ENSOLUM

October 27, 2022

Mr. Brad Jones
New Mexico Oil Conservation Division
New Mexico Energy, Minerals, and Natural Resources Department
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

Re: Notification of Release
Bisti Landfarm
San Juan County, New Mexico
NMOCD Rule 711 Permit Number: NM-02-0010
Western Refining Southwest LLC, Marathon Petroleum Company LP

Mr. Jones:

On behalf of Western Refining Southwest, LLC (Western), Ensolum, LLC (Ensolum) is submitting this *Notification of Release* in response to soil sampling data collected on February 10, 2022 (first quarter) and September 22, 2022 (third quarter) at the Bisti Landfarm (the Site, shown on Figure 1). Soil compliance monitoring activities were performed during the first, second, and third quarter sampling events in accordance with New Mexico Landfarm Permit Number NM-02-0010 (approved under former Rule 711) and the current requirements set forth in 19.15.36.15 of the New Mexico Administrative Code (NMAC).

In accordance with the landfarm permit and 19.15.36.15 NMAC, soil samples were collected for quarterly compliance monitoring from the vadose zone at depths of approximately 3 feet below native ground surface. Four randomly selected, discrete soil samples were collected from below each treatment cell (Crude Cell and API Cell locations are presented in Figure 2) during the first and third quarter sampling events. Specifically, during each event, four discrete samples were collected from the Crude Cell and four discrete samples were collected from the API Cell at the locations indicated on Figure 3. Samples were submitted to Hall Environmental Analysis Laboratory (Hall) and analyzed for total petroleum hydrocarbons (TPH) by Environmental Protection Agency (EPA) Method 418.1 or EPA Method 8015, benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8021B, and chloride by EPA Method 300.0.

Analytical results from the first quarter sampling event (February 10, 2022) indicated that chloride was detected above the Site background concentration/laboratory practical quantitation limit (PQL) in two samples: East Line Vadose Zone and API 2 Vadose. Chloride, TPH, and BTEX concentrations were not detected in any of the remaining samples above the Site background/laboratory PQLs. Analytical results collected during the second quarter 2022 sampling event (June 20, 2022) indicated that TPH, BTEX, and/or chloride did not exceed background/laboratory PQL concentrations. Analytical results from the third quarter sampling event (September 22, 2022) indicated that chloride was detected above the Site background concentration/laboratory practical quantitation limit (PQL) in two samples: Pettigrew Vadose Zone and API 3 Vadose. Chloride, TPH, and BTEX concentrations were not detected in any of the

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remaining samples above the Site background/laboratory PQLs. Vadose-zone analytical results from these events are summarized in Table 1. Sample locations are shown on Figure 3, with complete laboratory analytical reports attached as Appendix A.

As defined in Subsection E of 19.15.36.15 NMAC, a “release” of chloride to vadose zone soils was identified at the Site. In response, Western will collect four randomly selected, discrete samples (from a depth of 3 feet below native ground surface) around each vadose zone sample with an exceedance of the Site background/laboratory PQLs (total of 16 discrete samples). Samples will be analyzed for the constituents and methods listed in attached Table 2. The results of this re-sampling event and a *Release Response Action Plan* will be submitted to NMOCD within 45 days of this notification for review and approval. The *Release Response Action Plan* will address any changes in the landfarm operation to prevent further contamination and, if necessary, outline a plan to remediate existing contamination.

Ensolum appreciates the opportunity to provide this document to NMOCD. Please do not hesitate to contact the undersigned with any questions or comments.

Sincerely,
Ensolum, LLC

Stuart Hyde, LG
Senior Geologist
(970) 903-1607
shyde@ensolum.com

Ashley Ager, MS, PG
Program Manager, Geologist
(970) 946-1093
aager@ensolum.com

Attachments:

Figure 1: Site Location Map
Figure 2: Site Map
Figure 3: Vadose Zone Sample Locations

Table 1: 2022 Quarterly and Semi-Annual Vadose Zone Soils Analytical Results
Table 2: Background/Practical Quantitation Limit Concentrations

Appendix A: Laboratory Analytical Reports & Chain-of-Custody Documentation

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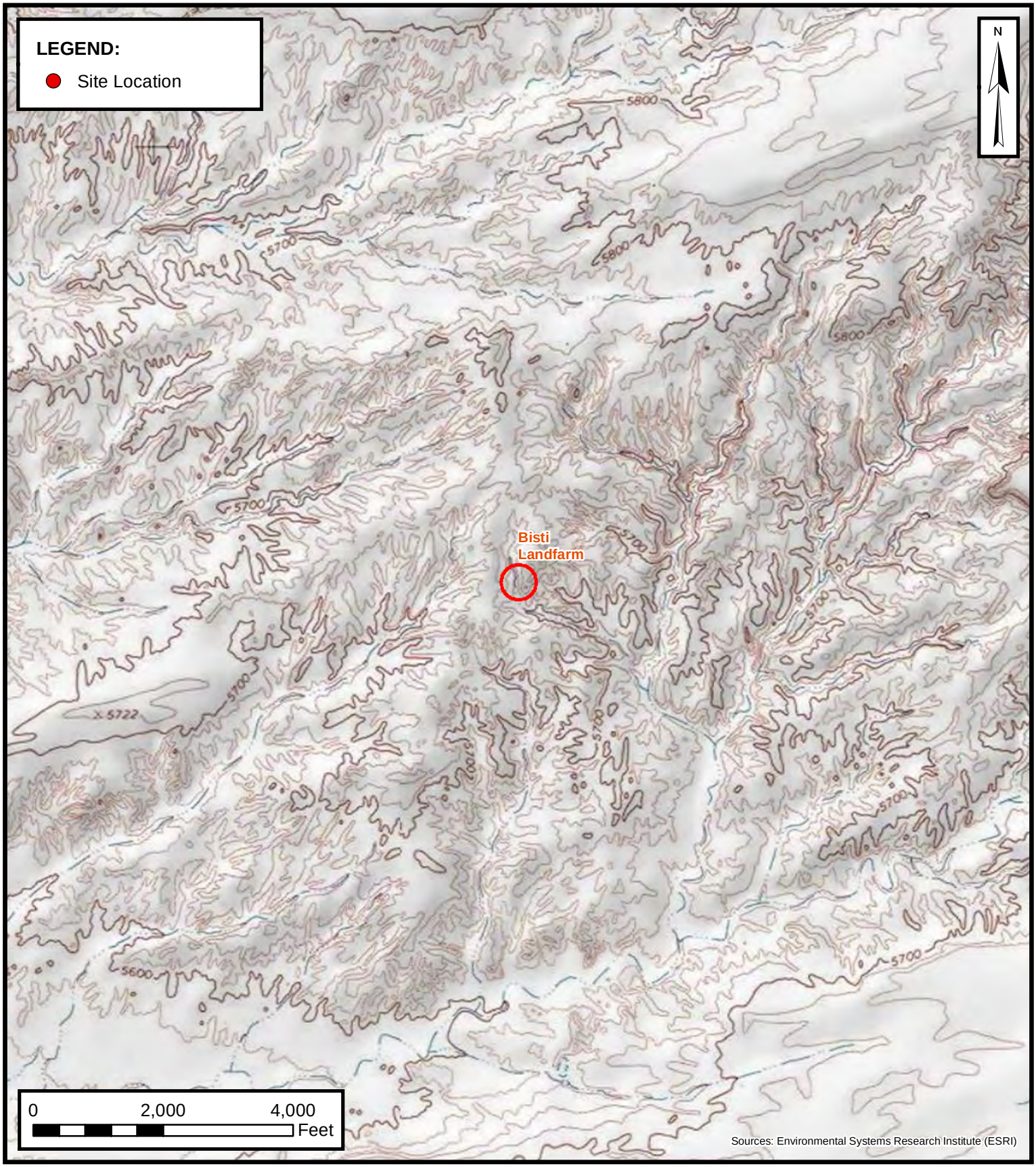
FIGURES



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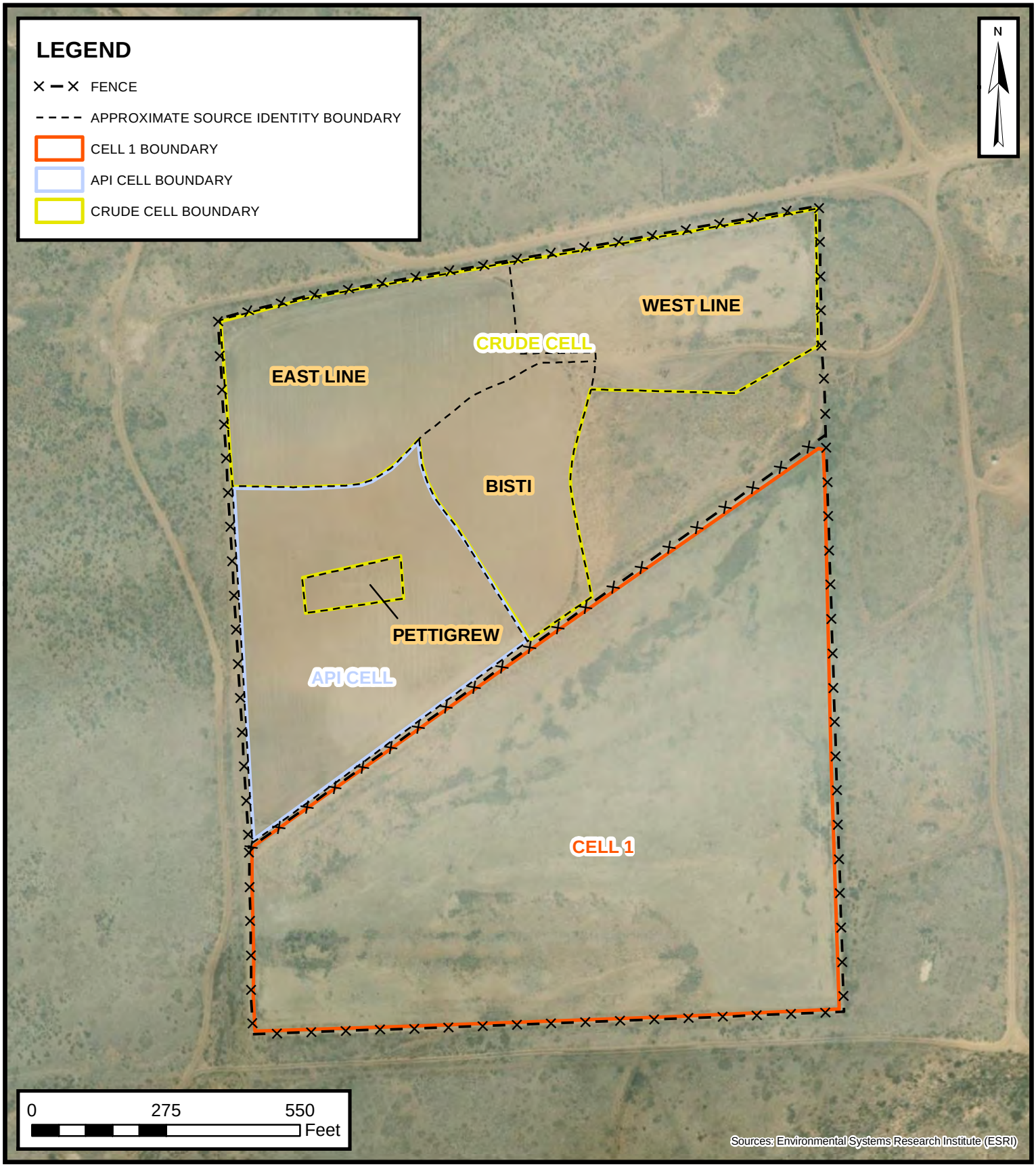
Site Location Map

BISTI LANDFARM
SEC 16 T25N R12W
SAN JUAN COUNTY, NM

WESTERN REFINING SOUTHWEST, LLC

FIGURE
1



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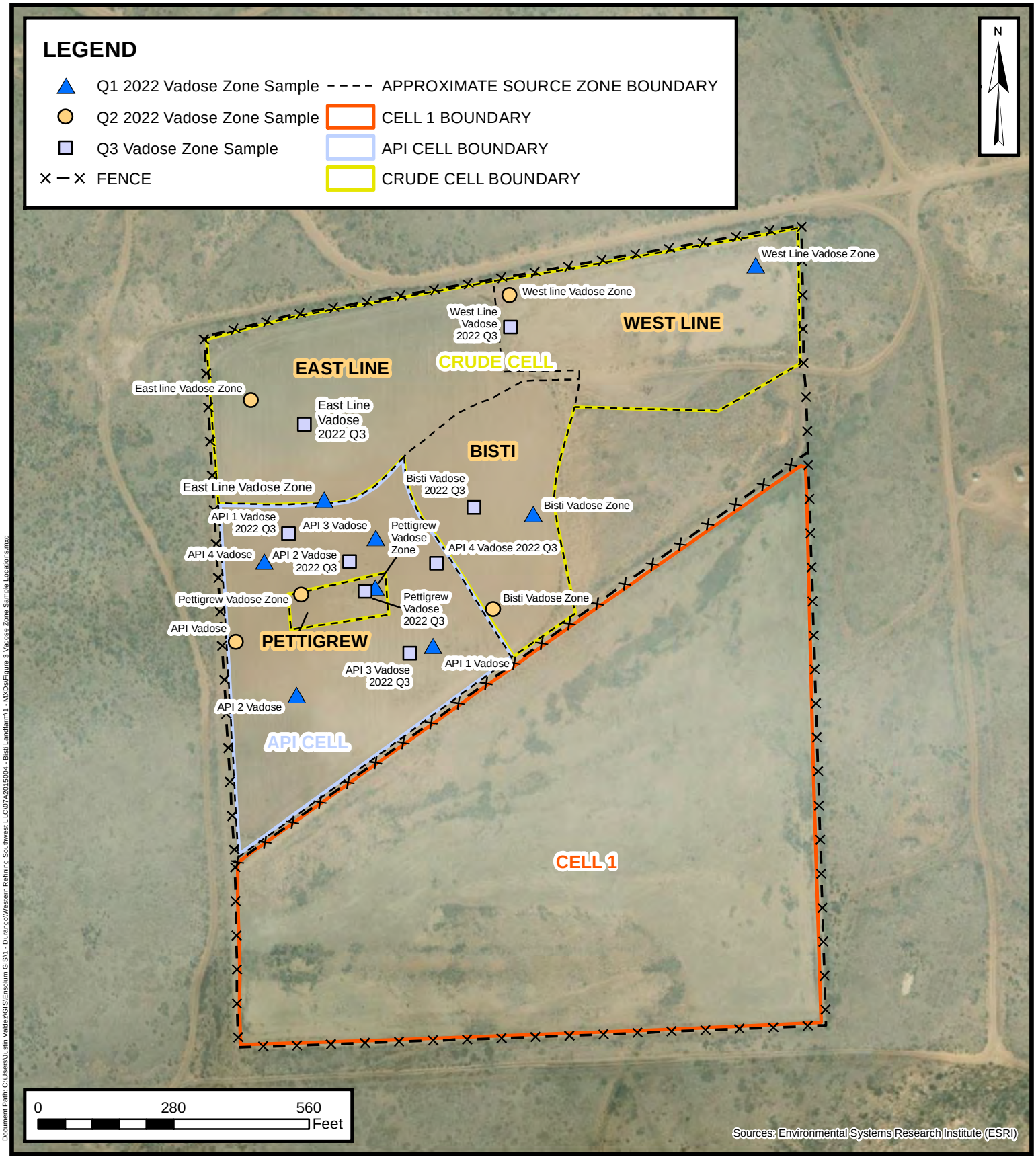
Site Map

BISTI LANDFARM
SEC 16 T25N R12W
SAN JUAN COUNTY, NM

WESTERN REFINING SOUTHWEST, LLC

FIGURE
2



Document Path: C:\Users\Justin Valdez\GIS\Ensolum GIS\1 - Durango\Western Refining Southwest LLC\07A2015004 - Bisti Landfarm\1 - MXDs\Figure 3 Vadose Zone Sample Locations.mxd

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Environmental, Engineering and Hydrogeologic Consultants

Vadose Zone Sample Locations

BISTI LANDFARM
SEC 16 T25N R12W
SAN JUAN COUNTY, NM
WESTERN REFINING SOUTHWEST, INC

FIGURE
3

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TABLES

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TABLE 1
2022 QUARTERLY AND SEMI-ANNUAL VADOSE ZONE SOIL ANALYTICAL RESULTS
Bisti Landfarm
Western Refining Southwest LLC
San Juan County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	TPH - 418.1 (mg/kg)	TPH - 8015 (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 (March 27, 1998 and September 1, 2015)			**<50**	**<50**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<50**
West Line Vadose Zone	2/10/2022	3	<18	--	<0.025	<0.050	<0.050	<0.099	<0.099	<7.5
West Line Vadose Zone	6/20/2022	3	--	<49	<0.024	<0.048	<0.048	<0.017 MDL	<0.048	<59 MDL
West Line Vadose Zone	9/22/2022	3	--	<41	<0.024	<0.049	<0.049	<0.018 MDL	<0.049	<3.0
East Line Vadose Zone	2/10/2022	3	<19	--	<0.024	<0.049	<0.049	<0.097	<0.097	**63**
East Line Vadose Zone	6/20/2022	3	--	<47	<0.025	<0.049	<0.049	<0.018 MDL	<0.049	<61 MDL
East Line Vadose Zone	9/22/2022	3	--	<45	<0.025	<0.050	<0.050	<0.018 MDL	<0.050	<3.0
Bisti Vadose Zone	2/10/2022	3	<20	--	<0.024	<0.048	<0.048	<0.096	<0.096	<7.5
Bisti Vadose Zone	6/20/2022	3	--	<25	<0.024	<0.048	<0.048	<0.017 MDL	<0.048	<60 MDL
Bisti Vadose Zone	9/22/2022	3	--	<45	<0.024	<0.049	<0.049	<0.018 MDL	<0.050	<3.0
Pettigrew Vadose Zone	2/10/2022	3	<18	--	<0.024	<0.048	<0.048	<0.096	<0.096	<7.5
Pettigrew Vadose Zone	6/20/2022	3	--	<47	<0.025	<0.049	<0.049	<0.018 MDL	<0.049	<61 MDL
Pettigrew Vadose Zone	9/22/2022	3	--	<49	<0.025	<0.050	<0.050	<0.018 MDL	<0.050	**120**
API 1 Vadose	2/10/2022	3	<19	--	<0.024	<0.047	<0.047	<0.095	<0.095	25
API 2 Vadose	2/10/2022	3	<19	--	<0.024	<0.048	<0.048	<0.096	<0.096	**610**
API 3 Vadose	2/10/2022	3	<18	--	<0.023	<0.047	<0.047	<0.093	<0.093	<15
API 4 Vadose	2/10/2022	3	<18	--	<0.024	<0.048	<0.048	<0.095	<0.095	<15
API Vadose	6/20/2022	3	--	<47	<0.025	<0.050	<0.050	<0.018 MDL	<0.050	<60 MDL
API 1 Vadose	9/22/2022	3	--	<47	<0.024	<0.048	<0.048	0.018 J	0.018 J	<3.0
API 2 Vadose	9/22/2022	3	--	<48	<0.024	<0.049	<0.049	<0.018 MDL	<0.049	<3.0
API 3 Vadose	9/22/2022	3	--	<49	<0.025	<0.049	<0.049	<0.018 MDL	<0.049	**380**
API 4 Vadose	9/22/2022	3	--	<50	<0.025	<0.050	<0.050	<0.018 MDL	<0.050	<0.050

Notes:

bgs: below ground surface

J: estimated concentrations, analyte detected below the method quantitation/reporting limit

MDL: laboratory result reported to the method detection limit

mg/kg: milligrams per kilogram

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

TPH: Total Petroleum Hydrocarbon

<0.037: indicates result less than the stated laboratory reporting limit (RL)

*Concentrations in **bold** and shaded exceed the New Mexico Oil Conservation Division Table 1 Closure Criteria for Soils Impacted by a Release*

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TABLE 2
BACKGROUND/PRACTICAL QUANTITATION LIMIT CONCENTRATIONS
Bisti Landfarm
Western Refining Southwest LLC
San Juan County, New Mexico

ANALYTE	UNITS	BACKGROUND SAMPLE	BACKGROUND SAMPLE
		27-Mar-98	1-Sept-15
BTEX Compounds by EPA Method 8260B			
Benzene	mg/kg	<0.05	<0.05
Toluene	mg/kg	<0.05	<0.05
Ethylbenzene	mg/kg	<0.05	<0.05
Xylenes, Total	mg/kg	<0.05	<0.05
Petroleum Hydrocarbons by EPA Method 8015M/D			
Gasoline Range Organics (GRO)	mg/kg	NA	<5.0
Diesel Range Organics (DRO)	mg/kg	<50	<10
Motor Oil Range Organics (MRO)	mg/kg	NA	<50
Total Petroleum Hydrocarbons by EPA Method 8015M/D			
TPH	mg/kg	NA	<50
Volatile Organic Compounds by EPA Method 8260B			
benzene	mg/kg	NA	<0.050
toluene	mg/kg	NA	<0.050
ethylbenzene	mg/kg	NA	<0.050
methyl tert-butyl ether (MTBE)	mg/kg	NA	<0.048
1,2-dichloroethane (EDC)	mg/kg	NA	<0.048
1,2-dibromoethane (EDB)	mg/kg	NA	<0.048
naphthalene	mg/kg	NA	<0.095
1-methylnaphthalene	mg/kg	NA	<0.19
2-methylnaphthalene	mg/kg	NA	<0.19
bromodichloromethane	mg/kg	NA	<0.048
bromoform (tribromomethane)	mg/kg	NA	<0.048
bromomethane	mg/kg	NA	<0.14
carbon tetrachloride (tetrachloromethane)	mg/kg	NA	<0.048
chlorobenzene (monochlorobenzene)	mg/kg	NA	<0.048
chloroform (trichloromethane)	mg/kg	NA	<0.048
chloromethane	mg/kg	NA	<0.14
cis-1,2-dichloroethene (cis-1,2-DCE)	mg/kg	NA	<0.048
cis-1,3-dichloropropene	mg/kg	NA	<0.048
1,2-dichlorobenzene	mg/kg	NA	<0.048
1,4-dichlorobenzene	mg/kg	NA	<0.048
dichlorodifluoromethane	mg/kg	NA	<0.048
1,1-dichloroethane	mg/kg	NA	<0.048
1,1-dichloroethene	mg/kg	NA	<0.048
1,2-dichloropropane	mg/kg	NA	<0.048
1,1-dichloropropene	mg/kg	NA	<0.095

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TABLE 2
BACKGROUND/PRACTICAL QUANTITATION LIMIT CONCENTRATIONS
Bisti Landfarm
Western Refining Southwest LLC
San Juan County, New Mexico

ANALYTE	UNITS	BACKGROUND SAMPLE	BACKGROUND SAMPLE
		27-Mar-98	1-Sept-15
hexachlorobutadiene	mg/kg	NA	<0.095
methylene chloride (dichloromethane)	mg/kg	NA	<0.14
styrene	mg/kg	NA	<0.048
1,1,2,2-tetrachloroethane	mg/kg	NA	<0.048
tetrachloroethene (PCE)	mg/kg	NA	<0.048
trans-1,2-dichloroethene (trans-1,2-DCE)	mg/kg	NA	<0.048
trans-1,3-dichloropropene	mg/kg	NA	<0.048
1,2,4-trichlorobenzene	mg/kg	NA	<0.048
1,1,1-trichloroethane	mg/kg	NA	<0.048
1,1,2-trichloroethane	mg/kg	NA	<0.048
trichloroethene (TCE)	mg/kg	NA	<0.048
trichlorofluoromethane	mg/kg	NA	<0.048
vinyl chloride (chloroethene)	mg/kg	NA	<0.048
xylenes, total	mg/kg	NA	<0.050
Polycyclic Aromatic Hydrocarbons by EPA Method 8270			
Naphthalene	mg/kg	NA	<0.25
1-Methylnaphthalene	mg/kg	NA	<0.25
2-Methylnaphthalene	mg/kg	NA	<0.25
Benzo(a)pyrene	mg/kg	NA	<0.0099
Total Phenol by Method 9066	mg/kg	NA	<0.67
Metals by EPA Method 6010/6020			
Arsenic	mg/kg	2.8	NA
Barium	mg/kg	180	NA
Cadmium	mg/kg	<1.3	NA
Calcium	mg/kg	2,500	NA
Chromium	mg/kg	<5.0	NA
Copper	mg/kg	NA	3.2
Iron	mg/kg	NA	7,200
Lead	mg/kg	6.8	NA
Magnesium	mg/kg	1,300	NA
Manganese	mg/kg	NA	150
Mercury	mg/kg	<0.5	NA
Potassium	mg/kg	810	NA
Selenium	mg/kg	<2.5	NA
Silver	mg/kg	<1.3	NA
Uranium	mg/kg	NA	<4.9
Zinc	mg/kg	NA	14

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TABLE 2
BACKGROUND/PRACTICAL QUANTITATION LIMIT CONCENTRATIONS
Bisti Landfarm
Western Refining Southwest LLC
San Juan County, New Mexico

ANALYTE	UNITS	BACKGROUND SAMPLE	BACKGROUND SAMPLE
		27-Mar-98	1-Sept-15
Polychlorinated Biphenyls by EPA Method 8082			
Aroclor 1016	mg/kg	NA	<0.020
Aroclor 1221	mg/kg	NA	<0.020
Aroclor 1232	mg/kg	NA	<0.020
Aroclor 1242	mg/kg	NA	<0.020
Aroclor 1248	mg/kg	NA	<0.020
Aroclor 1254	mg/kg	NA	<0.020
Aroclor 1260	mg/kg	NA	<0.020
Cyanide by Method 9012B	mg/kg	NA	<0.25
Anions by EPA Method 300.0			
Chloride	mg/kg	<50	NA
Fluoride	mg/kg	NA	0.84
Nitrogen, Nitrate (As N)	mg/kg	NA	<0.30
pH by Method SM4500-H+B	pH units	NA	7.89
Radiochemistry by EPA Method 901.1			
Radium-226	pCi/g	NA	0.737 +/- 0.242
Radium-228	pCi/g	NA	0.806 +/- 0.338
General Chemistry			
Bicarbonate	mg/kg	110	NA
Carbonate	mg/kg	26	NA
Sodium	mg/kg	90	NA
Sulfate	mg/kg	140	NA

Notes:

< - indicates result is less than the stated practical quantitation limit (PQL)

NA - not analyzed

Where two results are listed, the background will be considered the lower of the two.

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APPENDIX A

Laboratory Analytical Reports & Chain-of-Custody Documentation

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

March 14, 2022

Stuart Hyde
WSP
848 East 2nd Avenue
Durango, CO 81301
TEL: (970) 946-1093
FAX:

RE: Bisti LF OrderNo.: 2202573

Dear Stuart Hyde:

Hall Environmental Analysis Laboratory received 10 sample(s) on 2/11/2022 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2202573**
Date Reported: **3/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP
Client Sample ID: West Line Vadose
Project: Bisti LF
Collection Date: 2/10/2022 11:35:00 AM
Lab ID: 2202573-001 **Matrix:** SOIL **Received Date:** 2/11/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	2/15/2022 11:26:21 PM
Toluene	ND	0.050		mg/Kg	1	2/15/2022 11:26:21 PM
Ethylbenzene	ND	0.050		mg/Kg	1	2/15/2022 11:26:21 PM
Xylenes, Total	ND	0.099		mg/Kg	1	2/15/2022 11:26:21 PM
Surr: 4-Bromofluorobenzene	117	70-130		%Rec	1	2/15/2022 11:26:21 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	7.5		mg/Kg	5	2/16/2022 4:33:23 PM
Sulfate	130	7.5		mg/Kg	5	2/16/2022 4:33:23 PM
EPA METHOD 6020A: METALS						Analyst: **DBK**
Arsenic	2.4	0.48		mg/Kg	5	3/4/2022 4:02:40 PM
Lead	6.2	0.48		mg/Kg	5	3/4/2022 4:02:40 PM
Selenium	0.74	0.48		mg/Kg	5	3/4/2022 4:02:40 PM
Thallium	ND	0.48		mg/Kg	5	3/4/2022 4:02:40 PM
Uranium	ND	0.48		mg/Kg	5	3/4/2022 4:02:40 PM
EPA METHOD 7471B: MERCURY						Analyst: **VP**
Mercury	ND	0.032		mg/Kg	1	3/7/2022 4:08:35 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **JLF**
Antimony	ND	4.8		mg/Kg	2	3/8/2022 5:46:23 PM
Barium	110	0.19		mg/Kg	2	3/8/2022 5:46:23 PM
Beryllium	0.53	0.29		mg/Kg	2	3/8/2022 5:46:23 PM
Cadmium	ND	0.19		mg/Kg	2	3/8/2022 5:46:23 PM
Calcium	5300	48		mg/Kg	2	3/8/2022 5:46:23 PM
Chromium	5.3	0.58		mg/Kg	2	3/8/2022 5:46:23 PM
Copper	5.8	3.8		mg/Kg	2	3/8/2022 5:46:23 PM
Iron	11000	4800		mg/Kg	500	3/8/2022 6:32:23 PM
Magnesium	2200	48		mg/Kg	2	3/8/2022 5:46:23 PM
Manganese	230	0.38		mg/Kg	2	3/8/2022 5:46:23 PM
Potassium	1800	96		mg/Kg	2	3/8/2022 5:46:23 PM
Silver	ND	0.96		mg/Kg	2	3/8/2022 5:46:23 PM
Sodium	120	48		mg/Kg	2	3/8/2022 5:46:23 PM
Zinc	23	4.8		mg/Kg	2	3/8/2022 5:46:23 PM
EPA METHOD 418.1: TPH						Analyst: **JPM**
Petroleum Hydrocarbons, TR	ND	18		mg/Kg	1	2/16/2022 8:00:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2202573**
Date Reported: **3/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP
Client Sample ID: East Line Vadose
Project: Bisti LF
Collection Date: 2/10/2022 11:50:00 AM
Lab ID: 2202573-002 **Matrix:** SOIL **Received Date:** 2/11/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	2/16/2022 12:37:30 AM
Toluene	ND	0.049		mg/Kg	1	2/16/2022 12:37:30 AM
Ethylbenzene	ND	0.049		mg/Kg	1	2/16/2022 12:37:30 AM
Xylenes, Total	ND	0.097		mg/Kg	1	2/16/2022 12:37:30 AM
Surr: 4-Bromofluorobenzene	112	70-130		%Rec	1	2/16/2022 12:37:30 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	63	7.5		mg/Kg	5	2/16/2022 5:47:50 PM
Sulfate	38	7.5		mg/Kg	5	2/16/2022 5:47:50 PM
EPA METHOD 6020A: METALS						Analyst: **DBK**
Arsenic	1.8	0.48		mg/Kg	5	3/4/2022 4:07:08 PM
Lead	7.5	0.48		mg/Kg	5	3/4/2022 4:07:08 PM
Selenium	0.81	0.48		mg/Kg	5	3/4/2022 4:07:08 PM
Thallium	ND	0.48		mg/Kg	5	3/4/2022 4:07:08 PM
Uranium	ND	0.48		mg/Kg	5	3/4/2022 4:07:08 PM
EPA METHOD 7471B: MERCURY						Analyst: **VP**
Mercury	ND	0.032		mg/Kg	1	3/7/2022 4:10:44 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **JLF**
Antimony	ND	4.8		mg/Kg	2	3/8/2022 5:47:58 PM
Barium	180	0.19		mg/Kg	2	3/8/2022 5:47:58 PM
Beryllium	0.53	0.29		mg/Kg	2	3/8/2022 5:47:58 PM
Cadmium	ND	0.19		mg/Kg	2	3/8/2022 5:47:58 PM
Calcium	4400	48		mg/Kg	2	3/8/2022 5:47:58 PM
Chromium	4.9	0.57		mg/Kg	2	3/8/2022 5:47:58 PM
Copper	9.4	3.8		mg/Kg	2	3/8/2022 5:47:58 PM
Iron	11000	4800		mg/Kg	500	3/8/2022 6:34:10 PM
Magnesium	1800	48		mg/Kg	2	3/8/2022 5:47:58 PM
Manganese	380	0.38		mg/Kg	2	3/8/2022 5:47:58 PM
Potassium	1900	96		mg/Kg	2	3/8/2022 5:47:58 PM
Silver	ND	0.96		mg/Kg	2	3/8/2022 5:47:58 PM
Sodium	200	48		mg/Kg	2	3/8/2022 5:47:58 PM
Zinc	31	4.8		mg/Kg	2	3/8/2022 5:47:58 PM
EPA METHOD 418.1: TPH						Analyst: **JPM**
Petroleum Hydrocarbons, TR	ND	19		mg/Kg	1	2/16/2022 8:00:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Estimated value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference

Analytical Report
Lab Order **2202573**
Date Reported: **3/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP
Client Sample ID: Pettigrew Vadose
Project: Bisti LF
Collection Date: 2/10/2022 12:00:00 PM
Lab ID: 2202573-003 **Matrix:** SOIL **Received Date:** 2/11/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	2/16/2022 1:01:06 AM
Toluene	ND	0.048		mg/Kg	1	2/16/2022 1:01:06 AM
Ethylbenzene	ND	0.048		mg/Kg	1	2/16/2022 1:01:06 AM
Xylenes, Total	ND	0.096		mg/Kg	1	2/16/2022 1:01:06 AM
Surr: 4-Bromofluorobenzene	114	70-130		%Rec	1	2/16/2022 1:01:06 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	7.5		mg/Kg	5	2/16/2022 6:12:39 PM
Sulfate	77	7.5		mg/Kg	5	2/16/2022 6:12:39 PM
EPA METHOD 6020A: METALS						Analyst: **DBK**
Arsenic	1.5	0.48		mg/Kg	5	3/4/2022 4:11:36 PM
Lead	3.3	0.48		mg/Kg	5	3/4/2022 4:11:36 PM
Selenium	ND	0.48		mg/Kg	5	3/4/2022 4:11:36 PM
Thallium	ND	0.48		mg/Kg	5	3/4/2022 4:11:36 PM
Uranium	ND	0.48		mg/Kg	5	3/4/2022 4:11:36 PM
EPA METHOD 7471B: MERCURY						Analyst: **VP**
Mercury	ND	0.031		mg/Kg	1	3/7/2022 4:12:54 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **JLF**
Antimony	ND	4.8		mg/Kg	2	3/8/2022 5:49:34 PM
Barium	68	0.19		mg/Kg	2	3/8/2022 5:49:34 PM
Beryllium	ND	0.29		mg/Kg	2	3/8/2022 5:49:34 PM
Cadmium	ND	0.19		mg/Kg	2	3/8/2022 5:49:34 PM
Calcium	1600	48		mg/Kg	2	3/8/2022 5:49:34 PM
Chromium	1.7	0.57		mg/Kg	2	3/8/2022 5:49:34 PM
Copper	ND	3.8		mg/Kg	2	3/8/2022 5:49:34 PM
Iron	5000	1900		mg/Kg	200	3/8/2022 6:35:57 PM
Magnesium	1000	48		mg/Kg	2	3/8/2022 5:49:34 PM
Manganese	120	0.38		mg/Kg	2	3/8/2022 5:49:34 PM
Potassium	650	95		mg/Kg	2	3/8/2022 5:49:34 PM
Silver	ND	0.95		mg/Kg	2	3/8/2022 5:49:34 PM
Sodium	86	48		mg/Kg	2	3/8/2022 5:49:34 PM
Zinc	10	4.8		mg/Kg	2	3/8/2022 5:49:34 PM
EPA METHOD 418.1: TPH						Analyst: **JPM**
Petroleum Hydrocarbons, TR	ND	18		mg/Kg	1	2/16/2022 8:00:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2202573**
Date Reported: **3/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP **Client Sample ID:** Bisti Vadose
Project: Bisti LF **Collection Date:** 2/10/2022 12:10:00 PM
Lab ID: 2202573-004 **Matrix:** SOIL **Received Date:** 2/11/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	2/16/2022 1:24:40 AM
Toluene	ND	0.048		mg/Kg	1	2/16/2022 1:24:40 AM
Ethylbenzene	ND	0.048		mg/Kg	1	2/16/2022 1:24:40 AM
Xylenes, Total	ND	0.096		mg/Kg	1	2/16/2022 1:24:40 AM
Surr: 4-Bromofluorobenzene	111	70-130		%Rec	1	2/16/2022 1:24:40 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	7.5		mg/Kg	5	2/16/2022 6:37:27 PM
Sulfate	14	7.5		mg/Kg	5	2/16/2022 6:37:27 PM
EPA METHOD 6020A: METALS						Analyst: **DBK**
Arsenic	1.8	0.48		mg/Kg	5	3/4/2022 4:16:04 PM
Lead	3.6	0.48		mg/Kg	5	3/4/2022 4:16:04 PM
Selenium	0.49	0.48		mg/Kg	5	3/4/2022 4:16:04 PM
Thallium	ND	0.48		mg/Kg	5	3/4/2022 4:16:04 PM
Uranium	ND	0.48		mg/Kg	5	3/4/2022 4:16:04 PM
EPA METHOD 7471B: MERCURY						Analyst: **VP**
Mercury	ND	0.032		mg/Kg	1	3/7/2022 4:15:05 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **JLF**
Antimony	ND	4.8		mg/Kg	2	3/8/2022 5:51:10 PM
Barium	120	0.19		mg/Kg	2	3/8/2022 5:51:10 PM
Beryllium	0.32	0.29		mg/Kg	2	3/8/2022 5:51:10 PM
Cadmium	ND	0.19		mg/Kg	2	3/8/2022 5:51:10 PM
Calcium	3100	48		mg/Kg	2	3/8/2022 5:51:10 PM
Chromium	2.4	0.58		mg/Kg	2	3/8/2022 5:51:10 PM
Copper	ND	3.8		mg/Kg	2	3/8/2022 5:51:10 PM
Iron	5400	4800		mg/Kg	500	3/8/2022 6:37:45 PM
Magnesium	1200	48		mg/Kg	2	3/8/2022 5:51:10 PM
Manganese	110	0.38		mg/Kg	2	3/8/2022 5:51:10 PM
Potassium	900	96		mg/Kg	2	3/8/2022 5:51:10 PM
Silver	ND	0.96		mg/Kg	2	3/8/2022 5:51:10 PM
Sodium	85	48		mg/Kg	2	3/8/2022 5:51:10 PM
Zinc	12	4.8		mg/Kg	2	3/8/2022 5:51:10 PM
EPA METHOD 418.1: TPH						Analyst: **JPM**
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	2/16/2022 8:00:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Estimated value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference

Analytical Report
Lab Order **2202573**
Date Reported: **3/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP **Client Sample ID:** API 1 Vadose
Project: Bisti LF **Collection Date:** 2/10/2022 12:15:00 PM
Lab ID: 2202573-005 **Matrix:** SOIL **Received Date:** 2/11/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	2/16/2022 2:35:23 AM
Toluene	ND	0.047		mg/Kg	1	2/16/2022 2:35:23 AM
Ethylbenzene	ND	0.047		mg/Kg	1	2/16/2022 2:35:23 AM
Xylenes, Total	ND	0.095		mg/Kg	1	2/16/2022 2:35:23 AM
Surr: 4-Bromofluorobenzene	114	70-130		%Rec	1	2/16/2022 2:35:23 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	25	7.5		mg/Kg	5	2/16/2022 7:02:15 PM
Sulfate	160	7.5		mg/Kg	5	2/16/2022 7:02:15 PM
EPA METHOD 6020A: METALS						Analyst: **DBK**
Arsenic	1.6	0.48		mg/Kg	5	3/4/2022 4:20:32 PM
Lead	3.4	0.48		mg/Kg	5	3/4/2022 4:20:32 PM
Selenium	0.49	0.48		mg/Kg	5	3/4/2022 4:20:32 PM
Thallium	ND	0.48		mg/Kg	5	3/4/2022 4:20:32 PM
Uranium	ND	0.48		mg/Kg	5	3/4/2022 4:20:32 PM
EPA METHOD 7471B: MERCURY						Analyst: **VP**
Mercury	ND	0.032		mg/Kg	1	3/7/2022 4:17:12 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **JLF**
Antimony	ND	4.8		mg/Kg	2	3/8/2022 5:52:45 PM
Barium	110	0.19		mg/Kg	2	3/8/2022 5:52:45 PM
Beryllium	0.32	0.29		mg/Kg	2	3/8/2022 5:52:45 PM
Cadmium	ND	0.19		mg/Kg	2	3/8/2022 5:52:45 PM
Calcium	3800	48		mg/Kg	2	3/8/2022 5:52:45 PM
Chromium	2.5	0.58		mg/Kg	2	3/8/2022 5:52:45 PM
Copper	ND	3.8		mg/Kg	2	3/8/2022 5:52:45 PM
Iron	5600	4800		mg/Kg	500	3/8/2022 6:39:32 PM
Magnesium	1200	48		mg/Kg	2	3/8/2022 5:52:45 PM
Manganese	110	0.38		mg/Kg	2	3/8/2022 5:52:45 PM
Potassium	870	96		mg/Kg	2	3/8/2022 5:52:45 PM
Silver	ND	0.96		mg/Kg	2	3/8/2022 5:52:45 PM
Sodium	260	48		mg/Kg	2	3/8/2022 5:52:45 PM
Zinc	11	4.8		mg/Kg	2	3/8/2022 5:52:45 PM
EPA METHOD 418.1: TPH						Analyst: **JPM**
Petroleum Hydrocarbons, TR	ND	19		mg/Kg	1	2/16/2022 8:00:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2202573**
Date Reported: **3/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP
Client Sample ID: API 2 Vadose
Project: Bisti LF
Collection Date: 2/10/2022 12:20:00 PM
Lab ID: 2202573-006 **Matrix:** SOIL **Received Date:** 2/11/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	2/16/2022 2:58:48 AM
Toluene	ND	0.048		mg/Kg	1	2/16/2022 2:58:48 AM
Ethylbenzene	ND	0.048		mg/Kg	1	2/16/2022 2:58:48 AM
Xylenes, Total	ND	0.096		mg/Kg	1	2/16/2022 2:58:48 AM
Surr: 4-Bromofluorobenzene	111	70-130		%Rec	1	2/16/2022 2:58:48 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	610	60		mg/Kg	20	2/16/2022 7:27:05 PM
Sulfate	1100	60		mg/Kg	20	2/16/2022 7:27:05 PM
EPA METHOD 6020A: METALS						Analyst: **DBK**
Arsenic	1.8	0.49		mg/Kg	5	3/4/2022 4:25:00 PM
Lead	4.1	0.49		mg/Kg	5	3/4/2022 4:25:00 PM
Selenium	0.55	0.49		mg/Kg	5	3/4/2022 4:25:00 PM
Thallium	ND	0.49		mg/Kg	5	3/4/2022 4:25:00 PM
Uranium	ND	0.49		mg/Kg	5	3/4/2022 4:25:00 PM
EPA METHOD 7471B: MERCURY						Analyst: **VP**
Mercury	ND	0.033		mg/Kg	1	3/7/2022 4:19:20 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **JLF**
Antimony	ND	4.9		mg/Kg	2	3/8/2022 6:01:02 PM
Barium	78	0.20		mg/Kg	2	3/8/2022 6:01:02 PM
Beryllium	0.34	0.29		mg/Kg	2	3/8/2022 6:01:02 PM
Cadmium	ND	0.20		mg/Kg	2	3/8/2022 6:01:02 PM
Chromium	2.5	0.59		mg/Kg	2	3/8/2022 6:01:02 PM
Copper	ND	3.9		mg/Kg	2	3/8/2022 6:01:02 PM
Iron	6500	4900		mg/Kg	500	3/8/2022 6:48:08 PM
Manganese	190	0.39		mg/Kg	2	3/8/2022 6:01:02 PM
Silver	ND	0.98		mg/Kg	2	3/9/2022 6:48:13 PM
Zinc	13	4.9		mg/Kg	2	3/8/2022 6:01:02 PM
EPA METHOD 418.1: TPH						Analyst: **JPM**
Petroleum Hydrocarbons, TR	ND	19		mg/Kg	1	2/16/2022 8:00:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2202573**
Date Reported: **3/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP
Client Sample ID: API 3 Vadose
Project: Bisti LF
Collection Date: 2/10/2022 12:30:00 PM
Lab ID: 2202573-007 **Matrix:** SOIL **Received Date:** 2/11/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	2/16/2022 3:22:13 AM
Toluene	ND	0.047		mg/Kg	1	2/16/2022 3:22:13 AM
Ethylbenzene	ND	0.047		mg/Kg	1	2/16/2022 3:22:13 AM
Xylenes, Total	ND	0.093		mg/Kg	1	2/16/2022 3:22:13 AM
Surr: 4-Bromofluorobenzene	109	70-130		%Rec	1	2/16/2022 3:22:13 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	15		mg/Kg	5	3/1/2022 5:33:57 PM
Sulfate	49	15		mg/Kg	5	3/1/2022 5:33:57 PM
EPA METHOD 6020A: METALS						Analyst: **DBK**
Arsenic	1.4	0.50		mg/Kg	5	3/4/2022 4:29:28 PM
Lead	3.5	0.50		mg/Kg	5	3/4/2022 4:29:28 PM
Selenium	0.51	0.50		mg/Kg	5	3/4/2022 4:29:28 PM
Thallium	ND	0.50		mg/Kg	5	3/4/2022 4:29:28 PM
Uranium	ND	0.50		mg/Kg	5	3/4/2022 4:29:28 PM
EPA METHOD 7471B: MERCURY						Analyst: **VP**
Mercury	ND	0.032		mg/Kg	1	3/7/2022 4:21:28 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **JLF**
Antimony	ND	5.0		mg/Kg	2	3/8/2022 6:02:38 PM
Barium	220	0.20		mg/Kg	2	3/8/2022 6:02:38 PM
Beryllium	0.33	0.30		mg/Kg	2	3/8/2022 6:02:38 PM
Cadmium	ND	0.20		mg/Kg	2	3/8/2022 6:02:38 PM
Chromium	2.4	0.60		mg/Kg	2	3/8/2022 6:02:38 PM
Copper	ND	4.0		mg/Kg	2	3/8/2022 6:02:38 PM
Iron	5200	5000		mg/Kg	500	3/8/2022 6:49:56 PM
Manganese	120	0.40		mg/Kg	2	3/8/2022 6:02:38 PM
Silver	ND	1.0		mg/Kg	2	3/9/2022 6:53:18 PM
Zinc	12	5.0		mg/Kg	2	3/8/2022 6:02:38 PM
EPA METHOD 418.1: TPH						Analyst: **JPM**
Petroleum Hydrocarbons, TR	ND	18		mg/Kg	1	2/16/2022 8:00:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2202573**
Date Reported: **3/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP **Client Sample ID:** API 4 Vadose
Project: Bisti LF **Collection Date:** 2/10/2022 12:40:00 PM
Lab ID: 2202573-008 **Matrix:** SOIL **Received Date:** 2/11/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	2/16/2022 3:45:43 AM
Toluene	ND	0.048		mg/Kg	1	2/16/2022 3:45:43 AM
Ethylbenzene	ND	0.048		mg/Kg	1	2/16/2022 3:45:43 AM
Xylenes, Total	ND	0.095		mg/Kg	1	2/16/2022 3:45:43 AM
Surr: 4-Bromofluorobenzene	111	70-130		%Rec	1	2/16/2022 3:45:43 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	15		mg/Kg	5	3/1/2022 6:11:10 PM
Sulfate	38	15		mg/Kg	5	3/1/2022 6:11:10 PM
EPA METHOD 6020A: METALS						Analyst: **DBK**
Arsenic	2.2	0.49		mg/Kg	5	3/4/2022 4:42:55 PM
Lead	3.6	0.49		mg/Kg	5	3/4/2022 4:42:55 PM
Selenium	ND	0.49		mg/Kg	5	3/4/2022 4:42:55 PM
Thallium	ND	0.49		mg/Kg	5	3/4/2022 4:42:55 PM
Uranium	ND	0.49		mg/Kg	5	3/4/2022 4:42:55 PM
EPA METHOD 7471B: MERCURY						Analyst: **VP**
Mercury	ND	0.031		mg/Kg	1	3/7/2022 4:23:36 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **JLF**
Antimony	ND	4.9		mg/Kg	2	3/8/2022 6:04:14 PM
Barium	69	0.20		mg/Kg	2	3/8/2022 6:04:14 PM
Beryllium	0.31	0.29		mg/Kg	2	3/8/2022 6:04:14 PM
Cadmium	ND	0.20		mg/Kg	2	3/8/2022 6:04:14 PM
Chromium	1.6	0.59		mg/Kg	2	3/8/2022 6:04:14 PM
Copper	ND	3.9		mg/Kg	2	3/8/2022 6:04:14 PM
Iron	6000	4900		mg/Kg	500	3/8/2022 6:51:44 PM
Manganese	130	0.39		mg/Kg	2	3/8/2022 6:04:14 PM
Silver	ND	0.98		mg/Kg	2	3/9/2022 6:54:36 PM
Zinc	10	4.9		mg/Kg	2	3/8/2022 6:04:14 PM
EPA METHOD 418.1: TPH						Analyst: **JPM**
Petroleum Hydrocarbons, TR	ND	18		mg/Kg	1	2/16/2022 8:00:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2202573**
Date Reported: **3/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP
Client Sample ID: API Treatment
Project: Bisti LF
Collection Date: 2/10/2022 12:35:00 PM
Lab ID: 2202573-009 **Matrix:** SOIL **Received Date:** 2/11/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	100	60		mg/Kg	20	2/16/2022 8:29:07 PM
Sulfate	250	60		mg/Kg	20	2/16/2022 8:29:07 PM
EPA METHOD 418.1: TPH						Analyst: **JPM**
Petroleum Hydrocarbons, TR	ND	19		mg/Kg	1	2/16/2022 8:00:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2202573**
Date Reported: **3/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP
Client Sample ID: Crude Treatment
Project: Bisti LF
Collection Date: 2/10/2022 12:05:00 PM
Lab ID: 2202573-010
Matrix: SOIL
Received Date: 2/11/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	16	15		mg/Kg	5	3/1/2022 6:23:35 PM
Sulfate	740	15		mg/Kg	5	3/1/2022 6:23:35 PM
EPA METHOD 418.1: TPH						Analyst: **JPM**
Petroleum Hydrocarbons, TR	89	19		mg/Kg	1	2/16/2022 8:00:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Received by OCD: 10/28/2022 12:29:47 PM

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Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

ANALYTICAL SUMMARY REPORT

February 24, 2022

Hall Environmental
4901 Hawkins St NE Ste D
Albuquerque, NM 87109-4372

Work Order: B22021056 Quote ID: B5636

Project Name: Not Indicated

Energy Laboratories Inc Billings MT received the following 5 samples for Hall Environmental on 2/15/2022 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B22021056-001	2202573-001B, West Line Vadose	02/10/22 11:35	02/15/22	Soil	Alkalinity, Water Extractable DI Water Soil Extract ASA10-3
B22021056-002	2202573-002B, East Line Vadose	02/10/22 11:50	02/15/22	Soil	Same As Above
B22021056-003	2202573-003B, Pettigrew Vadose	02/10/22 12:00	02/15/22	Soil	Same As Above
B22021056-004	2202573-004B, Bisti Vadose	02/10/22 12:10	02/15/22	Soil	Same As Above
B22021056-005	2202573-005B, API 1 Vadose	02/10/22 12:15	02/15/22	Soil	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

Released to Imaging: 11/8/2022 4:08:07 PM

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LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Hall Environmental
Project: Not Indicated
Report Date: 02/24/22

Lab ID: B22021056-001
Client Sample ID: 2202573-001B, West Line Vadose
Collection Date: 02/10/22 11:35
DateReceived: 02/15/22
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
WATER EXTRACTABLE CONSTITUENTS							
Alkalinity, 1:2	99	mg/kg		8		ASA10-3	02/23/22 15:20 / ftk

Lab ID: B22021056-002
Client Sample ID: 2202573-002B, East Line Vadose
Collection Date: 02/10/22 11:50
DateReceived: 02/15/22
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
WATER EXTRACTABLE CONSTITUENTS							
Alkalinity, 1:2	111	mg/kg		8		ASA10-3	02/23/22 15:34 / ftk

Lab ID: B22021056-003
Client Sample ID: 2202573-003B, Pettigrew Vadose
Collection Date: 02/10/22 12:00
DateReceived: 02/15/22
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
WATER EXTRACTABLE CONSTITUENTS							
Alkalinity, 1:2	88	mg/kg		8		ASA10-3	02/23/22 15:40 / ftk

Lab ID: B22021056-004
Client Sample ID: 2202573-004B, Bisti Vadose
Collection Date: 02/10/22 12:10
DateReceived: 02/15/22
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
WATER EXTRACTABLE CONSTITUENTS							
Alkalinity, 1:2	106	mg/kg		8		ASA10-3	02/23/22 15:45 / ftk

Lab ID: B22021056-005
Client Sample ID: 2202573-005B, API 1 Vadose
Collection Date: 02/10/22 12:15
DateReceived: 02/15/22
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
WATER EXTRACTABLE CONSTITUENTS							
Alkalinity, 1:2	118	mg/kg		8		ASA10-3	02/23/22 15:51 / ftk

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

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QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Hall Environmental **Work Order:** B22021056 **Report Date:** 02/24/22

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **ASA10-3**										Batch: 163961
Lab ID: **LCS-163961**	Laboratory Control Sample					Run: ORIONVERSASTARPRO_220				02/23/22 15:14
Alkalinity, 1:2		233	mg/kg	8.0	99	70	130			
Lab ID: **B22021056-001A DUP**	Sample Duplicate					Run: ORIONVERSASTARPRO_220				02/23/22 15:24
Alkalinity, 1:2		95.1	mg/kg	8.0				4.0	30	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

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Work Order Receipt Checklist

Hall Environmental

B22021056

Login completed by: Leslie S. Cadreau
Date Received: 2/15/2022
Reviewed by: BL2000\tburris
Received by: lsc
Reviewed Date: 2/18/2022
Carrier name: UPS

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	1.0°C Blue Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

None

Released to Imaging: 11/8/2022 4:08:07 PM

Received by OCD: 10/28/2022 12:29:47 PM

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL. 505-345-3975
FAX. 505-345-4107
Website. clients.hallenvironmental.com

SUB CONTRATOR: **Energy Labs -Billings**	COMPANY: **Energy Laboratories**	PHONE: **(406) 869-6253**	FAX: **(406) 252-6069**
ADDRESS: **1120 South 27th Street**		ACCOUNT #:	EMAIL:
CITY, STATE, ZIP: **Billings, MT 59107**			

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2202573-001B	West Line Vadose	4OZGU	Soil	2/10/2022 11:35:00 AM	1	Alkalinity in Soil B22021056
2	2202573-002B	East Line Vadose	4OZGU	Soil	2/10/2022 11:50:00 AM	1	Alkalinity in Soil
3	2202573-003B	Pettigrew Vadose	4OZGU	Soil	2/10/2022 12:00:00 PM	1	Alkalinity in Soil
4	2202573-004B	Bisti Vadose	4OZGU	Soil	2/10/2022 12:10:00 PM	1	Alkalinity in Soil
5	2202573-005B	API 1 Vadose	4OZGU	Soil	2/10/2022 12:15:00 PM	1	Alkalinity in Soil

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 2/11/2022	Time: 10:28 AM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date: 2/15/22	Time: 0901:30

TAT: Standard ☑ RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐

REPORT TRANSMITTAL DESIRED

☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY

Temp of samples _____ °C Attempt to Cool ? _____

Comments: _____

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2202573**

14-Mar-22

Client: WSP

Project: Bisti LF

Sample ID: **MB-65586**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **65586**	RunNo: **85864**
Prep Date: **2/16/2022**	Analysis Date: **2/16/2022**	SeqNo: **3024752** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								
Sulfate	ND	1.5								

Sample ID: **LCS-65586**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **65586**	RunNo: **85864**
Prep Date: **2/16/2022**	Analysis Date: **2/16/2022**	SeqNo: **3024753** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.2	90	110			
Sulfate	28	1.5	30.00	0	93.9	90	110			

Sample ID: **2202573-001AMS**	SampType: **ms**	TestCode: **EPA Method 300.0: Anions**
Client ID: **West Line Vadose**	Batch ID: **65586**	RunNo: **85896**
Prep Date: **2/16/2022**	Analysis Date: **2/16/2022**	SeqNo: **3024955** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	19	7.5	15.00	0	125	57.5	166			
Sulfate	160	7.5	30.00	133.1	91.5	48.4	135			

Sample ID: **2202573-001AMSD**	SampType: **msd**	TestCode: **EPA Method 300.0: Anions**
Client ID: **West Line Vadose**	Batch ID: **65586**	RunNo: **85896**
Prep Date: **2/16/2022**	Analysis Date: **2/16/2022**	SeqNo: **3024956** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	19	7.5	15.00	0	126	57.5	166	0.690	20	
Sulfate	160	7.5	30.00	133.1	95.8	48.4	135	0.798	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2202573**

14-Mar-22

Client: WSP

Project: Bisti LF

Sample ID: **MB-65559**	SampType: **MBLK**	TestCode: **EPA Method 418.1: TPH**							
Client ID: **PBS**	Batch ID: **65559**	RunNo: **85854**							
Prep Date: **2/15/2022**	Analysis Date: **2/16/2022**	SeqNo: **3023181**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	ND	20								

Sample ID: **LCS-65559**	SampType: **LCS**	TestCode: **EPA Method 418.1: TPH**							
Client ID: **LCSS**	Batch ID: **65559**	RunNo: **85854**							
Prep Date: **2/15/2022**	Analysis Date: **2/16/2022**	SeqNo: **3023182**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	110	20	104.0	0	106	80.2	114			

Sample ID: **LCSD-65559**	SampType: **LCSD**	TestCode: **EPA Method 418.1: TPH**							
Client ID: **LCSS02**	Batch ID: **65559**	RunNo: **85854**							
Prep Date: **2/15/2022**	Analysis Date: **2/16/2022**	SeqNo: **3023183**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	120	20	104.0	0	111	80.2	114	4.35	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2202573**
14-Mar-22

Client: WSP
Project: Bisti LF

Sample ID: **MB-65942**	SampType: **MBLK**	TestCode: **EPA Method 6020A: Metals**
Client ID: **PBS**	Batch ID: **65942**	RunNo: **86256**
Prep Date: **3/3/2022**	Analysis Date: **3/4/2022**	SeqNo: **3040939** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.20								
Selenium	ND	0.20								
Thallium	ND	0.20								
Uranium	ND	0.20								

Sample ID: **MSLCSLL-65942**	SampType: **LCSLL**	TestCode: **EPA Method 6020A: Metals**
Client ID: **BatchQC**	Batch ID: **65942**	RunNo: **86256**
Prep Date: **3/3/2022**	Analysis Date: **3/4/2022**	SeqNo: **3040940** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.20	0.1000	0	82.2	70	130			
Selenium	ND	0.20	0.1000	0	109	70	130			
Thallium	ND	0.20	0.1000	0	87.3	70	130			
Uranium	ND	0.20	0.1000	0	86.9	70	130			

Sample ID: **MSLCS-65942**	SampType: **LCS**	TestCode: **EPA Method 6020A: Metals**
Client ID: **LCSS**	Batch ID: **65942**	RunNo: **86256**
Prep Date: **3/3/2022**	Analysis Date: **3/4/2022**	SeqNo: **3040941** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	4.8	0.20	5.000	0	95.2	80	120			
Selenium	4.4	0.20	5.000	0	87.8	80	120			
Thallium	4.9	0.20	5.000	0	97.0	80	120			
Uranium	4.8	0.20	5.000	0	96.4	80	120			

Sample ID: **MB-65942**	SampType: **MBLK**	TestCode: **EPA Method 6020A: Metals**
Client ID: **PBS**	Batch ID: **65942**	RunNo: **86256**
Prep Date: **3/3/2022**	Analysis Date: **3/4/2022**	SeqNo: **3041014** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.20								

Sample ID: **MSLCSLL-65942**	SampType: **LCSLL**	TestCode: **EPA Method 6020A: Metals**
Client ID: **BatchQC**	Batch ID: **65942**	RunNo: **86256**
Prep Date: **3/3/2022**	Analysis Date: **3/4/2022**	SeqNo: **3041015** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.20	0.1000	0	88.5	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2202573**
14-Mar-22

Client: WSP
Project: Bisti LF

Sample ID: **MSLCS-65942**	SampType: **LCS**	TestCode: **EPA Method 6020A: Metals**
Client ID: **LCSS**	Batch ID: **65942**	RunNo: **86256**
Prep Date: **3/3/2022**	Analysis Date: **3/4/2022**	SeqNo: **3041017** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	4.8	0.20	5.000	0	96.5	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2202573**

14-Mar-22

Client: WSP

Project: Bisti LF

Sample ID: **mb-65533**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **65533**	RunNo: **85848**
Prep Date: **2/14/2022**	Analysis Date: **2/16/2022**	SeqNo: **3022962** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		114	70	130			

Sample ID: **LCS-65533**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **65533**	RunNo: **85848**
Prep Date: **2/14/2022**	Analysis Date: **2/15/2022**	SeqNo: **3022963** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	93.3	80	120			
Toluene	0.97	0.050	1.000	0	97.3	80	120			
Ethylbenzene	1.0	0.050	1.000	0	99.8	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.4	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		116	70	130			

Sample ID: **2202573-001ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **West Line Vadose**	Batch ID: **65533**	RunNo: **85848**
Prep Date: **2/14/2022**	Analysis Date: **2/15/2022**	SeqNo: **3022965** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	0.9901	0	101	80	120			
Toluene	1.1	0.050	0.9901	0	106	80	120			
Ethylbenzene	1.1	0.050	0.9901	0	110	80	120			
Xylenes, Total	3.3	0.099	2.970	0	110	80	120			
Surr: 4-Bromofluorobenzene	1.1		0.9901		115	70	130			

Sample ID: **2202573-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **West Line Vadose**	Batch ID: **65533**	RunNo: **85848**
Prep Date: **2/14/2022**	Analysis Date: **2/16/2022**	SeqNo: **3022966** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	0.9881	0	101	80	120	0.0789	20	
Toluene	1.0	0.049	0.9881	0	106	80	120	0.755	20	
Ethylbenzene	1.1	0.049	0.9881	0	109	80	120	0.426	20	
Xylenes, Total	3.3	0.099	2.964	0	110	80	120	0.319	20	
Surr: 4-Bromofluorobenzene	1.2		0.9881		117	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2202573**
14-Mar-22

Client: WSP
Project: Bisti LF

Sample ID: **MB-65981**	SampType: **MBLK**	TestCode: **EPA Method 7471B: Mercury**							
Client ID: **PBS**	Batch ID: **65981**	RunNo: **86288**							
Prep Date: **3/7/2022**	Analysis Date: **3/7/2022**	SeqNo: **3042338**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033								

Sample ID: **LCS-65981**	SampType: **LCS**	TestCode: **EPA Method 7471B: Mercury**							
Client ID: **LCSS**	Batch ID: **65981**	RunNo: **86288**							
Prep Date: **3/7/2022**	Analysis Date: **3/7/2022**	SeqNo: **3042339**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.15	0.033	0.1667	0	91.5	80	120			

Sample ID: **LCSLL-65981**	SampType: **LCSLL**	TestCode: **EPA Method 7471B: Mercury**							
Client ID: **BatchQC**	Batch ID: **65981**	RunNo: **86288**							
Prep Date: **3/7/2022**	Analysis Date: **3/7/2022**	SeqNo: **3042340**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033	0.006660	0	105	70	130			

Sample ID: **LCSLL-65981**	SampType: **LCSLL**	TestCode: **EPA Method 7471B: Mercury**							
Client ID: **BatchQC**	Batch ID: **65981**	RunNo: **86288**							
Prep Date: **3/7/2022**	Analysis Date: **3/7/2022**	SeqNo: **3042341**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033	0.006660	0	94.8	70	130			

Sample ID: **LCSLL-65981**	SampType: **LCSLL**	TestCode: **EPA Method 7471B: Mercury**							
Client ID: **BatchQC**	Batch ID: **65981**	RunNo: **86288**							
Prep Date: **3/7/2022**	Analysis Date: **3/7/2022**	SeqNo: **3042342**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033	0.006660	0	96.1	70	130			

Sample ID: **LCSLL-65981**	SampType: **LCSLL**	TestCode: **EPA Method 7471B: Mercury**							
Client ID: **BatchQC**	Batch ID: **65981**	RunNo: **86288**							
Prep Date: **3/7/2022**	Analysis Date: **3/7/2022**	SeqNo: **3042343**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033	0.006660	0	93.9	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2202573**

14-Mar-22

Client: WSP

Project: Bisti LF

Sample ID: **LCSLL-65981**	SampType: **LCSLL**	TestCode: **EPA Method 7471B: Mercury**							
Client ID: **BatchQC**	Batch ID: **65981**	RunNo: **86288**							
Prep Date: **3/7/2022**	Analysis Date: **3/7/2022**	SeqNo: **3042344**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033	0.006660	0	95.4	70	130			

Sample ID: **LCSLL-65981**	SampType: **LCSLL**	TestCode: **EPA Method 7471B: Mercury**							
Client ID: **BatchQC**	Batch ID: **65981**	RunNo: **86288**							
Prep Date: **3/7/2022**	Analysis Date: **3/7/2022**	SeqNo: **3042345**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033	0.006660	0	95.8	70	130			

Sample ID: **LCSLL-65981**	SampType: **LCSLL**	TestCode: **EPA Method 7471B: Mercury**							
Client ID: **BatchQC**	Batch ID: **65981**	RunNo: **86288**							
Prep Date: **3/7/2022**	Analysis Date: **3/7/2022**	SeqNo: **3042346**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033	0.006660	0	96.6	70	130			

Sample ID: **LCSLL-65981**	SampType: **LCSLL**	TestCode: **EPA Method 7471B: Mercury**							
Client ID: **BatchQC**	Batch ID: **65981**	RunNo: **86288**							
Prep Date: **3/7/2022**	Analysis Date: **3/7/2022**	SeqNo: **3042347**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033	0.006660	0	98.8	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2202573**
14-Mar-22

Client: WSP
Project: Bisti LF

Sample ID: **MB-65942** SampType: **MBLK** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS** Batch ID: **65942** RunNo: **86344**
Prep Date: **3/3/2022** Analysis Date: **3/8/2022** SeqNo: **3045232** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	2.5								
Barium	ND	0.10								
Beryllium	ND	0.15								
Cadmium	ND	0.10								
Calcium	ND	25								
Chromium	ND	0.30								
Copper	ND	2.0								
Iron	ND	10								
Magnesium	ND	25								
Manganese	ND	0.20								
Potassium	ND	50								
Sodium	ND	25								

Sample ID: **LCS-65942** SampType: **LCS** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS** Batch ID: **65942** RunNo: **86344**
Prep Date: **3/3/2022** Analysis Date: **3/8/2022** SeqNo: **3045234** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	24	2.5	25.00	0	96.9	80	120			
Barium	23	0.10	25.00	0	92.3	80	120			
Beryllium	24	0.15	25.00	0	96.8	80	120			
Cadmium	24	0.10	25.00	0	94.3	80	120			
Calcium	2200	25	2500	0	89.5	80	120			
Chromium	23	0.30	25.00	0	91.3	80	120			
Copper	27	2.0	25.00	0	107	80	120			
Iron	24	10	25.00	0	96.9	80	120			
Magnesium	2400	25	2500	0	97.8	80	120			
Manganese	24	0.20	25.00	0	94.4	80	120			
Potassium	2500	50	2500	0	98.0	80	120			
Sodium	2500	25	2500	0	101	80	120			

Sample ID: **MB-65942** SampType: **MBLK** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS** Batch ID: **65942** RunNo: **86344**
Prep Date: **3/3/2022** Analysis Date: **3/8/2022** SeqNo: **3045353** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	ND	0.50								
Zinc	ND	2.5								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2202573**
14-Mar-22

Client: WSP
Project: Bisti LF

Sample ID: **LCS-65942** SampType: **LCS** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS** Batch ID: **65942** RunNo: **86344**
Prep Date: **3/3/2022** Analysis Date: **3/8/2022** SeqNo: **3045355** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	4.8	0.50	5.000	0	96.1	80	120			
Zinc	23	2.5	25.00	0	93.6	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: WSP | Work Order Number: 2202573 | RcptNo: 1

Received By: Tracy Casarrubias 2/11/2022 8:00:00 AM

Completed By: Sean Livingston 2/11/2022 10:00:17 AM Sean Livingston

Reviewed By: 2-11-22

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: JR 2/11/22

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.3	Good				

Released to Imaging: 11/8/2022 4:08:07 PM
Received by OCD: 10/28/2022 12:29:47 PM

Chain-of-Custody Record

Client: WSP

Stuart Hyde

Mailing Address: 848 E. 2nd Ave

Durango, CO.

Phone #: 970-903-1607

email or Fax#: Stuart.Hyde@wsp.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: Bisti LF

Project #: ~~TE0903~~ TE029521002

Project Manager: Stuart Hyde

Sampler: Eric Carroll

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 3.3-0=3.3 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2202573	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	TPH 418.1	Major Cations/Anions	Subsection A&B			
2/10	11:35	Soil	West line vadose	various	cool	001	X						X				X	X	X			
	11:50		East line vadose			002	X						X				X	X	X			
	12:00		Pettigrew vadose			003	X						X				X	X	X			
	12:10		Bisti vadose			004	X						X				X	X	X			
	12:15		API 1 vadose			005	X						X				X	X	X			
	12:20		API 2 vadose			006	X						X				X	X	X			
	12:30		API 3 vadose			007	X						X				X	X	X			
	12:40		API 4 vadose			008	X						X				X	X	X			
	12:35		API Treatment			009							X				X					
↓	12:05	↓	~~API~~ Crude Treatment	↓	↓	010							X				X					

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
2/10	1400	Eric Carroll				
2/10/22	1747				2/10/22	1400
					2/11/22	8:00

Remarks: See Attached for cations/anions & Subsection A&B

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Analyte Lists		
5- Year Sampling, Subsection A&B - Rule 36 (by USEPA Method 6010B/6020) Plus Mercury (7471)	**Annual Sampling, Rule 711 Heavy Metals**	**Major Cations/Anions - Rule 711 (USEPA Method)**
Antimony	Arsenic (6010B)	Alkalinity (ASA10-3)
Arsenic ✓	Barium (6010B)	Bicarbonate (ASA10-3
Barium	Cadmium (6010B)	Carbonate (ASA10-3)
Beryllium	Chromium (6010B)	Chloride (300.0)
Cadmium	Lead (6010B)	Calcium (6010B)
Chromium	Selenium (6010B)	Magnesium
Copper	Silver (6010B)	Potassium (6010B)
Iron	Mercury (7471)	Sodium (6010B)
Lead ✓		Sulfate (300.0)
Manganese		
Selenium ✓		
Silver		
Thallium ✓		
Uranium ✓		
Zinc		
Mercury		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

August 03, 2022

Stuart Hyde
ENSOLUM
606 S. Rio Grande Suite A
Aztec, NM 87410
TEL: (903) 821-5603
FAX

RE: Bisti LF OrderNo.: 2206A52

Dear Stuart Hyde:

Hall Environmental Analysis Laboratory received 5 sample(s) on 6/21/2022 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued July 12, 20222.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2206A52**
Date Reported: **8/3/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: West Line Vadose
Project: Bisti LF
Collection Date: 6/20/2022 10:50:00 AM
Lab ID: 2206A52-001 **Matrix:** SOIL **Received Date:** 6/21/2022 7:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **ED**	
Diesel Range Organics (DRO)	ND	11	15		mg/Kg	1	6/23/2022 11:51:55 PM	68271
Motor Oil Range Organics (MRO)	ND	27	49		mg/Kg	1	6/23/2022 11:51:55 PM	68271
Surr: DNOP	82.0	0	51.1-141		%Rec	1	6/23/2022 11:51:55 PM	68271
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	1.5	4.8		mg/Kg	1	6/24/2022 2:55:43 AM	68260
Surr: BFB	95.9	0	37.7-212		%Rec	1	6/24/2022 2:55:43 AM	68260
EPA METHOD 8021B: VOLATILES							Analyst: **NSB**	
Benzene	ND	0.013	0.024		mg/Kg	1	6/24/2022 2:55:43 AM	68260
Toluene	ND	0.012	0.048		mg/Kg	1	6/24/2022 2:55:43 AM	68260
Ethylbenzene	ND	0.0095	0.048		mg/Kg	1	6/24/2022 2:55:43 AM	68260
Xylenes, Total	ND	0.017	0.096		mg/Kg	1	6/24/2022 2:55:43 AM	68260
Surr: 4-Bromofluorobenzene	91.5	0	70-130		%Rec	1	6/24/2022 2:55:43 AM	68260
EPA METHOD 300.0: ANIONS							Analyst: **NAI**	
Chloride	ND	59	59		mg/Kg	20	6/25/2022 2:02:55 AM	68356

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2206A52**
Date Reported: **8/3/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: East Line Vadose
Project: Bisti LF
Collection Date: 6/20/2022 11:00:00 AM
Lab ID: 2206A52-002
Matrix: SOIL
Received Date: 6/21/2022 7:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **ED**	
Diesel Range Organics (DRO)	ND	11	14		mg/Kg	1	6/24/2022 12:15:40 AM	68271
Motor Oil Range Organics (MRO)	ND	26	47		mg/Kg	1	6/24/2022 12:15:40 AM	68271
Surr: DNOP	110	0	51.1-141		%Rec	1	6/24/2022 12:15:40 AM	68271
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	1.5	4.9		mg/Kg	1	6/24/2022 4:06:24 AM	68260
Surr: BFB	94.6	0	37.7-212		%Rec	1	6/24/2022 4:06:24 AM	68260
EPA METHOD 8021B: VOLATILES							Analyst: **NSB**	
Benzene	ND	0.013	0.025		mg/Kg	1	6/24/2022 4:06:24 AM	68260
Toluene	ND	0.012	0.049		mg/Kg	1	6/24/2022 4:06:24 AM	68260
Ethylbenzene	ND	0.0097	0.049		mg/Kg	1	6/24/2022 4:06:24 AM	68260
Xylenes, Total	ND	0.018	0.099		mg/Kg	1	6/24/2022 4:06:24 AM	68260
Surr: 4-Bromofluorobenzene	92.3	0	70-130		%Rec	1	6/24/2022 4:06:24 AM	68260
EPA METHOD 300.0: ANIONS							Analyst: **NAI**	
Chloride	ND	61	61		mg/Kg	20	6/25/2022 2:39:57 AM	68356

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2206A52**
Date Reported: **8/3/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: API Vadose
Project: Bisti LF
Collection Date: 6/20/2022 11:10:00 AM
Lab ID: 2206A52-003 **Matrix:** SOIL **Received Date:** 6/21/2022 7:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **ED**	
Diesel Range Organics (DRO)	ND	11	14		mg/Kg	1	6/24/2022 12:39:22 AM	68271
Motor Oil Range Organics (MRO)	ND	26	47		mg/Kg	1	6/24/2022 12:39:22 AM	68271
Surr: DNOP	90.5	0	51.1-141		%Rec	1	6/24/2022 12:39:22 AM	68271
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **BRM**	
Gasoline Range Organics (GRO)	ND	1.5	5.0		mg/Kg	1	6/24/2022 4:36:00 AM	68260
Surr: BFB	89.3	0	37.7-212		%Rec	1	6/24/2022 4:36:00 AM	68260
EPA METHOD 8021B: VOLATILES							Analyst: **BRM**	
Benzene	ND	0.013	0.025		mg/Kg	1	6/24/2022 4:36:00 AM	68260
Toluene	ND	0.013	0.050		mg/Kg	1	6/24/2022 4:36:00 AM	68260
Ethylbenzene	ND	0.0099	0.050		mg/Kg	1	6/24/2022 4:36:00 AM	68260
Xylenes, Total	ND	0.018	0.10		mg/Kg	1	6/24/2022 4:36:00 AM	68260
Surr: 4-Bromofluorobenzene	86.7	0	70-130		%Rec	1	6/24/2022 4:36:00 AM	68260
EPA METHOD 300.0: ANIONS							Analyst: **NAI**	
Chloride	ND	60	60		mg/Kg	20	6/25/2022 3:16:59 AM	68356

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2206A52**
Date Reported: **8/3/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: Pettigrew Vadose
Project: Bisti LF
Collection Date: 6/20/2022 11:17:00 AM
Lab ID: 2206A52-004
Matrix: SOIL
Received Date: 6/21/2022 7:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **ED**	
Diesel Range Organics (DRO)	ND	11	14		mg/Kg	1	6/24/2022 1:03:05 AM	68271
Motor Oil Range Organics (MRO)	ND	26	47		mg/Kg	1	6/24/2022 1:03:05 AM	68271
Surr: DNOP	83.9	0	51.1-141		%Rec	1	6/24/2022 1:03:05 AM	68271
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **BRM**	
Gasoline Range Organics (GRO)	ND	1.5	4.9		mg/Kg	1	6/24/2022 4:56:00 AM	68260
Surr: BFB	94.2	0	37.7-212		%Rec	1	6/24/2022 4:56:00 AM	68260
EPA METHOD 8021B: VOLATILES							Analyst: **BRM**	
Benzene	ND	0.013	0.025		mg/Kg	1	6/24/2022 4:56:00 AM	68260
Toluene	ND	0.012	0.049		mg/Kg	1	6/24/2022 4:56:00 AM	68260
Ethylbenzene	ND	0.0097	0.049		mg/Kg	1	6/24/2022 4:56:00 AM	68260
Xylenes, Total	ND	0.018	0.099		mg/Kg	1	6/24/2022 4:56:00 AM	68260
Surr: 4-Bromofluorobenzene	87.3	0	70-130		%Rec	1	6/24/2022 4:56:00 AM	68260
EPA METHOD 300.0: ANIONS							Analyst: **NAI**	
Chloride	ND	61	61		mg/Kg	20	6/25/2022 3:54:02 AM	68356

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2206A52**
Date Reported: **8/3/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: Bisti Vadose
Project: Bisti LF
Collection Date: 6/20/2022 11:26:00 AM
Lab ID: 2206A52-005
Matrix: SOIL
Received Date: 6/21/2022 7:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **ED**	
Diesel Range Organics (DRO)	ND	10	14		mg/Kg	1	6/24/2022 1:26:51 AM	68271
Motor Oil Range Organics (MRO)	ND	25	46		mg/Kg	1	6/24/2022 1:26:51 AM	68271
Surr: DNOP	88.4	0	51.1-141		%Rec	1	6/24/2022 1:26:51 AM	68271
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **BRM**	
Gasoline Range Organics (GRO)	ND	1.5	4.8		mg/Kg	1	6/24/2022 5:16:00 AM	68260
Surr: BFB	89.5	0	37.7-212		%Rec	1	6/24/2022 5:16:00 AM	68260
EPA METHOD 8021B: VOLATILES							Analyst: **BRM**	
Benzene	ND	0.013	0.024		mg/Kg	1	6/24/2022 5:16:00 AM	68260
Toluene	ND	0.012	0.048		mg/Kg	1	6/24/2022 5:16:00 AM	68260
Ethylbenzene	ND	0.0096	0.048		mg/Kg	1	6/24/2022 5:16:00 AM	68260
Xylenes, Total	ND	0.017	0.097		mg/Kg	1	6/24/2022 5:16:00 AM	68260
Surr: 4-Bromofluorobenzene	85.4	0	70-130		%Rec	1	6/24/2022 5:16:00 AM	68260
EPA METHOD 300.0: ANIONS							Analyst: **NAI**	
Chloride	ND	60	60		mg/Kg	20	6/25/2022 4:06:22 AM	68356

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2206A52**

03-Aug-22

Client: ENSOLUM

Project: Bisti LF

Sample ID: **MB-68356**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **68356**	RunNo: **89033**
Prep Date: **6/24/2022**	Analysis Date: **6/24/2022**	SeqNo: **3162206** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-68356**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **68356**	RunNo: **89033**
Prep Date: **6/24/2022**	Analysis Date: **6/24/2022**	SeqNo: **3162207** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.2	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2206A52**
03-Aug-22

Client: ENSOLUM
Project: Bisti LF

Sample ID: **MB-68271**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **68271**	RunNo: **88982**
Prep Date: **6/22/2022**	Analysis Date: **6/23/2022**	SeqNo: **3161113** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.1		10.00		91.3	51.1	141			

Sample ID: **LCS-68271**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **68271**	RunNo: **88982**
Prep Date: **6/22/2022**	Analysis Date: **6/23/2022**	SeqNo: **3161114** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	15	50.00	0	96.1	64.4	127			
Surr: DNOP	4.5		5.000		90.4	51.1	141			

Sample ID: **MB-68322**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **68322**	RunNo: **88982**
Prep Date: **6/23/2022**	Analysis Date: **6/24/2022**	SeqNo: **3162904** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		106	51.1	141			

Sample ID: **LCS-68322**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **68322**	RunNo: **88982**
Prep Date: **6/23/2022**	Analysis Date: **6/24/2022**	SeqNo: **3162905** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.4		5.000		109	51.1	141			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2206A52**
03-Aug-22

Client: ENSOLUM
Project: Bisti LF

Sample ID: **mb-68260** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **68260** RunNo: **88994**
Prep Date: **6/21/2022** Analysis Date: **6/24/2022** SeqNo: **3160385** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	980		1000		98.2	37.7	212			

Sample ID: **lcs-68260** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **68260** RunNo: **88994**
Prep Date: **6/21/2022** Analysis Date: **6/23/2022** SeqNo: **3160387** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	106	72.3	137			
Surr: BFB	2100		1000		213	37.7	212			S

Sample ID: **2206a52-001ams** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **West Line Vadose** Batch ID: **68260** RunNo: **88994**
Prep Date: **6/21/2022** Analysis Date: **6/24/2022** SeqNo: **3160391** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.8	23.97	0	107	70	130			
Surr: BFB	2000		958.8		209	37.7	212			

Sample ID: **2206a52-001amsd** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **West Line Vadose** Batch ID: **68260** RunNo: **88994**
Prep Date: **6/21/2022** Analysis Date: **6/24/2022** SeqNo: **3160392** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.8	23.90	0	107	70	130	0.310	20	
Surr: BFB	2000		956.0		208	37.7	212	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2206A52**

03-Aug-22

Client: ENSOLUM

Project: Bisti LF

Sample ID: **mb-68260**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **68260**	RunNo: **88994**
Prep Date: **6/21/2022**	Analysis Date: **6/24/2022**	SeqNo: **3160401** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.94		1.000		94.0	70	130			

Sample ID: **LCS-68260**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **68260**	RunNo: **88994**
Prep Date: **6/21/2022**	Analysis Date: **6/23/2022**	SeqNo: **3160402** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	1.000	0	82.6	80	120			
Toluene	0.87	0.050	1.000	0	86.8	80	120			
Ethylbenzene	0.88	0.050	1.000	0	88.4	80	120			
Xylenes, Total	2.7	0.10	3.000	0	89.4	80	120			
Surr: 4-Bromofluorobenzene	0.95		1.000		94.8	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **ENSOLUM** Work Order Number: **2206A52** RcptNo: 1

Received By: **Cheyenne Cason** **6/21/2022 7:00:00 AM**

Completed By: **Cheyenne Cason** **6/21/2022 8:20:11 AM**

Reviewed By: KPG 6.21.22

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: JR 6/21/22

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.1	Good	Yes			

Chain-of-Custody Record

Client: ~~Western Refining~~ Ensolum
~~Kateri Lucas~~ Stuart Hyde
Mailing Address: 776 E. 2nd Ave
Durango, CO. 81301
Phone #:
email or Fax#: ~~#~~ shyde@ensolum.com
QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
5 day
☒ Standard ☐ Rush
Project Name: Bisti LF
Project #: 07A2015004
Project Manager: Stuart Hyde
Sampler: E. Carroll
On Ice: ☒ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): 4.1 -0=4.1 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2206452
6-20	10:50	Soil	west line vadose	1 4oz	cool	001
	11:00		East line vadose			002
	11:10		API vadose			003
	11:17		Pettigrew vadose			004
	11:26		Bisti vadose			005

Analysis Request

BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
X	X					X			
X	X					X			
X	X					X			
X	X					X			
X	X					X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
6/20	1243	Eric Carroll			6/20/22	1243
6/21/22	1814		CMC courier		6/21/22	0700

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Received by OCD: 10/28/2022 12:29:47 PM
Released to Imaging: 11/8/2022 4:08:07 PM

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 26, 2022

Stuart Hyde
ENSOLUM
606 S. Rio Grande Suite A
Aztec, NM 87410
TEL: (903) 821-5603
FAX:

RE: Bisti LF OrderNo.: 2209D41

Dear Stuart Hyde:

Hall Environmental Analysis Laboratory received 10 sample(s) on 9/24/2022 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued October 07, 2022.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2209D41**
Date Reported: **10/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: West Line Vadose
Project: Bisti LF
Collection Date: 9/22/2022 11:05:00 AM
Lab ID: 2209D41-001 **Matrix:** SOIL **Received Date:** 9/24/2022 7:00:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS								Analyst: **DGH**
TPH-DRO	Diesel Range Organics (DRO)	ND	9.3	12		mg/Kg	1	9/30/2022 5:40:25 AM
TPH-MRO	Motor Oil Range Organics (MRO)	ND	23	41		mg/Kg	1	9/30/2022 5:40:25 AM
117-84-0	Surr: DNOP	84.2	0	21-129		%Rec	1	9/30/2022 5:40:25 AM
EPA METHOD 8015D: GASOLINE RANGE								Analyst: **BRM**
TPH-GRO	Gasoline Range Organics (GRO)	ND	1.5	4.9		mg/Kg	1	9/28/2022 8:24:00 PM
460-00-4	Surr: BFB	105	0	37.7-212		%Rec	1	9/28/2022 8:24:00 PM
EPA METHOD 8021B: VOLATILES								Analyst: **BRM**
71-43-2	Benzene	ND	0.013	0.024		mg/Kg	1	9/27/2022 10:34:00 PM
108-88-3	Toluene	ND	0.012	0.049		mg/Kg	1	9/27/2022 10:34:00 PM
100-41-4	Ethylbenzene	ND	0.0097	0.049		mg/Kg	1	9/27/2022 10:34:00 PM
1330-20-7	Xylenes, Total	ND	0.018	0.098		mg/Kg	1	9/27/2022 10:34:00 PM
460-00-4	Surr: 4-Bromofluorobenzene	90.6	0	70-130		%Rec	1	9/27/2022 10:34:00 PM
EPA METHOD 300.0: ANIONS								Analyst: **JTT**
16887-00-6	Chloride	ND	3.0	3.0		mg/Kg	1	10/14/2022 6:00:03 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2209D41**
Date Reported: **10/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: East Line Vadose
Project: Bisti LF
Collection Date: 9/22/2022 11:15:00 AM
Lab ID: 2209D41-002 **Matrix:** SOIL **Received Date:** 9/24/2022 7:00:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS								Analyst: **DGH**
TPH-DRO	Diesel Range Organics (DRO)	ND	10	14		mg/Kg	1	9/30/2022 5:51:09 AM
TPH-MRO	Motor Oil Range Organics (MRO)	ND	25	45		mg/Kg	1	9/30/2022 5:51:09 AM
117-84-0	Surr: DNOP	85.2	0	21-129		%Rec	1	9/30/2022 5:51:09 AM
EPA METHOD 8015D: GASOLINE RANGE								Analyst: **BRM**
TPH-GRO	Gasoline Range Organics (GRO)	ND	1.5	5.0		mg/Kg	1	9/28/2022 8:43:00 PM
460-00-4	Surr: BFB	104	0	37.7-212		%Rec	1	9/28/2022 8:43:00 PM
EPA METHOD 8021B: VOLATILES								Analyst: **BRM**
71-43-2	Benzene	ND	0.013	0.025		mg/Kg	1	9/27/2022 10:54:00 PM
108-88-3	Toluene	ND	0.013	0.050		mg/Kg	1	9/27/2022 10:54:00 PM
100-41-4	Ethylbenzene	ND	0.0098	0.050		mg/Kg	1	9/27/2022 10:54:00 PM
1330-20-7	Xylenes, Total	ND	0.018	0.099		mg/Kg	1	9/27/2022 10:54:00 PM
460-00-4	Surr: 4-Bromofluorobenzene	89.0	0	70-130		%Rec	1	9/27/2022 10:54:00 PM
EPA METHOD 300.0: ANIONS								Analyst: **JTT**
16887-00-6	Chloride	ND	3.0	3.0		mg/Kg	1	10/14/2022 6:12:28 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2209D41**
Date Reported: **10/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: Pettigrew Vadose
Project: Bisti LF
Collection Date: 9/22/2022 11:29:00 AM
Lab ID: 2209D41-003 **Matrix:** SOIL **Received Date:** 9/24/2022 7:00:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS								Analyst: **DGH**
TPH-DRO	Diesel Range Organics (DRO)	ND	11	15		mg/Kg	1	9/30/2022 12:39:49 AM
TPH-MRO	Motor Oil Range Organics (MRO)	ND	28	49		mg/Kg	1	9/30/2022 12:39:49 AM
117-84-0	Surr: DNOP	117	0	21-129		%Rec	1	9/30/2022 12:39:49 AM
EPA METHOD 8015D: GASOLINE RANGE								Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND	1.5	5.0		mg/Kg	1	9/28/2022 12:24:54 PM
460-00-4	Surr: BFB	92.8	0	37.7-212		%Rec	1	9/28/2022 12:24:54 PM
EPA METHOD 8021B: VOLATILES								Analyst: **RAA**
71-43-2	Benzene	ND	0.013	0.025		mg/Kg	1	9/28/2022 12:24:54 PM
108-88-3	Toluene	ND	0.013	0.050		mg/Kg	1	9/28/2022 12:24:54 PM
100-41-4	Ethylbenzene	ND	0.0098	0.050		mg/Kg	1	9/28/2022 12:24:54 PM
1330-20-7	Xylenes, Total	ND	0.018	0.099		mg/Kg	1	9/28/2022 12:24:54 PM
460-00-4	Surr: 4-Bromofluorobenzene	98.7	0	70-130		%Rec	1	9/28/2022 12:24:54 PM
EPA METHOD 300.0: ANIONS								Analyst: **JMT**
16887-00-6	Chloride	120	60	60		mg/Kg	20	9/29/2022 5:35:04 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2209D41**
Date Reported: **10/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: Bisti Vadose
Project: Bisti LF
Collection Date: 9/22/2022 11:45:00 AM
Lab ID: 2209D41-004 **Matrix:** SOIL **Received Date:** 9/24/2022 7:00:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS								Analyst: **DGH**
TPH-DRO	Diesel Range Organics (DRO)	ND	10	14		mg/Kg	1	9/30/2022 1:12:06 AM
TPH-MRO	Motor Oil Range Organics (MRO)	ND	25	45		mg/Kg	1	9/30/2022 1:12:06 AM
117-84-0	Surr: DNOP	98.5	0	21-129		%Rec	1	9/30/2022 1:12:06 AM
EPA METHOD 8015D: GASOLINE RANGE								Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND	1.5	4.9		mg/Kg	1	9/28/2022 1:35:12 PM
460-00-4	Surr: BFB	92.8	0	37.7-212		%Rec	1	9/28/2022 1:35:12 PM
EPA METHOD 8021B: VOLATILES								Analyst: **RAA**
71-43-2	Benzene	ND	0.013	0.024		mg/Kg	1	9/28/2022 1:35:12 PM
108-88-3	Toluene	ND	0.012	0.049		mg/Kg	1	9/28/2022 1:35:12 PM
100-41-4	Ethylbenzene	ND	0.0097	0.049		mg/Kg	1	9/28/2022 1:35:12 PM
1330-20-7	Xylenes, Total	ND	0.018	0.098		mg/Kg	1	9/28/2022 1:35:12 PM
460-00-4	Surr: 4-Bromofluorobenzene	98.5	0	70-130		%Rec	1	9/28/2022 1:35:12 PM
EPA METHOD 300.0: ANIONS								Analyst: **JTT**
16887-00-6	Chloride	ND	3.0	3.0		mg/Kg	1	10/14/2022 6:49:42 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2209D41**
Date Reported: **10/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: API 1 Vadose
Project: Bisti LF
Collection Date: 9/22/2022 11:20:00 AM
Lab ID: 2209D41-005 **Matrix:** SOIL **Received Date:** 9/24/2022 7:00:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS								Analyst: **DGH**
TPH-DRO	Diesel Range Organics (DRO)	ND	11	14		mg/Kg	1	9/30/2022 1:22:57 AM
TPH-MRO	Motor Oil Range Organics (MRO)	ND	26	47		mg/Kg	1	9/30/2022 1:22:57 AM
117-84-0	Surr: DNOP	95.0	0	21-129		%Rec	1	9/30/2022 1:22:57 AM
EPA METHOD 8015D: GASOLINE RANGE								Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND	1.5	4.8		mg/Kg	1	9/28/2022 2:45:34 PM
460-00-4	Surr: BFB	92.9	0	37.7-212		%Rec	1	9/28/2022 2:45:34 PM
EPA METHOD 8021B: VOLATILES								Analyst: **RAA**
71-43-2	Benzene	ND	0.013	0.024		mg/Kg	1	9/28/2022 2:45:34 PM
108-88-3	Toluene	ND	0.012	0.048		mg/Kg	1	9/28/2022 2:45:34 PM
100-41-4	Ethylbenzene	ND	0.0095	0.048		mg/Kg	1	9/28/2022 2:45:34 PM
1330-20-7	Xylenes, Total	0.018	0.017	0.096	J	mg/Kg	1	9/28/2022 2:45:34 PM
460-00-4	Surr: 4-Bromofluorobenzene	99.5	0	70-130		%Rec	1	9/28/2022 2:45:34 PM
EPA METHOD 300.0: ANIONS								Analyst: **JTT**
16887-00-6	Chloride	ND	3.0	3.0		mg/Kg	1	10/14/2022 7:02:07 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2209D41**
Date Reported: **10/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: API 2 Vadose
Project: Bisti LF
Collection Date: 9/22/2022 11:27:00 AM
Lab ID: 2209D41-006 **Matrix:** SOIL **Received Date:** 9/24/2022 7:00:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS								Analyst: **DGH**
TPH-DRO	Diesel Range Organics (DRO)	ND	11	14		mg/Kg	1	9/30/2022 1:33:47 AM
TPH-MRO	Motor Oil Range Organics (MRO)	ND	27	48		mg/Kg	1	9/30/2022 1:33:47 AM
117-84-0	Surr: DNOP	120	0	21-129		%Rec	1	9/30/2022 1:33:47 AM
EPA METHOD 8015D: GASOLINE RANGE								Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND	1.5	4.9		mg/Kg	1	9/28/2022 3:08:59 PM
460-00-4	Surr: BFB	93.6	0	37.7-212		%Rec	1	9/28/2022 3:08:59 PM
EPA METHOD 8021B: VOLATILES								Analyst: **RAA**
71-43-2	Benzene	ND	0.013	0.024		mg/Kg	1	9/28/2022 3:08:59 PM
108-88-3	Toluene	ND	0.012	0.049		mg/Kg	1	9/28/2022 3:08:59 PM
100-41-4	Ethylbenzene	ND	0.0097	0.049		mg/Kg	1	9/28/2022 3:08:59 PM
1330-20-7	Xylenes, Total	ND	0.018	0.098		mg/Kg	1	9/28/2022 3:08:59 PM
460-00-4	Surr: 4-Bromofluorobenzene	100	0	70-130		%Rec	1	9/28/2022 3:08:59 PM
EPA METHOD 300.0: ANIONS								Analyst: **JTT**
16887-00-6	Chloride	ND	3.0	3.0		mg/Kg	1	10/14/2022 7:14:31 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2209D41**
Date Reported: **10/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: API 3 Vadose
Project: Bisti LF
Collection Date: 9/22/2022 11:35:00 AM
Lab ID: 2209D41-007 **Matrix:** SOIL **Received Date:** 9/24/2022 7:00:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS								Analyst: **DGH**
TPH-DRO	Diesel Range Organics (DRO)	ND	11	15		mg/Kg	1	9/30/2022 1:44:36 AM
TPH-MRO	Motor Oil Range Organics (MRO)	ND	27	49		mg/Kg	1	9/30/2022 1:44:36 AM
117-84-0	Surr: DNOP	103	0	21-129		%Rec	1	9/30/2022 1:44:36 AM
EPA METHOD 8015D: GASOLINE RANGE								Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND	1.5	4.9		mg/Kg	1	9/28/2022 3:32:25 PM
460-00-4	Surr: BFB	94.7	0	37.7-212		%Rec	1	9/28/2022 3:32:25 PM
EPA METHOD 8021B: VOLATILES								Analyst: **RAA**
71-43-2	Benzene	ND	0.013	0.025		mg/Kg	1	9/28/2022 3:32:25 PM
108-88-3	Toluene	ND	0.012	0.049		mg/Kg	1	9/28/2022 3:32:25 PM
100-41-4	Ethylbenzene	ND	0.0098	0.049		mg/Kg	1	9/28/2022 3:32:25 PM
1330-20-7	Xylenes, Total	ND	0.018	0.099		mg/Kg	1	9/28/2022 3:32:25 PM
460-00-4	Surr: 4-Bromofluorobenzene	98.7	0	70-130		%Rec	1	9/28/2022 3:32:25 PM
EPA METHOD 300.0: ANIONS								Analyst: **JTT**
16887-00-6	Chloride	380	60	60		mg/Kg	20	9/29/2022 7:44:30 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2209D41**
Date Reported: **10/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: API 4 Vadose
Project: Bisti LF
Collection Date: 9/22/2022 11:40:00 AM
Lab ID: 2209D41-008 **Matrix:** SOIL **Received Date:** 9/24/2022 7:00:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS								Analyst: **DGH**
TPH-DRO	Diesel Range Organics (DRO)	ND	11	15		mg/Kg	1	9/30/2022 1:55:23 AM
TPH-MRO	Motor Oil Range Organics (MRO)	ND	28	50		mg/Kg	1	9/30/2022 1:55:23 AM
117-84-0	Surr: DNOP	135	0	21-129	S	%Rec	1	9/30/2022 1:55:23 AM
EPA METHOD 8015D: GASOLINE RANGE								Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND	1.5	5.0		mg/Kg	1	9/28/2022 3:55:53 PM
460-00-4	Surr: BFB	94.1	0	37.7-212		%Rec	1	9/28/2022 3:55:53 PM
EPA METHOD 8021B: VOLATILES								Analyst: **RAA**
71-43-2	Benzene	ND	0.013	0.025		mg/Kg	1	9/28/2022 3:55:53 PM
108-88-3	Toluene	ND	0.013	0.050		mg/Kg	1	9/28/2022 3:55:53 PM
100-41-4	Ethylbenzene	ND	0.0098	0.050		mg/Kg	1	9/28/2022 3:55:53 PM
1330-20-7	Xylenes, Total	ND	0.018	0.099		mg/Kg	1	9/28/2022 3:55:53 PM
460-00-4	Surr: 4-Bromofluorobenzene	99.7	0	70-130		%Rec	1	9/28/2022 3:55:53 PM
EPA METHOD 300.0: ANIONS								Analyst: **JTT**
16887-00-6	Chloride	89	60	60		mg/Kg	20	9/29/2022 8:21:44 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2209D41**
Date Reported: **10/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: Crude Treatment
Project: Bisti LF
Collection Date: 9/22/2022 11:48:00 AM
Lab ID: 2209D41-009
Matrix: SOIL
Received Date: 9/24/2022 7:00:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS								Analyst: **DGH**
TPH-DRO	Diesel Range Organics (DRO)	ND	9.8	13		mg/Kg	1	10/1/2022 5:59:19 AM
TPH-MRO	Motor Oil Range Organics (MRO)	34	24	43	J	mg/Kg	1	10/1/2022 5:59:19 AM
117-84-0	Surr: DNOP	97.8	0	21-129		%Rec	1	10/1/2022 5:59:19 AM
EPA METHOD 8015D: GASOLINE RANGE								Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND	1.5	5.0		mg/Kg	1	9/28/2022 4:19:19 PM
460-00-4	Surr: BFB	92.4	0	37.7-212		%Rec	1	9/28/2022 4:19:19 PM
EPA METHOD 300.0: ANIONS								Analyst: **JTT**
16887-00-6	Chloride	ND	60	60		mg/Kg	20	9/29/2022 8:34:08 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2209D41**
Date Reported: **10/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: API Treatment
Project: Bisti LF
Collection Date: 9/22/2022 11:48:00 AM
Lab ID: 2209D41-010
Matrix: SOIL
Received Date: 9/24/2022 7:00:00 AM

CAS#	Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS								Analyst: **DGH**
TPH-DRO	Diesel Range Organics (DRO)	ND	11	14		mg/Kg	1	9/30/2022 2:16:55 AM
TPH-MRO	Motor Oil Range Organics (MRO)	ND	26	47		mg/Kg	1	9/30/2022 2:16:55 AM
117-84-0	Surr: DNOP	99.2	0	21-129		%Rec	1	9/30/2022 2:16:55 AM
EPA METHOD 8015D: GASOLINE RANGE								Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND	1.5	4.8		mg/Kg	1	9/28/2022 4:42:50 PM
460-00-4	Surr: BFB	92.4	0	37.7-212		%Rec	1	9/28/2022 4:42:50 PM
EPA METHOD 300.0: ANIONS								Analyst: **JTT**
16887-00-6	Chloride	94	60	60		mg/Kg	20	9/29/2022 8:46:32 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209D41**

26-Oct-22

Client: ENSOLUM

Project: Bisti LF

Sample ID: **MB-70488**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **70488**	RunNo: **91427**							
Prep Date: **9/29/2022**	Analysis Date: **9/29/2022**	SeqNo: **3273639**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-70488**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **70488**	RunNo: **91427**							
Prep Date: **9/29/2022**	Analysis Date: **9/29/2022**	SeqNo: **3273640**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	96.8	90	110			

Sample ID: **MB-70497**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **70497**	RunNo: **91433**							
Prep Date: **9/29/2022**	Analysis Date: **9/29/2022**	SeqNo: **3273950**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-70497**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **70497**	RunNo: **91433**							
Prep Date: **9/29/2022**	Analysis Date: **9/29/2022**	SeqNo: **3273951**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.6	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209D41**

26-Oct-22

Client: ENSOLUM

Project: Bisti LF

Sample ID: **LCS-70432**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **70432**	RunNo: **91371**
Prep Date: **9/27/2022**	Analysis Date: **9/28/2022**	SeqNo: **3271147** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	36	15	50.00	0	72.8	64.4	127			
Surr: DNOP	3.6		5.000		71.0	21	129			

Sample ID: **MB-70432**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **70432**	RunNo: **91371**
Prep Date: **9/27/2022**	Analysis Date: **9/28/2022**	SeqNo: **3271155** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	7.6		10.00		75.6	21	129			

Sample ID: **2209D41-003AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **Pettigrew Vadose**	Batch ID: **70443**	RunNo: **91439**
Prep Date: **9/27/2022**	Analysis Date: **9/30/2022**	SeqNo: **3274403** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	37	14	45.62	0	81.9	36.1	154			
Surr: DNOP	4.4		4.562		96.0	21	129			

Sample ID: **2209D41-003AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **Pettigrew Vadose**	Batch ID: **70443**	RunNo: **91439**
Prep Date: **9/27/2022**	Analysis Date: **9/30/2022**	SeqNo: **3274404** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	32	14	46.34	0	68.1	36.1	154	16.8	33.9	
Surr: DNOP	3.5		4.634		74.7	21	129	0	0	

Sample ID: **LCS-70443**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **70443**	RunNo: **91439**
Prep Date: **9/27/2022**	Analysis Date: **9/30/2022**	SeqNo: **3274443** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	37	15	50.00	0	74.5	64.4	127			
Surr: DNOP	4.2		5.000		84.9	21	129			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209D41**

26-Oct-22

Client: ENSOLUM

Project: Bisti LF

Sample ID: **MB-70443** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **70443** RunNo: **91439**

Prep Date: **9/27/2022** Analysis Date: **9/30/2022** SeqNo: **3274446** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	14		10.00		137	21	129			S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209D41**

26-Oct-22

Client: ENSOLUM

Project: Bisti LF

Sample ID: **lcs-70417**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **70417**	RunNo: **91349**
Prep Date: **9/26/2022**	Analysis Date: **9/28/2022**	SeqNo: **3271445** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	104	72.3	137			
Surr: BFB	2200		1000		220	37.7	212			S

Sample ID: **mb-70417**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **70417**	RunNo: **91349**
Prep Date: **9/26/2022**	Analysis Date: **9/28/2022**	SeqNo: **3271446** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		110	37.7	212			

Sample ID: **2209d41-003ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **Pettigrew Vadose**	Batch ID: **70438**	RunNo: **91394**
Prep Date: **9/27/2022**	Analysis Date: **9/28/2022**	SeqNo: **3272010** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.8	24.20	0	105	70	130			
Surr: BFB	1900		968.1		200	37.7	212			

Sample ID: **2209d41-003amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **Pettigrew Vadose**	Batch ID: **70438**	RunNo: **91394**
Prep Date: **9/27/2022**	Analysis Date: **9/28/2022**	SeqNo: **3272011** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.8	24.15	0	96.0	70	130	9.26	20	
Surr: BFB	1800		966.2		189	37.7	212	0	0	

Sample ID: **LCS-70438**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **70438**	RunNo: **91394**
Prep Date: **9/27/2022**	Analysis Date: **9/28/2022**	SeqNo: **3272041** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.8	72.3	137			
Surr: BFB	1900		1000		191	37.7	212			

Sample ID: **mb-70438**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **70438**	RunNo: **91394**
Prep Date: **9/27/2022**	Analysis Date: **9/28/2022**	SeqNo: **3272043** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209D41**

26-Oct-22

Client: ENSOLUM

Project: Bisti LF

Sample ID: **mb-70438** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **PBS** Batch ID: **70438** RunNo: **91394**

Prep Date: **9/27/2022** Analysis Date: **9/28/2022** SeqNo: **3272043** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	940		1000		93.8	37.7	212			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209D41**

26-Oct-22

Client: ENSOLUM

Project: Bisti LF

Sample ID: **lcs-70417**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **70417**	RunNo: **91342**
Prep Date: **9/26/2022**	Analysis Date: **9/27/2022**	SeqNo: **3269588** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	94.1	80	120			
Toluene	0.95	0.050	1.000	0	95.3	80	120			
Ethylbenzene	0.97	0.050	1.000	0	96.8	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.6	80	120			
Surr: 4-Bromofluorobenzene	0.96		1.000		95.7	70	130			

Sample ID: **mb-70417**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **70417**	RunNo: **91342**
Prep Date: **9/26/2022**	Analysis Date: **9/27/2022**	SeqNo: **3269589** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.94		1.000		94.0	70	130			

Sample ID: **2209d41-004ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **Bisti Vadose**	Batch ID: **70438**	RunNo: **91394**
Prep Date: **9/27/2022**	Analysis Date: **9/28/2022**	SeqNo: **3272447** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	0.9814	0	102	68.8	120			
Toluene	1.1	0.049	0.9814	0	107	73.6	124			
Ethylbenzene	1.1	0.049	0.9814	0	108	72.7	129			
Xylenes, Total	3.2	0.098	2.944	0	109	75.7	126			
Surr: 4-Bromofluorobenzene	1.0		0.9814		102	70	130			

Sample ID: **2209d41-004amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **Bisti Vadose**	Batch ID: **70438**	RunNo: **91394**
Prep Date: **9/27/2022**	Analysis Date: **9/28/2022**	SeqNo: **3272448** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.024	0.9747	0	102	68.8	120	0.743	20	
Toluene	1.0	0.049	0.9747	0	106	73.6	124	1.70	20	
Ethylbenzene	1.0	0.049	0.9747	0	107	72.7	129	1.36	20	
Xylenes, Total	3.1	0.097	2.924	0	107	75.7	126	2.02	20	
Surr: 4-Bromofluorobenzene	0.97		0.9747		99.7	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209D41**

26-Oct-22

Client: ENSOLUM

Project: Bisti LF

Sample ID: **lcs-70438**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **70438**	RunNo: **91394**
Prep Date: **9/27/2022**	Analysis Date: **9/28/2022**	SeqNo: **3272469** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	91.9	80	120			
Toluene	0.95	0.050	1.000	0	95.5	80	120			
Ethylbenzene	0.96	0.050	1.000	0	95.5	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.8	80	120			
Surr: 4-Bromofluorobenzene	0.97		1.000		97.0	70	130			

Sample ID: **mb-70438**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **70438**	RunNo: **91394**
Prep Date: **9/27/2022**	Analysis Date: **9/28/2022**	SeqNo: **3272470** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	0.019	0.10								J
Surr: 4-Bromofluorobenzene	1.0		1.000		100	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **ENSOLUM** Work Order Number: **2209D41** RcptNo: **1**

Received By: **Cheyenne Cason** **9/24/2022 7:00:00 AM**

Completed By: **Cheyenne Cason** **9/24/2022 7:59:05 AM**

Reviewed By: JN 9/26/22

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: CMC 9/24/22

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.6	Good	Yes			

Released to Imaging: 11/8/2022 4:08:07 PM
Received by OCD: 10/28/2022 12:29:47 PM

Chain-of-Custody Record

Client: Ensolum

Stuart Hyde

Mailing Address:

Phone #:

email or Fax#: SHyde@ensolum.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5day

☒ Standard ☐ Rush

Project Name: Bisti LF

Project #: 07A2015004

Project Manager: Stuart Hyde

Sampler: E. Carroll Z. Myers

On Ice: ☒ Yes ☐ No

# of Coolers: ~~3~~ 1

Cooler Temp(including CF): 3.6 -0 3.6 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2209041	BTEX / ~~MTBE / TMB's (8021)~~	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	~~Cl, F, Br, NO_3, NO_2, PO_4, SO_4~~	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
9-22	11:05	soil	West Line Vadose	1 4oz	C001	001	X	X					X			
	11:15		East Line Vadose			002	X	X					X			
	11:29		Pettigrew Vadose			003	X	X					X			
	11:45		Bisti Vadose			004	X	X					X			
	11:20		API 1 Vadose			005	X	X					X			
	11:27		API 2 Vadose			006	X	X					X			
	11:35		API 3 Vadose			007	X	X					X			
	11:40		API4 Vadose			008	X	X					X			
	11:48		Crude Treatment			009		X					X			
	11:48		API Treatment			010		X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
9/23/22	1514	E Carroll			9/23/22	1514
9/23/22	1810				9/24/22	0700

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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 154707

CONDITIONS

Operator:	OGRID:
Western Refining Southwest LLC 539 South Main Street Findlay, OH 45840	267595
	Action Number: 154707
	Action Type: [C-137] Non-Fee SWMF Submittal (SWMF NON-FEE SUBMITTAL)

CONDITIONS

Created By	Condition	Condition Date
bjones	On November 8, 2022, OCD participated in the MS Teams call with Stuart Hyde and Devin Hencemann (Ensolum LLC) to discuss the release response sampling required of 19.15.36.15.E(5) NMAC. The following were determined: The release of chlorides detected in the API 4 Vadose sample of 9/22/22 will be addressed and included in the release response sampling. All constituents must be analyzed with a reporting limit at or below their OCD approved background value. If you have any questions, do not hesitate to contact me.	11/8/2022