing Zones section.

(8) WELL LOG

Table with columns: Material, From, To, Ground Elevation. Lists Silt and miscellaneous landfill items.

Construction Begin Date 7/26/2023 Begin Time 14 30 End Date 7/26/2023

(unbonded) Monitor Well Constructor Certification

I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon monitoring well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

License Number 10512 Date 8/3/2023
Password : (if filing electronically)
Signed ARTURO MADRIGAL (E-filed)

(bonded) Monitor Well Constructor Certification

I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon monitoring well construction standards. This report is true to the best of my knowledge and belief.

License Number 10408 Date 8/3/2023
Password : (if filing electronically)
Signed PETER LARSEN (E-filed)
Contact Info (optional) CDLP # 110-23-1025



MONITORING WELL REPORT - Map with location identified must be attached and shall include an approximate scale and north arrow

BENT 56626

8/3/2023

Map of Hole

<b>STATE OF OREGON WELL LOCATION MAP</b>	<b>Oregon Water Resources Department</b>	 <small>OREGON WATER RESOURCES DEPARTMENT</small>
This map is supplemental to the WATER SUPPLY WELL REPORT	725 Summer St NE, Salem OR 97301 (503)986-0900	
<b>LOCATION OF WELL</b>	<b>Well Label: 142794</b>	
Latitude: 44.69898800 Datum: WGS84	<b>Printed: August 3, 2023</b>	
Longitude: -123.24359000	DISCLAIMER: This map is intended to represent the approximate location of the well. It is not intended to be construed as survey accurate in any manner.	
Township/Range/Section/Quarter-Quarter Section: WM10.00S5.00W13NWSE	Provided by well constructor	
Address of Well: COFFIN BUTTE LANDFILL, 258942 COFFIN BUTTE RD, CORVALLIS, OR 97330		



**ATTACHMENT C (New)**  
**PIEZOMETER DEVELOPMENT FORM**

