



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Stuart Hyde
Ensolum
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Generated 4/19/2024 4:26:57 PM

JOB DESCRIPTION

Bisti LF

JOB NUMBER

885-1718-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109



Eurofins Albuquerque

Job Notes

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 Environment Testing South Central, LLC Project Manager.

Authorization



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Client: Ensolum
Project/Site: Bisti LF

Laboratory Job ID: 885-1718-1

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Definitions/Glossary

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	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: Ensolum
Project: Bisti LF

Job ID: 885-1718-1

Job ID: 885-1718-1

Eurofins Albuquerque

Job Narrative 885-1718-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 3/23/2024 6:45 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.6°C.

GC/MS VOA

Method 8260C: Sample is a bulk jar.

East Line Vadose (885-1718-2), West Line Vadose (885-1718-3), Pettigrew Vadose (885-1718-4), Bisti Vadose (885-1718-5), API 1 Vadose (885-1718-6), API 2 Vadose (885-1718-7), API 3 Vadose (885-1718-8) and API 4 Vadose (885-1718-9)

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

GC Semi VOA

Method 8015MOD_NM: samples where split and frozen within 48 hours of TX 1005

Method 8015MOD_NM: The continuing calibration verification (CCV) associated with batch 860-151918 recovered above the upper control limit for Diesel Range Organics (Over C10-C28). All associated samples are non-detected for this range; therefore, the data have been reported. The associated sample is impacted: (CCV 860-151918/136).

Method 8015MOD_NM: Surrogate recovery for the following sample was outside the upper control limit: API 2 Vadose (885-1718-7). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: API Treatment (885-1718-10). Evidence of matrix interferences is not obvious. Re-preparation and/or re-analysis was not performed as the holding time had expired.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: API 1 Vadose (885-1718-6). Evidence of matrix interferences is not obvious. Re-preparation and/or re-analysis was not performed as the holding time had expired.

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

HPLC/IC

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

Metals

Method 6010D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-153786 and analytical batch 860-153945 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

Eurofins Albuquerque

Client Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Client Sample ID: Crude Treatment

Lab Sample ID: 885-1718-1

Date Collected: 03/22/24 12:00

Matrix: Solid

Date Received: 03/23/24 06:45

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	ND		50	mg/Kg		03/26/24 15:06	03/28/24 15:13	1	
Diesel Range Organics (Over C10-C28)	ND		50	mg/Kg		03/26/24 15:06	03/28/24 15:13	1	
Oil Range Organics (Over C28-C36)	ND		50	mg/Kg		03/26/24 15:06	03/28/24 15:13	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1-Chlorooctane	108		65 - 130			03/26/24 15:06	03/28/24 15:13	1	
o-Terphenyl	113		65 - 130			03/26/24 15:06	03/28/24 15:13	1	

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	ND		5.0	mg/Kg			04/09/24 03:47	1	

Client Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Client Sample ID: East Line Vadose

Lab Sample ID: 885-1718-2

Date Collected: 03/22/24 11:30

Matrix: Solid

Date Received: 03/23/24 06:45

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0010	mg/Kg		03/27/24 13:43	03/27/24 16:28	1
Toluene	ND		0.0050	mg/Kg		03/27/24 13:43	03/27/24 16:28	1
Ethylbenzene	ND		0.0010	mg/Kg		03/27/24 13:43	03/27/24 16:28	1
Xylenes, Total	ND		0.0020	mg/Kg		03/27/24 13:43	03/27/24 16:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		56 - 150	03/27/24 13:43	03/27/24 16:28	1
4-Bromofluorobenzene (Surr)	115		68 - 152	03/27/24 13:43	03/27/24 16:28	1
Dibromofluoromethane (Surr)	109		53 - 142	03/27/24 13:43	03/27/24 16:28	1
Toluene-d8 (Surr)	107		70 - 130	03/27/24 13:43	03/27/24 16:28	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		50	mg/Kg		03/26/24 15:06	03/28/24 15:34	1
Diesel Range Organics (Over C10-C28)	ND		50	mg/Kg		03/26/24 15:06	03/28/24 15:34	1
Oil Range Organics (Over C28-C36)	ND		50	mg/Kg		03/26/24 15:06	03/28/24 15:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		65 - 130	03/26/24 15:06	03/28/24 15:34	1
o-Terphenyl	107		65 - 130	03/26/24 15:06	03/28/24 15:34	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11		5.0	mg/Kg			04/12/24 13:06	1

Method: SW846 6010D - Metals (ICP)-Calculated

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.6		1.4	mg/Kg		04/03/24 12:30	04/03/24 17:03	1
Barium	360		0.94	mg/Kg		04/03/24 12:30	04/03/24 17:03	1
Cadmium	ND		0.94	mg/Kg		04/03/24 12:30	04/03/24 17:03	1
Calcium	14000		940	mg/Kg		04/03/24 12:30	04/03/24 17:10	50
Chromium	1.3		0.94	mg/Kg		04/03/24 12:30	04/03/24 17:03	1
Lead	2.7		0.94	mg/Kg		04/03/24 12:30	04/03/24 17:03	1
Magnesium	930		19	mg/Kg		04/03/24 12:30	04/03/24 17:03	1
Potassium	370		47	mg/Kg		04/03/24 12:30	04/03/24 17:03	1
Selenium	ND		2.8	mg/Kg		04/03/24 12:30	04/03/24 17:03	1
Silver	ND		1.9	mg/Kg		04/03/24 12:30	04/03/24 17:03	1
Sodium	110		47	mg/Kg		04/03/24 12:30	04/03/24 17:03	1
Sulfur	140		9.4	mg/Kg		04/03/24 12:30	04/03/24 17:03	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.019	mg/Kg		04/09/24 01:47	04/09/24 16:06	1

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Client Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Client Sample ID: West Line Vadose

Lab Sample ID: 885-1718-3

Date Collected: 03/22/24 11:40

Matrix: Solid

Date Received: 03/23/24 06:45

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0010	mg/Kg		03/27/24 13:43	03/27/24 16:52	1
Toluene	ND		0.0051	mg/Kg		03/27/24 13:43	03/27/24 16:52	1
Ethylbenzene	ND		0.0010	mg/Kg		03/27/24 13:43	03/27/24 16:52	1
Xylenes, Total	ND		0.0020	mg/Kg		03/27/24 13:43	03/27/24 16:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		56 - 150	03/27/24 13:43	03/27/24 16:52	1
4-Bromofluorobenzene (Surr)	114		68 - 152	03/27/24 13:43	03/27/24 16:52	1
Dibromofluoromethane (Surr)	109		53 - 142	03/27/24 13:43	03/27/24 16:52	1
Toluene-d8 (Surr)	102		70 - 130	03/27/24 13:43	03/27/24 16:52	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		50	mg/Kg		03/26/24 15:06	03/28/24 15:54	1
Diesel Range Organics (Over C10-C28)	ND		50	mg/Kg		03/26/24 15:06	03/28/24 15:54	1
Oil Range Organics (Over C28-C36)	ND		50	mg/Kg		03/26/24 15:06	03/28/24 15:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		65 - 130	03/26/24 15:06	03/28/24 15:54	1
o-Terphenyl	105		65 - 130	03/26/24 15:06	03/28/24 15:54	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.3		5.1	mg/Kg			04/12/24 13:21	1

Method: SW846 6010D - Metals (ICP)-Calculated

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.7		1.5	mg/Kg		04/03/24 12:30	04/03/24 17:05	1
Barium	280		1.0	mg/Kg		04/03/24 12:30	04/03/24 17:05	1
Cadmium	ND		1.0	mg/Kg		04/03/24 12:30	04/03/24 17:05	1
Calcium	6100		20	mg/Kg		04/03/24 12:30	04/03/24 17:05	1
Chromium	1.6		1.0	mg/Kg		04/03/24 12:30	04/03/24 17:05	1
Lead	2.8		1.0	mg/Kg		04/03/24 12:30	04/03/24 17:05	1
Magnesium	860		20	mg/Kg		04/03/24 12:30	04/03/24 17:05	1
Potassium	400		50	mg/Kg		04/03/24 12:30	04/03/24 17:05	1
Selenium	ND		3.0	mg/Kg		04/03/24 12:30	04/03/24 17:05	1
Silver	ND		2.0	mg/Kg		04/03/24 12:30	04/03/24 17:05	1
Sodium	99		50	mg/Kg		04/03/24 12:30	04/03/24 17:05	1
Sulfur	110		10	mg/Kg		04/03/24 12:30	04/03/24 17:05	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.018	mg/Kg		04/09/24 01:47	04/09/24 16:08	1

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Client Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Client Sample ID: Pettigrew Vadose

Lab Sample ID: 885-1718-4

Date Collected: 03/22/24 11:45

Matrix: Solid

Date Received: 03/23/24 06:45

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0010	mg/Kg		03/27/24 13:43	03/27/24 17:15	1
Toluene	ND		0.0050	mg/Kg		03/27/24 13:43	03/27/24 17:15	1
Ethylbenzene	ND		0.0010	mg/Kg		03/27/24 13:43	03/27/24 17:15	1
Xylenes, Total	ND		0.0020	mg/Kg		03/27/24 13:43	03/27/24 17:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		56 - 150	03/27/24 13:43	03/27/24 17:15	1
4-Bromofluorobenzene (Surr)	114		68 - 152	03/27/24 13:43	03/27/24 17:15	1
Dibromofluoromethane (Surr)	107		53 - 142	03/27/24 13:43	03/27/24 17:15	1
Toluene-d8 (Surr)	103		70 - 130	03/27/24 13:43	03/27/24 17:15	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		50	mg/Kg		03/26/24 15:06	03/28/24 16:14	1
Diesel Range Organics (Over C10-C28)	ND		50	mg/Kg		03/26/24 15:06	03/28/24 16:14	1
Oil Range Organics (Over C28-C36)	ND		50	mg/Kg		03/26/24 15:06	03/28/24 16:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	115		65 - 130	03/26/24 15:06	03/28/24 16:14	1
o-Terphenyl	122		65 - 130	03/26/24 15:06	03/28/24 16:14	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10		5.0	mg/Kg			04/12/24 13:35	1

Method: SW846 6010D - Metals (ICP)-Calculated

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.4		1.4	mg/Kg		04/03/24 12:30	04/03/24 17:07	1
Barium	49		0.93	mg/Kg		04/03/24 12:30	04/03/24 17:07	1
Cadmium	ND		0.93	mg/Kg		04/03/24 12:30	04/03/24 17:07	1
Calcium	1900		19	mg/Kg		04/03/24 12:30	04/03/24 17:07	1
Chromium	1.1		0.93	mg/Kg		04/03/24 12:30	04/03/24 17:07	1
Lead	2.5		0.93	mg/Kg		04/03/24 12:30	04/03/24 17:07	1
Magnesium	640		19	mg/Kg		04/03/24 12:30	04/03/24 17:07	1
Potassium	270		46	mg/Kg		04/03/24 12:30	04/03/24 17:07	1
Selenium	ND		2.8	mg/Kg		04/03/24 12:30	04/03/24 17:07	1
Silver	ND		1.9	mg/Kg		04/03/24 12:30	04/03/24 17:07	1
Sodium	75		46	mg/Kg		04/03/24 12:30	04/03/24 17:07	1
Sulfur	43		9.3	mg/Kg		04/03/24 12:30	04/03/24 17:07	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.019	mg/Kg		04/09/24 01:47	04/09/24 16:09	1

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Client Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Client Sample ID: Bisti Vadose

Lab Sample ID: 885-1718-5

Date Collected: 03/22/24 11:55

Matrix: Solid

Date Received: 03/23/24 06:45

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0010	mg/Kg		03/27/24 13:43	03/27/24 17:39	1
Toluene	ND		0.0050	mg/Kg		03/27/24 13:43	03/27/24 17:39	1
Ethylbenzene	ND		0.0010	mg/Kg		03/27/24 13:43	03/27/24 17:39	1
Xylenes, Total	ND		0.0020	mg/Kg		03/27/24 13:43	03/27/24 17:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		56 - 150	03/27/24 13:43	03/27/24 17:39	1
4-Bromofluorobenzene (Surr)	115		68 - 152	03/27/24 13:43	03/27/24 17:39	1
Dibromofluoromethane (Surr)	105		53 - 142	03/27/24 13:43	03/27/24 17:39	1
Toluene-d8 (Surr)	99		70 - 130	03/27/24 13:43	03/27/24 17:39	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		50	mg/Kg		03/26/24 15:06	03/29/24 13:24	1
Diesel Range Organics (Over C10-C28)	ND		50	mg/Kg		03/26/24 15:06	03/29/24 13:24	1
Oil Range Organics (Over C28-C36)	ND		50	mg/Kg		03/26/24 15:06	03/29/24 13:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	116		65 - 130	03/26/24 15:06	03/29/24 13:24	1
o-Terphenyl	130		65 - 130	03/26/24 15:06	03/29/24 13:24	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10		5.0	mg/Kg			04/12/24 13:25	1

Method: SW846 6010D - Metals (ICP)-Calculated

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.0		1.4	mg/Kg		04/11/24 04:41	04/11/24 12:58	1
Barium	55		0.93	mg/Kg		04/11/24 04:41	04/11/24 12:58	1
Cadmium	ND		0.93	mg/Kg		04/11/24 04:41	04/11/24 12:58	1
Calcium	2000		19	mg/Kg		04/11/24 04:41	04/11/24 12:58	1
Chromium	1.9		0.93	mg/Kg		04/11/24 04:41	04/11/24 12:58	1
Lead	2.9		0.93	mg/Kg		04/11/24 04:41	04/11/24 12:58	1
Magnesium	890		19	mg/Kg		04/11/24 04:41	04/11/24 12:58	1
Potassium	460		46	mg/Kg		04/11/24 04:41	04/11/24 12:58	1
Selenium	ND		2.8	mg/Kg		04/11/24 04:41	04/11/24 12:58	1
Silver	ND		1.9	mg/Kg		04/11/24 04:41	04/11/24 12:58	1
Sodium	100		46	mg/Kg		04/11/24 04:41	04/11/24 12:58	1
Sulfur	44		9.3	mg/Kg		04/11/24 04:41	04/11/24 12:58	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.019	mg/Kg		04/09/24 01:47	04/09/24 16:10	1

Eurofins Albuquerque

Client Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Client Sample ID: API 1 Vadose

Lab Sample ID: 885-1718-6

Date Collected: 03/22/24 12:10

Matrix: Solid

Date Received: 03/23/24 06:45

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0010	mg/Kg		03/27/24 13:43	03/27/24 18:02	1
Toluene	ND		0.0051	mg/Kg		03/27/24 13:43	03/27/24 18:02	1
Ethylbenzene	ND		0.0010	mg/Kg		03/27/24 13:43	03/27/24 18:02	1
Xylenes, Total	ND		0.0020	mg/Kg		03/27/24 13:43	03/27/24 18:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		56 - 150	03/27/24 13:43	03/27/24 18:02	1
4-Bromofluorobenzene (Surr)	115		68 - 152	03/27/24 13:43	03/27/24 18:02	1
Dibromofluoromethane (Surr)	108		53 - 142	03/27/24 13:43	03/27/24 18:02	1
Toluene-d8 (Surr)	108		70 - 130	03/27/24 13:43	03/27/24 18:02	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		50	mg/Kg		03/26/24 15:06	03/29/24 13:04	1
Diesel Range Organics (Over C10-C28)	ND		50	mg/Kg		03/26/24 15:06	03/29/24 13:04	1
Oil Range Organics (Over C28-C36)	ND		50	mg/Kg		03/26/24 15:06	03/29/24 13:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	127		65 - 130	03/26/24 15:06	03/29/24 13:04	1
o-Terphenyl	141	S1+	65 - 130	03/26/24 15:06	03/29/24 13:04	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	60		5.0	mg/Kg			04/12/24 13:30	1

Method: SW846 6010D - Metals (ICP)-Calculated

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.1		1.3	mg/Kg		04/08/24 15:29	04/09/24 13:02	1
Barium	63		0.85	mg/Kg		04/08/24 15:29	04/09/24 13:02	1
Cadmium	ND		0.85	mg/Kg		04/08/24 15:29	04/09/24 13:02	1
Calcium	2900		17	mg/Kg		04/08/24 15:29	04/09/24 13:02	1
Chromium	2.2		0.85	mg/Kg		04/08/24 15:29	04/09/24 13:02	1
Lead	3.7		0.85	mg/Kg		04/08/24 15:29	04/09/24 13:02	1
Magnesium	930		17	mg/Kg		04/08/24 15:29	04/09/24 13:02	1
Potassium	480		42	mg/Kg		04/08/24 15:29	04/09/24 13:02	1
Selenium	ND		2.5	mg/Kg		04/08/24 15:29	04/09/24 13:02	1
Silver	ND		1.7	mg/Kg		04/08/24 15:29	04/09/24 13:02	1
Sodium	170		42	mg/Kg		04/08/24 15:29	04/09/24 13:02	1
Sulfur	65		8.5	mg/Kg		04/08/24 15:29	04/09/24 13:02	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.019	mg/Kg		04/09/24 01:47	04/09/24 16:12	1

Eurofins Albuquerque

Client Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Client Sample ID: API 2 Vadose

Lab Sample ID: 885-1718-7

Date Collected: 03/22/24 12:20

Matrix: Solid

Date Received: 03/23/24 06:45

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0010	mg/Kg		03/27/24 13:43	03/27/24 18:26	1
Toluene	ND		0.0050	mg/Kg		03/27/24 13:43	03/27/24 18:26	1
Ethylbenzene	ND		0.0010	mg/Kg		03/27/24 13:43	03/27/24 18:26	1
Xylenes, Total	ND		0.0020	mg/Kg		03/27/24 13:43	03/27/24 18:26	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		56 - 150			03/27/24 13:43	03/27/24 18:26	1
4-Bromofluorobenzene (Surr)	114		68 - 152			03/27/24 13:43	03/27/24 18:26	1
Dibromofluoromethane (Surr)	107		53 - 142			03/27/24 13:43	03/27/24 18:26	1
Toluene-d8 (Surr)	104		70 - 130			03/27/24 13:43	03/27/24 18:26	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		50	mg/Kg		03/26/24 15:06	03/29/24 13:44	1
Diesel Range Organics (Over C10-C28)	ND		50	mg/Kg		03/26/24 15:06	03/29/24 13:44	1
Oil Range Organics (Over C28-C36)	ND		50	mg/Kg		03/26/24 15:06	03/29/24 13:44	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	128		65 - 130			03/26/24 15:06	03/29/24 13:44	1
o-Terphenyl	141	S1+	65 - 130			03/26/24 15:06	03/29/24 13:44	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	58		5.0	mg/Kg			04/09/24 04:08	1

Eurofins Albuquerque

Client Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Client Sample ID: API 3 Vadose

Lab Sample ID: 885-1718-8

Date Collected: 03/22/24 12:30

Matrix: Solid

Date Received: 03/23/24 06:45

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0010	mg/Kg		03/27/24 13:43	03/27/24 18:50	1
Toluene	ND		0.0050	mg/Kg		03/27/24 13:43	03/27/24 18:50	1
Ethylbenzene	ND		0.0010	mg/Kg		03/27/24 13:43	03/27/24 18:50	1
Xylenes, Total	ND		0.0020	mg/Kg		03/27/24 13:43	03/27/24 18:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		56 - 150	03/27/24 13:43	03/27/24 18:50	1
4-Bromofluorobenzene (Surr)	113		68 - 152	03/27/24 13:43	03/27/24 18:50	1
Dibromofluoromethane (Surr)	110		53 - 142	03/27/24 13:43	03/27/24 18:50	1
Toluene-d8 (Surr)	106		70 - 130	03/27/24 13:43	03/27/24 18:50	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		50	mg/Kg		03/26/24 15:06	04/02/24 05:36	1
Diesel Range Organics (Over C10-C28)	ND		50	mg/Kg		03/26/24 15:06	04/02/24 05:36	1
Oil Range Organics (Over C28-C36)	ND		50	mg/Kg		03/26/24 15:06	04/02/24 05:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		65 - 130	03/26/24 15:06	04/02/24 05:36	1
o-Terphenyl	115		65 - 130	03/26/24 15:06	04/02/24 05:36	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	57		5.0	mg/Kg			04/09/24 04:15	1

Eurofins Albuquerque

Client Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Client Sample ID: API 4 Vadose

Lab Sample ID: 885-1718-9

Date Collected: 03/22/24 12:40

Matrix: Solid

Date Received: 03/23/24 06:45

Method: SW846 8260C - Volatile Organic Compounds by GC/MS									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.0010	mg/Kg		03/27/24 13:43	03/27/24 19:13	1	
Toluene	ND		0.0050	mg/Kg		03/27/24 13:43	03/27/24 19:13	1	
Ethylbenzene	ND		0.0010	mg/Kg		03/27/24 13:43	03/27/24 19:13	1	
Xylenes, Total	ND		0.0020	mg/Kg		03/27/24 13:43	03/27/24 19:13	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	101		56 - 150			03/27/24 13:43	03/27/24 19:13	1	
4-Bromofluorobenzene (Surr)	112		68 - 152			03/27/24 13:43	03/27/24 19:13	1	
Dibromofluoromethane (Surr)	110		53 - 142			03/27/24 13:43	03/27/24 19:13	1	
Toluene-d8 (Surr)	103		70 - 130			03/27/24 13:43	03/27/24 19:13	1	
Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	ND		50	mg/Kg		03/26/24 15:06	04/02/24 05:56	1	
Diesel Range Organics (Over C10-C28)	ND		50	mg/Kg		03/26/24 15:06	04/02/24 05:56	1	
Oil Range Organics (Over C28-C36)	ND		50	mg/Kg		03/26/24 15:06	04/02/24 05:56	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1-Chlorooctane	109		65 - 130			03/26/24 15:06	04/02/24 05:56	1	
o-Terphenyl	120		65 - 130			03/26/24 15:06	04/02/24 05:56	1	
Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	57		5.0	mg/Kg			04/09/24 04:35	1	

Client Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Client Sample ID: API Treatment
Date Collected: 03/22/24 12:45
Date Received: 03/23/24 06:45

Lab Sample ID: 885-1718-10
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	ND		50	mg/Kg		03/26/24 15:06	04/02/24 06:17	1	
Diesel Range Organics (Over C10-C28)	77		50	mg/Kg		03/26/24 15:06	04/02/24 06:17	1	
Oil Range Organics (Over C28-C36)	ND		50	mg/Kg		03/26/24 15:06	04/02/24 06:17	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1-Chlorooctane	134	S1+	65 - 130			03/26/24 15:06	04/02/24 06:17	1	
o-Terphenyl	128		65 - 130			03/26/24 15:06	04/02/24 06:17	1	
Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	190		5.0	mg/Kg			04/09/24 04:42	1	

QC Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 860-151864/8
Matrix: Solid
Analysis Batch: 151864

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0010	mg/Kg			03/27/24 13:43	1
Toluene	ND		0.0050	mg/Kg			03/27/24 13:43	1
Ethylbenzene	ND		0.0010	mg/Kg			03/27/24 13:43	1
Xylenes, Total	ND		0.0020	mg/Kg			03/27/24 13:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		56 - 150		03/27/24 13:43	1
4-Bromofluorobenzene (Surr)	113		68 - 152		03/27/24 13:43	1
Dibromofluoromethane (Surr)	112		53 - 142		03/27/24 13:43	1
Toluene-d8 (Surr)	103		70 - 130		03/27/24 13:43	1

Lab Sample ID: LCS 860-151864/3
Matrix: Solid
Analysis Batch: 151864

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.0500	0.0449		mg/Kg		90	66 - 142
Toluene	0.0500	0.0464		mg/Kg		93	74 - 130
Ethylbenzene	0.0500	0.0488		mg/Kg		98	80 - 130
Xylenes, Total	0.100	0.0981		mg/Kg		98	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	108		56 - 150
4-Bromofluorobenzene (Surr)	109		68 - 152
Dibromofluoromethane (Surr)	110		53 - 142
Toluene-d8 (Surr)	109		70 - 130

Lab Sample ID: LCSD 860-151864/4
Matrix: Solid
Analysis Batch: 151864

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
Benzene	0.0500	0.0436		mg/Kg		87	66 - 142	3	25
Toluene	0.0500	0.0453		mg/Kg		91	74 - 130	2	25
Ethylbenzene	0.0500	0.0489		mg/Kg		98	80 - 130	0	25
Xylenes, Total	0.100	0.0981		mg/Kg		98	70 - 130	0	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	108		56 - 150
4-Bromofluorobenzene (Surr)	109		68 - 152
Dibromofluoromethane (Surr)	109		53 - 142
Toluene-d8 (Surr)	111		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 860-151680/1-A

Matrix: Solid

Analysis Batch: 151918

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 151680

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		50	mg/Kg		03/26/24 15:06	03/28/24 13:32	1
Diesel Range Organics (Over C10-C28)	ND		50	mg/Kg		03/26/24 15:06	03/28/24 13:32	1
Oil Range Organics (Over C28-C36)	ND		50	mg/Kg		03/26/24 15:06	03/28/24 13:32	1
Surrogate	%Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		65 - 130			03/26/24 15:06	03/28/24 13:32	1
o-Terphenyl	111		65 - 130			03/26/24 15:06	03/28/24 13:32	1

Lab Sample ID: MB 860-151680/1-A

Matrix: Solid

Analysis Batch: 152240

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 151680

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		50	mg/Kg		03/26/24 15:06	03/29/24 10:41	1
Diesel Range Organics (Over C10-C28)	ND		50	mg/Kg		03/26/24 15:06	03/29/24 10:41	1
Oil Range Organics (Over C28-C36)	ND		50	mg/Kg		03/26/24 15:06	03/29/24 10:41	1
Surrogate	%Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	110		65 - 130			03/26/24 15:06	03/29/24 10:41	1
o-Terphenyl	121		65 - 130			03/26/24 15:06	03/29/24 10:41	1

Lab Sample ID: LCS 860-151680/2-A

Matrix: Solid

Analysis Batch: 151918

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 151680

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	999	1050		mg/Kg		105	70 - 135
Diesel Range Organics (Over C10-C28)	999	1160		mg/Kg		116	70 - 135
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane	110		65 - 130				
o-Terphenyl	107		65 - 130				

Lab Sample ID: LCS 860-151680/2-A

Matrix: Solid

Analysis Batch: 152240

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 151680

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	999	1070		mg/Kg		107	70 - 135
Diesel Range Organics (Over C10-C28)	999	1250		mg/Kg		125	70 - 135

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QC Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 860-151680/2-A
Matrix: Solid
Analysis Batch: 152240

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 151680

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	116		65 - 130
o-Terphenyl	121		65 - 130

Lab Sample ID: LCSD 860-151680/3-A
Matrix: Solid
Analysis Batch: 151918

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 151680

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	999	1070		mg/Kg		107	70 - 135	2	35
Diesel Range Organics (Over C10-C28)	999	1190		mg/Kg		119	70 - 135	2	35

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	111		65 - 130
o-Terphenyl	109		65 - 130

Lab Sample ID: LCSD 860-151680/3-A
Matrix: Solid
Analysis Batch: 152240

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 151680

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	999	1030		mg/Kg		103	70 - 135	4	35
Diesel Range Organics (Over C10-C28)	999	1210		mg/Kg		121	70 - 135	4	35

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	111		65 - 130
o-Terphenyl	118		65 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-77559/1-A
Matrix: Solid
Analysis Batch: 77630

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		5.0	mg/Kg			04/09/24 01:51	1

Lab Sample ID: LCS 880-77559/2-A
Matrix: Solid
Analysis Batch: 77630

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Chloride	250	251		mg/Kg		101	90 - 110	

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QC Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-77559/3-A

Matrix: Solid

Analysis Batch: 77630

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	250		mg/Kg		100	90 - 110	0	20

Lab Sample ID: 885-1718-1 MS

Matrix: Solid

Analysis Batch: 77630

Client Sample ID: Crude Treatment

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	ND		250	260		mg/Kg		102	90 - 110		

Lab Sample ID: 885-1718-1 MSD

Matrix: Solid

Analysis Batch: 77630

Client Sample ID: Crude Treatment

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	ND		250	258		mg/Kg		102	90 - 110	1	20

Lab Sample ID: MB 880-77965/1-A

Matrix: Solid

Analysis Batch: 78024

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		5.0	mg/Kg			04/12/24 12:22	1

Lab Sample ID: LCS 880-77965/2-A

Matrix: Solid

Analysis Batch: 78024

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	270		mg/Kg		108	90 - 110		

Lab Sample ID: LCSD 880-77965/3-A

Matrix: Solid

Analysis Batch: 78024

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	270		mg/Kg		108	90 - 110	0	20

Method: 6010D - Metals (ICP)-Calculated

Lab Sample ID: MB 860-153054/1-A

Matrix: Solid

Analysis Batch: 153207

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 153054

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.5	mg/Kg		04/03/24 12:30	04/03/24 16:14	1
Barium	ND		1.0	mg/Kg		04/03/24 12:30	04/03/24 16:14	1
Cadmium	ND		1.0	mg/Kg		04/03/24 12:30	04/03/24 16:14	1
Calcium	ND		20	mg/Kg		04/03/24 12:30	04/03/24 16:14	1
Chromium	ND		1.0	mg/Kg		04/03/24 12:30	04/03/24 16:14	1
Lead	ND		1.0	mg/Kg		04/03/24 12:30	04/03/24 16:14	1

Eurofins Albuquerque

QC Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Method: 6010D - Metals (ICP)-Calculated (Continued)

Lab Sample ID: MB 860-153054/1-A

Matrix: Solid

Analysis Batch: 153207

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 153054

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	ND		20	mg/Kg		04/03/24 12:30	04/03/24 16:14	1
Potassium	ND		50	mg/Kg		04/03/24 12:30	04/03/24 16:14	1
Selenium	ND		3.0	mg/Kg		04/03/24 12:30	04/03/24 16:14	1
Silver	ND		2.0	mg/Kg		04/03/24 12:30	04/03/24 16:14	1
Sodium	ND		50	mg/Kg		04/03/24 12:30	04/03/24 16:14	1
Sulfur	ND		10	mg/Kg		04/03/24 12:30	04/03/24 16:14	1

Lab Sample ID: LCS 860-153054/2-A

Matrix: Solid

Analysis Batch: 153207

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 153054

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	100	89.5		mg/Kg		90	80 - 120
Barium	100	90.3		mg/Kg		90	80 - 120
Cadmium	100	89.4		mg/Kg		89	80 - 120
Calcium	2500	2340		mg/Kg		94	80 - 120
Chromium	100	91.6		mg/Kg		92	80 - 120
Lead	100	93.2		mg/Kg		93	80 - 120
Magnesium	2500	2300		mg/Kg		92	80 - 120
Potassium	1000	916		mg/Kg		92	80 - 120
Selenium	100	86.3		mg/Kg		86	80 - 120
Silver	50.0	45.3		mg/Kg		91	80 - 120
Sodium	2500	2340		mg/Kg		94	80 - 120
Sulfur	500	454		mg/Kg		91	80 - 120

Lab Sample ID: LCSD 860-153054/3-A

Matrix: Solid

Analysis Batch: 153207

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 153054

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Arsenic	100	89.5		mg/Kg		90	80 - 120	0	20
Barium	100	90.1		mg/Kg		90	80 - 120	0	20
Cadmium	100	89.3		mg/Kg		89	80 - 120	0	20
Calcium	2500	2340		mg/Kg		94	80 - 120	0	20
Chromium	100	91.5		mg/Kg		92	80 - 120	0	20
Lead	100	92.9		mg/Kg		93	80 - 120	0	20
Magnesium	2500	2300		mg/Kg		92	80 - 120	0	20
Potassium	1000	913		mg/Kg		91	80 - 120	0	20
Selenium	100	86.9		mg/Kg		87	80 - 120	1	20
Silver	50.0	45.3		mg/Kg		91	80 - 120	0	20
Sodium	2500	2330		mg/Kg		93	80 - 120	0	20
Sulfur	500	453		mg/Kg		91	80 - 120	0	20

Lab Sample ID: MB 860-153786/1-A

Matrix: Solid

Analysis Batch: 153945

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 153786

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.5	mg/Kg		04/08/24 15:28	04/09/24 12:42	1

Eurofins Albuquerque

QC Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Method: 6010D - Metals (ICP)-Calculated (Continued)

Lab Sample ID: MB 860-153786/1-A

Matrix: Solid

Analysis Batch: 153945

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 153786

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		1.0	mg/Kg		04/08/24 15:28	04/09/24 12:42	1
Cadmium	ND		1.0	mg/Kg		04/08/24 15:28	04/09/24 12:42	1
Calcium	ND		20	mg/Kg		04/08/24 15:28	04/09/24 12:42	1
Chromium	ND		1.0	mg/Kg		04/08/24 15:28	04/09/24 12:42	1
Lead	ND		1.0	mg/Kg		04/08/24 15:28	04/09/24 12:42	1
Magnesium	ND		20	mg/Kg		04/08/24 15:28	04/09/24 12:42	1
Potassium	ND		50	mg/Kg		04/08/24 15:28	04/09/24 12:42	1
Selenium	ND		3.0	mg/Kg		04/08/24 15:28	04/09/24 12:42	1
Silver	ND		2.0	mg/Kg		04/08/24 15:28	04/09/24 12:42	1
Sodium	ND		50	mg/Kg		04/08/24 15:28	04/09/24 12:42	1
Sulfur	ND		10	mg/Kg		04/08/24 15:28	04/09/24 12:42	1

Lab Sample ID: LCS 860-153786/2-A

Matrix: Solid

Analysis Batch: 153945

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 153786

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	100	92.2		mg/Kg		92	80 - 120
Barium	100	93.1		mg/Kg		93	80 - 120
Cadmium	100	92.3		mg/Kg		92	80 - 120
Calcium	2500	2340		mg/Kg		94	80 - 120
Chromium	100	95.4		mg/Kg		95	80 - 120
Lead	100	95.9		mg/Kg		96	80 - 120
Magnesium	2500	2270		mg/Kg		91	80 - 120
Potassium	1000	874		mg/Kg		87	80 - 120
Selenium	100	91.3		mg/Kg		91	80 - 120
Silver	50.0	45.1		mg/Kg		90	80 - 120
Sodium	2500	2220		mg/Kg		89	80 - 120
Sulfur	500	465		mg/Kg		93	80 - 120

Lab Sample ID: LCSD 860-153786/3-A

Matrix: Solid

Analysis Batch: 153945

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 153786

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	100	93.3		mg/Kg		93	80 - 120	1	20
Barium	100	93.0		mg/Kg		93	80 - 120	0	20
Cadmium	100	92.6		mg/Kg		93	80 - 120	0	20
Calcium	2500	2340		mg/Kg		94	80 - 120	0	20
Chromium	100	95.6		mg/Kg		96	80 - 120	0	20
Lead	100	96.2		mg/Kg		96	80 - 120	0	20
Magnesium	2500	2270		mg/Kg		91	80 - 120	0	20
Potassium	1000	873		mg/Kg		87	80 - 120	0	20
Selenium	100	91.8		mg/Kg		92	80 - 120	1	20
Silver	50.0	45.3		mg/Kg		91	80 - 120	0	20
Sodium	2500	2220		mg/Kg		89	80 - 120	0	20
Sulfur	500	463		mg/Kg		93	80 - 120	0	20

Eurofins Albuquerque

QC Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Method: 6010D - Metals (ICP)-Calculated (Continued)

Lab Sample ID: 885-1718-4 MS

Matrix: Solid

Analysis Batch: 153945

Client Sample ID: Pettigrew Vadose

Prep Type: Total/NA

Prep Batch: 153786

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	1.5	F1	87.7	66.5	F1	mg/Kg		74	75 - 125
Barium	150	F1	87.7	208	F1	mg/Kg		63	75 - 125
Cadmium	ND	F1	87.7	66.8		mg/Kg		76	75 - 125
Calcium	2500		2190	4690		mg/Kg		99	75 - 125
Chromium	1.1		87.7	73.2		mg/Kg		82	75 - 125
Lead	2.2		87.7	73.2		mg/Kg		81	75 - 125
Magnesium	560		2190	2470		mg/Kg		87	75 - 125
Potassium	230		877	1030		mg/Kg		91	75 - 125
Selenium	ND	F1	87.7	61.6	F1	mg/Kg		69	75 - 125
Silver	ND	F1	43.9	27.1	F1	mg/Kg		62	75 - 125
Sodium	64	F1	2190	1720		mg/Kg		75	75 - 125
Sulfur	63	F1	439	382	F1	mg/Kg		73	75 - 125

Lab Sample ID: 885-1718-4 MSD

Matrix: Solid

Analysis Batch: 153945

Client Sample ID: Pettigrew Vadose

Prep Type: Total/NA

Prep Batch: 153786

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	1.5	F1	87.7	64.4	F1	mg/Kg		72	75 - 125	3	20
Barium	150	F1	87.7	180	F1	mg/Kg		31	75 - 125	14	20
Cadmium	ND	F1	87.7	64.5	F1	mg/Kg		74	75 - 125	3	20
Calcium	2500		2190	4590		mg/Kg		94	75 - 125	2	20
Chromium	1.1		87.7	70.7		mg/Kg		79	75 - 125	4	20
Lead	2.2		87.7	70.7		mg/Kg		78	75 - 125	4	20
Magnesium	560		2190	2370		mg/Kg		82	75 - 125	4	20
Potassium	230		877	982		mg/Kg		86	75 - 125	4	20
Selenium	ND	F1	87.7	59.7	F1	mg/Kg		67	75 - 125	3	20
Silver	ND	F1	43.9	26.1	F1	mg/Kg		59	75 - 125	4	20
Sodium	64	F1	2190	1650	F1	mg/Kg		72	75 - 125	4	20
Sulfur	63	F1	439	366	F1	mg/Kg		69	75 - 125	4	20

Lab Sample ID: MB 860-154216/1-A

Matrix: Solid

Analysis Batch: 154505

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 154216

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.5	mg/Kg		04/11/24 04:41	04/11/24 12:30	1
Barium	ND		1.0	mg/Kg		04/11/24 04:41	04/11/24 12:30	1
Cadmium	ND		1.0	mg/Kg		04/11/24 04:41	04/11/24 12:30	1
Calcium	ND		20	mg/Kg		04/11/24 04:41	04/11/24 12:30	1
Chromium	ND		1.0	mg/Kg		04/11/24 04:41	04/11/24 12:30	1
Lead	ND		1.0	mg/Kg		04/11/24 04:41	04/11/24 12:30	1
Magnesium	ND		20	mg/Kg		04/11/24 04:41	04/11/24 12:30	1
Potassium	ND		50	mg/Kg		04/11/24 04:41	04/11/24 12:30	1
Selenium	ND		3.0	mg/Kg		04/11/24 04:41	04/11/24 12:30	1
Silver	ND		2.0	mg/Kg		04/11/24 04:41	04/11/24 12:30	1
Sodium	ND		50	mg/Kg		04/11/24 04:41	04/11/24 12:30	1
Sulfur	ND		10	mg/Kg		04/11/24 04:41	04/11/24 12:30	1

Eurofins Albuquerque

QC Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Method: 6010D - Metals (ICP)-Calculated (Continued)

Lab Sample ID: LCS 860-154216/2-A
Matrix: Solid
Analysis Batch: 154505

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 154216

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	100	99.1		mg/Kg		99	80 - 120
Barium	100	101		mg/Kg		101	80 - 120
Cadmium	100	98.7		mg/Kg		99	80 - 120
Calcium	2500	2520		mg/Kg		101	80 - 120
Chromium	100	103		mg/Kg		103	80 - 120
Lead	100	104		mg/Kg		104	80 - 120
Magnesium	2500	2400		mg/Kg		96	80 - 120
Potassium	1000	952		mg/Kg		95	80 - 120
Selenium	100	98.6		mg/Kg		99	80 - 120
Silver	50.0	48.7		mg/Kg		97	80 - 120
Sodium	2500	2400		mg/Kg		96	80 - 120
Sulfur	500	503		mg/Kg		101	80 - 120

Lab Sample ID: LCSD 860-154216/3-A
Matrix: Solid
Analysis Batch: 154505

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 154216

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	100	99.3		mg/Kg		99	80 - 120	0	20
Barium	100	101		mg/Kg		101	80 - 120	0	20
Cadmium	100	98.9		mg/Kg		99	80 - 120	0	20
Calcium	2500	2520		mg/Kg		101	80 - 120	0	20
Chromium	100	103		mg/Kg		103	80 - 120	0	20
Lead	100	104		mg/Kg		104	80 - 120	0	20
Magnesium	2500	2410		mg/Kg		96	80 - 120	0	20
Potassium	1000	955		mg/Kg		96	80 - 120	0	20
Selenium	100	100		mg/Kg		100	80 - 120	1	20
Silver	50.0	49.0		mg/Kg		98	80 - 120	1	20
Sodium	2500	2400		mg/Kg		96	80 - 120	0	20
Sulfur	500	503		mg/Kg		101	80 - 120	0	20

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 860-153847/1-A
Matrix: Solid
Analysis Batch: 154004

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 153847

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020	mg/Kg		04/09/24 01:47	04/09/24 15:29	1

Lab Sample ID: LCS 860-153847/2-A
Matrix: Solid
Analysis Batch: 154004

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 153847

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.200	0.207		mg/Kg		103	80 - 120

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QC Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Method: 7471B - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 860-153847/3-A				Client Sample ID: Lab Control Sample Dup							
Matrix: Solid				Prep Type: Total/NA							
Analysis Batch: 154004				Prep Batch: 153847							
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury			0.200	0.205		mg/Kg		103	80 - 120	1	20

QC Association Summary

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

GC/MS VOA

Analysis Batch: 151864

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1718-2	East Line Vadose	Total/NA	Solid	8260C	151886
885-1718-3	West Line Vadose	Total/NA	Solid	8260C	151886
885-1718-4	Pettigrew Vadose	Total/NA	Solid	8260C	151886
885-1718-5	Bisti Vadose	Total/NA	Solid	8260C	151886
885-1718-6	API 1 Vadose	Total/NA	Solid	8260C	151886
885-1718-7	API 2 Vadose	Total/NA	Solid	8260C	151886
885-1718-8	API 3 Vadose	Total/NA	Solid	8260C	151886
885-1718-9	API 4 Vadose	Total/NA	Solid	8260C	151886
MB 860-151864/8	Method Blank	Total/NA	Solid	8260C	
LCS 860-151864/3	Lab Control Sample	Total/NA	Solid	8260C	
LCSD 860-151864/4	Lab Control Sample Dup	Total/NA	Solid	8260C	

Prep Batch: 151886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1718-2	East Line Vadose	Total/NA	Solid	5030C	
885-1718-3	West Line Vadose	Total/NA	Solid	5030C	
885-1718-4	Pettigrew Vadose	Total/NA	Solid	5030C	
885-1718-5	Bisti Vadose	Total/NA	Solid	5030C	
885-1718-6	API 1 Vadose	Total/NA	Solid	5030C	
885-1718-7	API 2 Vadose	Total/NA	Solid	5030C	
885-1718-8	API 3 Vadose	Total/NA	Solid	5030C	
885-1718-9	API 4 Vadose	Total/NA	Solid	5030C	

GC Semi VOA

Prep Batch: 151680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1718-1	Crude Treatment	Total/NA	Solid	8015NM Prep	
885-1718-2	East Line Vadose	Total/NA	Solid	8015NM Prep	
885-1718-3	West Line Vadose	Total/NA	Solid	8015NM Prep	
885-1718-4	Pettigrew Vadose	Total/NA	Solid	8015NM Prep	
885-1718-5	Bisti Vadose	Total/NA	Solid	8015NM Prep	
885-1718-6	API 1 Vadose	Total/NA	Solid	8015NM Prep	
885-1718-7	API 2 Vadose	Total/NA	Solid	8015NM Prep	
885-1718-8	API 3 Vadose	Total/NA	Solid	8015NM Prep	
885-1718-9	API 4 Vadose	Total/NA	Solid	8015NM Prep	
885-1718-10	API Treatment	Total/NA	Solid	8015NM Prep	
MB 860-151680/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 860-151680/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 860-151680/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 151918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1718-1	Crude Treatment	Total/NA	Solid	8015B NM	151680
885-1718-2	East Line Vadose	Total/NA	Solid	8015B NM	151680
885-1718-3	West Line Vadose	Total/NA	Solid	8015B NM	151680
885-1718-4	Pettigrew Vadose	Total/NA	Solid	8015B NM	151680
MB 860-151680/1-A	Method Blank	Total/NA	Solid	8015B NM	151680
LCS 860-151680/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	151680
LCSD 860-151680/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	151680

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QC Association Summary

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

GC Semi VOA

Analysis Batch: 152240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1718-5	Bisti Vadose	Total/NA	Solid	8015B NM	151680
885-1718-6	API 1 Vadose	Total/NA	Solid	8015B NM	151680
885-1718-7	API 2 Vadose	Total/NA	Solid	8015B NM	151680
MB 860-151680/1-A	Method Blank	Total/NA	Solid	8015B NM	151680
LCS 860-151680/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	151680
LCSD 860-151680/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	151680

Analysis Batch: 152581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1718-8	API 3 Vadose	Total/NA	Solid	8015B NM	151680
885-1718-9	API 4 Vadose	Total/NA	Solid	8015B NM	151680
885-1718-10	API Treatment	Total/NA	Solid	8015B NM	151680

HPLC/IC

Leach Batch: 77559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1718-1	Crude Treatment	Soluble	Solid	DI Leach	
885-1718-7	API 2 Vadose	Soluble	Solid	DI Leach	
885-1718-8	API 3 Vadose	Soluble	Solid	DI Leach	
885-1718-9	API 4 Vadose	Soluble	Solid	DI Leach	
885-1718-10	API Treatment	Soluble	Solid	DI Leach	
MB 880-77559/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-77559/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-77559/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
885-1718-1 MS	Crude Treatment	Soluble	Solid	DI Leach	
885-1718-1 MSD	Crude Treatment	Soluble	Solid	DI Leach	

Analysis Batch: 77630

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1718-1	Crude Treatment	Soluble	Solid	300.0	77559
885-1718-7	API 2 Vadose	Soluble	Solid	300.0	77559
885-1718-8	API 3 Vadose	Soluble	Solid	300.0	77559
885-1718-9	API 4 Vadose	Soluble	Solid	300.0	77559
885-1718-10	API Treatment	Soluble	Solid	300.0	77559
MB 880-77559/1-A	Method Blank	Soluble	Solid	300.0	77559
LCS 880-77559/2-A	Lab Control Sample	Soluble	Solid	300.0	77559
LCSD 880-77559/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	77559
885-1718-1 MS	Crude Treatment	Soluble	Solid	300.0	77559
885-1718-1 MSD	Crude Treatment	Soluble	Solid	300.0	77559

Leach Batch: 77965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1718-2	East Line Vadose	Soluble	Solid	DI Leach	
885-1718-3	West Line Vadose	Soluble	Solid	DI Leach	
885-1718-4	Pettigrew Vadose	Soluble	Solid	DI Leach	
885-1718-5	Bisti Vadose	Soluble	Solid	DI Leach	
885-1718-6	API 1 Vadose	Soluble	Solid	DI Leach	
MB 880-77965/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-77965/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-77965/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Eurofins Albuquerque

QC Association Summary

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

HPLC/IC

Analysis Batch: 78024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1718-2	East Line Vadose	Soluble	Solid	300.0	77965
885-1718-3	West Line Vadose	Soluble	Solid	300.0	77965
885-1718-4	Pettigrew Vadose	Soluble	Solid	300.0	77965
885-1718-5	Bisti Vadose	Soluble	Solid	300.0	77965
885-1718-6	API 1 Vadose	Soluble	Solid	300.0	77965
MB 880-77965/1-A	Method Blank	Soluble	Solid	300.0	77965
LCS 880-77965/2-A	Lab Control Sample	Soluble	Solid	300.0	77965
LCSD 880-77965/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	77965

Metals

Prep Batch: 153054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1718-2	East Line Vadose	Total/NA	Solid	3051A	
885-1718-3	West Line Vadose	Total/NA	Solid	3051A	
885-1718-4	Pettigrew Vadose	Total/NA	Solid	3051A	
MB 860-153054/1-A	Method Blank	Total/NA	Solid	3051A	
LCS 860-153054/2-A	Lab Control Sample	Total/NA	Solid	3051A	
LCSD 860-153054/3-A	Lab Control Sample Dup	Total/NA	Solid	3051A	

Analysis Batch: 153207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1718-2	East Line Vadose	Total/NA	Solid	6010D	153054
885-1718-2	East Line Vadose	Total/NA	Solid	6010D	153054
885-1718-3	West Line Vadose	Total/NA	Solid	6010D	153054
885-1718-4	Pettigrew Vadose	Total/NA	Solid	6010D	153054
MB 860-153054/1-A	Method Blank	Total/NA	Solid	6010D	153054
LCS 860-153054/2-A	Lab Control Sample	Total/NA	Solid	6010D	153054
LCSD 860-153054/3-A	Lab Control Sample Dup	Total/NA	Solid	6010D	153054

Prep Batch: 153786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1718-6	API 1 Vadose	Total/NA	Solid	3051A	
MB 860-153786/1-A	Method Blank	Total/NA	Solid	3051A	
LCS 860-153786/2-A	Lab Control Sample	Total/NA	Solid	3051A	
LCSD 860-153786/3-A	Lab Control Sample Dup	Total/NA	Solid	3051A	
885-1718-4 MS	Pettigrew Vadose	Total/NA	Solid	3051A	
885-1718-4 MSD	Pettigrew Vadose	Total/NA	Solid	3051A	

Prep Batch: 153847

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1718-2	East Line Vadose	Total/NA	Solid	7471B	
885-1718-3	West Line Vadose	Total/NA	Solid	7471B	
885-1718-4	Pettigrew Vadose	Total/NA	Solid	7471B	
885-1718-5	Bisti Vadose	Total/NA	Solid	7471B	
885-1718-6	API 1 Vadose	Total/NA	Solid	7471B	
MB 860-153847/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 860-153847/2-A	Lab Control Sample	Total/NA	Solid	7471B	
LCSD 860-153847/3-A	Lab Control Sample Dup	Total/NA	Solid	7471B	

Eurofins Albuquerque

QC Association Summary

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Metals

Analysis Batch: 153945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1718-6	API 1 Vadose	Total/NA	Solid	6010D	153786
MB 860-153786/1-A	Method Blank	Total/NA	Solid	6010D	153786
LCS 860-153786/2-A	Lab Control Sample	Total/NA	Solid	6010D	153786
LCSD 860-153786/3-A	Lab Control Sample Dup	Total/NA	Solid	6010D	153786
885-1718-4 MS	Pettigrew Vadose	Total/NA	Solid	6010D	153786
885-1718-4 MSD	Pettigrew Vadose	Total/NA	Solid	6010D	153786

Analysis Batch: 154004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1718-2	East Line Vadose	Total/NA	Solid	7471B	153847
885-1718-3	West Line Vadose	Total/NA	Solid	7471B	153847
885-1718-4	Pettigrew Vadose	Total/NA	Solid	7471B	153847
885-1718-5	Bisti Vadose	Total/NA	Solid	7471B	153847
885-1718-6	API 1 Vadose	Total/NA	Solid	7471B	153847
MB 860-153847/1-A	Method Blank	Total/NA	Solid	7471B	153847
LCS 860-153847/2-A	Lab Control Sample	Total/NA	Solid	7471B	153847
LCSD 860-153847/3-A	Lab Control Sample Dup	Total/NA	Solid	7471B	153847

Prep Batch: 154216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1718-5	Bisti Vadose	Total/NA	Solid	3051A	
MB 860-154216/1-A	Method Blank	Total/NA	Solid	3051A	
LCS 860-154216/2-A	Lab Control Sample	Total/NA	Solid	3051A	
LCSD 860-154216/3-A	Lab Control Sample Dup	Total/NA	Solid	3051A	

Analysis Batch: 154505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1718-5	Bisti Vadose	Total/NA	Solid	6010D	154216
MB 860-154216/1-A	Method Blank	Total/NA	Solid	6010D	154216
LCS 860-154216/2-A	Lab Control Sample	Total/NA	Solid	6010D	154216
LCSD 860-154216/3-A	Lab Control Sample Dup	Total/NA	Solid	6010D	154216

Eurofins Albuquerque

Lab Chronicle

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Client Sample ID: Crude Treatment
Date Collected: 03/22/24 12:00
Date Received: 03/23/24 06:45

Lab Sample ID: 885-1718-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	8015NM Prep			151680	DS	EET HOU	03/26/24 15:06
Total/NA	Analysis	8015B NM		1	151918	TTD	EET HOU	03/28/24 15:13
Soluble	Leach	DI Leach			77559	SA	EET MID	04/08/24 07:50
Soluble	Analysis	300.0		1	77630	SMC	EET MID	04/09/24 03:47

Client Sample ID: East Line Vadose
Date Collected: 03/22/24 11:30
Date Received: 03/23/24 06:45

Lab Sample ID: 885-1718-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			151886	KLV	EET HOU	03/27/24 13:43
Total/NA	Analysis	8260C		1	151864	KLV	EET HOU	03/27/24 16:28
Total/NA	Prep	8015NM Prep			151680	DS	EET HOU	03/26/24 15:06
Total/NA	Analysis	8015B NM		1	151918	TTD	EET HOU	03/28/24 15:34
Soluble	Leach	DI Leach			77965	SA	EET MID	04/11/24 15:42
Soluble	Analysis	300.0		1	78024	SMC	EET MID	04/12/24 13:06
Total/NA	Prep	3051A			153054	AGR	EET HOU	04/03/24 12:30
Total/NA	Analysis	6010D		1	153207	JDM	EET HOU	04/03/24 17:03
Total/NA	Prep	3051A			153054	AGR	EET HOU	04/03/24 12:30
Total/NA	Analysis	6010D		50	153207	JDM	EET HOU	04/03/24 17:10
Total/NA	Prep	7471B			153847	AGR	EET HOU	04/09/24 01:47
Total/NA	Analysis	7471B		1	154004	SHZ	EET HOU	04/09/24 16:06

Client Sample ID: West Line Vadose
Date Collected: 03/22/24 11:40
Date Received: 03/23/24 06:45

Lab Sample ID: 885-1718-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			151886	KLV	EET HOU	03/27/24 13:43
Total/NA	Analysis	8260C		1	151864	KLV	EET HOU	03/27/24 16:52
Total/NA	Prep	8015NM Prep			151680	DS	EET HOU	03/26/24 15:06
Total/NA	Analysis	8015B NM		1	151918	TTD	EET HOU	03/28/24 15:54
Soluble	Leach	DI Leach			77965	SA	EET MID	04/11/24 15:42
Soluble	Analysis	300.0		1	78024	SMC	EET MID	04/12/24 13:21
Total/NA	Prep	3051A			153054	AGR	EET HOU	04/03/24 12:30
Total/NA	Analysis	6010D		1	153207	JDM	EET HOU	04/03/24 17:05
Total/NA	Prep	7471B			153847	AGR	EET HOU	04/09/24 01:47
Total/NA	Analysis	7471B		1	154004	SHZ	EET HOU	04/09/24 16:08

Lab Chronicle

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Client Sample ID: Pettigrew Vadose

Lab Sample ID: 885-1718-4

Date Collected: 03/22/24 11:45

Matrix: Solid

Date Received: 03/23/24 06:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			151886	KLV	EET HOU	03/27/24 13:43
Total/NA	Analysis	8260C		1	151864	KLV	EET HOU	03/27/24 17:15
Total/NA	Prep	8015NM Prep			151680	DS	EET HOU	03/26/24 15:06
Total/NA	Analysis	8015B NM		1	151918	TTD	EET HOU	03/28/24 16:14
Soluble	Leach	DI Leach			77965	SA	EET MID	04/11/24 15:42
Soluble	Analysis	300.0		1	78024	SMC	EET MID	04/12/24 13:35
Total/NA	Prep	3051A			153054	AGR	EET HOU	04/03/24 12:30
Total/NA	Analysis	6010D		1	153207	JDM	EET HOU	04/03/24 17:07
Total/NA	Prep	7471B			153847	AGR	EET HOU	04/09/24 01:47
Total/NA	Analysis	7471B		1	154004	SHZ	EET HOU	04/09/24 16:09

Client Sample ID: Bisti Vadose

Lab Sample ID: 885-1718-5

Date Collected: 03/22/24 11:55

Matrix: Solid

Date Received: 03/23/24 06:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			151886	KLV	EET HOU	03/27/24 13:43
Total/NA	Analysis	8260C		1	151864	KLV	EET HOU	03/27/24 17:39
Total/NA	Prep	8015NM Prep			151680	DS	EET HOU	03/26/24 15:06
Total/NA	Analysis	8015B NM		1	152240	W1N	EET HOU	03/29/24 13:24
Soluble	Leach	DI Leach			77965	SA	EET MID	04/11/24 15:42
Soluble	Analysis	300.0		1	78024	SMC	EET MID	04/12/24 13:25
Total/NA	Prep	3051A			154216	AGR	EET HOU	04/11/24 04:41
Total/NA	Analysis	6010D		1	154505	JDM	EET HOU	04/11/24 12:58
Total/NA	Prep	7471B			153847	AGR	EET HOU	04/09/24 01:47
Total/NA	Analysis	7471B		1	154004	SHZ	EET HOU	04/09/24 16:10

Client Sample ID: API 1 Vadose

Lab Sample ID: 885-1718-6

Date Collected: 03/22/24 12:10

Matrix: Solid

Date Received: 03/23/24 06:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			151886	KLV	EET HOU	03/27/24 13:43
Total/NA	Analysis	8260C		1	151864	KLV	EET HOU	03/27/24 18:02
Total/NA	Prep	8015NM Prep			151680	DS	EET HOU	03/26/24 15:06
Total/NA	Analysis	8015B NM		1	152240	W1N	EET HOU	03/29/24 13:04
Soluble	Leach	DI Leach			77965	SA	EET MID	04/11/24 15:42
Soluble	Analysis	300.0		1	78024	SMC	EET MID	04/12/24 13:30
Total/NA	Prep	3051A			153786	PB	EET HOU	04/08/24 15:29
Total/NA	Analysis	6010D		1	153945	JDM	EET HOU	04/09/24 13:02
Total/NA	Prep	7471B			153847	AGR	EET HOU	04/09/24 01:47
Total/NA	Analysis	7471B		1	154004	SHZ	EET HOU	04/09/24 16:12

Eurofins Albuquerque

Lab Chronicle

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Client Sample ID: API 2 Vadose

Lab Sample ID: 885-1718-7

Date Collected: 03/22/24 12:20

Matrix: Solid

Date Received: 03/23/24 06:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			151886	KLV	EET HOU	03/27/24 13:43
Total/NA	Analysis	8260C		1	151864	KLV	EET HOU	03/27/24 18:26
Total/NA	Prep	8015NM Prep			151680	DS	EET HOU	03/26/24 15:06
Total/NA	Analysis	8015B NM		1	152240	W1N	EET HOU	03/29/24 13:44
Soluble	Leach	DI Leach			77559	SA	EET MID	04/08/24 07:50
Soluble	Analysis	300.0		1	77630	SMC	EET MID	04/09/24 04:08

Client Sample ID: API 3 Vadose

Lab Sample ID: 885-1718-8

Date Collected: 03/22/24 12:30

Matrix: Solid

Date Received: 03/23/24 06:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			151886	KLV	EET HOU	03/27/24 13:43
Total/NA	Analysis	8260C		1	151864	KLV	EET HOU	03/27/24 18:50
Total/NA	Prep	8015NM Prep			151680	DS	EET HOU	03/26/24 15:06
Total/NA	Analysis	8015B NM		1	152581	T1S	EET HOU	04/02/24 05:36
Soluble	Leach	DI Leach			77559	SA	EET MID	04/08/24 07:50
Soluble	Analysis	300.0		1	77630	SMC	EET MID	04/09/24 04:15

Client Sample ID: API 4 Vadose

Lab Sample ID: 885-1718-9

Date Collected: 03/22/24 12:40

Matrix: Solid

Date Received: 03/23/24 06:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			151886	KLV	EET HOU	03/27/24 13:43
Total/NA	Analysis	8260C		1	151864	KLV	EET HOU	03/27/24 19:13
Total/NA	Prep	8015NM Prep			151680	DS	EET HOU	03/26/24 15:06
Total/NA	Analysis	8015B NM		1	152581	T1S	EET HOU	04/02/24 05:56
Soluble	Leach	DI Leach			77559	SA	EET MID	04/08/24 07:50
Soluble	Analysis	300.0		1	77630	SMC	EET MID	04/09/24 04:35

Client Sample ID: API Treatment

Lab Sample ID: 885-1718-10

Date Collected: 03/22/24 12:45

Matrix: Solid

Date Received: 03/23/24 06:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	8015NM Prep			151680	DS	EET HOU	03/26/24 15:06
Total/NA	Analysis	8015B NM		1	152581	T1S	EET HOU	04/02/24 06:17
Soluble	Leach	DI Leach			77559	SA	EET MID	04/08/24 07:50
Soluble	Analysis	300.0		1	77630	SMC	EET MID	04/09/24 04:42

Laboratory References:

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Albuquerque

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-1718-1

Laboratory: Eurofins Houston

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-00759	08-03-24
Florida	NELAP	E871002	06-30-24
Louisiana (All)	NELAP	03054	06-30-24
Oklahoma	NELAP	1306	08-31-24
Oklahoma	State	2023-139	08-31-24
Texas	NELAP	T104704215	06-30-24
Texas	TCEQ Water Supply	T104704215	12-28-25
USDA	US Federal Programs	525-23-79-79507	03-20-26

Laboratory: Eurofins Midland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24

Eurofins Albuquerque

4901 Hawkins NE
Albuquerque, NM 87109

Chain of Custody Record



Environment Testing

Client Information (Sub Contract Lab)						Sampler		Lab P/N:		Carrier Tracking No(s):		COC No:	
Client Contact: Shipping/Receiving						Phone:		Caldwell, John				885-208.1	
Company: Eurofins Environment Testing South Cent						E-Mail:		John.caldwell@et.eurofins.com		State of Origin: New Mexico		Page: Page 1 of 2	
Address: 4145 Greenbrier Dr Stafford TX, 77477 Phone: 281-240-4200(Tel) Email:						Due Date Requested: 4/11/2024 TAT Requested (days):		Accreditations Required (See note): NELAP Oregon		Job #: 885-1718-1			
Project Name: Bist LF Site:						Project #: 88501527 SSOW#:		Analysis Requested		Preservation Codes:			
Sample Identification - Client ID (Lab ID)						Sample Date		Sample Time		Sample Type (G=grab)		Matrix (Muscle, Shell, Organism, Avian)	
Crude Treatment (885-1718-1)						3/22/24		12:00		Solid		Field Filtered Sample (Yes or No) ☒	
East Line Vadose (885-1718-2)						3/22/24		11:30		Solid		Perform MS/MSD (Yes or No) ☒	
West Line Vadose (885-1718-3)						3/22/24		11:40		Solid		8015MOD_NM/8015NM_S_Prep Full TPH	
Pettigrew Vadose (885-1718-4)						3/22/24		11:45		Solid		300_ORGFm_28D/300_Prep Chloride	
Bist Vadose (885-1718-5)						3/22/24		11:55		Solid		8260C/5030C_H BTEX	
API 1 Vadose (885-1718-6)						3/22/24		12:10		Solid		6010D/3051A (MOD) RCRA 8 (excl Hg) + Ca Mg K Na S	
API 2 Vadose (885-1718-7)						3/22/24		12:20		Solid		7471B/7471B_Prep Hg	
API 3 Vadose (885-1718-8)						3/22/24		12:30		Solid			
API 4 Vadose (885-1718-9)						3/22/24		12:40		Solid			
Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC 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/test/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other institutions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.													
Possible Hazard Identification													
Unconfirmed													
Deliverable Requested: I, II, III, IV Other (specify)						Primary Deliverable Rank: 2							
Empty Kit Relinquished by:						Date:		Time:		Method of Shipment:			
Relinquished by:						Date/Time:		Company:		Received by:		Date/Time:	
Relinquished by:						Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact:						Custody Seal No.				Cooler Temperature(s) °C and Other Remarks:			
Δ Yes Δ No													

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 885-1718-1

Login Number: 1718
List Number: 1
Creator: Lowman, Nick

List Source: Eurofins Albuquerque

Question	Answer	Comment
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.	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 <6mm (1/4").	True	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 885-1718-1

Login Number: 1718

List Number: 2

Creator: Baker, Jeremiah

List Source: Eurofins Houston

List Creation: 03/26/24 12:29 PM

Question	Answer	Comment
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.	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 <6mm (1/4").	True	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 885-1718-1

Login Number: 1718
List Number: 3
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 04/08/24 08:45 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
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	
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	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 885-1718-1

Login Number: 1718
List Number: 4
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 04/12/24 08:04 AM

Question	Answer	Comment
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.	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 <6mm (1/4").	True	



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Stuart Hyde
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701
Generated 7/31/2024 9:00:58 AM

JOB DESCRIPTION

Bisti LF

JOB NUMBER

885-7126-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

Eurofins Albuquerque

Job Notes

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 Environment Testing South Central, LLC Project Manager.

Authorization



Generated
7/31/2024 9:00:58 AM

Authorized for release by
John Caldwell, Project Manager
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(505)345-3975

Client: Ensolum
Project/Site: Bisti LF

Laboratory Job ID: 885-7126-1

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Definitions/Glossary

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-7126-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

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: Ensolum
Project: Bisti LF

Job ID: 885-7126-1

Job ID: 885-7126-1Eurofins Albuquerque

Job Narrative 885-7126-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 6/28/2024 7:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.7°C.

Gasoline Range Organics

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

GC VOA

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

Diesel Range Organics

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

HPLC/IC

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

Eurofins Albuquerque

Client Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-7126-1

Client Sample ID: W line vadose

Lab Sample ID: 885-7126-1

Date Collected: 06/27/24 12:00

Matrix: Solid

Date Received: 06/28/24 07:00

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.9	mg/Kg		07/01/24 10:15	07/02/24 16:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		35 - 166			07/01/24 10:15	07/02/24 16:15	1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		07/01/24 10:15	07/02/24 16:15	1
Ethylbenzene	ND		0.049	mg/Kg		07/01/24 10:15	07/02/24 16:15	1
Toluene	ND		0.049	mg/Kg		07/01/24 10:15	07/02/24 16:15	1
Xylenes, Total	ND		0.049	mg/Kg		07/01/24 10:15	07/02/24 16:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		48 - 145			07/01/24 10:15	07/02/24 16:15	1

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.9	mg/Kg		07/01/24 14:34	07/01/24 19:33	1
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		07/01/24 14:34	07/01/24 19:33	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	99		62 - 134			07/01/24 14:34	07/01/24 19:33	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60	mg/Kg		07/01/24 16:04	07/01/24 17:44	20

Eurofins Albuquerque

Client Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-7126-1

Client Sample ID: E line vadose

Lab Sample ID: 885-7126-2

Date Collected: 06/27/24 12:10

Matrix: Solid

Date Received: 06/28/24 07:00

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.9	mg/Kg		07/01/24 10:15	07/02/24 16:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		35 - 166			07/01/24 10:15	07/02/24 16:37	1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		07/01/24 10:15	07/02/24 16:37	1
Ethylbenzene	ND		0.049	mg/Kg		07/01/24 10:15	07/02/24 16:37	1
Toluene	ND		0.049	mg/Kg		07/01/24 10:15	07/02/24 16:37	1
Xylenes, Total	ND		0.049	mg/Kg		07/01/24 10:15	07/02/24 16:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		48 - 145			07/01/24 10:15	07/02/24 16:37	1

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.7	mg/Kg		07/01/24 14:34	07/01/24 19:46	1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		07/01/24 14:34	07/01/24 19:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	101		62 - 134			07/01/24 14:34	07/01/24 19:46	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60	mg/Kg		07/01/24 16:04	07/01/24 17:56	20

Eurofins Albuquerque

Client Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-7126-1

Client Sample ID: Pettigrew vadose

Lab Sample ID: 885-7126-3

Date Collected: 06/27/24 12:20

Matrix: Solid

Date Received: 06/28/24 07:00

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.9	mg/Kg		07/01/24 10:15	07/02/24 16:59	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		35 - 166			07/01/24 10:15	07/02/24 16:59	1
Method: SW846 8021B - Volatile Organic Compounds (GC)								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		07/01/24 10:15	07/02/24 16:59	1
Ethylbenzene	ND		0.049	mg/Kg		07/01/24 10:15	07/02/24 16:59	1
Toluene	ND		0.049	mg/Kg		07/01/24 10:15	07/02/24 16:59	1
Xylenes, Total	ND		0.049	mg/Kg		07/01/24 10:15	07/02/24 16:59	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		48 - 145			07/01/24 10:15	07/02/24 16:59	1
Method: SW846 8015D - Diesel Range Organics (DRO) (GC)								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		07/01/24 14:34	07/01/24 19:59	1
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		07/01/24 14:34	07/01/24 19:59	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	107		62 - 134			07/01/24 14:34	07/01/24 19:59	1
Method: EPA 300.0 - Anions, Ion Chromatography								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60	mg/Kg		07/01/24 16:04	07/01/24 18:08	20

Client Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-7126-1

Client Sample ID: Bisti vadose

Lab Sample ID: 885-7126-4

Date Collected: 06/27/24 12:30

Matrix: Solid

Date Received: 06/28/24 07:00

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		07/01/24 10:15	07/02/24 17:21	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	97		35 - 166			07/01/24 10:15	07/02/24 17:21	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		07/01/24 10:15	07/02/24 17:21	1	
Ethylbenzene	ND		0.050	mg/Kg		07/01/24 10:15	07/02/24 17:21	1	
Toluene	ND		0.050	mg/Kg		07/01/24 10:15	07/02/24 17:21	1	
Xylenes, Total	ND		0.050	mg/Kg		07/01/24 10:15	07/02/24 17:21	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	93		48 - 145			07/01/24 10:15	07/02/24 17:21	1	
Method: SW846 8015D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		9.9	mg/Kg		07/01/24 14:34	07/01/24 20:12	1	
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		07/01/24 14:34	07/01/24 20:12	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	103		62 - 134			07/01/24 14:34	07/01/24 20:12	1	
Method: EPA 300.0 - Anions, Ion Chromatography									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	ND		61	mg/Kg		07/01/24 16:04	07/01/24 18:21	20	

Client Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-7126-1

Client Sample ID: API vadose

Lab Sample ID: 885-7126-5

Date Collected: 06/27/24 13:00

Matrix: Solid

Date Received: 06/28/24 07:00

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		4.9	mg/Kg		07/01/24 10:15	07/02/24 17:43		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	96		35 - 166			07/01/24 10:15	07/02/24 17:43		1
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		07/01/24 10:15	07/02/24 17:43		1
Ethylbenzene	ND		0.049	mg/Kg		07/01/24 10:15	07/02/24 17:43		1
Toluene	ND		0.049	mg/Kg		07/01/24 10:15	07/02/24 17:43		1
Xylenes, Total	ND		0.049	mg/Kg		07/01/24 10:15	07/02/24 17:43		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	93		48 - 145			07/01/24 10:15	07/02/24 17:43		1
Method: SW846 8015D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		9.7	mg/Kg		07/01/24 14:34	07/01/24 20:26		1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		07/01/24 14:34	07/01/24 20:26		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	102		62 - 134			07/01/24 14:34	07/01/24 20:26		1
Method: EPA 300.0 - Anions, Ion Chromatography									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	150		59	mg/Kg		07/01/24 16:04	07/01/24 18:58		20

QC Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-7126-1

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-7690/1-A

Matrix: Solid

Analysis Batch: 7845

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 7690

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		07/01/24 10:15	07/02/24 13:19	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		35 - 166			07/01/24 10:15	07/02/24 13:19	1

Lab Sample ID: LCS 885-7690/2-A

Matrix: Solid

Analysis Batch: 7845

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 7690

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]	25.0	25.7		mg/Kg		103	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	204	S1+	35 - 166				

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-7690/1-A

Matrix: Solid

Analysis Batch: 7849

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 7690

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		07/01/24 10:15	07/02/24 13:19	1
Ethylbenzene	ND		0.050	mg/Kg		07/01/24 10:15	07/02/24 13:19	1
Toluene	ND		0.050	mg/Kg		07/01/24 10:15	07/02/24 13:19	1
Xylenes, Total	ND		0.050	mg/Kg		07/01/24 10:15	07/02/24 13:19	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		48 - 145			07/01/24 10:15	07/02/24 13:19	1

Lab Sample ID: LCS 885-7690/3-A

Matrix: Solid

Analysis Batch: 7849

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 7690

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	1.00	0.872		mg/Kg		87	70 - 130
Ethylbenzene	1.00	0.898		mg/Kg		90	70 - 130
Toluene	1.00	0.882		mg/Kg		88	70 - 130
Xylenes, Total	3.00	2.70		mg/Kg		90	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	95		48 - 145				

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QC Sample Results

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-7126-1

Method: 8015D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-7719/1-A						Client Sample ID: Method Blank			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 7694						Prep Batch: 7719			
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		07/01/24 14:34	07/01/24 18:27	1	
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		07/01/24 14:34	07/01/24 18:27	1	
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	102		62 - 134			07/01/24 14:34	07/01/24 18:27	1	

Lab Sample ID: LCS 885-7719/2-A						Client Sample ID: Lab Control Sample			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 7694						Prep Batch: 7719			
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]			50.0	48.3		mg/Kg		97	60 - 135
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
Di-n-octyl phthalate (Surr)	106		62 - 134						

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-7712/1-A						Client Sample ID: Method Blank			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 7733						Prep Batch: 7712			
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	ND		3.0	mg/Kg		07/01/24 12:56	07/01/24 14:27	1	

Lab Sample ID: LCS 885-7712/2-A						Client Sample ID: Lab Control Sample			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 7733						Prep Batch: 7712			
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			30.0	29.6		mg/Kg		99	90 - 110

Lab Sample ID: MB 885-7733/4						Client Sample ID: Method Blank			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 7733									
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	ND		0.50	mg/Kg			07/01/24 13:14	1	

Lab Sample ID: MRL 885-7733/3						Client Sample ID: Lab Control Sample			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 7733									
Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			0.500	0.557		mg/L		111	50 - 150

Eurofins Albuquerque

QC Association Summary

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-7126-1

GC VOA

Prep Batch: 7690

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7126-1	W line vadose	Total/NA	Solid	5030C	
885-7126-2	E line vadose	Total/NA	Solid	5030C	
885-7126-3	Pettigrew vadose	Total/NA	Solid	5030C	
885-7126-4	Bisti vadose	Total/NA	Solid	5030C	
885-7126-5	API vadose	Total/NA	Solid	5030C	
MB 885-7690/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-7690/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-7690/3-A	Lab Control Sample	Total/NA	Solid	5030C	

Analysis Batch: 7845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7126-1	W line vadose	Total/NA	Solid	8015D	7690
885-7126-2	E line vadose	Total/NA	Solid	8015D	7690
885-7126-3	Pettigrew vadose	Total/NA	Solid	8015D	7690
885-7126-4	Bisti vadose	Total/NA	Solid	8015D	7690
885-7126-5	API vadose	Total/NA	Solid	8015D	7690
MB 885-7690/1-A	Method Blank	Total/NA	Solid	8015D	7690
LCS 885-7690/2-A	Lab Control Sample	Total/NA	Solid	8015D	7690

Analysis Batch: 7849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7126-1	W line vadose	Total/NA	Solid	8021B	7690
885-7126-2	E line vadose	Total/NA	Solid	8021B	7690
885-7126-3	Pettigrew vadose	Total/NA	Solid	8021B	7690
885-7126-4	Bisti vadose	Total/NA	Solid	8021B	7690
885-7126-5	API vadose	Total/NA	Solid	8021B	7690
MB 885-7690/1-A	Method Blank	Total/NA	Solid	8021B	7690
LCS 885-7690/3-A	Lab Control Sample	Total/NA	Solid	8021B	7690

GC Semi VOA

Analysis Batch: 7694

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7126-1	W line vadose	Total/NA	Solid	8015D	7719
885-7126-2	E line vadose	Total/NA	Solid	8015D	7719
885-7126-3	Pettigrew vadose	Total/NA	Solid	8015D	7719
885-7126-4	Bisti vadose	Total/NA	Solid	8015D	7719
885-7126-5	API vadose	Total/NA	Solid	8015D	7719
MB 885-7719/1-A	Method Blank	Total/NA	Solid	8015D	7719
LCS 885-7719/2-A	Lab Control Sample	Total/NA	Solid	8015D	7719

Prep Batch: 7719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7126-1	W line vadose	Total/NA	Solid	SHAKE	
885-7126-2	E line vadose	Total/NA	Solid	SHAKE	
885-7126-3	Pettigrew vadose	Total/NA	Solid	SHAKE	
885-7126-4	Bisti vadose	Total/NA	Solid	SHAKE	
885-7126-5	API vadose	Total/NA	Solid	SHAKE	
MB 885-7719/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-7719/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Eurofins Albuquerque

QC Association Summary

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-7126-1

HPLC/IC

Prep Batch: 7712

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7126-1	W line vadose	Total/NA	Solid	300_Prep	
885-7126-2	E line vadose	Total/NA	Solid	300_Prep	
885-7126-3	Pettigrew vadose	Total/NA	Solid	300_Prep	
885-7126-4	Bisti vadose	Total/NA	Solid	300_Prep	
885-7126-5	API vadose	Total/NA	Solid	300_Prep	
MB 885-7712/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-7712/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 7733

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7126-1	W line vadose	Total/NA	Solid	300.0	7712
885-7126-2	E line vadose	Total/NA	Solid	300.0	7712
885-7126-3	Pettigrew vadose	Total/NA	Solid	300.0	7712
885-7126-4	Bisti vadose	Total/NA	Solid	300.0	7712
885-7126-5	API vadose	Total/NA	Solid	300.0	7712
MB 885-7712/1-A	Method Blank	Total/NA	Solid	300.0	7712
MB 885-7733/4	Method Blank	Total/NA	Solid	300.0	
LCS 885-7712/2-A	Lab Control Sample	Total/NA	Solid	300.0	7712
MRL 885-7733/3	Lab Control Sample	Total/NA	Solid	300.0	

Lab Chronicle

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-7126-1

Client Sample ID: W line vadose

Lab Sample ID: 885-7126-1

Date Collected: 06/27/24 12:00

Matrix: Solid

Date Received: 06/28/24 07:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8015D		1	7845	RA	EET ALB	07/02/24 16:15
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8021B		1	7849	RA	EET ALB	07/02/24 16:15
Total/NA	Prep	SHAKE			7719	KR	EET ALB	07/01/24 14:34
Total/NA	Analysis	8015D		1	7694	DH	EET ALB	07/01/24 19:33
Total/NA	Prep	300_Prep			7712	JT	EET ALB	07/01/24 16:04
Total/NA	Analysis	300.0		20	7733	JT	EET ALB	07/01/24 17:44

Client Sample ID: E line vadose

Lab Sample ID: 885-7126-2

Date Collected: 06/27/24 12:10

Matrix: Solid

Date Received: 06/28/24 07:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8015D		1	7845	RA	EET ALB	07/02/24 16:37
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8021B		1	7849	RA	EET ALB	07/02/24 16:37
Total/NA	Prep	SHAKE			7719	KR	EET ALB	07/01/24 14:34
Total/NA	Analysis	8015D		1	7694	DH	EET ALB	07/01/24 19:46
Total/NA	Prep	300_Prep			7712	JT	EET ALB	07/01/24 16:04
Total/NA	Analysis	300.0		20	7733	JT	EET ALB	07/01/24 17:56

Client Sample ID: Pettigrew vadose

Lab Sample ID: 885-7126-3

Date Collected: 06/27/24 12:20

Matrix: Solid

Date Received: 06/28/24 07:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8015D		1	7845	RA	EET ALB	07/02/24 16:59
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8021B		1	7849	RA	EET ALB	07/02/24 16:59
Total/NA	Prep	SHAKE			7719	KR	EET ALB	07/01/24 14:34
Total/NA	Analysis	8015D		1	7694	DH	EET ALB	07/01/24 19:59
Total/NA	Prep	300_Prep			7712	JT	EET ALB	07/01/24 16:04
Total/NA	Analysis	300.0		20	7733	JT	EET ALB	07/01/24 18:08

Client Sample ID: Bisti vadose

Lab Sample ID: 885-7126-4

Date Collected: 06/27/24 12:30

Matrix: Solid

Date Received: 06/28/24 07:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8015D		1	7845	RA	EET ALB	07/02/24 17:21

Eurofins Albuquerque

Lab Chronicle

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-7126-1

Client Sample ID: Bisti vadose
Date Collected: 06/27/24 12:30
Date Received: 06/28/24 07:00

Lab Sample ID: 885-7126-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8021B		1	7849	RA	EET ALB	07/02/24 17:21
Total/NA	Prep	SHAKE			7719	KR	EET ALB	07/01/24 14:34
Total/NA	Analysis	8015D		1	7694	DH	EET ALB	07/01/24 20:12
Total/NA	Prep	300_Prep			7712	JT	EET ALB	07/01/24 16:04
Total/NA	Analysis	300.0		20	7733	JT	EET ALB	07/01/24 18:21

Client Sample ID: API vadose
Date Collected: 06/27/24 13:00
Date Received: 06/28/24 07:00

Lab Sample ID: 885-7126-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8015D		1	7845	RA	EET ALB	07/02/24 17:43
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8021B		1	7849	RA	EET ALB	07/02/24 17:43
Total/NA	Prep	SHAKE			7719	KR	EET ALB	07/01/24 14:34
Total/NA	Analysis	8015D		1	7694	DH	EET ALB	07/01/24 20:26
Total/NA	Prep	300_Prep			7712	JT	EET ALB	07/01/24 16:04
Total/NA	Analysis	300.0		20	7733	JT	EET ALB	07/01/24 18:58

Laboratory References:
EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Bisti LF

Job ID: 885-7126-1

Laboratory: Eurofins Albuquerque

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	NM100001	02-26-25

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 885-7126-1

Login Number: 7126
List Number: 1
Creator: Proctor, Nancy

List Source: Eurofins Albuquerque

Question	Answer	Comment
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").	True	



TABLE 1 2024 TREATMENT ZONE SOIL ANALYTICAL RESULTS Bisti Landfarm Western Refining Southwest LLC San Juan County, New Mexico				
Cell	Sample ID	Sample Date	TPH (mg/kg)	Chloride (mg/kg)
19.15.36.15 Treatment Zone Closure Performance Standards			2,500	1,000
Crude Treatment	Crude Treatment	3/22/24	<50	<5
API Treatment	API Treatment	3/22/24	77	190

Notes:*mg/kg: Milligrams per kilograms**TPH: Total petroleum hydrocarbons**<: Indicates result is less than the stated laboratory practical quantitation limit (PQL)*



TABLE 2 2024 QUARTERLY AND SEMI-ANNUAL VADOSE ZONE SOIL ANALYTICAL RESULTS Bisti Landfarm Western Refining Southwest LLC San Juan County, New Mexico										
Cell	Source Area	Sample Date	Sample ID	TPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
Background Sample Result or Laboratory Practical Quantitation Limit				<50	<0.05	<0.05	<0.05	<0.05	<0.05	<50
Crude Cell	West Line	3/22/24	West Line Vadose	<50	<0.0010	<0.0051	<0.0010	<0.0020	<0.0051	8.3
		6/27/24	W Line Vadose	<50	<0.025	<0.049	<0.049	<0.049	<0.049	<60
	East Line	3/22/24	East Line Vadose	<50	<0.0010	<0.0050	<0.0010	<0.0020	<0.0050	11
		6/27/24	E Line Vadose	<48	<0.024	<0.049	<0.049	<0.049	<0.049	<60
	Bisti	3/22/24	Bisti Vadose	<50	<0.0010	<0.0050	<0.0010	<0.0020	<0.0050	10
		6/27/24	Bisti Vadose	<50	<0.025	<0.050	<0.050	<0.050	<0.050	<61
	Pettigrew	3/22/24	Pettigrew Vadose	<50	<0.0010	<0.0050	<0.0010	<0.0020	<0.0050	10
		6/27/24	Pettigrew Vadose	<50	<0.025	<0.049	<0.049	<0.049	<0.049	<60
API Cell	API	3/22/24	API 1 Vadose	<50	<0.0010	<0.0051	<0.0010	<0.0020	<0.0051	60
			API 2 Vadose	<50	<0.0010	<0.0050	<0.0010	<0.0020	<0.0050	58
			API 3 Vadose	<50	<0.0010	<0.0050	<0.0010	<0.0020	<0.0050	57
			API 3 Vadose	<50	<0.0010	<0.0050	<0.0010	<0.0020	<0.0050	57
		6/27/24	API Vadose	<48	<0.025	<0.049	<0.049	<0.049	<0.049	150

Notes:
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
mg/kg: Milligrams per kilogram
TPH: Total Petroleum Hydrocarbon
<: Indicates result less than the stated laboratory practical quantitation limit (PQL)
Concentrations in **bold** exceed higher of the background sample result or laboratory PQL



TABLE 3 2024 ANNUAL VADOSE ZONE SOIL ANALYTICAL RESULTS Bisti Landfarm Western Refining Southwest LLC San Juan County, New Mexico																
Cell	Source Area	Sample ID	Sample Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Calcium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Magnesium (mg/kg)	Mercury (mg/kg)	Potassium (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Sodium (mg/kg)	Sulfate (mg/kg)
Background Sample Result or Laboratory Practical Quantitation Limit				2.8	180	<1.3	2,500	<5.0	6.8	1,300	<0.5	810	<2.5	<1.3	NE	140
NMED/EPA Soil Screening Level (1)				7.07	4,390	70.5	8,850,000	96.6	400	1,550,000	10.9	15,600,000	391	391	7,820,000	NE
Crude Cell	West Line	West Line Vadose	3/22/24	1.7	280	<1.0	6,100	1.6	2.8	860	<0.018	400	<3.0	<2.0	99	110
	East Line	East Line Vadose	3/22/24	1.6	360	<0.94	14,000	1.3	2.7	930	<0.019	370	<2.8	<1.9	110	140
	Bisti	Bisti Vadose	3/22/24	2.0	55	<0.93	2,000	1.9	2.9	890	<0.019	460	<2.8	<1.9	100	44
	Pettigrew	Pettigrew Vadose	3/22/24	1.4	49	<0.93	1,900	1.1	2.5	640	<0.019	270	<2.8	<1.9	75	43
API Cell	API Cell	API 1 Vadose	3/22/24	2.1	63	<0.085	2,900	2.2	3.7	930	<0.019	480	<2.5	<1.7	170	65

Notes:
EPA: Environmental Protection Agency
NE: Not established
mg/kg: Milligrams per kilogram
NMED: New Mexico Environment Department
<: Indicates result less than the stated laboratory practical quantitation limit (PQL)
Concentrations in **bold** exceed the Site background sample result/laboratory PQL
(1): Soil screening levels are based on the most stringent (lowest) levels from the "NMED Risk Assessment Guidance for Site Investigations and Remediation, Volume I - Soil Screening Guidance for Human Health Risk Assessments" (November 2022) and the United States EPA regional screening levels for inhalation of fugitive dust using the EPA online "Regional Screening Level Calculator"

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 386248

CONDITIONS

Operator: Western Refining Southwest LLC 539 South Main Street Findlay, OH 45840	OGRID: 267595
	Action Number: 386248
	Action Type: [C-137] Non-Fee SWMF Submittal (SWMF NON-FEE SUBMITTAL)

CONDITIONS

Created By	Condition	Condition Date
Ibarr	None	9/25/2024