District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: **Enterprise Field Services, LLC**	OGRID: **151618**
Contact Name: **Thomas Long**	Contact Telephone: **505-599-2286**
Contact email:**tjlong@eprod.com**	Incident # *(assigned by OCD)*: **NCS1934431572**
Contact mailing address: **614 Reilly Ave, Farmington, NM 87401**	

Location of Release Source

Latitude **36.558044** Longitude **-107.942463** *(NAD 83 in decimal degrees to 5 decimal places)*

Site Name **Lateral 2B-27/Huerfano #74**	Site Type **Natural Gas Gathering Pipeline**
Date Release Discovered: **09/18/2019**	Serial Number *(if applicable)*: **NM 030399**

Unit Letter	Section	Township	Range	County
L	**19**	**27N**	**10W**	**San Juan**

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (*Name*: **BLM**)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☒ Condensate	Volume Released (bbls): **10-15 bbls**	Volume Recovered (bbls): **None**
☒ Natural Gas	Volume Released (Mcf): **4.5 MCF**	Volume Recovered (Mcf): **None**
☐ Other (describe)	Volume/Weight Released (provide units):	Volume/Weight Recovered (provide units)

Cause of Release: On September 18, 2019, Enterprise discovered a release of natural gas from the Lateral 2B-27/Huerfano #74 pipeline. Enterprise technicians confirmed a natural gas release with field instrumentation. No liquids were observed on the ground surface. No washes were affected. The pipeline was isolated, depressurized, locked and tagged out. Enterprise began repairs on September 23, 2019 and determined the release reportable per NMOCD regulation on September 24, 2019, due to the volume of impacted subsurface soil. The final excavation dimensions measured approximately 37 feet long by 16 feet wide by approximately 19 feet deep. Approximately 626 cubic yards of hydrocarbon impacted soil were excavated and transported to a New Mexico Oil Conservation Division approved land farm facility. A third party closure report is included with this "Final." C-141.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Jon E. Fields Title: Director, Environmental

Signature: Jon E. Fields Date: 9/14/2020

email: jefields@eprod.com Telephone: (713) 381-6684

OCD Only

Received by: EMNRD OCD Date: 09/14/2020

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Chad Hensley Date: 02/24/2021

Printed Name: Chad Hensley Title: Environmental Specialist Advanced

ENSOLUM

CLOSURE REPORT

Property:

Lateral 2B-27/Huerfano #74 Pipeline Release
SW ¼, S19 T27N R10W
San Juan County, New Mexico

February 20, 2020
Updated May 20, 2020
Ensolum Project No. 05A1226072

Prepared for:

Enterprise Field Services, LLC
614 Reilly Avenue
Farmington, NM 87401
Attn: Mr. Thomas Long

Prepared by:

Chad D'Aponti
Field Environmental Scientist

Ranee Deechilly
Environmental Scientist

Kyle Summers, CPG
Sr. Project Manager

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LIST OF APPENDICES

ENSOLUM

CLOSURE REPORT

Lateral 2B-27/Huerfano #74 Pipeline Release
SW ¼, S19 T27N R10W
San Juan County, New Mexico

Ensolum Project No. 05A1226072

1.0 INTRODUCTION

1.1 Site Description & Background

Operator:	Enterprise Field Services, LLC / Enterprise Products Operating LLC (Enterprise)
Site Name:	Lateral 2B-27/Huerfano #74 Pipeline Release (Site)
Location:	36.558044° North, 107.942463° West Southwest (SW) ¼ of Section 19, Township 27 North, Range 10 West San Juan County, New Mexico
Property:	United States Bureau of Land Management (BLM)
Regulatory:	New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD)

On September 18, 2019, a release of natural gas occurred from the Lateral 2B-27/Huerfano #74 pipeline. On September 23, 2019, Enterprise initiated activities to facilitate the repair of the pipeline, and to remediate potential petroleum hydrocarbon impact resulting from the release.

A **Topographic Map** depicting the location of the Site is included as **Figure 1**, and a **Site Vicinity Map** is included as **Figure 2** in **Appendix A**.

1.2 Project Objective

The primary objective of the closure activities was to reduce constituent of concern (COC) concentrations in the on-Site soils to below the applicable New Mexico EMNRD OCD closure criteria.

2.0 CLOSURE CRITERIA

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. To address activities related to exempt oil and gas releases, the New Mexico EMNRD OCD references New Mexico Administrative Code (NMAC) 19.15.29 *Releases,* which establishes investigation and abatement action requirements for oil and gas release sites subject to reporting and/or corrective action. Ensolum, LLC (Ensolum) utilized information provided by Enterprise, the general site characteristics, and information available from the New Mexico Office of the State Engineer (OSE) and the New Mexico EMNRD OCD imaging database to determine the appropriate closure criteria for the Site. Supporting documentation associated with the following bullets is provided in **Appendix B**.

- The OSE tracks the usage and assignment of water rights and water well installations and records this information in the Water Rights Reporting System (WRRS) database. Water wells and other points of diversion (PODs) are each assigned POD numbers in the database (which is searchable and includes an interactive map). No water wells were identified within one mile of the Site on the OSE WRRS database.

- Seven (7) cathodic protection wells were identified within one mile of the Site. The closest cathodic protection well is located near the Huerfano Unit #101E oil/gas production well (Unit M, Sec19 T27N R10W), and is approximately 0.1 miles southwest of the Site and at a slightly higher elevation (5,952 feet) than the Site (5,945 feet). The record for this cathodic protection well indicates a depth to water of 40 feet below grade surface (bgs). Records for cathodic protection wells located near oil/gas production well locations Huerfano Unit #101 (Unit F, Sec 19 T27N R10W), Argo 1E (Unit N, Sec 18 T27N R10W), Argo #500 (Unit N, Sec 18 T27N R10W), Huerfano Unit Com #91 (Unit NW, Sec 30 T27N R10W), Huerfano Com #509 (Unit D, Sec 30 T27N R10W), and Fullerton Fed. 24-32 (Sec 24 T27N R11W) indicate depths to water ranging from 40 feet bgs to 180 feet bgs.

- The Site is located within 300 feet of a New Mexico EMNRD OCD-defined continuously flowing watercourse or significant watercourse. An ephemeral wash is located approximately 120 feet from the western extent of the excavation.

- The Site is not located within 200 feet of a lakebed, sinkhole or playa lake.

- The Site is located within 300 feet of a permanent residence, school, hospital, institution or church.

- No springs, or private domestic fresh water wells used by less than five (5) households for domestic or stock watering purposes were identified within 500 feet of the Site.

- No fresh water wells or springs were identified within 1,000 feet of the Site.

- The Site is not located within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3.

- The Site is not located within 300 feet of a wetland.

- Based on information identified on the New Mexico Mining and Minerals Division's GIS, Maps and Mine Data database, the Site is not located within an area overlying a subsurface mine.

- The Site is not located within an unstable area.

- The Site is not located within a 100-year floodplain.

Based on the identified siting criteria, cleanup goals for soils remaining in place at the Site include:

Closure Criteria for Soils Impacted by a Release		
Constituent	Method	Limit
Chloride	EPA 300.0 or SM4500 Cl B	600 mg/kg
TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015	100 mg/kg
BTEX	EPA SW-846 Method 8021 or 8260	50 mg/kg
Benzene	EPA SW-846 Method 8021 or 8260	10 mg/kg

3.0 SOIL REMEDIATION ACTIVITIES

On September 23, 2019, Enterprise initiated activities to facilitate the repair of the pipeline and remediate petroleum hydrocarbon impact resulting from the release. During the remediation and corrective action activities Industrial Mechanical, Inc. (IMI), provided heavy equipment and labor support, while Ensolum provided environmental consulting support.

The final excavation measured approximately 37 feet long and 16 feet wide at the maximum extents. The maximum depth of the excavation measured approximately 19 feet below grade surface (bgs).

The lithology encountered during the completion of remediation activities consisted primarily of sand and gravel.

A total of approximately 626 cubic yards (yd^3) of petroleum hydrocarbon affected soils were transported to the Envirotech, Inc. (Envirotech) landfarm near Hilltop, New Mexico for disposal/remediation. The executed C-138 solid waste acceptance form is provided in **Appendix C**. The excavation was backfilled with imported fill and segregated, laboratory-confirmed, unaffected stockpiled soils and then contoured to surrounding grade.

Figure 3 is a map that identifies approximate soil sample locations and depicts the approximate dimensions of the excavation with respect to the pipeline (**Appendix A**). Photographic documentation of the field activities is included in **Appendix D**.

4.0 SOIL SAMPLING PROGRAM

Ensolum field screened soil samples from the excavation utilizing a calibrated Dexsil PetroFLAG® hydrocarbon analyzer system and a photoionization detector (PID) fitted with a 10.6 eV lamp to guide excavation extents.

Ensolum's soil sampling program included the collection of 14 composite soil samples (S-1 through S-14), comprised of five (5) aliquots each, from the excavation for laboratory analysis. In addition, one (1) stockpile soil sample (SP-1), consisting of five (5) aliquots, was collected from soil that was segregated for potential reuse to confirm if the material was suitable to remain on Site. A clean shovel was utilized to obtain fresh aliquots from each accessible area of the excavation. An excavator, operated by IMI, was utilized to obtain fresh aliquots from areas of the excavation that exceeded depths greater than six (6) feet bgs. The New Mexico EMNRD OCD provided verbal approval to proceed with the September 24, 2019, and October 1, 2019 sampling event, although a New Mexico EMNRD OCD representative was not on Site. A New Mexico EMNRD OCD representative was on Site during the September 26, 2019 sampling event.

First Sampling Event
During the first sampling event, composite soil samples S-1 (0'-12') and S-2 (0'-10') were collected from the south and north wall of the excavation, prior to additional pipeline exposure to accommodate the replacement of a longer section of pipe.

Second Sampling Event
Composite soil samples S-3 (19') and S-11 (10') were collected from the floor of the excavation. Composite soil samples S-4 (10'-19'), S-5 (10'-19'), S-6 (0'-19'), S-7 (10'-19'), S-8 (10'-19'), S-9 (0'-19'), S-10 (0'-10'), and S-12 (0'-10') were collected from the walls of the excavation. Although composite soil sample S-2 (from the first sampling event) did not exhibit any closure standard exceedance on the east wall of the initial excavation, an additional sample (S-4) was collected to represent the additional depth from the extended excavation.

Analytical results from composite soil samples S-6 and S-8 indicated New Mexico EMNRD OCD closure standard exceedances. In response to the data exceedances, the excavation was extended to remove petroleum hydrocarbon impact. Unaffected soil associated with composite soil samples S-2 and S-9 was segregated for reuse as backfill. Soil associated with composite soil samples S-6 and S-8 were removed by excavation and transported to the land farm for disposal/remediation.

Third Sampling Event
After the excavation was extended, a third sampling event was performed. Composite soil samples S-13 (0'-10') and S-14 (10'-19') were collected from the walls of the extended excavation to replace composite soil samples S-6 and S-8 which exhibited closure standard exceedances and were removed by excavation.

The soil samples were collected and placed in laboratory prepared glassware, labeled/sealed using the laboratory supplied labels and custody seals, and stored on ice in a cooler. The samples were relinquished to the courier for Hall Environmental Analysis Laboratory of Albuquerque, New Mexico, under proper chain-of-custody procedures.

5.0 SOIL LABORATORY ANALYTICAL METHODS

The composite soil samples were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX) using Environmental Protection Agency (EPA) SW-846 Method #8021, total petroleum hydrocarbon (TPH) gasoline range organics (GRO), diesel range organics (DRO), and motor oil/lube oil range organics (MRO) using EPA SW-846 Method #8015, and chlorides using EPA Method #300.0.

The laboratory analytical results are summarized in **Table 1** in **Appendix E**. The executed chain-of-custody forms and laboratory data sheets are provided in **Appendix F**.

6.0 DATA EVALUATION

Ensolum compared the BTEX, TPH, and chloride laboratory analytical results or laboratory practical quantitation limits (PQLs) / reporting limits (RLs) associated with the composite soil samples remaining at the Site (S-1 through S-5, S-7, S-9 through S-14, and SP-1) to the applicable New Mexico EMNRD OCD closure criteria. Soils associated with composite soil samples S-6 and S-8 were removed from the Site and transported to Envirotech landfarm for disposal/remediation and are not included in the following discussion.

- The laboratory analytical results for the composite soil samples collected from soils remaining at the Site indicate benzene is not present in concentrations greater than the laboratory PQLs/RLs, which are less than the New Mexico EMNRD OCD closure criteria of 10 milligrams per kilogram (mg/kg).

- The laboratory analytical results for composite soil samples S-3, S-9, and SP-1, collected from soils remaining at the Site indicate total BTEX concentrations ranging from 0.38 mg/kg (SP-1) to 3.0 mg/kg (S-9), which are less than the New Mexico EMNRD OCD closure criteria of 50 mg/kg. The laboratory analytical results for the remaining composite soil samples collected from soils remaining at the Site indicate total BTEX is not present in concentrations greater than the laboratory PQLs/RLs, which are less than the New Mexico EMNRD OCD closure criteria of 50 mg/kg.

- The laboratory analytical results for composite soil samples S-3, S-9, and SP-1 collected from soils remaining at the Site indicate combined TPH GRO/DRO/MRO concentrations ranging from 21 mg/kg (SP-1) to 51 mg/kg (S-3), which are less than the New Mexico EMNRD OCD closure criteria of 100 mg/kg. The laboratory analytical results for the remaining composite soil samples collected from soils remaining at the Site indicate combined TPH GRO/DRO/MRO is not present in

concentrations greater than the laboratory PQLs/RLs, which are less than the New Mexico EMNRD OCD closure criteria of 100 mg/kg.

- The laboratory analytical results for the composite soil samples collected from soils remaining at the Site indicate chloride is not present in concentrations greater than laboratory PQLs/RLs, which are less than the New Mexico EMNRD OCD closure criteria of 600 mg/kg for chlorides.

The laboratory analytical results are summarized in **Table 1** (**Appendix E**).

7.0 RECLAMATION AND REVEGETATION

The excavation was backfilled with a combination of imported fill and segregated, laboratory-confirmed, unaffected stockpiled soils, and was then contoured to the surrounding grade. Enterprise will re-seed the Site with a BLM Farmington Field Office approved seeding mixture.

8.0 FINDINGS AND RECOMMENDATION

On September 18, 2019, a release of natural gas occurred from the Lateral 2B-27/Huerfano #74 pipeline. On September 23, 2019, Enterprise initiated activities to facilitate the repair of the pipeline, and to remediate potential petroleum hydrocarbon impact resulting from the release.

- The primary objective of the closure activities was to reduce COC concentrations in the on-Site soils to below the applicable New Mexico EMNRD OCD closure criteria using the New Mexico EMNRD OCD's NMAC 19.15.29 *Releases* as guidance.

- A total of 14 composite soil samples were collected from the final excavation and one (1) composite soil samples was collected from segregated stockpiled soil for laboratory analysis. Based on soil laboratory analytical results, the soils remaining at the Site do not exhibit COC concentrations above the New Mexico EMNRD OCD closure criteria.

- A total of approximately 626 yd^3 of petroleum hydrocarbon affected soils were transported to the Envirotech landfarm near Hilltop, New Mexico for disposal/remediation. The excavation was backfilled with a combination of imported fill and segregated, laboratory-confirmed, unaffected stockpiled soils, and was then contoured to surrounding grade.

Based on field observations and laboratory analytical results, no additional investigation or corrective action appears warranted at this time.

9.0 STANDARDS OF CARE, LIMITATIONS, AND RELIANCE

9.1 Standard of Care

Ensolum's services were performed in accordance with standards customarily provided by a firm rendering the same or similar services in the area during the same time period. Ensolum makes no warranties, express or implied, as to the services performed hereunder. Additionally, Ensolum does not warrant the work of third parties supplying information used in the report (e.g. laboratories, regulatory agencies, or other third parties).

9.2 Additional Limitations

Findings, conclusions, and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, or not present during these services, and Ensolum cannot represent that the Site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during the investigation. Environmental conditions at other areas or portions of the Site may vary from those encountered at actual sample locations. Ensolum's findings, and recommendations are based solely upon data available to Ensolum at the time of these services.

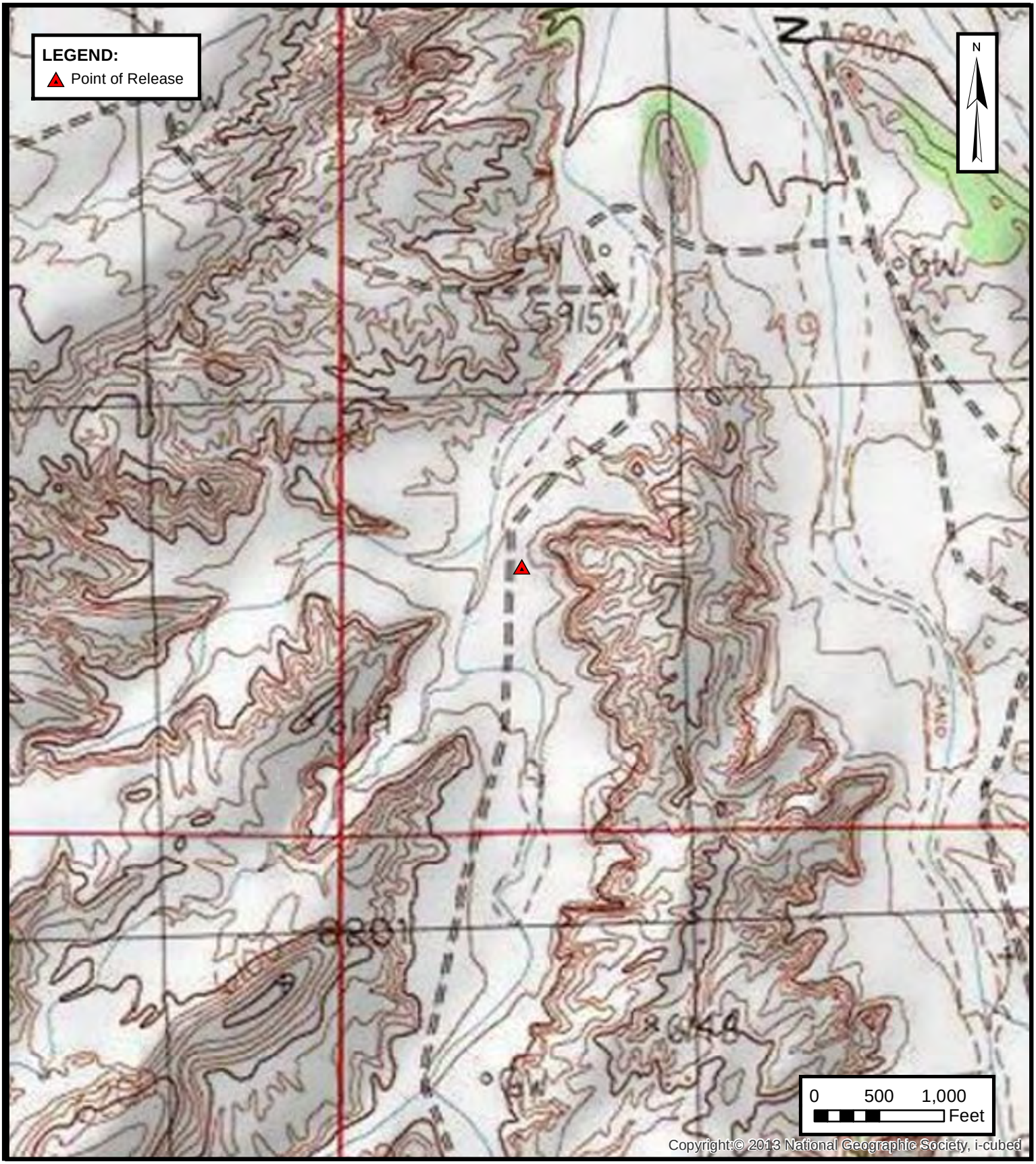
9.3 Reliance

This report has been prepared for the exclusive use of Enterprise Products Operating LLC, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the Site) is prohibited without the express written authorization Enterprise Products Operating LLC and Ensolum. Any unauthorized distribution or reuse is at the client's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions and limitations stated in the Closure Report, and Ensolum's Master Services Agreement. The limitation of liability defined in the agreement is the aggregate limit of Ensolum's liability to the client.

ENSOLUM

APPENDIX A

Figures



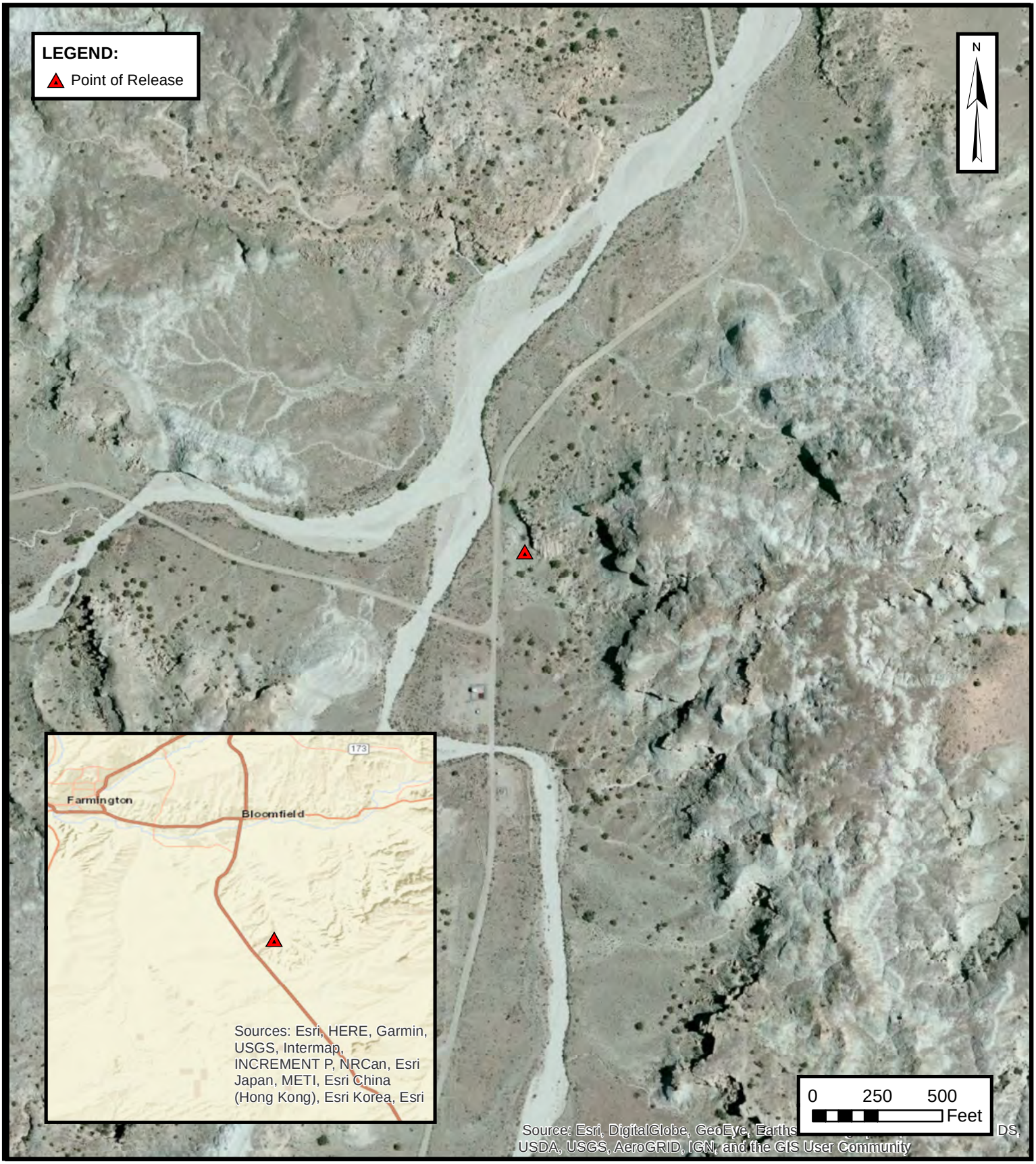
ENSOLUM
Environmental & Hydrogeologic Consultants

TOPOGRAPHIC MAP

ENTERPRISE FIELD SERVICES, LLC
LATERAL 2B-27/HUERFANO #74 PIPELINE RELEASE
SW ¼ , S19 T27N R10W, San Juan County, New Mexico
36.558044° N, 107.942463° W

PROJECT NUMBER: 05A1226072

FIGURE
1



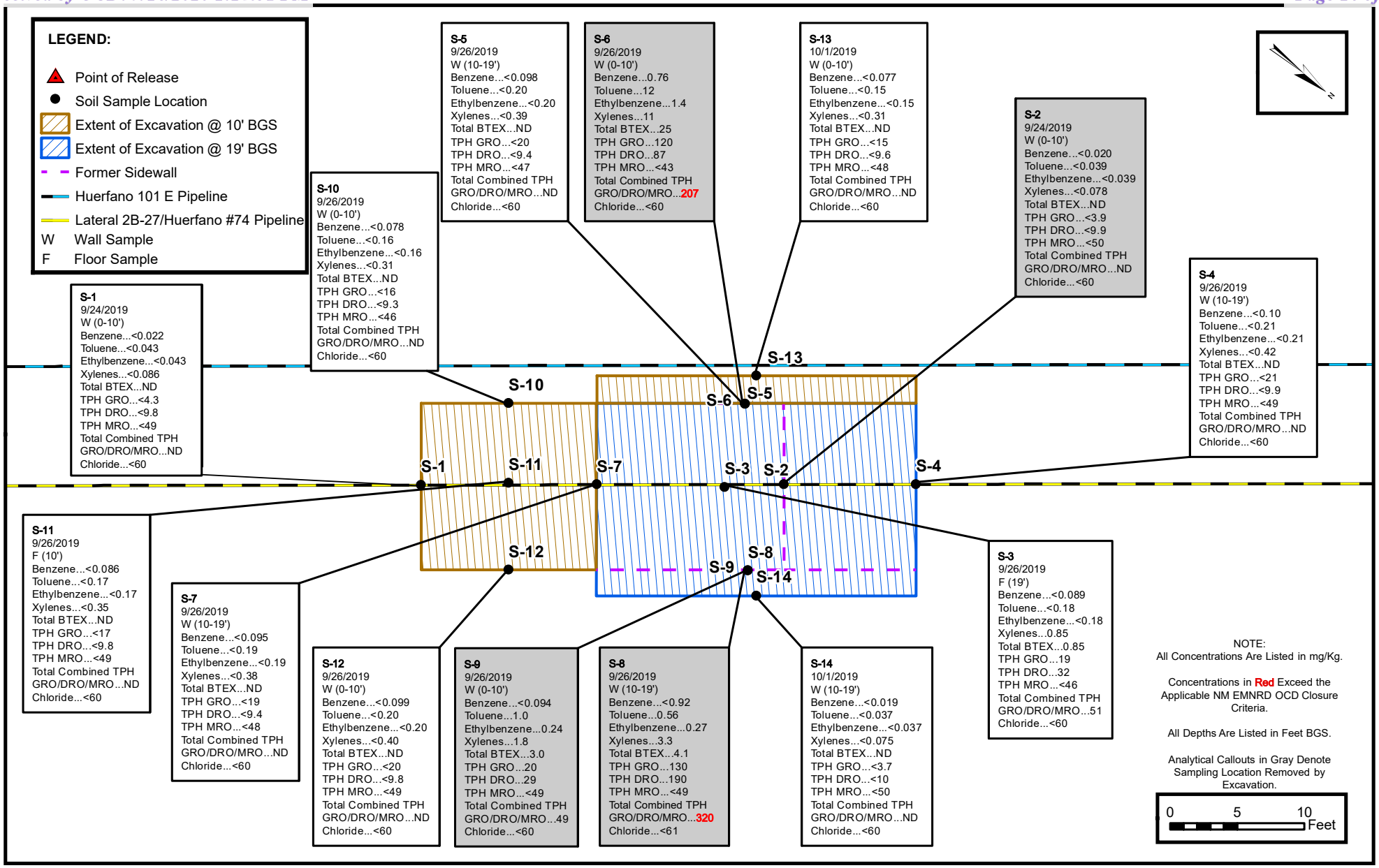
ENSOLUM
Environmental & Hydrogeologic Consultants

SITE VICINITY MAP

ENTERPRISE FIELD SERVICES, LLC
LATERAL 2B-27/HUERFANO #74 PIPELINE RELEASE
SW ¼ , S19 T27N R10W, San Juan County, New Mexico
36.558044° N, 107.942463° W

PROJECT NUMBER: 05A1226072

FIGURE
2



ENSOLUM
Environmental & Hydrogeologic Consultants

SITE MAP WITH SOIL ANALYTICAL RESULTS

ENTERPRISE FIELD SERVICES, LLC
LATERAL 2B-27/Huerfano #74 PIPELINE RELEASE
SW ¼ , S19 T27N R10W, San Juan County, New Mexico
36.558044° N, 107.942463° W

PROJECT NUMBER: 05A1226072

FIGURE
3

ENSOLUM

APPENDIX B

Siting Documentation

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

No records found.

PLSS Search:

Section(s): 19, 18, 17, 20, 29, 30 **Township:** 27N **Range:** 10W

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

No records found.

PLSS Search:

Section(s): 13, 24, 25 **Township:** 27N **Range:** 11W

5178

30-045-26663

DATA SHEET FOR DEEP GROUND BED CATHODIC PROTECTION WELLS
NORTHWESTERN NEW MEXICO
(Submit 3 copies to OCD Aztec Office)

Operator MERIDIAN OIL INC. Location: Unit M Sec. 19 Twp 27 Rng 10

Name of Well/Wells or Pipeline Serviced HUERFANO UNIT #101E

cps 1983w

Elevation 5947' Completion Date 7/29/88 Total Depth 400' Land Type* N/A

Casing, Sizes, Types & Depths 40' OF 8" PVC CASING

If Casing is cemented, show amounts & types used N/A

If Cement or Bentonite Plugs have been placed, show depths & amounts used

N/A

Depths & thickness of water zones with description of water when possible:

Fresh, Clear, Salty, Sulphur, Etc. 40' NO SAMPLE

Depths gas encountered: N/A

Type & amount of coke breeze used: N/A

Depths anodes placed: 370', 355', 335', 295', 275', 185', 175', 125', 100', 80'

Depths vent pipes placed: 400'

Vent pipe perforations: 360'

Remarks: gb #1

RECEIVED
MAY 31 1991
OIL CON. DIV.
DIST. 3

If any of the above data is unavailable, please indicate so. Copies of all logs, including Drillers Log, Water Analyses & Well Bore Schematics should be submitted when available. Unplugged abandoned wells are to be included.

*Land Type may be shown: F-Federal; I-Indian; S-State; P-Fee.
If Federal or Indian, add Lease Number.

30

FM-07-0238 (Rev. 10-82)

WELL CASING
CATHODIC PROTECTION CONSTRUCTION REPORT
DAILY LOG

comp 8-2-88

Drilling Log (Attach Hereto) ☒ Completion Date 7-29-88

CPS #	Well Name, Line or Plant	Work Order #	Static	Ins. Union Check
1983W	Nuriano 101E	54570A	600N = 776	☒ Good ☐ Bad

Location	Anode Size	Anode Type	Size Bit
M 19-27-16	9" x 60"	Duriron	6 3/4

Depth Drilled	Depth Logged	Drilling Rig Time	Total Lbs Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
400'	395'				

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Anode Depth	370	355	335	295	275	185	175	125	100	80
Anode Output (Amps)	4.0	5.0	6.3	3.5	5.6	4.2	4.8	6.4	8.4	7.8
Anode Depth	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20
Anode Output (Amps)	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20

Total Circuit Resistance			No. 8 C.P. Cable Used	No. 2 C.P. Cable Used
Volts 11.8	Amps 29.4	Ohms .40		

Remarks: Driller said water to be at 40'. Installed 40' of 8" PVC surface casing, Installed 400' of 1" PVC vent pipe, bottom 360' perforated. no water sample.

G.B. 4074.00
669.00 ✓

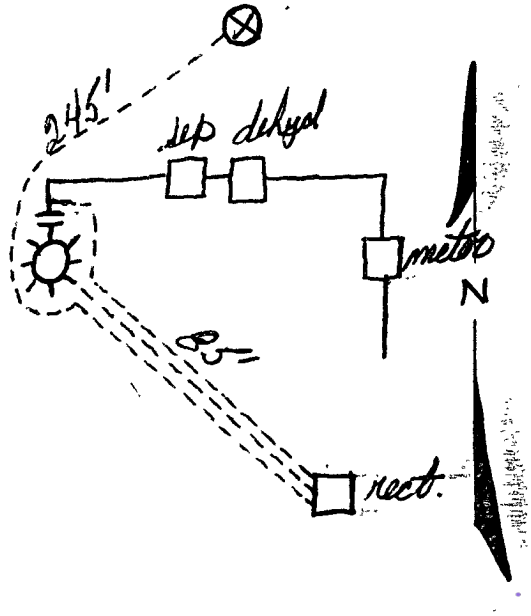
Rectifier Size: 40 V 16 A
Addn'l Depth
Depth Credit: 105' @ 3.50 -367.50 ✓
Extra Cable: 115' @ .24 27.60 ✓
Ditch & 1 Cable: 245' @ .70 171.50
25 'Meter Pole:
20' Meter Pole: @ 297.00 297.00
10' Stub Pole:
1 junction box 225.00 ✓
40' surface casing 220.00 ✓
2 hrs rig time 276.00 ✓
5592.60 ✓
tot 299.63 ✓
5872.23 ok gt

5947

All Construction Completed

Calvin Redman
(Signature)

GROUND BED LAYOUT SKETCH



380 Perfed

WELL TYPE GROUNDBED DATA

DATA SHEET NO. _____

COMPANY Meridian Oil JOB No. 13128 DATE: 4-29-88

WELL: Huerfano Unit #101 E PIPELINE: _____

LOCATION: SEC. 19 TWP. 24 RGE. 10 CO. San Juan STATE NM

ELEV. _____ FT: ROTARY 1400 FT: CABLE TOOL _____ FT: CASING 40'

GROUNDBED: DEPTH 400 FT. DIA. 6 3/4 IN. GAS 4000 LBS. ANODES 10-2"X60" Type

DEPTH FT.	DRILLER'S LOG	EXPLORING ANODE TO STRUCTURE E	I	R	With COKE I	DO COKE I	ANODE NO.	DEPTH TOP OF ANODE
	First water 40'							
50	Shale		3.8					
5			3.7					
60			3.9					
5			3.6					
70			3.4					
5			3.6					
80			3.7		7.8	5.3	10.	80.
5			3.3					
90			3.3					
5			3.1					
100			3.6		8.4	4.9	9.	100
5			3.2					
10			3.0					
5			3.4					
20			3.5					
5			3.0		6.4	4.0	8.	125.
30			2.5					
5			2.1					
40			1.8					
5			2.1					
50	Sand		1.6					
5			1.4					
60			1.4					
5			1.2					
70			1.6					
5			2.6		4.8	2.9	7.	145.
80	Sand & Shale		2.5					
5			2.2		4.2	2.8	6.	185
90			1.5					
5			1.3					
200			1.8					
5			1.3					
10			1.3					
5			1.3					
20			1.1					
5			1.2					
30	Sand		13					
5			1.1					
40			1.1					
5			.9					
50			.8					
5			.9					
60			1.6					

GROUNDBED RESISTANCE: (1) VOLTS 11.8 - AMPS 29.4 = .40 OHMS

(2) VIBROGROUND _____ OHMS

GENERAL CATHODIC PROTECTION SERVICES CO.
A LUKENS COMPANY

WEL TYPE GROUNDBED DATA

DATA SHEET NO. _____

COMPANY _____ JOB No. _____ DATE: _____

WELL: _____ PIPELINE: _____

LOCATION: SEC. _____ TWP. _____ RGE. _____ CO. _____ STATE _____

ELEV. _____ FT: ROTARY _____ FT: CABLE TOOL _____ FT: CASING _____

GROUNDBED: DEPTH _____ FT. DIA. _____ IN. GAS _____ LBS. ANODES _____

DEPTH, FT.	DRILLER'S LOG	EXPLORING ANODE TO STRUCTURE E	I	R	NO COKE I	WITH COKE I	ANODE NO.	DEPTH TOP O ANODE
265	Shale		2.7					
70			2.7					
5			2.9		3.6	5.6	5.	275
80			2.3					
5			2.1					
90			1.9					
5	Sand		1.5		2.3	3.5	4.	295
300			1.5					
5			1.5					
10			1.2					
5			1.5					
20	Shale		2.6					
5			2.9					
30			3.0					
5			2.7		3.7	6.3	3.	335
40			2.7					
5			2.6					
50			2.7					
5			2.6		3.3	5.0	2.	355
60			2.6					
5			2.5					
70			2.2		2.8	4.0	1.	370
5	Sand		1.8					
80			1.6					
5			1.5					
90			1.6					
400								
	T.D. 400							

GROUNDBED RESISTANCE: (1) VOLTS _____ ÷ AMPS _____ = _____ OHMS

(2) VIBROGROUND _____ OHMS

GENERAL CATHODIC PROTECTION SERVICES CO.

A LUKENS COMPANY

D. CRASS DRILLING CO. 1983

Drill No. 3

DRILLER'S WELL LOG

S. P. No. HUCR-FARO #101-E Date 7-29-88

Client MERIDIAN Oil Co. Prospect

County SAN JUAN State New Mex.

If hole is a redrill or if moved from original staked position show distance and direction moved:

FROM	TO	FORMATION — COLOR — HARDNESS
0	30	SAND
30	90	Shale
90	95	SAND
95	150	Shale
150	170	SAND
170	210	SANDy Shale
210	245	SANDSTONE
245	260	SANDy Shale
260	295	Shale
295	320	SANDy Shale
320	385	Shale
385	400	SANDy Shale

Mud Bran Lime

Rock Bit Number Make

Remarks: Water @ 40' CASING 2 HRS. 40'

Driller Lonnie Brown

#101 30-045-13042

DATA SHEET FOR DEEP GROUND BED CATHODIC PROTECTION WELLS
NORTHWESTERN NEW MEXICO

Operator Meridian Oil Co. Location: Unit F Sec. 19 Twp 27 Rng 10

Name of Well/Wells or Pipeline Serviced

Huerfano Unit #101

Elevation 5891 Completion Date 2-15-93 Total Depth 396 Land Type F

Casing Strings, Sizes, Types & Depths 2/4 Set 99' of 8" PVC Casing.

No Gas, Water, or Boulders Were Encountered During Casing.

If Casing Strings are cemented, show amounts & types used Cemented

With 23 Sacks.

If Cement or Bentonite Plugs have been placed, show depths & amounts used

Used 20 sacks of cement from 140' to 80'

Depths & thickness of water zones with description of water: Fresh, Clear,

Salty, Sulphur, Etc. 120' and was clear

Depths gas encountered: Some at 300' and more at 420'

Ground bed depth with type & amount of coke breeze used: 396' with

51 (1001b) sacks of Loresco S.W.

Depths anodes placed: #1 at 380 and #15 at 250

Depths vent pipes placed: Bottom to Surface

Vent pipe perforations: Up to 200'

Remarks:

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OIL CON. DIV.
DIST. 3

If any of the above data is unavailable, please indicate so. Copies of all logs, including Drillers Log, Water Analyses & Well Bore Schematics should be submitted when available. Unplugged abandoned wells are to be included.

Land Type may be shown: F-Federal; I-Indian; S-State; P-Fee.
If Federal or Indian, add Lease Number.

TECH, Inc.
300 East Main
Farmington
New Mexico
87401
505/327-3311

LABORATORY REPORT

OIL-FIELD WATER ANALYSIS

Lab Number: 930220-2
Client: Meridian Oil
Sample ID: Huerfano #101
Location: F19-27-10

Date Sampled: 01-15-93
Date Received: 02-20-93
Date Analyzed: 02-20-93
Date Reported: 02-21-93

DISSOLVED SOLIDS:

	me/L	mg/l.	Detection Limit, mg/L
Calcium, Ca++	0.5	10.4	1.0
Magnesium, Mg++	0.1	1.0	1.0
Sodium, Na+ (calc)	10.4	239	5.0
Chloride, Cl-	0.5	17.0	2.0
Sulfate, SO4--	5.7	274	5.0
Bicarbonate, HCO3-	ND	ND	5.0
Carbonate,CO3--	0.4	12.0	1.0
Hydroxide, OH-	4.4	74.8	1.0
Total Dissolved Solids (calculated):		630	10.0

OTHER PROPERTIES:

pH (units):	11.0
reisistivity (ohm-meters):	13
specific gravity at 60F:	1.0036
room temperature (F):	72

ND = Not Detected at the stated dectection limit

Methods: American Petrolium Institute, "Recommended Practice for Analysis of Oil-Field Waters;" 2nd edition.

Comments: Gallup; SJ, NM; Groundbed
Sampled by R. Smith

Leila Fellows
analyst

30-045-24400

DATA SHEET FOR DEEP GROUND BED CATHODIC PROTECTION WELLS
NORTHWESTERN NEW MEXICO
(Submit 3 copies to OCD Aztec Office)

Operator LADD PETROLEUM CORPORATION Location: Unit N Sec. 18 Twp 27N Rng 10 W

Name of Well/Wells or Pipeline Serviced ARGO 1E

Elevation ____ Completion Date 11-30-87 Total Depth 250' Land Type* ____

Casing, Sizes, Types & Depths 8" PVC 0' TO 37'

If Casing is cemented, show amounts & types used NONE

If Cement or Bentonite Plugs have been placed, show depths & amounts used
NONE

Depths & thickness of water zones with description of water when possible:

Fresh, Clear, Salty, Sulphur, Etc. FIRST WATER AT 40', STRINGER

Depths gas encountered: NONE

Type & amount of coke breeze used: 99% CARBON, CARBO 60 - 1370#

Depths anodes placed: 5 220' TO 250

Depths vent pipes placed: 0' TO 280'

Vent pipe perforations: 110' TO 280'

Remarks: ____

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DIST. 3

If any of the above data is unavailable, please indicate so. Copies of all logs, including Drillers Log, Water Analyses & Well Bore Schematics should be submitted when available. Unplugged abandoned wells are to be included.

*Land Type may be shown: F-Federal; I-Indian; S-State; P-Fee.
If Federal or Indian, add Lease Number.

GENERAL CPS
CATHODIC PROTECTION SERVICES

WELL TYPE GROUNDBED DATA

DATA SHEET NO. _____

COMPANY LADD PETROLEUM JOB No. 13123 DATE: 11-30-87

WELL: ARGO #1E PIPELINE: _____

LOCATION: SEC. 18 TWP. 27N RGE. 10W CO. SAN JUAN STATE NM

ELEV. _____ FT: ROTARY 280' FT: CABLE TOOL _____ FT: CASING 37' FT.

GROUNDBED: DEPTH 280' FT. DIA. 6¼ IN. GAB 1370 LBS. ANODES 5 LIDA STRING

DEPTH, FT.	DRILLER'S LOG	EXPLORING ANODE TO STRUCTURE E	I	R	NO COKE	WITH COKE	DEPTH TOP OF ANODES NO.	FT.
100	FIRST WATER AT 40'		0.8					
5	SAND		0.8					
10			0.8					
15			0.8					
20			0.6					
25			0.8					
30			0.6					
35			0.6					
40			0.6					
45			0.5					
50			0.4					
55			0.8					
60			1.6					
65	SANDY SHALE		1.1					
70			1.0					
75			0.8					
80	SAND		0.8					
85			0.7					
90			0.8					
95			0.8					
200			0.9					
5			0.7					
10			0.6					
15	SANDY SHALE		1.5					
20			1.7				4	220
25			1.7					
30			1.6				3	
35			1.7		4/9	10.9		
40			1.7				2	
45			1.8					
50			1.6				1	250
55			1.2					
60			1.3					
65	SAND		0.9					
70			1.2					
75			0.9					
80			0.6					
85								
90								

GROUNDBED RESISTANCE: (1) VOLTS 12.12 ÷ AMPS 10.9 = 1.11 OHMS

(2) VIBROGROUND _____ OHMS

648 500 - 30-045-28247 E

DATA SHEET FOR DEEP GROUND BED CATHODIC PROTECTION WELLS NORTHWESTERN NEW MEXICO

Operator Meridian Oil Inc. Location: Unit W Sec. 18 Twp 27 Rng 10

Name of Well/Wells or Pipeline Serviced Argo #500

2274W

Elevation ____ Completion Date 11-21-91 Total Depth 400 Land Type F

Casing Strings, Sizes, Types & Depths Set 100' of 8" P.V.C.

If Casing Strings are cemented, show amounts & types used Used 23 sacks of neet cement

If Cement or Bentonite Plugs have been placed, show depths & amounts used No plugs

Depths & thickness of water zones with description of water: Fresh, Clear, Salty, Sulphur, Etc. water is at 120' and is clear

Depths gas encountered: No gas

Ground bed depth with type & amount of coke breeze used: 400' with 56 sacks of Asbury 4518

Depths anodes placed: #1 is at 385' & #10 is at 215'

Depths vent pipes placed: 400' to surface

Vent pipe perforations: Vent pipe is perforated up to 140'

Remarks: ____

If any of the above data is unavailable, please indicate so. Copies of all logs, including Drillers Log, Water Analyses & Well Bore Schematics should be submitted when available. Unplugged abandoned wells are to be included.

Land Type may be shown: F-Federal; I-Indian; S-State; P-Fee
If Federal or Indian, add Lease Number.

CPS GROUND BED CONSTRUCTION WORKSHEET

CPS#	P/L NAME(s), NUMBER(s)					
0274-W	Ango #500					
RO #	TOTAL	VOLTS	AMPS	= OHMS	DATE	NAME
m573		12.10	26.3	.46	11-21-91	R. Smith

REMARKS (notes for construction log) Ho 0 · 110' Jent-140'

DEPTH	LOG ANODE	ANODE #	DEPTH	LOG ANODE	ANODE #	DEPTH	LOG ANODE	ANODE #	DEPTH	LOG ANODE	ANODE #	
100	.6		295	1.4		490			685			
105	.5		300	1.4		495			690			
110	.5		305	1.0		500			695			
115	.5		310	1.0		505			700			
120	.6		315	1.0		510			ANODE #	DEPTH	NO COKE	FULLY COK'D
125	1.2		320	1.3		515						
130	1.1		325	2.0	(6)	520			1	385	2.4	7.4
135	1.0		330	2.2		525			2	375	2.0	7.3
140	1.0		335	2.1	(5)	530			3	365	2.4	6.9
145	.9		340	1.9		535			4	345	1.8	6.0
150	.7		345	1.7	(4)	540			5	335	2.1	6.4
155	.9		350	1.7		545			6	325	2.1	6.0
160	2.0		355	1.4		550			7	265	2.1	5.9
165	1.9		360	2.0		555			8	255	2.2	6.8
170	1.7		365	2.5	(3)	560			9	245	2.1	7.6
175	.8		370	2.3		565			10	235	2.7	9.3
180	2.8		375	1.7	(2)	570			11	225	2.6	9.4
185	1.2		380	1.9		575			12	215	2.5	8.9
190	1.1		385	2.5	(1)	580			13			
195	1.1		390	2.2		585			14			
200	1.0		395	2.8		590			15			
205	2.3		400	TD 400		595			16			
210	2.3		405			600			17			
215	2.6	(12)	410			605			18			
220	2.5		415			610			19			
225	2.7	(11)	420			615			20			
230	2.8		425			620			21			
235	2.7	(10)	430			625			22			
240	2.4		435			630			23			
245	2.1	(9)	440			635			24			
250	2.7		445			640			25			
255	2.1	(8)	450			645			26			
260	2.1		455			650			27			
265	2.1	(7)	460			655			28			
270	2.2		465			660			29			
275	1.6		470			665			30			
280	1.5		475			670						
285	1.4		480			675						
290	1.6		485			680						

DISTRIBUTION - original - permanent CPS FILE
copy - Division Corrosion Supervisor
copy - Region Corrosion Specialist

DATA SHEET FOR DEEP GROUND BED CATHODIC PROTECTION WELLS
NORTHWESTERN NEW MEXICO

Operator Meridian Oil Inc. Location: Unit N Sec. 18 Twp 27 Rng 10

Name of Well/Wells or Pipeline Serviced Argo #500

22700

Elevation ____ Completion Date 11-21-91 Total Depth 400 Land Type F

Casing Strings, Sizes, Types & Depths Set 100' of 8" P.V.C.

If Casing Strings are cemented, show amounts & types used Used 23 sacks of neet cement

If Cement or Bentonite Plugs have been placed, show depths & amounts used No plugs

Depths & thickness of water zones with description of water: Fresh, Clear, Salty, Sulphur, Etc. water is at 120' and is clear

Depths gas encountered: No gas

Ground bed depth with type & amount of coke breeze used: 400' with 56 sacks of Asbury 4548

Depths anodes placed: #1 is at 385'; #10 is at 215'

Depths vent pipes placed: 400' to surface

Vent pipe perforations: Vent pipe is perforated up to 140'

Remarks: ____

If any of the above data is unavailable, please indicate so. Copies of all logs, including Drillers Log, Water Analyses & Well Bore Schematics should be submitted when available. Unplugged abandoned wells are to be included.

Land Type may be shown: F-Federal; I-Indian; S-State; P-Fee.
If Federal or Indian, add Lease Number.

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CPS GROUND BED CONSTRUCTION WORKSHEET

CPS# 7274-W	P/L NAME(s), NUMBER(s) Argo #500					
WO # m573	TOTAL	VOLTS 12.10	AMPS 26.3	- OHMS .46	DATE 11-21-91	NAME R. Smith

REMARKS (notes for construction log) H₂O · 110' Dent-140'

DEPTH	LOG ANODE	ANODE #	DEPTH	LOG ANODE	ANODE #	DEPTH	LOG ANODE	ANODE #	DEPTH	LOG ANODE	ANODE #
100	.6		295	1.4		490			685		
105	.5		300	1.4		495			690		
110	.5		305	1.0		500			695		
115	.5		310	1.0		505			700		
120	.6		315	1.0		510			ANODE #	DEPTH	NO COKE
125	1.2		320	1.3		515					
130	1.1		325	2.0	(6)	520			1	385	2.4
135	1.0		330	2.2		525			2	375	2.0
140	1.0		335	2.1	(5)	530			3	365	2.4
145	.9		340	1.9		535			4	345	1.8
150	.7		345	1.7	(4)	540			5	335	2.1
155	.9		350	1.7		545			6	325	2.1
160	2.0		355	1.4		550			7	265	2.1
165	1.9		360	2.0		555			8	255	2.2
170	1.7		365	2.5	(3)	560			9	245	2.1
175	.8		370	2.3		565			10	235	2.7
180	2.8		375	1.7	(2)	570			11	225	2.6
185	1.2		380	1.9		575			12	215	2.5
190	1.1		385	2.5	(1)	580			13		
195	1.1		390	2.2		585			14		
200	1.0		395	2.8		590			15		
205	2.3		400	TD 400		595			16		
210	2.3		405			600			17		
215	2.6	(12)	410			605			18		
220	2.5		415			610			19		
225	2.7	(11)	420			615			20		
230	2.8		425			620			21		
235	2.7	(10)	430			625			22		
240	2.4		435			630			23		
245	2.1	(9)	440			635			24		
250	2.7		445			640			25		
255	2.1	(8)	450			645			26		
260	2.1		455			650			27		
265	2.1	(7)	460			655			28		
270	2.2		465			660			29		
275	1.6		470			665			30		
280	1.2		475			670					
285	1.4		480			675					
290	1.6		485			680					

FULLY COK'D
7.4
7.3
6.9
6.0
6.4
6.0
5.9
6.8
7.6
9.3
9.4
8.9

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copy - Region Corrosion Specialist

30-045-28231

DATA SHEET FOR DEEP GROUND BED CATHODIC PROTECTION WELLS
NORTHWESTERN NEW MEXICO
(Submit 3 copies to OCD Aztec Office)

Operator Bonneville Fuels Corp. Location: Unit ___ Sec. 24 Twp 27 Rng 11

Name of Well/Wells or Pipeline Serviced Fullerton Fed. 24-32

Elevation ___ Completion Date 5-20-91 Total Depth 300' Land Type* F

Casing, Sizes, Types & Depths NA-None

If Casing is cemented, show amounts & types used NA-None

If Cement or Bentonite Plugs have been placed, show depths & amounts used NA-None

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OIL CON. DIV.
DIST. 3

Depths & thickness of water zones with description of water if possible:

Fresh, Clear, Salty, Sulphur, Etc. First + only clear water streak at 180' Depth.

Depths gas encountered: NA-None

Type & amount of coke breeze used: Loresco SW 99.9% Carbon = 1,100 LBS.

Depths anodes placed: 235', 245', 255', 265', 275' + 285' Deep.

Depths vent pipes placed: 0 to 300' Deep.

Vent pipe perforations: Laser Cut Slots from 200' to 300' Deep.

Remarks: Solid 1" dia. PVC vent pipe from 0' to 200' Deep.

If any of the above data is unavailable, please indicate so. Copies of all logs, including Drillers Log, Water Analyses & Well Bore Schematics should be submitted when available. Unplugged abandoned wells are to be included.

*Land Type may be shown: F-Federal; I-Indian; S-State; P-Fee.
If Federal or Indian, add Lease Number.

WELL TYPE GROUNDBED DATA

DATA SHEET NO. One (1)

SCOTT ?

COMPANY BONNEVILLE FUELS CORP JOB No. 75100118 DATE: 5-20-91

WELL: FULLERTON FED. 24-32 PIPELINE:

LOCATION: SEC. 24 TWP. 27 RGE. 11 CO. SAN JUAN STATE NM

ELEV. ——— FT: ROTARY 300 FT: CABLE TOOL -0- FT: CASING -0- FT

GROUNDBED: DEPTH 300' FT. DIA. 6" IN. GAS 1,100 LBS. ANODES LIDA STRING

DEPTH. FT.	DRILLER'S LOG	EXPLORING ANODE TO STRUCTURE E	I	R	NO COKE I	WITH COKE I	ANODE NO.	DEPTH. TOP OF ANODES
	FIRST WATER 180'							
150'	0-20 SAND		4.0					
155	20-50 SHALE		4.0					
160	50-150 SHALE		3.9					
165	150-190 SAND SHALE		5.6					
170	190-280 SHALE		5.3					
175	280-300 SANDY SHALE		5.0					
180			4.9					
185			4.4					
190			4.1					
195			3.7					
200			3.7					
205			3.2					
210			3.0					
215			2.9					
220			3.1					
225			2.9					
230			3.5					
235			3.4					235
240			4.2					
245			4.0					
250			4.8					
255			4.5		6			
260	ANODES		5.1		5.5	19.9		
265			5.1					
270			5.5					
275			5.2					
280			5.3					
285			5.5					285
290			5.5					
295			5.4					
300'								

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JUN 7 1991
OIL CON. DIV.
DIST. 3

GROUNDBED RESISTANCE: (1) VOLTS 12.39 - AMPS 19.9 = .62 OHMS

(2) VIBROGROUND _____ OHMS

GENERAL CATHODIC PROTECTION SERVICES CO.
A LUKENS COMPANY

#509-30-045-29066

DATA SHEET FOR DEEP GROUND BED CATHODIC PROTECTION WELLS
NORTHWESTERN NEW MEXICO

Operator Meridian Oil Inc. Location: Unit D Sec. 30 Twp 27 Rng 10

Name of Well/Wells or Pipeline Serviced

Huerfano Com #509

Elevation 5995' Completion Date 1-31-95 Total Depth 392' Land Type F

Casing Strings, Sizes, Types & Depths 1/26 Set 98' of 8" PVC Casing.
No Gas, Water, or Boulders Were Encountered During Casing.

If Casing Strings are cemented, show amounts & types used Cemented
With 21 Sacks.

If Cement or Bentonite Plugs have been placed, show depths & amounts used
None

Depths & thickness of water zones with description of water: Fresh, Clear,
Salty, Sulphur, Etc. 120' - Fresh

Depths gas encountered: None

Ground bed depth with type & amount of coke breeze used: 392'
5000 lbs Loresco

Depths anodes placed: @ 370, 360, 310, 300, 290, 280, 270, 240, 205, 190, 180, 170, 160, 150, 140

Depths vent pipes placed: Surface to 392'

Vent pipe perforations: 140' to 392'

Remarks: No gas encountered during drilling of hole

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JAN 11 1996
OIL CON. DIV.
DIST. 3

If any of the above data is unavailable, please indicate so. Copies of all logs, including Drillers Log, Water Analyses & Well Bore Schematics should be submitted when available. Unplugged abandoned wells are to be included.

Land Type may be shown: F-Federal; I-Indian; S-State; P-Fee.
If Federal or Indian, add Lease Number.

1030

91-30-045-21424

DATA SHEET FOR DEEP GROUND BED CATHODIC PROTECTION WELLS
NORTHWESTERN NEW MEXICO
(Submit 3 copies to OCD Aztec Office)

Operator MERIDIAN OIL Location: Unit NW Sec. 30 Twp 27 Rng 10

Name of Well/Wells or Pipeline Serviced HUERFANO UNIT COM #91

cps 1735w

Elevation 5960' Completion Date 11/7/84 Total Depth 400' Land Type* N/A

Casing, Sizes, Types & Depths N/A

If Casing is cemented, show amounts & types used N/A

If Cement or Bentonite Plugs have been placed, show depths & amounts used

N/A

Depths & thickness of water zones with description of water when possible:

Fresh, Clear, Salty, Sulphur, Etc. 130' SAMPLE TAKEN

Depths gas encountered: N/A

Type & amount of coke breeze used: 3940 lbs.

Depths anodes placed: 360', 290', 275', 264', 210', 200', 190', 170', 160', 150'

Depths vent pipes placed: 400'

Vent pipe perforations: 320'

Remarks: gb #1

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MAY 31 1991
OIL CON. DIV.
DIST. 3

If any of the above data is unavailable, please indicate so. Copies of all logs, including Drillers Log, Water Analyses & Well Bore Schematics should be submitted when available. Unplugged abandoned wells are to be included.

*Land Type may be shown: F-Federal; I-Indian; S-State; P-Fee.
If Federal or Indian, add Lease Number.

FM-07-0238 (Rev. 10-82)

WELL CASING

CATHODIC PROTECTION CONSTRUCTION REPORT

DAILY LOG

Drilling Log (Attach Hereto) ☑

Completion Date 11-7-84

CPS #	Well Name, Line or Plant	Work Order #	Static:	Ins. Union Check
1735-W	Huerfano Com # 91	57565-2-50-20	-.71 600 NW	☑ Good ☐ Bad 64 mot

Location	Anode Size	Anode Type:	Size Bit:
NW30-27-10	2" X 60"	Duriron	6 3/4"

Depth Drilled	Depth Logged	Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
400	394		3,940		

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Anode Depth	360	290	275	265	210	200	190	170	160	150
Anode Output (Amps)	3.73	4.25	3.65	3.16	3.14	3.73	3.71	3.97	4.23	3.95
Anode Depth	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20
Anode Output (Amps)	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20

Total Circuit Resistance			No. 8 C.P. Cable Used	No. 2 C.P. Cable Used
Volts 12.0	Amps 16.9	Ohms .71		

Remarks: Drilled to 80' found wet sand. Could not blow water from hole next morning. Found additional water at 130', making 5 to 10 gpm. Started injection at 90'. Blewhole dry waited for 1 min to prove water. found only streaks of shale & sand to bottom of Hole. Installed 400 of 1" p.v.c vent pipe, 80' solid, 320' with perforations. Slurried approx. 3,940 lbs Coke down hole. got water sample

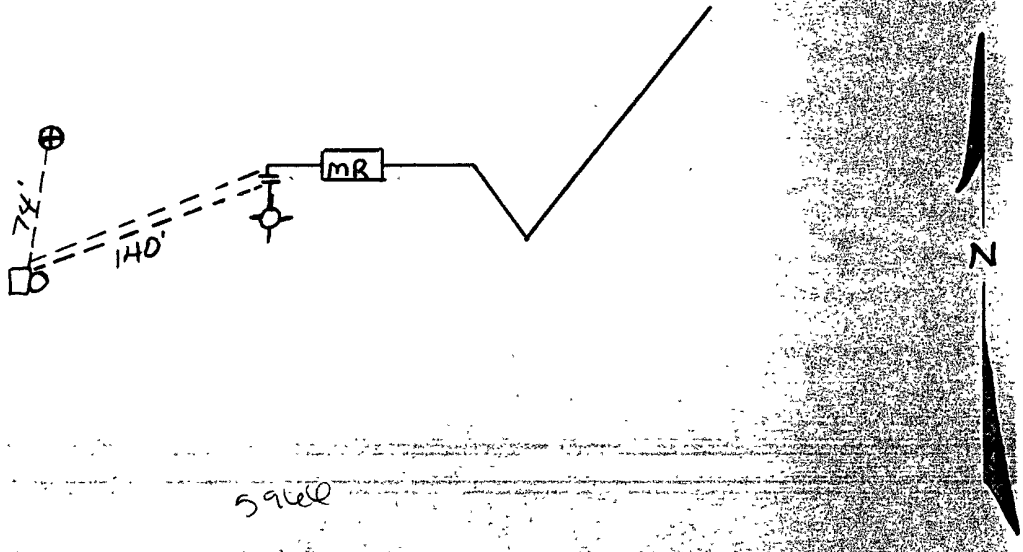
Rectifier Size: 40 V 16 A
Addn'l Depth: —
Depth Credit: 106' ✓
Extra Cable: 160' ✓
Ditch & 1 Cable: 214' ✓
25' Meter Pole: —
20' Meter Pole: 1
10' Stub Pole: —

Overtime 2 hrs
Reg. Time 8 hrs

All Construction Completed

C. W. Donahue
(Signature)

GROUND BED LAYOUT SKETCH



5 well

EL PASO NATURAL GAS COMPANY
SAN JUAN DIVISION
FARMINGTON, NEW MEXICO
PRODUCTION DEPARTMENT WATER ANALYSES

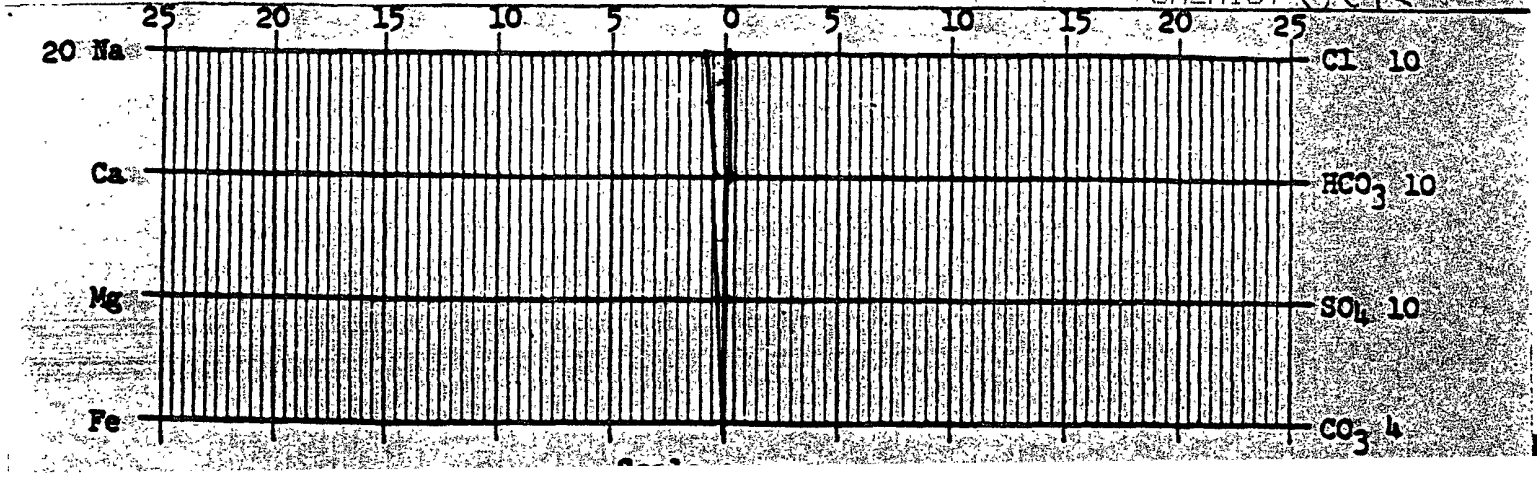
ANALYSIS NO.: 1-11495 DATE: 11-27-84
OPERATOR: EL PASO NATURAL GAS WELL NAME HUERFANO COM # 81 CPS 8485
LOCATION: 30-27-10 COUNTY SAN JUAN STATE: NEW MEXICO
FIELD: ANGEL PEAK FORMATION:
SAMPLED FROM: CPS 1735 @ 130 FT.
DATE SAMPLED: 11-7-84 SECURED BY: BILL DONAHUE
TUBING PRESSURE: CASING PRESSURE:
SURFACE CASING PRESSURE:

	SAMPLE SIZE	ml. TIT	AS CaCO3	AS ION	epm
TOTAL ALKALINITY	50	11.4	228		
P ALKALINITY	50	1	20		
BICARBONATE	50	10.4	208	254	4.
CARBONATE	50	2	40	24	0.
CHLORIDE	50	1		20	0.
SULFATE				504	10.
TOTAL HARDNESS	50	1.2	24		
CALCIUM	50	1	20	8	0.
MAGNESIUM	50	.2	4	1	0.
IRON				NT	
SODIUM (CALCULATED)				357	15.
H2S				NT	
HYDROCARBONS				ND	
TOTAL DISSOLVED SOLIDS				1115	
pH				8.4	
SPECIFIC GRAVITY			AT 60F	1.0017	
RESISTIVITY			602 OHM-CM @ 25C		
CONDUCTIVITY			1660 MICROMHOS @ 25C		

ALL RESULTS EXPRESSED IN PARTS PER MILLION-TRACE IS LESS THAN 0.1 ppm

cc: P. A. ULLRICH
J. D. EVANS
D. C. ADAMS
E. R. PAULEK
W. B. SHROPSHIRE
FILE

D. P. BIRD
CHEMIST



EL PASO NATURAL GAS COMPANY

CONSTRUCTION LOGGING READINGS

CPS #: 1735 WELL NAME: Huerfano Com #91 LOCATION: NW30-27-10 DATE: 11-7-84

TOTAL VOLTS: 12.0 TOTAL AMPS: 16.9 OHMS RESISTANCE: .71

Readings Thru 1,100' spool

DEEP	LOG ANODE	ANODE NO.	DEEP	LOG ANODE	ANODE NO.	DEEP	LOG ANODE	ANODE No.	DEEP	LOG ANODE	ANODE No.
5			185	1.44		365	1.75		545		
10			190	2.16	(7)	370	1.45		550		
15			195	2.35		375	1.47		555		
20			200	2.31	(6)	380	1.31		560		
25			205	1.93		385	1.19		565		
30			210	1.92	(5)	390	.96		570		
35			215	1.86		395	TD 394		575		
40			220	1.78		D. Hd 400			580		
45			225	1.04		405			585		
50			230	.95		410			590		
55			235	1.02		415			595		
60			240	.73		420			600		
65			245	.73		425			605		
70			250	.67		430			610		
75			255	.76		435			615		
wet zone 80	2.33		260	1.06		440			620		
85	1.95		265	1.94	(4)	445			625		
90	1.94		270	2.06		450			630		
95	1.71		275	2.10	(3)	455			635		
100	1.64		280	1.81		460			640		
105	1.39		285	1.86		465			645		
110	1.32		290	2.19	(2)	470			650		
115	1.31		295	2.04		475			655		
120	1.09		300	1.77		480			660		
125	.70		305	1.63		485			665		
water zone 130	.86		310	1.58		490			670		
135	1.39		315	1.83		495			675		
140	1.78		320	1.82		500			680		
145	2.08		325	1.69		505			685		
150	2.20	(10)	330	1.77		510			690		
155	2.20		335	1.69		515			695		
160	2.27	(9)	340	1.33		520			700		
165	2.47		345	1.17		525			705		
170	2.26	(8)	350	1.43		530			710		
175	1.93		355	2.35		535			715		
180	1.87		360	2.26	(1)	540			720		

ANODE READINGS

NO.	DEPTH	NO COKE	WITH COKE
(1)	360	2.50	3.73
2	290	2.53	4.25
3	275	2.24	3.65
4	265	2.11	3.16
5	210	2.14	3.14
6	200	2.39	3.73
7	190	2.48	3.71
8	170	2.53	3.97
9	160	2.58	4.23
10	150	2.57	3.95

REMARKS: Drilled to 80', found wet sand. Could not blow water from hole next morning. Found additional water at 130' making 5 to 10 gpm. Started injection at 90'. Blew hole dry at 130', waited for 1 min to prove water. found only streaks of shale & sand to bottom of hole. Installed 400 of 1" PVC vent pipe, 80' solid, 320' with perforations. slurried approx. 3,940 lbs coke down hole.

EL PASO NATURAL GAS COMPANY

DRILLING DEPARTMENT

DAILY DRILLING REPORT

LEASE HUERFANO COM WELL NO. 91 CONTRACTOR CORR. CONTROL RIG NO. 102 REPORT NO. DATE NOV 7 1984

MORNING

Driller TERENCE LARGENT Total Men In Crew 3

FROM	TO	FORMATION	WT-BIT	R.P.M.
0	40	SURFACE SAND		
40	60	SANDSTONE		
60	120	SANDY SHALE		
120	140	SAND WATER		

BIT NO. NO. DC SIZE LENG.

S L NO. STANDS

SIZE SINGLES

TYPE DOWN ON KELLY

MAKE TOTAL DEPTH

MUD RECORD Time	Wt.	Vis.	MUD, ADDITIVES USED AND RECEIVED

FROM	TO	TIME BREAKDOWN

REMARKS –

DAYLIGHT

Driller Total Men In Crew

FROM	TO	FORMATION	WT-BIT	R.P.M.
140	220	SHALE		
220	260	SAND		
260	380	SANDY SHALE AND SHALE STRMS.		
380	400	SAND		

BIT NO. NO. DC SIZE LENG.

SERIAL NO. STANDS

SIZE SINGLES

TYPE DOWN ON KELLY

MAKE TOTAL DEPTH

MUD RECORD Time	Wt.	Vis.	MUD, ADDITIVES USED AND RECEIVED

FROM	TO	TIME BREAKDOWN

REMARKS – DRILLED TO 80 FEET ON - 11-6-84. NEXT MORNING BLEW OUT WET MUD. STRATED DRILLING WITH INJECTION at 130' FEET WENT INTO WATER SAND, MAKING 10 TO 15 GALLONS PER MINUTE

EVENING

Driller Total Men In Crew

FROM	TO	FORMATION	WT-BIT	R.P.M.

BIT NO. NO. DC SIZE LENG.

SERIAL NO. STANDS

SIZE SINGLES

TYPE DOWN ON KELLY

MAKE TOTAL DEPTH

MUD RECORD Time	Wt.	Vis.	MUD, ADDITIVES USED AND RECEIVED

FROM	TO	TIME BREAKDOWN

REMARKS –

SIGNED: Toolpusher Terence Largent Company Supervisor C. W. Donohue

ENSOLUM

APPENDIX C

Executed C-138 Solid Waste Acceptance Form

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources 97057-1035

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised August 1, 2011

*Surface Waste Management Facility Operator and Generator shall maintain and make this documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. **Generator Name and Address:**
Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401

Invoice Information: PM: Aaron Lucero
Non AFE: Pending
Pay Key: RB21200

2. **Originating Site:**
Lateral 2B-27

3. **Location of Material (Street Address, City, State or ULSTR):**
UL J Section 19 T27N R10W; 36.557918, -107.933242 Sep./Oct. 2019

4. **Source and Description of Waste: Hydrocarbon impacted soils associated with a release from a natural gas pipeline.**
Estimated Volume 50 yd³ / bbls Known Volume (to be entered by the operator at the end of the haul) 476/150 yd³ / bbls

5. **GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS**

I, Thomas Long Thomas Long, representative or authorized agent for Enterprise Field Services, LLC do hereby
PRINT & SIGN NAME COMPANY NAME
certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☒ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. *Operator Use Only: Waste Acceptance Frequency: ☐ Monthly ☐ Weekly ☐ Per Load*

☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long Thomas Long 9-18-19 representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete the required
Generator Signature
testing/sign the Generator Waste Testing Certification.

I, Greg Crabtree, representative for Envirotech, Inc. do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. **Transporter: Riley Industrial or other subcontractors**
IMI, Yucca, Swagga

OCD Permitted Surface Waste Management Facility
Name and Facility Permit #: **Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011**
Address of Facility: **Hilltop, NM**

Method of Treatment and/or Disposal:
☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:
☒ **APPROVED** ☐ **DENIED (Must Be Maintained As Permanent Record)**

PRINT NAME: Greg Crabtree TITLE: Envirn Manager DATE: 9/19/19

SIGNATURE: _____ TELEPHONE NO.: 505-632-0615
Surface Waste Management Facility Authorized Agent

ENSOLUM

APPENDIX D

Photographic Documentation

SITE PHOTOGRAPHS

Enterprise Field Services, LLC
Closure Report
Lateral 2B-27/Huerfano #74 Pipeline Release
Ensolum Project No. 05A1226071

ENSOLUM

Photograph 1 Photograph Description: View of in-process excavation activities.	
Photograph 2 Photograph Description: View of in-process excavation activities.	
Photograph 3 Photograph Description: View of in-process excavation activities.	

SITE PHOTOGRAPHS

Enterprise Field Services, LLC
Closure Report
Lateral 2B-27/Huerfano #74 Pipeline Release
Ensolum Project No. 05A1226071

ENSOLUM

Photograph 4 Photograph Description: View of in-process excavation activities.	
Photograph 5 Photograph Description: View of in-process excavation activities.	
Photograph 6 Photograph Description: View of in-process excavation activities.	

SITE PHOTOGRAPHS

Enterprise Field Services, LLC
Closure Report
Lateral 2B-27/Huerfano #74 Pipeline Release
Ensolum Project No. 05A1226071

ENSOLUM

Photograph 7 Photograph Description: View of the final excavation.	
Photograph 8 Photograph Description: View of the final excavation.	
Photograph 9 Photograph Description: View of the final excavation after initial restoration.	

ENSOLUM

APPENDIX E

Table 1 – Soil Analytical Summary

ENSOLUM

TABLE 1
Lateral 2B-27/Huerfano #74 Pipeline Release
SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Type C- Composite G - Grab	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)	Total Combined TPH (mg/kg)	Chloride (mg/kg)
New Mexico Energy, Mineral & Natural Resources Department Oil Conservation Division Closure Criteria				10	NE	NE	NE	50				100	600
Composite Soil Samples Removed by Excavation and Transported to the Landfarm													
S-6	9.26.19	C	0 to 10	0.76	12	1.4	11	25	120	87	<43	**207**	<60
S-8	9.26.19	C	10 to 19	<0.092	0.56	0.27	3.3	4.1	130	190	<49	**320**	<61
Composite Soil Samples Representing Soil That was Reused as Backfill													
S-2	9.24.19	C	0 to 10	<0.020	<0.039	<0.039	<0.078	ND	<3.9	<9.9	<50	ND	<60
S-9	9.26.19	C	0 to 10	<0.094	1.0	0.24	1.8	3.0	20	29	<49	49	<60
SP-1	9.26.19	C	Stockpile	<0.093	<0.19	<0.19	0.38	0.38	<19	21	<48	21	<60
Excavation Composite Soil Samples													
S-1	9.24.19	C	0 to 10	<0.022	<0.043	<0.043	<0.086	ND	<4.3	<9.8	<49	ND	<60
S-3	9.26.19	C	19	<0.089	<0.18	<0.18	0.85	0.85	19	32	<46	51	<60
S-4	9.26.19	C	10 to 19	<0.10	<0.21	<0.21	<0.42	ND	<21	<9.9	<49	ND	<60
S-5	9.26.19	C	10 to 19	<0.098	<0.20	<0.20	<0.39	ND	<20	<9.4	<47	ND	<60
S-7	9.26.19	C	10 to 19	<0.095	<0.19	<0.19	<0.38	ND	<19	<9.7	<48	ND	<60
S-10	9.26.19	C	0 to 10	<0.078	<0.16	<0.16	<0.31	ND	<16	<9.3	<46	ND	<60
S-11	9.26.19	C	10	<0.086	<0.17	<0.17	<0.35	ND	<17	<9.8	<49	ND	<60
S-12	9.26.19	C	0 to 10	<0.099	<0.20	<0.20	<0.40	ND	<20	<9.8	<49	ND	<60
S-13	10.01.19	C	0 to 10	<0.077	<0.15	<0.15	<0.31	ND	<15	<9.6	<48	ND	<60
S-14	10.01.19	C	10 to 19	<0.019	<0.037	<0.037	<0.075	ND	<3.7	<10	<50	ND	<60

Note: Concentrations in **bold** and yellow exceed the applicable NM EMNRD Closure Criteria

ND = Not Detected above the Practical Quantitation Limits or Reporting Limits

NA = Not Analyzed

NE = Not established

mg/kg = milligram per kilogram

BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes

TPH = Total Petroleum Hydrocarbon

GRO = Gasoline Range Organics

DRO = Diesel Range Organics

MRO = Motor Oil/Lube Oil Range Organics

ENSOLUM

APPENDIX F

Laboratory Data Sheets & 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: www.hallenvironmental.com

January 22, 2020

Kyle Summers

Ensolum
606 S Rio Grande Ste A
Aztec, NM 87410
TEL: (903) 821-5603
FAX

RE: Lateral 2B 27/Huerfano #74 OrderNo.: 1909D94

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 2 sample(s) on 9/25/2019 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued September 27, 2019.

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.

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1909D94**
Date Reported: **1/22/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Ensolum **Client Sample ID:** S-1
Project: Lateral 2B 27/Huerfano #74 **Collection Date:** 9/24/2019 12:00:00 PM
Lab ID: 1909D94-001 **Matrix:** MEOH (SOIL) **Received Date:** 9/25/2019 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	9/25/2019 11:59:23 AM	47714
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/25/2019 10:12:20 AM	47711
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/25/2019 10:12:20 AM	47711
Surr: DNOP	90.4	70-130		%Rec	1	9/25/2019 10:12:20 AM	47711
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	9/25/2019 9:35:34 AM	47691
Surr: BFB	90.3	77.4-118		%Rec	1	9/25/2019 9:35:34 AM	47691
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.022		mg/Kg	1	9/25/2019 9:35:34 AM	47691
Toluene	ND	0.043		mg/Kg	1	9/25/2019 9:35:34 AM	47691
Ethylbenzene	ND	0.043		mg/Kg	1	9/25/2019 9:35:34 AM	47691
Xylenes, Total	ND	0.086		mg/Kg	1	9/25/2019 9:35:34 AM	47691
Surr: 4-Bromofluorobenzene	89.6	80-120		%Rec	1	9/25/2019 9:35:34 AM	47691

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	Value above quantitation range
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		

Analytical Report
Lab Order **1909D94**
Date Reported: **1/22/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Ensolum **Client Sample ID:** S-2
Project: Lateral 2B 27/Huerfano #74 **Collection Date:** 9/24/2019 12:05:00 PM
Lab ID: 1909D94-002 **Matrix:** MEOH (SOIL) **Received Date:** 9/25/2019 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	9/25/2019 12:11:48 PM	47714
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/25/2019 10:34:21 AM	47711
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/25/2019 10:34:21 AM	47711
Surr: DNOP	90.0	70-130		%Rec	1	9/25/2019 10:34:21 AM	47711
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	9/25/2019 9:58:31 AM	47691
Surr: BFB	94.0	77.4-118		%Rec	1	9/25/2019 9:58:31 AM	47691
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.020		mg/Kg	1	9/25/2019 9:58:31 AM	47691
Toluene	ND	0.039		mg/Kg	1	9/25/2019 9:58:31 AM	47691
Ethylbenzene	ND	0.039		mg/Kg	1	9/25/2019 9:58:31 AM	47691
Xylenes, Total	ND	0.078		mg/Kg	1	9/25/2019 9:58:31 AM	47691
Surr: 4-Bromofluorobenzene	94.1	80-120		%Rec	1	9/25/2019 9:58:31 AM	47691

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	Value above quantitation range
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		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1909D94**
22-Jan-20

Client: Ensolum
Project: Lateral 2B 27/Huerfano #74

Sample ID: **MB-47714**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **47714**	RunNo: **63185**							
Prep Date: **9/25/2019**	Analysis Date: **9/25/2019**	SeqNo: **2157006**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-47714**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **47714**	RunNo: **63185**							
Prep Date: **9/25/2019**	Analysis Date: **9/25/2019**	SeqNo: **2157008**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.1	90	110			

Sample ID: **MB-47714**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **47714**	RunNo: **63261**							
Prep Date: **9/25/2019**	Analysis Date: **9/27/2019**	SeqNo: **2159905**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-47714**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **47714**	RunNo: **63261**							
Prep Date: **9/25/2019**	Analysis Date: **9/27/2019**	SeqNo: **2159906**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.1	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
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1909D94**
22-Jan-20

Client: Ensolum
Project: Lateral 2B 27/Huerfano #74

Sample ID: **LCS-47711** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **47711** RunNo: **63180**
Prep Date: **9/25/2019** Analysis Date: **9/25/2019** SeqNo: **2155518** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	99.5	63.9	124			
Surr: DNOP	4.4		5.000		89.0	70	130			

Sample ID: **MB-47711** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **47711** RunNo: **63180**
Prep Date: **9/25/2019** Analysis Date: **9/25/2019** SeqNo: **2155523** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.3		10.00		93.1	70	130			

Sample ID: **1909D94-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **S-1** Batch ID: **47711** RunNo: **63180**
Prep Date: **9/25/2019** Analysis Date: **9/25/2019** SeqNo: **2156037** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	9.6	47.98	0	98.4	57	142			
Surr: DNOP	4.1		4.798		86.3	70	130			

Sample ID: **1909D94-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **S-1** Batch ID: **47711** RunNo: **63180**
Prep Date: **9/25/2019** Analysis Date: **9/25/2019** SeqNo: **2156038** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.4	46.82	0	103	57	142	1.82	20	
Surr: DNOP	3.9		4.682		84.1	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
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1909D94**
22-Jan-20

Client: Ensolum
Project: Lateral 2B 27/Huerfano #74

Sample ID: **MB-47691**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **47691**	RunNo: **63199**
Prep Date: **9/24/2019**	Analysis Date: **9/25/2019**	SeqNo: **2156070** 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	960		1000		95.9	77.4	118			

Sample ID: **LCS-47691**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **47691**	RunNo: **63199**
Prep Date: **9/24/2019**	Analysis Date: **9/25/2019**	SeqNo: **2156071** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	108	80	120			
Surr: BFB	1100		1000		111	77.4	118			

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
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1909D94**
22-Jan-20

Client: Ensolum
Project: Lateral 2B 27/Huerfano #74

Sample ID: **MB-47691**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **47691**	RunNo: **63199**
Prep Date: **9/24/2019**	Analysis Date: **9/25/2019**	SeqNo: **2156098** 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	0.97		1.000		96.6	80	120			

Sample ID: **LCS-47691**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **47691**	RunNo: **63199**
Prep Date: **9/24/2019**	Analysis Date: **9/25/2019**	SeqNo: **2156099** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	97.9	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	103	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	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
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
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 AZTEC** Work Order Number: **1909D94** RcptNo: 1

Received By: **Erin Melendrez** **9/25/2019 7:50:00 AM**

Completed By: **Erin Melendrez** **9/25/2019 8:11:30 AM**

Reviewed By: ENM 9/25/19

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. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
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: DAD 9/25/19

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	4.8	Good	Yes			

Chain-of-Custody Record

Client: Ensolum

Mailing Address: 606 S Rio Grande Suit A 87410

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 100% Same Day 9-25-19

Project Name: Lateral 2B-27

Project #: 05A1226071

Project Manager: K Summers

Sampler: C DAponti

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 4.7+0.1(CF)=4.8°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. 1909D94	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)
9/24/19	1200	S	S-1	1 4oz Jar	Cool	-001	X	X					X			
9/24/19	1205	S	S-2	"	"	-002	X	X					X			

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
9/24/19	1524		Christine Walters		9/24/19	1524
9/24/19	1814	Christine Walters		Courier	9/25/19	0750

Remarks: PM Tom Long
Pay Key RB21200
AFE # N43907

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.

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

January 22, 2020

Kyle Summers

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

RE: Lateral 2B 27/Huerfano #74 OrderNo.: 1909F94

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 11 sample(s) on 9/27/2019 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued September 30, 2019.

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.

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1909F94**
Date Reported: **1/22/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-3
Project: Lateral 2B 27/Huerfano #74
Collection Date: 9/26/2019 9:00:00 AM
Lab ID: 1909F94-001 **Matrix:** SOIL **Received Date:** 9/27/2019 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	9/27/2019 11:37:07 AM	47786
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	32	9.1		mg/Kg	1	9/27/2019 11:10:18 AM	47781
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/27/2019 11:10:18 AM	47781
Surr: DNOP	102	70-130		%Rec	1	9/27/2019 11:10:18 AM	47781
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	19	18		mg/Kg	5	9/27/2019 9:35:26 AM	G63259
Surr: BFB	134	77.4-118	S	%Rec	5	9/27/2019 9:35:26 AM	G63259
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.089		mg/Kg	5	9/27/2019 9:35:26 AM	B63259
Toluene	ND	0.18		mg/Kg	5	9/27/2019 9:35:26 AM	B63259
Ethylbenzene	ND	0.18		mg/Kg	5	9/27/2019 9:35:26 AM	B63259
Xylenes, Total	0.85	0.36		mg/Kg	5	9/27/2019 9:35:26 AM	B63259
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	5	9/27/2019 9:35:26 AM	B63259

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
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **1909F94**
Date Reported: **1/22/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-4
Project: Lateral 2B 27/Huerfano #74
Collection Date: 9/26/2019 9:05:00 AM
Lab ID: 1909F94-002 **Matrix:** SOIL **Received Date:** 9/27/2019 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	9/27/2019 11:49:32 AM	47786
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/27/2019 11:34:35 AM	47781
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/27/2019 11:34:35 AM	47781
Surr: DNOP	105	70-130		%Rec	1	9/27/2019 11:34:35 AM	47781
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	21		mg/Kg	5	9/27/2019 9:58:19 AM	G63259
Surr: BFB	95.1	77.4-118		%Rec	5	9/27/2019 9:58:19 AM	G63259
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.10		mg/Kg	5	9/27/2019 9:58:19 AM	B63259
Toluene	ND	0.21		mg/Kg	5	9/27/2019 9:58:19 AM	B63259
Ethylbenzene	ND	0.21		mg/Kg	5	9/27/2019 9:58:19 AM	B63259
Xylenes, Total	ND	0.42		mg/Kg	5	9/27/2019 9:58:19 AM	B63259
Surr: 4-Bromofluorobenzene	96.2	80-120		%Rec	5	9/27/2019 9:58:19 AM	B63259

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
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **1909F94**
Date Reported: **1/22/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-5
Project: Lateral 2B 27/Huerfano #74
Collection Date: 9/26/2019 9:10:00 AM
Lab ID: 1909F94-003 **Matrix:** SOIL **Received Date:** 9/27/2019 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	9/27/2019 12:26:46 PM	47786
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	9/27/2019 11:58:43 AM	47781
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/27/2019 11:58:43 AM	47781
Surr: DNOP	104	70-130		%Rec	1	9/27/2019 11:58:43 AM	47781
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	20		mg/Kg	5	9/27/2019 10:21:10 AM	G63259
Surr: BFB	98.7	77.4-118		%Rec	5	9/27/2019 10:21:10 AM	G63259
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.098		mg/Kg	5	9/27/2019 10:21:10 AM	B63259
Toluene	ND	0.20		mg/Kg	5	9/27/2019 10:21:10 AM	B63259
Ethylbenzene	ND	0.20		mg/Kg	5	9/27/2019 10:21:10 AM	B63259
Xylenes, Total	ND	0.39		mg/Kg	5	9/27/2019 10:21:10 AM	B63259
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	5	9/27/2019 10:21:10 AM	B63259

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
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **1909F94**
Date Reported: **1/22/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-6
Project: Lateral 2B 27/Huerfano #74
Collection Date: 9/26/2019 9:15:00 AM
Lab ID: 1909F94-004 **Matrix:** SOIL
Received Date: 9/27/2019 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	9/27/2019 12:39:10 PM	47786
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	87	8.6		mg/Kg	1	9/27/2019 12:22:51 PM	47781
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	9/27/2019 12:22:51 PM	47781
Surr: DNOP	92.6	70-130		%Rec	1	9/27/2019 12:22:51 PM	47781
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	120	20		mg/Kg	5	9/27/2019 10:44:06 AM	G63259
Surr: BFB	238	77.4-118	S	%Rec	5	9/27/2019 10:44:06 AM	G63259
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	0.76	0.10		mg/Kg	5	9/27/2019 10:44:06 AM	B63259
Toluene	12	0.20		mg/Kg	5	9/27/2019 10:44:06 AM	B63259
Ethylbenzene	1.4	0.20		mg/Kg	5	9/27/2019 10:44:06 AM	B63259
Xylenes, Total	11	0.41		mg/Kg	5	9/27/2019 10:44:06 AM	B63259
Surr: 4-Bromofluorobenzene	115	80-120		%Rec	5	9/27/2019 10:44:06 AM	B63259

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	Value above quantitation range
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		

Analytical Report
Lab Order **1909F94**
Date Reported: **1/22/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-7
Project: Lateral 2B 27/Huerfano #74
Collection Date: 9/26/2019 9:20:00 AM
Lab ID: 1909F94-005 **Matrix:** SOIL **Received Date:** 9/27/2019 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	9/27/2019 12:51:34 PM	47786
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/27/2019 10:22:54 AM	47781
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/27/2019 10:22:54 AM	47781
Surr: DNOP	99.8	70-130		%Rec	1	9/27/2019 10:22:54 AM	47781
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	19		mg/Kg	5	9/27/2019 11:07:02 AM	G63259
Surr: BFB	98.7	77.4-118		%Rec	5	9/27/2019 11:07:02 AM	G63259
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.095		mg/Kg	5	9/27/2019 11:07:02 AM	B63259
Toluene	ND	0.19		mg/Kg	5	9/27/2019 11:07:02 AM	B63259
Ethylbenzene	ND	0.19		mg/Kg	5	9/27/2019 11:07:02 AM	B63259
Xylenes, Total	ND	0.38		mg/Kg	5	9/27/2019 11:07:02 AM	B63259
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	5	9/27/2019 11:07:02 AM	B63259

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	Value above quantitation range
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		

Analytical Report
Lab Order **1909F94**
Date Reported: **1/22/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-8
Project: Lateral 2B 27/Huerfano #74
Collection Date: 9/26/2019 9:25:00 AM
Lab ID: 1909F94-006 **Matrix:** SOIL
Received Date: 9/27/2019 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	61		mg/Kg	20	9/27/2019 1:03:59 PM	47786
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	200	9.9		mg/Kg	1	9/30/2019 3:37:26 PM	47781
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/30/2019 3:37:26 PM	47781
Surr: DNOP	108	70-130		%Rec	1	9/30/2019 3:37:26 PM	47781
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	130	18		mg/Kg	5	9/27/2019 11:29:55 AM	G63259
Surr: BFB	529	77.4-118	S	%Rec	5	9/27/2019 11:29:55 AM	G63259
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.092		mg/Kg	5	9/27/2019 11:29:55 AM	B63259
Toluene	0.56	0.18		mg/Kg	5	9/27/2019 11:29:55 AM	B63259
Ethylbenzene	0.27	0.18		mg/Kg	5	9/27/2019 11:29:55 AM	B63259
Xylenes, Total	3.3	0.37		mg/Kg	5	9/27/2019 11:29:55 AM	B63259
Surr: 4-Bromofluorobenzene	115	80-120		%Rec	5	9/27/2019 11:29:55 AM	B63259

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	Value above quantitation range
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		

Analytical Report
Lab Order **1909F94**
Date Reported: **1/22/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-9
Project: Lateral 2B 27/Huerfano #74
Collection Date: 9/26/2019 9:30:00 AM
Lab ID: 1909F94-007 **Matrix:** SOIL **Received Date:** 9/27/2019 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	9/27/2019 1:16:23 PM	47786
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	33	9.8		mg/Kg	1	9/30/2019 3:59:43 PM	47781
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/30/2019 3:59:43 PM	47781
Surr: DNOP	102	70-130		%Rec	1	9/30/2019 3:59:43 PM	47781
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	20	19		mg/Kg	5	9/27/2019 11:52:52 AM	G63259
Surr: BFB	121	77.4-118	S	%Rec	5	9/27/2019 11:52:52 AM	G63259
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.094		mg/Kg	5	9/27/2019 11:52:52 AM	B63259
Toluene	1.0	0.19		mg/Kg	5	9/27/2019 11:52:52 AM	B63259
Ethylbenzene	0.24	0.19		mg/Kg	5	9/27/2019 11:52:52 AM	B63259
Xylenes, Total	1.8	0.38		mg/Kg	5	9/27/2019 11:52:52 AM	B63259
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	5	9/27/2019 11:52:52 AM	B63259

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	Value above quantitation range
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		

Analytical Report
Lab Order **1909F94**
Date Reported: **1/22/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-10
Project: Lateral 2B 27/Huerfano #74
Collection Date: 9/26/2019 9:35:00 AM
Lab ID: 1909F94-008 **Matrix:** SOIL **Received Date:** 9/27/2019 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	9/27/2019 1:28:48 PM	47786
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	9/27/2019 11:29:15 AM	47781
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/27/2019 11:29:15 AM	47781
Surr: DNOP	96.9	70-130		%Rec	1	9/27/2019 11:29:15 AM	47781
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	16		mg/Kg	5	9/27/2019 12:15:48 PM	G63259
Surr: BFB	103	77.4-118		%Rec	5	9/27/2019 12:15:48 PM	G63259
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.078		mg/Kg	5	9/27/2019 12:15:48 PM	B63259
Toluene	ND	0.16		mg/Kg	5	9/27/2019 12:15:48 PM	B63259
Ethylbenzene	ND	0.16		mg/Kg	5	9/27/2019 12:15:48 PM	B63259
Xylenes, Total	ND	0.31		mg/Kg	5	9/27/2019 12:15:48 PM	B63259
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	5	9/27/2019 12:15:48 PM	B63259

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
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **1909F94**
Date Reported: **1/22/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-11
Project: Lateral 2B 27/Huerfano #74 **Collection Date:** 9/26/2019 9:40:00 AM
Lab ID: 1909F94-009 **Matrix:** SOIL **Received Date:** 9/27/2019 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	9/27/2019 1:41:13 PM	47786
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/27/2019 11:51:17 AM	47781
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/27/2019 11:51:17 AM	47781
Surr: DNOP	79.4	70-130		%Rec	1	9/27/2019 11:51:17 AM	47781
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	17		mg/Kg	5	9/27/2019 12:38:46 PM	G63259
Surr: BFB	100	77.4-118		%Rec	5	9/27/2019 12:38:46 PM	G63259
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.086		mg/Kg	5	9/27/2019 12:38:46 PM	B63259
Toluene	ND	0.17		mg/Kg	5	9/27/2019 12:38:46 PM	B63259
Ethylbenzene	ND	0.17		mg/Kg	5	9/27/2019 12:38:46 PM	B63259
Xylenes, Total	ND	0.35		mg/Kg	5	9/27/2019 12:38:46 PM	B63259
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	5	9/27/2019 12:38:46 PM	B63259

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	Value above quantitation range
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		

Analytical Report
Lab Order **1909F94**
Date Reported: **1/22/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-12
Project: Lateral 2B 27/Huerfano #74 **Collection Date:** 9/26/2019 9:45:00 AM
Lab ID: 1909F94-010 **Matrix:** SOIL **Received Date:** 9/27/2019 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	9/27/2019 1:53:37 PM	47786
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/27/2019 12:13:25 PM	47781
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/27/2019 12:13:25 PM	47781
Surr: DNOP	84.2	70-130		%Rec	1	9/27/2019 12:13:25 PM	47781
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	20		mg/Kg	5	9/27/2019 1:01:39 PM	G63259
Surr: BFB	99.6	77.4-118		%Rec	5	9/27/2019 1:01:39 PM	G63259
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.099		mg/Kg	5	9/27/2019 1:01:39 PM	B63259
Toluene	ND	0.20		mg/Kg	5	9/27/2019 1:01:39 PM	B63259
Ethylbenzene	ND	0.20		mg/Kg	5	9/27/2019 1:01:39 PM	B63259
Xylenes, Total	ND	0.40		mg/Kg	5	9/27/2019 1:01:39 PM	B63259
Surr: 4-Bromofluorobenzene	99.3	80-120		%Rec	5	9/27/2019 1:01:39 PM	B63259

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	Value above quantitation range
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		

Analytical Report
Lab Order **1909F94**
Date Reported: **1/22/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** SP-1
Project: Lateral 2B 27/Huerfano #74 **Collection Date:** 9/26/2019 9:50:00 AM
Lab ID: 1909F94-011 **Matrix:** SOIL **Received Date:** 9/27/2019 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	9/27/2019 2:06:01 PM	47786
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	23	9.6		mg/Kg	1	9/30/2019 4:21:59 PM	47781
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/30/2019 4:21:59 PM	47781
Surr: DNOP	80.9	70-130		%Rec	1	9/30/2019 4:21:59 PM	47781
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	19		mg/Kg	5	9/27/2019 1:47:35 PM	G63259
Surr: BFB	102	77.4-118		%Rec	5	9/27/2019 1:47:35 PM	G63259
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.093		mg/Kg	5	9/27/2019 1:47:35 PM	B63259
Toluene	ND	0.19		mg/Kg	5	9/27/2019 1:47:35 PM	B63259
Ethylbenzene	ND	0.19		mg/Kg	5	9/27/2019 1:47:35 PM	B63259
Xylenes, Total	0.38	0.37		mg/Kg	5	9/27/2019 1:47:35 PM	B63259
Surr: 4-Bromofluorobenzene	99.4	80-120		%Rec	5	9/27/2019 1:47:35 PM	B63259

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	Value above quantitation range
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		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1909F94**
22-Jan-20

Client: ENSOLUM
Project: Lateral 2B 27/Huerfano #74

Sample ID: **MB-47786**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **47786**	RunNo: **63261**							
Prep Date: **9/27/2019**	Analysis Date: **9/27/2019**	SeqNo: **2159910**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-47786**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **47786**	RunNo: **63261**							
Prep Date: **9/27/2019**	Analysis Date: **9/27/2019**	SeqNo: **2159911**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.5	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
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1909F94**
22-Jan-20

Client: ENSOLUM
Project: Lateral 2B 27/Huerfano #74

Sample ID: **LCS-47781** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **47781** RunNo: **63254**
Prep Date: **9/27/2019** Analysis Date: **9/27/2019** SeqNo: **2158688** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	104	63.9	124			
Surr: DNOP	4.7		5.000		93.6	70	130			

Sample ID: **MB-47781** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **47781** RunNo: **63254**
Prep Date: **9/27/2019** Analysis Date: **9/27/2019** SeqNo: **2158690** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.8		10.00		98.2	70	130			

Sample ID: **1909F94-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **S-3** Batch ID: **47781** RunNo: **63298**
Prep Date: **9/27/2019** Analysis Date: **9/30/2019** SeqNo: **2161945** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	82	9.4	46.95	32.45	105	57	142			
Surr: DNOP	4.6		4.695		97.4	70	130			

Sample ID: **1909F94-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **S-3** Batch ID: **47781** RunNo: **63298**
Prep Date: **9/27/2019** Analysis Date: **9/30/2019** SeqNo: **2161946** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	81	9.7	48.40	32.45	101	57	142	0.729	20	
Surr: DNOP	4.8		4.840		100	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
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1909F94**
22-Jan-20

Client: ENSOLUM
Project: Lateral 2B 27/Huerfano #74

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **G63259**	RunNo: **63259**
Prep Date:	Analysis Date: **9/27/2019**	SeqNo: **2159464** 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	950		1000		95.2	77.4	118			

Sample ID: **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G63259**	RunNo: **63259**
Prep Date:	Analysis Date: **9/27/2019**	SeqNo: **2159465** 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	98.2	80	120			
Surr: BFB	1100		1000		114	77.4	118			

Sample ID: **1909F94-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **S-3**	Batch ID: **G63259**	RunNo: **63259**
Prep Date:	Analysis Date: **9/27/2019**	SeqNo: **2159466** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	110	18	89.29	19.25	103	69.1	142			
Surr: BFB	5400		3572		152	77.4	118			S

Sample ID: **1909F94-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **S-3**	Batch ID: **G63259**	RunNo: **63259**
Prep Date:	Analysis Date: **9/27/2019**	SeqNo: **2159467** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	110	18	89.29	19.25	107	69.1	142	3.28	20	
Surr: BFB	5400		3572		151	77.4	118	0	0	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1909F94**
22-Jan-20

Client: ENSOLUM
Project: Lateral 2B 27/Huerfano #74

Sample ID: **RB** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **B63259** RunNo: **63259**
Prep Date: Analysis Date: **9/27/2019** SeqNo: **2159501** 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	0.97		1.000		97.4	80	120			

Sample ID: **100NG BTEX LCS** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **B63259** RunNo: **63259**
Prep Date: Analysis Date: **9/27/2019** SeqNo: **2159517** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	95.8	80	120			
Toluene	0.99	0.050	1.000	0	99.2	80	120			
Ethylbenzene	0.98	0.050	1.000	0	98.3	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.8	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Sample ID: **1909F94-002AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **S-4** Batch ID: **B63259** RunNo: **63259**
Prep Date: Analysis Date: **9/27/2019** SeqNo: **2159533** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4.1	0.10	4.198	0.04462	96.0	76	123			
Toluene	4.2	0.21	4.198	0.03543	100	80.3	127			
Ethylbenzene	4.3	0.21	4.198	0.04790	101	80.2	131			
Xylenes, Total	13	0.42	12.59	0.1237	98.9	78	133			
Surr: 4-Bromofluorobenzene	4.6		4.198		109	80	120			

Sample ID: **1909F94-002AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **S-4** Batch ID: **B63259** RunNo: **63259**
Prep Date: Analysis Date: **9/27/2019** SeqNo: **2159550** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4.0	0.10	4.198	0.04462	93.1	76	123	3.03	20	
Toluene	4.1	0.21	4.198	0.03543	96.6	80.3	127	3.60	20	
Ethylbenzene	4.2	0.21	4.198	0.04790	97.7	80.2	131	2.82	20	
Xylenes, Total	12	0.42	12.59	0.1237	95.8	78	133	3.20	20	
Surr: 4-Bromofluorobenzene	4.5		4.198		106	80	120	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
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
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 AZTEC Work Order Number: 1909F94 RcptNo: 1

Received By: Leah Baca 9/27/2019 8:35:00 AM Leah Baca

Completed By: Anne Thorne 9/27/2019 8:39:52 AM Anne Thorne

Reviewed By: IO 9/27/19

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. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
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: AT 09/27/19

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:

CUSTODY SEALS INTACT ON SOIL JARS/at 9/27/19

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.5	Good	Yes			

Chain-of-Custody Record

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

Client: Ensolum
Mailing Address: 606 S Rio Grande Suit A 87410
Phone #:
email or Fax#:
QA/QC Package: ☐ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance ☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time: 100%
☐ Standard ☒ Rush 9-27-19
Project Name: Lateral 3B-27
Project #: 05A1226021
Project Manager: K Summers
Sampler: C D'Aponti
On Ice: ☒ Yes ☐ No
# of Coolers: 1
Cooler Temp (including CF): 2.0-0.5=1.5C

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1909F94	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, NO3, NO2, PO4, SO4~~	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)						
9/26/19	900	S	S-3	4oz 1 Jar	Cool	001	X	X					X									
	905	S	S-4			002	X	X					X									
	910	S	S-5			003	X	X					X									
	915	S	S-6			004	X	X					X									
	920	S	S-7			005	X	X					X									
	925	S	S-8			006	X	X					X									
	930	S	S-9			007	X	X					X									
	935	S	S-10			008	X	X					X									
	940	S	S-11			009	X	X					X									
	945	S	S-12			010	X	X					X									
	950	S	SP-1			011	X	X					X									

Date	Time	Relinquished by	Received by	Via	Date	Time
9/26/19	1230	[signature]	Christa Waltz [signature]		9/26/19	1230
9/26/19	1750	Christa Waltz [signature]	[signature]	Courier	9/27/19	0835

Remarks: PM Tom Long
Ray Key RB 21200
AFE N43907

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.

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

January 22, 2020

Kyle Summers

Ensolum
606 S Rio Grande Ste A
Aztec, NM 87410
TEL: (903) 821-5603
FAX

RE: Lateral 2B 27 / Huerfano #74 OrderNo.: 1910112

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 2 sample(s) on 10/2/2019 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued October 3, 2019.

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.

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1910112**
Date Reported: **1/22/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Ensolum **Client Sample ID:** S-13
Project: Lateral 2B 27 / Huerfano #74 **Collection Date:** 10/1/2019 11:00:00 AM
Lab ID: 1910112-001 **Matrix:** MEOH (SOIL) **Received Date:** 10/2/2019 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	10/2/2019 12:12:46 PM	47877
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/2/2019 12:35:57 PM	47875
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/2/2019 12:35:57 PM	47875
Surr: DNOP	99.9	70-130		%Rec	1	10/2/2019 12:35:57 PM	47875
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	15		mg/Kg	5	10/2/2019 10:14:26 AM	A63368
Surr: BFB	99.5	77.4-118		%Rec	5	10/2/2019 10:14:26 AM	A63368
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.077		mg/Kg	5	10/2/2019 10:14:26 AM	C63368
Toluene	ND	0.15		mg/Kg	5	10/2/2019 10:14:26 AM	C63368
Ethylbenzene	ND	0.15		mg/Kg	5	10/2/2019 10:14:26 AM	C63368
Xylenes, Total	ND	0.31		mg/Kg	5	10/2/2019 10:14:26 AM	C63368
Surr: 4-Bromofluorobenzene	97.2	80-120		%Rec	5	10/2/2019 10:14:26 AM	C63368

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	Value above quantitation range
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		

Analytical Report
Lab Order **1910112**
Date Reported: **1/22/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Ensolum **Client Sample ID:** S-14
Project: Lateral 2B 27 / Huerfano #74 **Collection Date:** 10/1/2019 11:05:00 AM
Lab ID: 1910112-002 **Matrix:** MEOH (SOIL) **Received Date:** 10/2/2019 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	10/2/2019 12:25:11 PM	47877
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/2/2019 12:58:12 PM	47875
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/2/2019 12:58:12 PM	47875
Surr: DNOP	92.2	70-130		%Rec	1	10/2/2019 12:58:12 PM	47875
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	10/2/2019 10:37:13 AM	A63368
Surr: BFB	93.5	77.4-118		%Rec	1	10/2/2019 10:37:13 AM	A63368
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.019		mg/Kg	1	10/2/2019 10:37:13 AM	C63368
Toluene	ND	0.037		mg/Kg	1	10/2/2019 10:37:13 AM	C63368
Ethylbenzene	ND	0.037		mg/Kg	1	10/2/2019 10:37:13 AM	C63368
Xylenes, Total	ND	0.075		mg/Kg	1	10/2/2019 10:37:13 AM	C63368
Surr: 4-Bromofluorobenzene	90.5	80-120		%Rec	1	10/2/2019 10:37:13 AM	C63368

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	Value above quantitation range
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		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1910112**

22-Jan-20

Client: Ensolum

Project: Lateral 2B 27 / Huerfano #74

Sample ID: **MB-47877**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **47877**	RunNo: **63366**							
Prep Date: **10/2/2019**	Analysis Date: **10/2/2019**	SeqNo: **2164835**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-47877**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **47877**	RunNo: **63366**							
Prep Date: **10/2/2019**	Analysis Date: **10/2/2019**	SeqNo: **2164836**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.5	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
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1910112**
22-Jan-20

Client: Ensolum
Project: Lateral 2B 27 / Huerfano #74

Sample ID: **LCS-47875**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **47875**	RunNo: **63364**
Prep Date: **10/2/2019**	Analysis Date: **10/2/2019**	SeqNo: **2163537** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	102	63.9	124			
Surr: DNOP	4.6		5.000		92.5	70	130			

Sample ID: **MB-47875**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **47875**	RunNo: **63364**
Prep Date: **10/2/2019**	Analysis Date: **10/2/2019**	SeqNo: **2163538** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		104	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
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1910112**
22-Jan-20

Client: Ensolum
Project: Lateral 2B 27 / Huerfano #74

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **A63368**	RunNo: **63368**
Prep Date:	Analysis Date: **10/2/2019**	SeqNo: **2163864** 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	970		1000		96.9	77.4	118			

Sample ID: **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **A63368**	RunNo: **63368**
Prep Date:	Analysis Date: **10/2/2019**	SeqNo: **2163865** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	107	80	120			
Surr: BFB	1200		1000		118	77.4	118			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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1910112**
22-Jan-20

Client: Ensolum
Project: Lateral 2B 27 / Huerfano #74

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **C63368**	RunNo: **63368**
Prep Date:	Analysis Date: **10/2/2019**	SeqNo: **2163921** 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	0.97		1.000		96.6	80	120			

Sample ID: **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **C63368**	RunNo: **63368**
Prep Date:	Analysis Date: **10/2/2019**	SeqNo: **2163922** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.2	80	120			
Toluene	0.98	0.050	1.000	0	97.7	80	120			
Ethylbenzene	0.97	0.050	1.000	0	96.8	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.7	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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		

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 AZTEC** Work Order Number: **1910112** RcptNo: **1**

Received By: Juan Rojas **10/2/2019 8:10:00 AM**

Completed By: **Yazmine Garduno** **10/2/2019 8:57:43 AM** Yazmine Garduno

Reviewed By: pam 10/2/19

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. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
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: YG 10/2/19

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	0.6	Good				

Chain-of-Custody Record

Client: Ensolum

Mailing Address: 606 Rio Grande Suit A 87410

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 100%
☐ Standard ☑ Rush 10-2-19

Project Name: Lateral RB-27

Project #: 05A1226071

Project Manager: K. Summers

Sampler: C. Atanti

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 0.8-0.2=0.6

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. 1910112	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)
10/1/19	1100	S	S-13	1 4oz Jar	Cool	-001	X	X					X			
10/1/19	1105	S	S-14	1	1	-002	X	X					X			

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10/1/19	1303		Chris Ward		10/1/19	1303
10/1/19	1745	Christine Walker	Jorge	Carrier	10-2-19	8:10

Remarks: PM Tom Long
Pay Key RB 21200
AFE # N43907

Sample Dry

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.

ENSOLUM

APPENDIX G

Regulatory Correspondence

From: Long, Thomas
To: "Smith, Cory, EMNRD (Cory.Smith@state.nm.us)"; kwchristesen@blm.gov
Cc: Stone, Brian
Subject: FW: Lateral 2B-27 - UL J Section 19 T27N R10W; 36.557918, -107.933242
Date: Monday, September 30, 2019 12:07:00 PM
Attachments: Lat 2B-27 Site Drawing.2.pdf
Lateral 2B 27.pdf
Lateral 2B 27 data.pdf

Cory/Kenneth,

Please find the attached site sketch and lab reports for the Lateral 2B-27 excavation. All samples were below the NMOCD Tier I standards except for S-6 and S-8. Enterprise is currently removing additional soil from these areas and anticipate collecting soil samples for laboratory analysis tomorrow, October 1, 2019 at 11:00 a.m. If you have any questions, please call or email.

Tom Long
505-599-2286 (office)
505-215-4727 (Cell)
tjlong@eprod.com

From: Long, Thomas
Sent: Tuesday, September 24, 2019 1:23 PM
To: 'Smith, Cory, EMNRD (Cory.Smith@state.nm.us)' <Cory.Smith@state.nm.us>; 'kwchristesen@blm.gov' <kwchristesen@blm.gov>
Cc: Stone, Brian <bmstone@eprod.com>
Subject: Lateral 2B-27 - UL J Section 19 T27N R10W; 36.557918, -107.933242

Cory/Kenneth,

This email is a notification that Enterprise had a release of natural gas and condensate on the Lateral 2B-27 pipeline on September 18, 2019. No liquids were observed on the ground surface. No washes were affected. The release is located at UL J Section 19 T27N R10W; 36.557918, -107.933242. Enterprise began repairs on September 23, 2019 and determined this release reportable per NMOCD regulation on September 24, 2019 due to the volume of impacted subsurface soil. Enterprise anticipates collection final closure soil samples for laboratory analysis on Thursday, September 26, 2019 at 9:30 a.m. If you have any questions, please call or email.

Sincerely,

Thomas J. Long
Senior Environmental Scientist
Enterprise Products Company
614 Reilly Ave.
Farmington, New Mexico 87401
505-599-2286 (office)
505-215-4727 (Cell)
tjlong@eprod.com


Enterprise
Products

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

CONDITIONS

Action 10162

CONDITIONS OF APPROVAL

Operator:			OGRID:	Action Number:	Action Type:
ENTERPRISE FIELD SERVICES, LLC	PO Box 4324	Houston, TX77210	241602	10162	C-141

OCD Reviewer	Condition
chensley	None