

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

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

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

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): NCS1935342095
Contact mailing address: 614 Reilly Ave, Farmington, NM 87401	

Location of Release Source

Latitude **36.323769** Longitude **-107.532816** (NAD 83 in decimal degrees to 5 decimal places)

Site Name Lateral 2C-116	Site Type Natural Gas Gathering Pipeline
Date Release Discovered: 11/12/2019	Serial Number (if applicable): NM 0128714

Unit Letter	Section	Township	Range	County
M	12	24N	7W	Rio Arriba

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)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/> Condensate	Volume Released (bbls): 5-10 BBLs	Volume Recovered (bbls): None
<input checked="" type="checkbox"/> Natural Gas	Volume Released (Mcf): 1.0 MCF	Volume Recovered (Mcf): None
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units):	Volume/Weight Recovered (provide units)

Cause of Release On November 12, 2019, an Enterprise technician discovered a release on the Lateral 2C-116 pipeline. The pipeline was isolated, depressurized, locked out and tagged out. An area on the ground surface of approximately three feet in diameter was affected by released fluids. On November 18, 2019, Enterprise determined the release reportable per NMOCD regulation due to the volume of impacted subsurface soil. Remediation was completed on December 3, 2019. The final excavation dimensions measured approximately 30 feet long by 16 feet wide by approximately eight (8) feet deep. Approximately 172 cubic yards of hydrocarbon impacted soil was 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.

Incident ID	
District RP	
Facility ID	
Application ID	

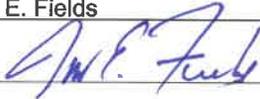
Closure

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:  Date: 8/12/2020
 email: jefields@eprod.com Telephone: (713) 381-6684

OCD Only

Received by: _____ Date: _____

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:  Date: 03/25/2022
 Printed Name: Nelson Velez Title: Environmental Specialist – Adv



CLOSURE REPORT

Property:

**Lateral 2C-116 Pipeline Release
SW 1/4, S12 T24N R7W
Rio Arriba County, New Mexico**

March 4, 2020 (Updated June 4, 2020)
Ensolum Project No. 05A1226082

Prepared for:

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

Prepared by:

A handwritten signature in blue ink that reads "Rane Deechilly".

Rane Deechilly
Environmental Scientist

A handwritten signature in blue ink that reads "Kyle Summers".

Kyle Summers, CPG
Sr. Project Manager

Table of Contents

1.0 INTRODUCTION..... 1
 1.1 SITE DESCRIPTION & BACKGROUND 1
 1.2 PROJECT OBJECTIVE 1

2.0 CLOSURE CRITERIA..... 1

3.0 SOIL REMEDIATION ACTIVITIES..... 3

4.0 SOIL SAMPLING PROGRAM..... 3

5.0 SOIL LABORATORY ANALYTICAL METHODS 4

6.0 DATA EVALUATION 4

7.0 RECLAMATION AND REVEGETATION 5

8.0 FINDINGS AND RECOMMENDATION 5

9.0 STANDARDS OF CARE, LIMITATIONS, AND RELIANCE..... 5
 9.1 STANDARD OF CARE 5
 9.2 ADDITIONAL LIMITATIONS..... 6
 9.3 RELIANCE 6

LIST OF APPENDICES

Appendix A: Figures

- Figure 1 Topographic Map
- Figure 2 Site Vicinity Map
- Figure 3 Site Map with Soil Analytical Results

Appendix B: Siting Figures and Documentation

- Figure A Half Mile Radius Water Wells
- Figure B Cathodic Protection Well Recorded Depth to Water
- Figure C 300-Foot Radius Watercourse and Drainage Identification
- Figure D 300-Foot Radius Occupied Structure Identification
- Figure E Water Well and Natural Spring Location
- Figure F Wetlands
- Figure G Mines, Mills, and Quarries
- Figure H 100-Year Flood Plain Map

Appendix C: Executed C-138 Solid Waste Acceptance Form

Appendix D: Photographic Documentation

Appendix E: Table 1 - Soil Analytical Summary

Appendix F: Laboratory Data Sheets & Chain of Custody Documentation

Appendix G: Regulatory Correspondence



CLOSURE REPORT

**Lateral 2C-116 Pipeline Release
SW ¼, S12 T24N R7W
Rio Arriba County, New Mexico**

Ensolum Project No. 05A1226082

1.0 INTRODUCTION

1.1 Site Description & Background

Operator:	Enterprise Field Services, LLC / Enterprise Products Operating LLC (Enterprise)
Site Name:	Lateral 2C-116 Pipeline Release (Site)
Location:	36.323769° North, 107.532816° West Southwest (SW) ¼ of Section 12, Township 24 North, Range 7 West Rio Arriba 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 November 12, 2019, a release of natural gas and condensate was identified at the Lateral 2C-116 pipeline. The resulting release was characterized by discoloration at the ground surface. Enterprise subsequently isolated and locked the pipeline out of service. On November 15, 2019, Enterprise initiated activities to facilitate the repair of the pipeline and 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. In order 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 that are 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 and figures associated with the following bullets are 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

Enterprise Field Services, LLC
 Closure Report
 Lateral 2C-116 Pipeline Release
 March 4, 2020 (Updated June 4, 2020)



and includes an interactive map). No PODs were identified within a one-half mile radius of the Site on the OSE WRRS database. The records for three (3) PODs (SJ-00681-2, SJ-00681-16, SJ-00681-4) located in adjacent sections do not indicate depth to water. SJ-00681-2 appears to be located approximately 0.9 miles north of the Site and at a lower elevation (6,633 feet) than the Site (6,928 feet). SJ-00681-16 is located approximately 1.2 miles east of the Site and at a lower elevation (6,913 feet) than the Site, and SJ-00681-4 is located approximately 1.2 miles southeast of the Site and at a lower elevation (6,593 feet) than the Site.

- No cathodic-protection wells were identified within one-half mile of the Site.
- The Site is not located within 300 feet of a New Mexico EMNRD OCD-defined continuously flowing watercourse or significant watercourse.
- The Site is not located within 200 feet of a lakebed, sinkhole or playa lake.
- The Site is not 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 CI B	20,000 mg/kg
TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015	2,500 mg/kg
TPH (GRO+DRO)	EPA SW-846 Method 8015	1,000 mg/kg
BTEX	EPA SW-846 Method 8021 or 8260	50 mg/kg
Benzene	EPA SW-846 Method 8021 or 8260	10 mg/kg

Enterprise Field Services, LLC
Closure Report
Lateral 2C-116 Pipeline Release
March 4, 2020 (Updated June 4, 2020)



3.0 SOIL REMEDIATION ACTIVITIES

On November 15, 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, Sierra Oilfield Services, Inc. (Sierra) provided heavy equipment and labor support, while Ensolum provided environmental consulting support.

The final excavation measured approximately 30 feet long and 16 feet wide at the maximum extents. The maximum depth of the excavation measured approximately eight (8) feet below grade surface (bgs).

The lithology encountered during the completion of remediation activities consisted primarily of semi-consolidated silty sand, shale, and weathered sandstone.

A total of approximately 172 cubic yards (yd³) 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 ultimately backfilled with imported fill and then contoured to surrounding grade.

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

4.0 SOIL SAMPLING PROGRAM

Ensolum field screened the 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 23 composite soil samples (S-1 through S-23), comprised of five (5) aliquots each, from the excavation for laboratory analysis. A clean shovel was utilized to obtain fresh aliquots from each area of the excavation. The New Mexico EMNRD OCD provided verbal approval to proceed with the sampling events, although a New Mexico EMNRD OCD representative was not on Site.

First Sampling Event

On November 15, 2019, the initial pipeline repair excavation was sampled to evaluate the magnitude of petroleum hydrocarbon impact. Composite soil sample S-1 (4.5') was collected from the floor of the excavation. Composite soil samples S-2 (0'-4.5'), S-3 (0'-4.5'), S-4 (0'-4.5'), and S-5 (0'-4.5') were collected from the sidewalls of the initial repair excavation. Analytical results from composite soil samples S-1 through S-5 from the initial repair excavation indicated exceedances of the applicable New Mexico EMNRD OCD closure criteria. In response to the data exceedances, the excavation was extended to remove petroleum hydrocarbon impacts. Soils associated with composite soil samples S-1 through S-5 were removed by excavation and transported to the landfarm for disposal/remediation.

Second Sampling Event

On November 25, 2019, a second sampling event was performed. Composite soil samples S-6 (7'), S-7 (7'), and S-8 (7') were collected from the floor of the enlarged excavation. Composite soil samples S-9 (0'-7'), S-10 (0'-7'), S-11 (0'-7'), S-12 (0'-7'), S-13 (0'-7'), and S-14 (0'-7') were collected from the sidewalls of the enlarged excavation. Composite soil samples S-15 (3'-7') and S-16 (3'-7') were collected from soils directly beneath the pipeline (bridge soils) that were left in place to support the pipeline. Subsequent analytical results from composite soil samples S-8, S-15, and S-16 indicated exceedances of the applicable New Mexico EMNRD OCD total petroleum hydrocarbons (TPH) closure criteria. In response to this information, Enterprise deepened the excavation in the vicinity of composite soil sample S-8 and removed

Enterprise Field Services, LLC
Closure Report
Lateral 2C-116 Pipeline Release
March 4, 2020 (Updated June 4, 2020)



the bridge soils associated with composite soil samples S-15 and S-16. These removed soils were transported to the landfarm for disposal/remediation.

Third Sampling Event

On December 3, 2019, subsequent to the additional excavation and removal of soils beneath the pipeline, a third sampling event was performed. Composite soil samples S-17 (8'), S-18 (7'), and S-21 (7') were collected from the floor of the excavation to replace composite soil samples S-8, S-15, and S-16 which had exhibited closure criteria exceedances and were removed by excavation. Composite soil sample S-19 (0'-7'), S-20 (1'-7'), S-22 (0'-7'), and S-23 (0'-7') were collected from newly exposed sidewalls of the excavation following the removal of the bridge soils.

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, 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.

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

6.0 DATA EVALUATION

Ensolum compared the BTEX, TPH, and chloride laboratory analytical results or laboratory supplied practical quantitation limits (PQLs) / reporting limits (RLs) associated with the final composite soil samples (S-6, S-7, S-9, S-10, S-12, S-13, and S-17 through S-23) to the applicable New Mexico EMNRD OCD closure criteria. Soils associated with composite soil samples S-1 through S-5, S-8, S-11, and S-14 through S-16 were transported to Envirotech landfarm for disposal/remediation and are not included in the following discussion.

- The laboratory analytical results for composite soil samples S-6 and S-21 indicate benzene concentrations of 0.14 milligrams per kilogram (mg/kg) and 1.0 mg/kg, respectively, which do not exceed the applicable New Mexico EMNRD OCD closure criteria of 10 mg/kg. The laboratory analytical results for the remaining composite soil samples collected from soils remaining at the Site indicate benzene is not present at concentrations greater than the laboratory PQLs/RLs, which are less than the applicable New Mexico EMNRD OCD closure criteria of 10 mg/kg.
- The laboratory analytical results for composite soil samples S-6 and S-21 indicate total BTEX concentrations of 6.9 mg/kg and 14.2 mg/kg, respectively, which do not exceed the applicable 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 at concentrations greater than the laboratory PQLs/RLs, which are less than the applicable New Mexico EMNRD OCD closure criteria of 50 mg/kg.
- The laboratory analytical results for composite soil samples S-6, S-7, S-17 through S-21, and S-23 indicate combined TPH GRO/DRO concentrations ranging from 15 mg/kg (S-19) to 950 mg/kg (S-6), which do not exceed the applicable New Mexico EMNRD OCD closure criteria of 1,000 mg/kg.

Enterprise Field Services, LLC
Closure Report
Lateral 2C-116 Pipeline Release
March 4, 2020 (Updated June 4, 2020)



The laboratory analytical results for the remaining composite soil samples collected from soils remaining at the Site indicate combined TPH GRO/DRO is not present at concentrations greater than the laboratory PQLs/RLs, which are less than the applicable New Mexico EMNRD OCD closure criteria of 1,000 mg/kg.

- The laboratory analytical results for composite soil samples S-6, S-7, S-17 through S-21, and S-23 indicate combined TPH GRO/DRO/MRO concentrations ranging from 15 mg/kg (S-19) to 1,220 mg/kg (S-6), which do not exceed the applicable New Mexico EMNRD OCD closure criteria of 2,500 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 at concentrations greater than the laboratory PQLs/RLs, which are less than the applicable New Mexico EMNRD OCD closure criteria of 2,500 mg/kg.
- The laboratory analytical results for the composite soil samples collected from soils remaining at the Site indicate chloride concentrations ranging from below laboratory PQLs/RLs to 240 mg/kg (S-9), which are less than the applicable New Mexico EMNRD OCD closure criteria of 20,000 mg/kg for chlorides.

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

7.0 RECLAMATION AND REVEGETATION

The excavation was backfilled with imported fill and was then contoured to surrounding grade. Enterprise will re-seed the Site with a BLM Farmington Field Office approved seeding mixture at the beginning of the next favorable growing season.

8.0 FINDINGS AND RECOMMENDATION

- A total of 23 composite soil samples were collected from the excavation. Based on laboratory analytical results, soils remaining in place do not exhibit COC concentrations above the applicable New Mexico EMNRD OCD closure criteria.
- A total of approximately 172 yd³ of petroleum hydrocarbon-affected soils were transported to the Envirotech landfarm near Hilltop, New Mexico for disposal/remediation. The excavation was backfilled with imported fill 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).

Enterprise Field Services, LLC
Closure Report
Lateral 2C-116 Pipeline Release
March 4, 2020 (Updated June 4, 2020)



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.

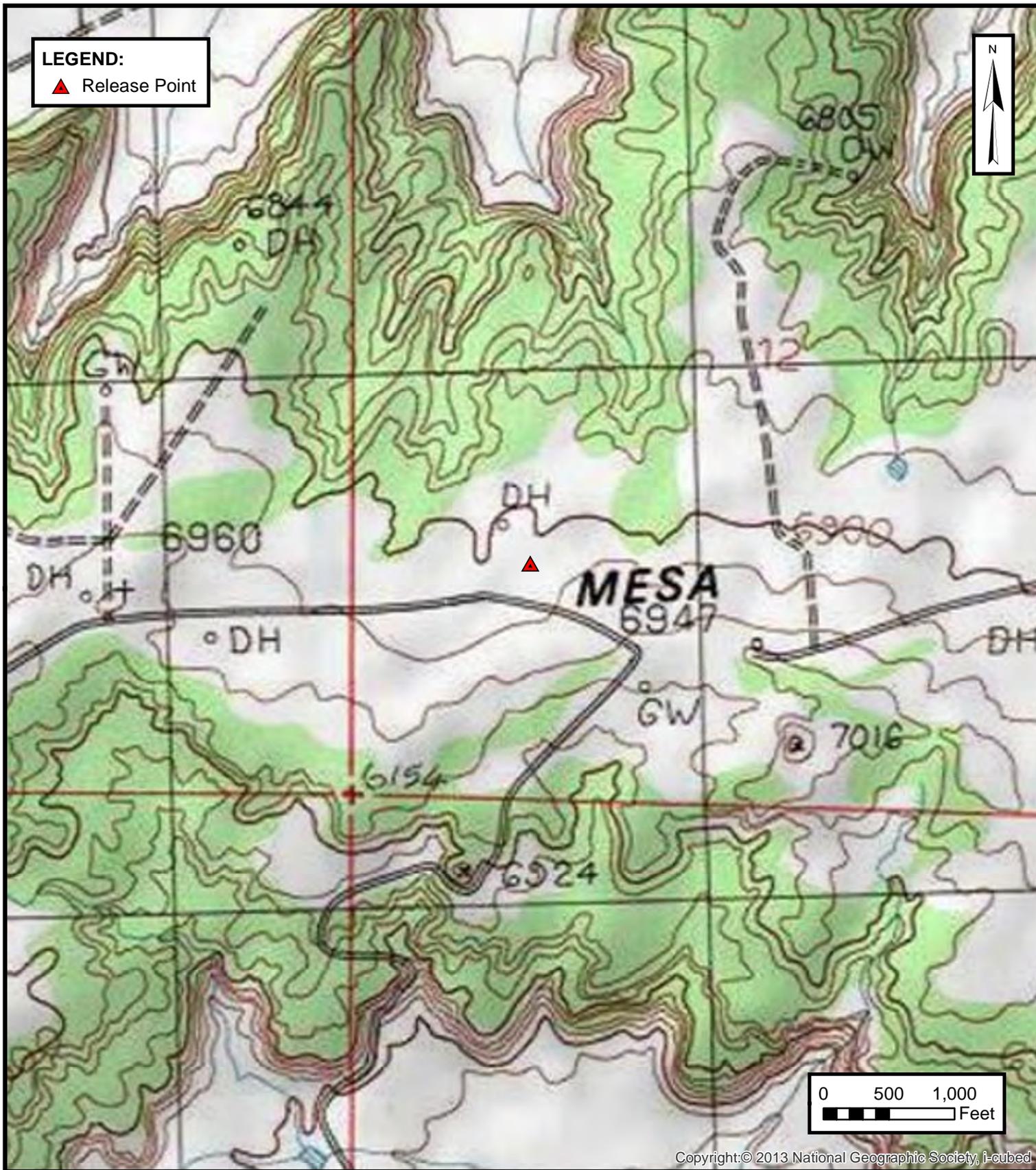
9.3 Reliance

This report has been prepared for the exclusive use of Enterprise, 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 of Enterprise 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.



APPENDIX A

Figures



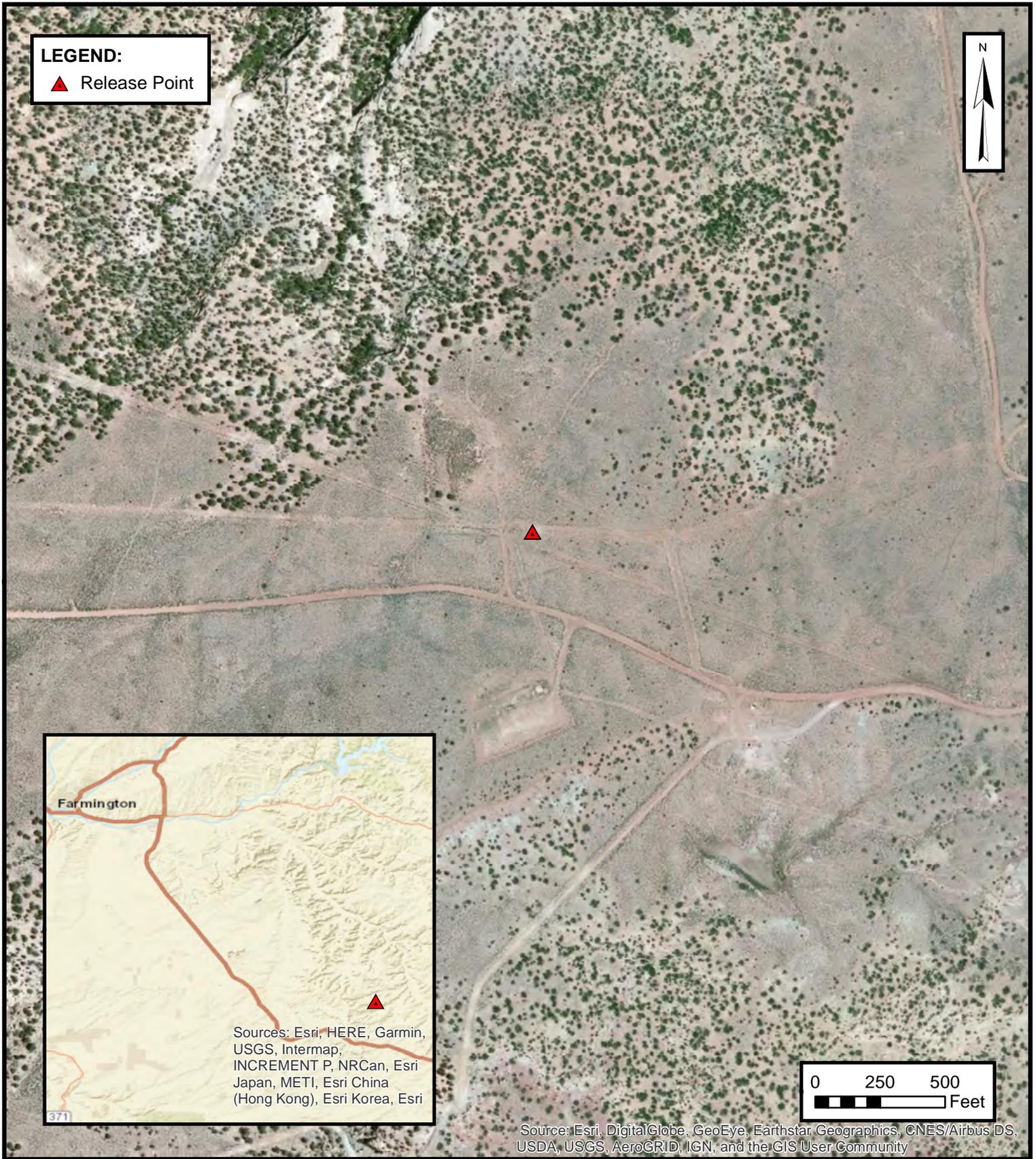
ENSOLUM
 Environmental & Hydrogeologic Consultants

TOPOGRAPHIC MAP

ENTERPRISE FIELD SERVICES, LLC
 LATERAL 2C-116 PIPELINE RELEASE
 SW ¼, S12 T24N R7W, Rio Arriba County, New Mexico
 36.323769° N, 107.532816° W

PROJECT NUMBER: 05A1226082

FIGURE
1



SITE VICINITY MAP

ENTERPRISE FIELD SERVICES, LLC
 LATERAL 2C-116 PIPELINE RELEASE
 SW ¼, S12 T24N R7W, Rio Arriba County, New Mexico
 36.323769° N, 107.532816° W

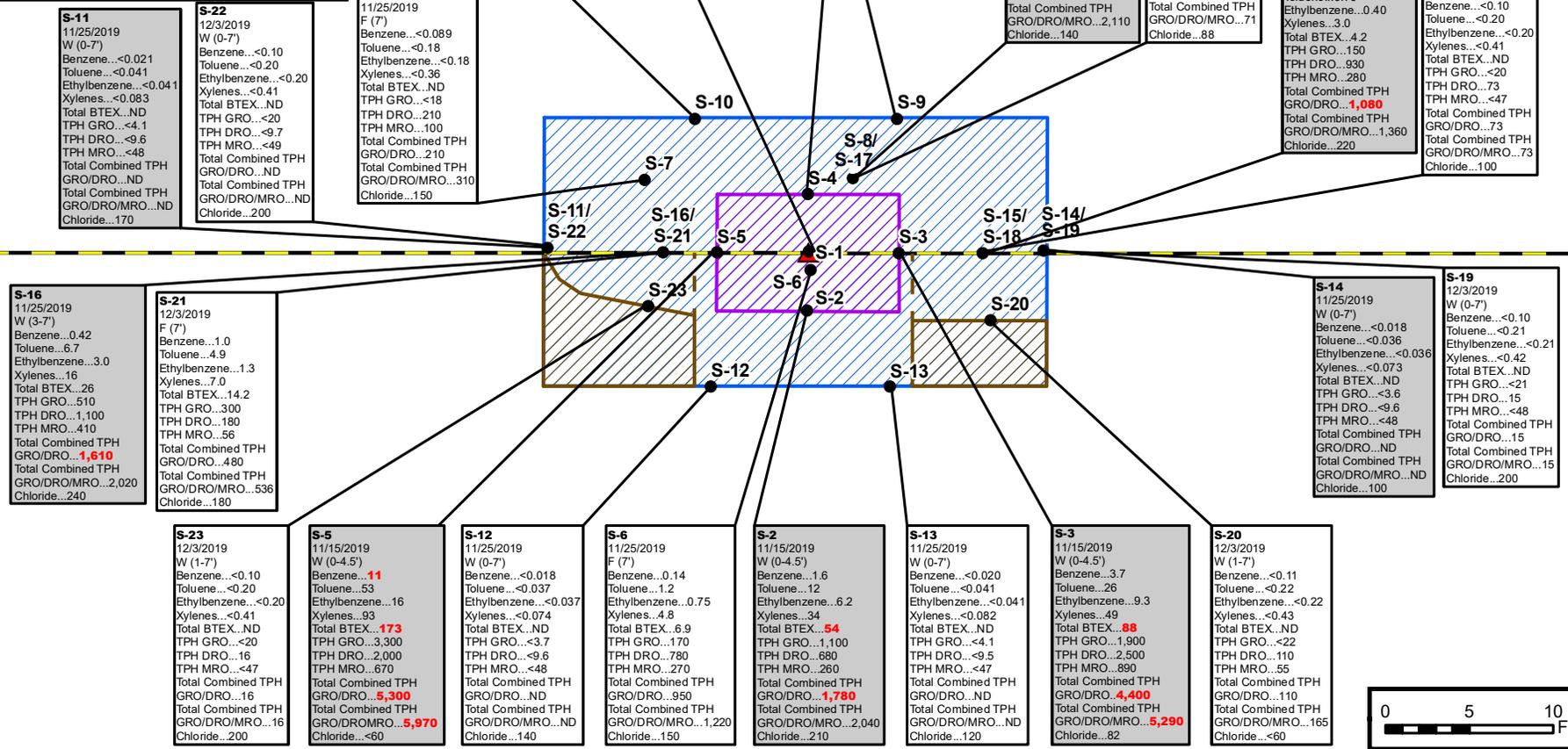
PROJECT NUMBER: 05A1226082

FIGURE
2

LEGEND:

- ▲ Release Point
- Composite Soil Sample Location
- W Wall Sample
- F Floor Sample
- ▨ Extent of Excavation
- ▨ Former Extent of Excavation
- ▨ Ramp
- - - Former Extent of Ramp
- Pipeline Location

NOTES:
 All Concentrations Are Listed in mg/Kg.
 Concentrations in **Red** Exceed the Applicable NM EMNRD OCD Closure Criteria.
 All Depths Are Listed in Feet BGS.
 Analytical Callouts in Gray Denote Sampling Location Removed by Excavation.



SITE MAP WITH SOIL ANALYTICAL RESULTS

ENTERPRISE FIELD SERVICES, LLC
 LATERAL 2C-116 PIPELINE RELEASE
 SW ¼, S12 T24N R7W, Rio Arriba County, New Mexico
 36.323769° N, 107.532816° W

PROJECT NUMBER: 05A1226082

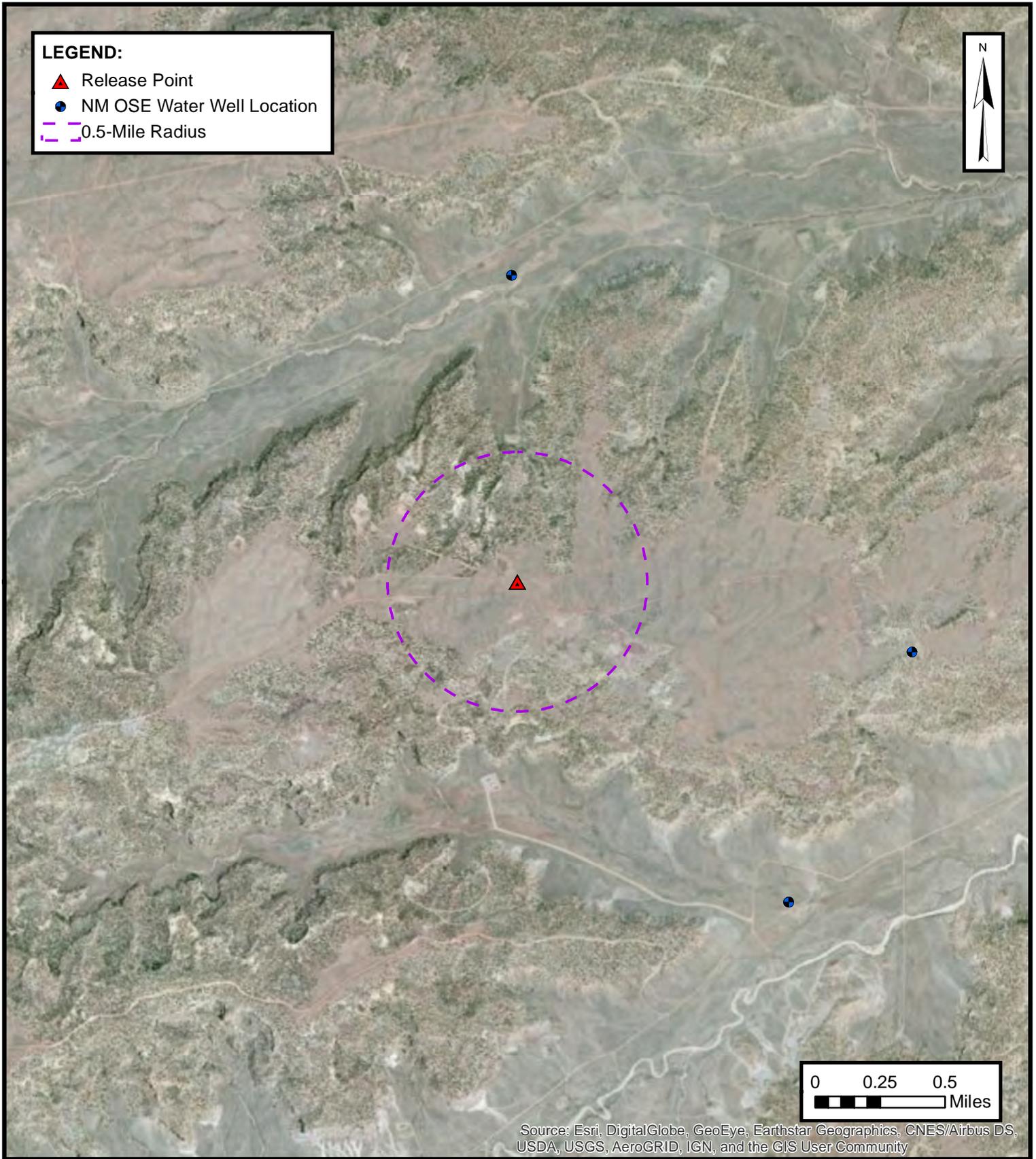
FIGURE 3





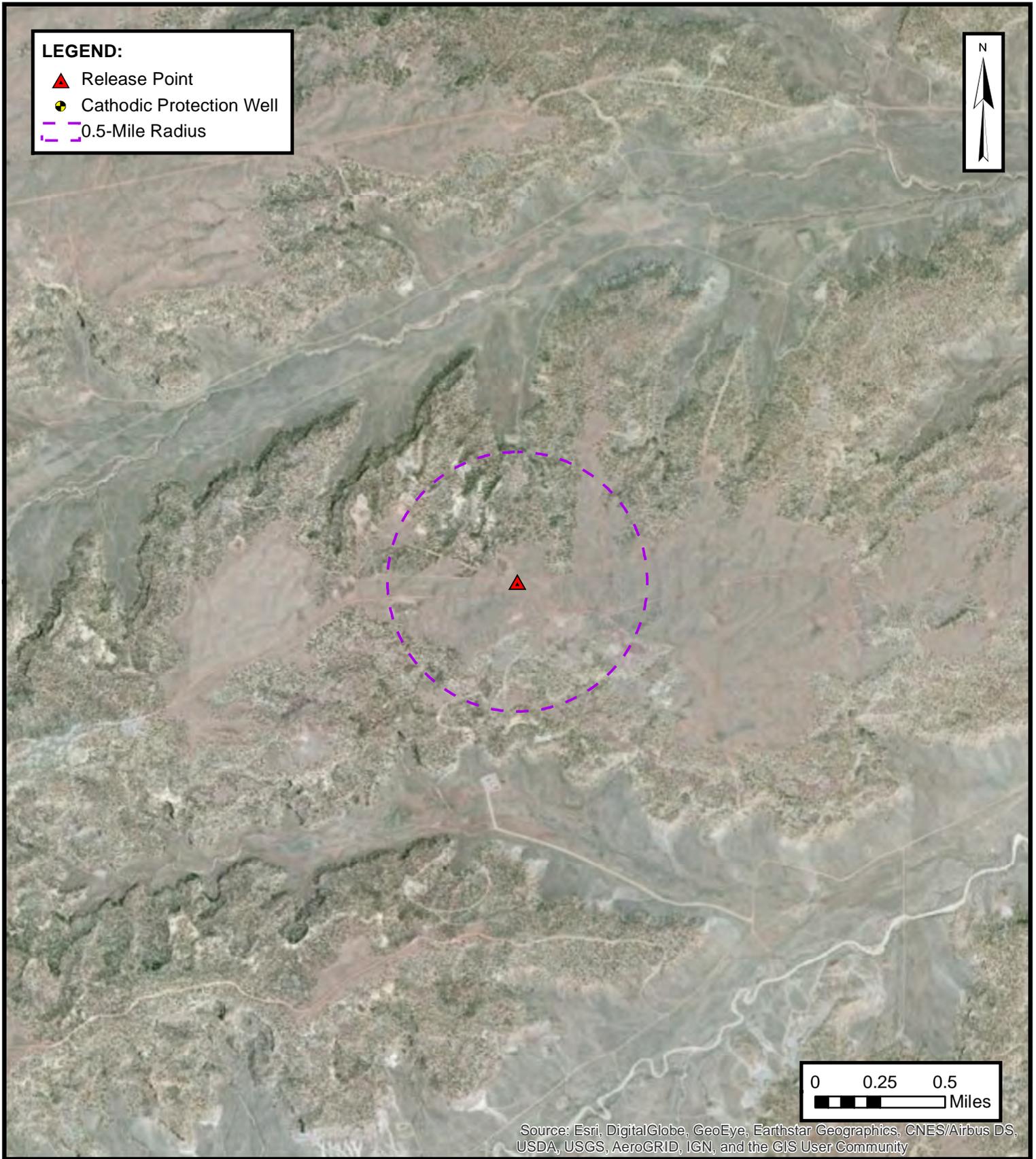
APPENDIX B

Siting Figures and Documentation



HALF MILE RADIUS WATER WELLS
ENTERPRISE FIELD SERVICES, LLC
LATERAL 2C-116 PIPELINE RELEASE
SW ¼, S12 T24N R7W, Rio Arriba County, New Mexico
36.323769° N, 107.532816° W
PROJECT NUMBER: 05A1226082

FIGURE
A

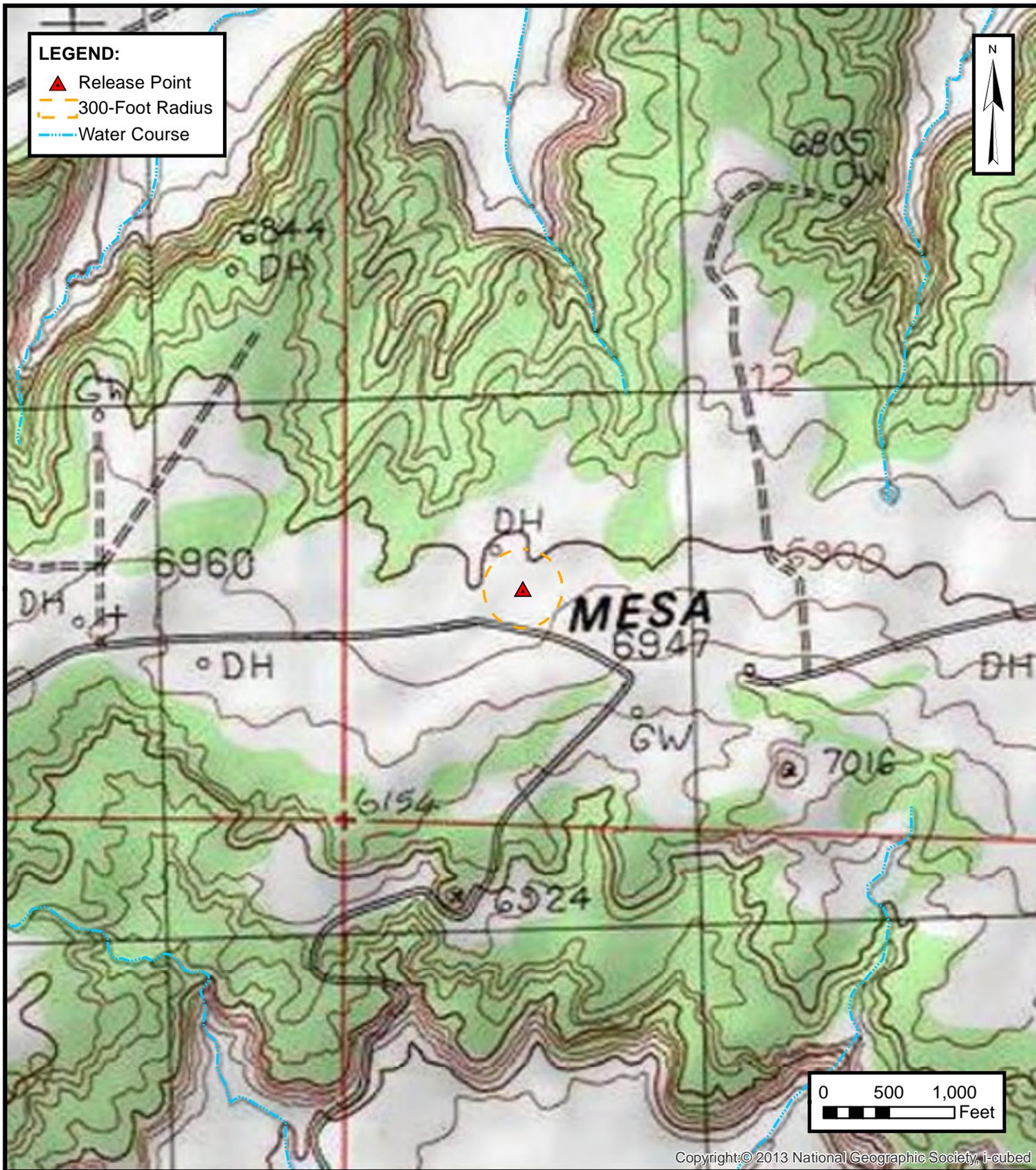


CATHODIC PROTECTION WELL RECORDED DEPTH TO WATER

ENTERPRISE FIELD SERVICES, LLC
 LATERAL 2C-116 PIPELINE RELEASE
 SW ¼, S12 T24N R7W, Rio Arriba County, New Mexico
 36.323769° N, 107.532816° W

PROJECT NUMBER: 05A1226082

FIGURE
B



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**300-FOOT RADIUS
WATERCOURSE AND DRAINAGE IDENTIFICATION**

ENTERPRISE FIELD SERVICES, LLC
LATERAL 2C-116 PIPELINE RELEASE
SW ¼, S12 T24N R7W, Rio Arriba County, New Mexico
36.323769° N, 107.532816° W

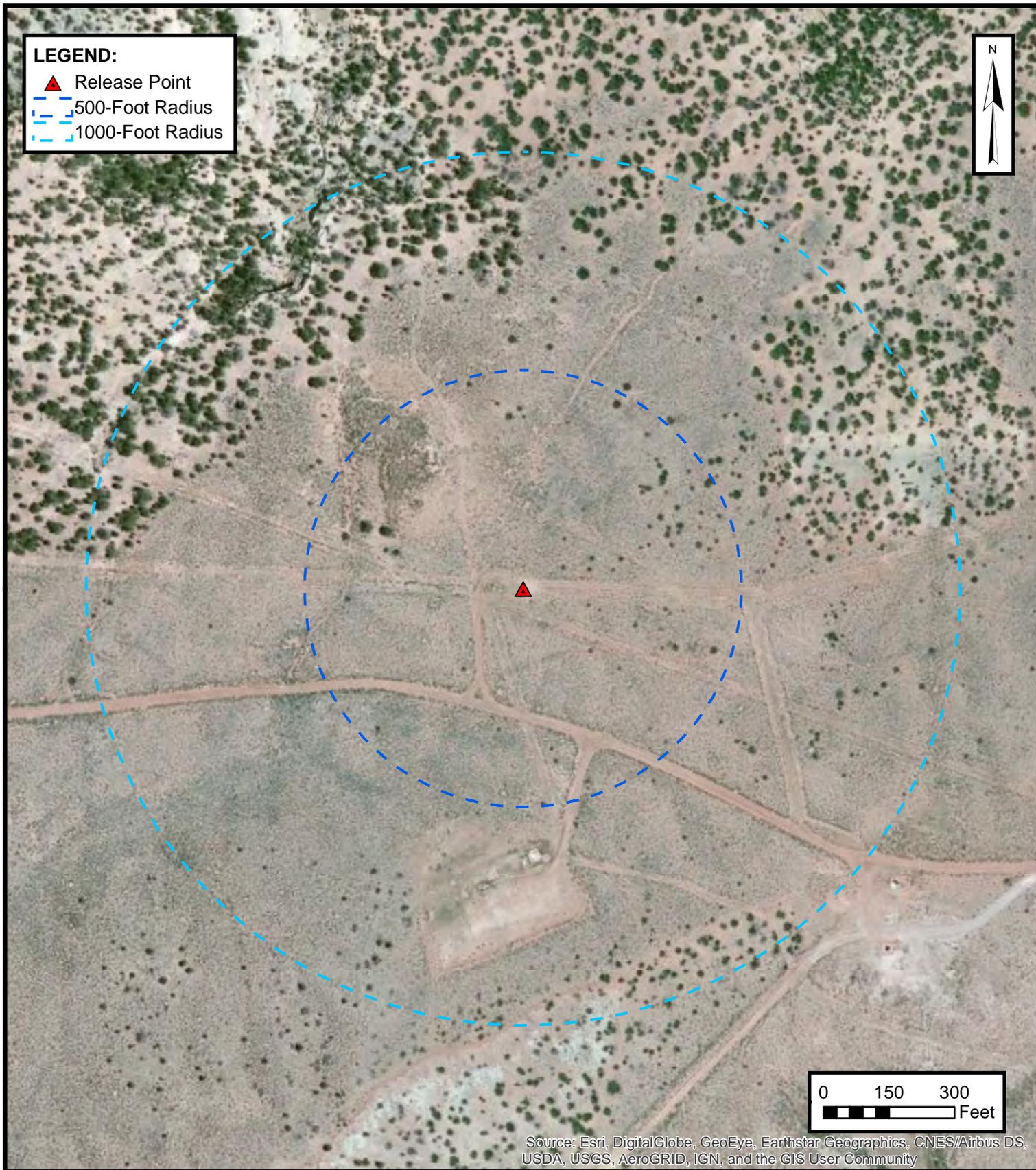
PROJECT NUMBER: 05A1226082

**FIGURE
C**



**300-FOOT RADIUS
OCCUPIED STRUCTURE IDENTIFICATION**
ENTERPRISE FIELD SERVICES, LLC
LATERAL 2C-116 PIPELINE RELEASE
SW ¼, S12 T24N R7W, Rio Arriba County, New Mexico
36.323769° N, 107.532816° W
PROJECT NUMBER: 05A1226082

**FIGURE
D**

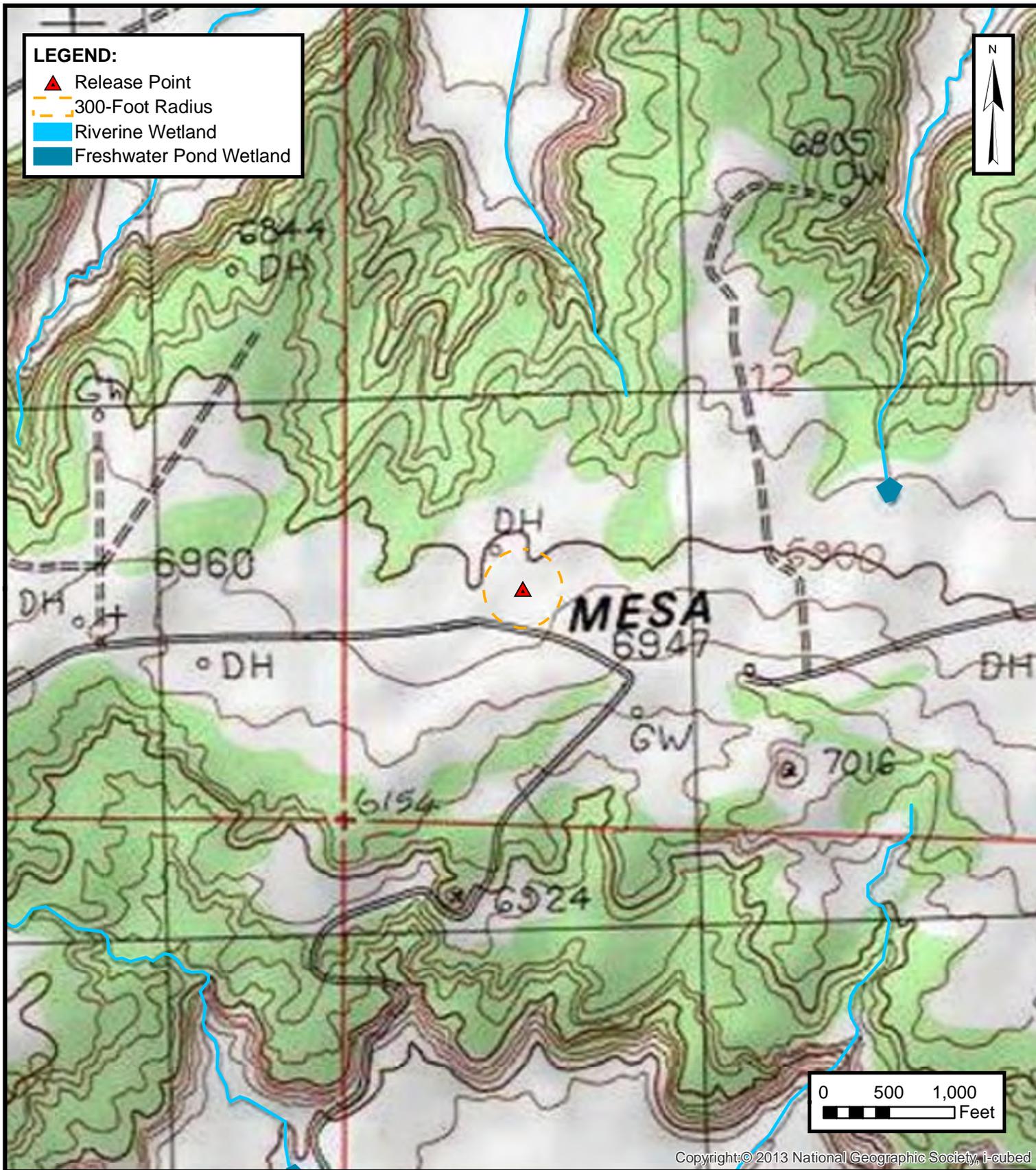


WATER WELL AND NATURAL SPRING LOCATION

ENTERPRISE FIELD SERVICES, LLC
 LATERAL 2C-116 PIPELINE RELEASE
 SW ¼, S12 T24N R7W, Rio Arriba County, New Mexico
 36.323769° N, 107.532816° W

PROJECT NUMBER: 05A1226082

FIGURE
E

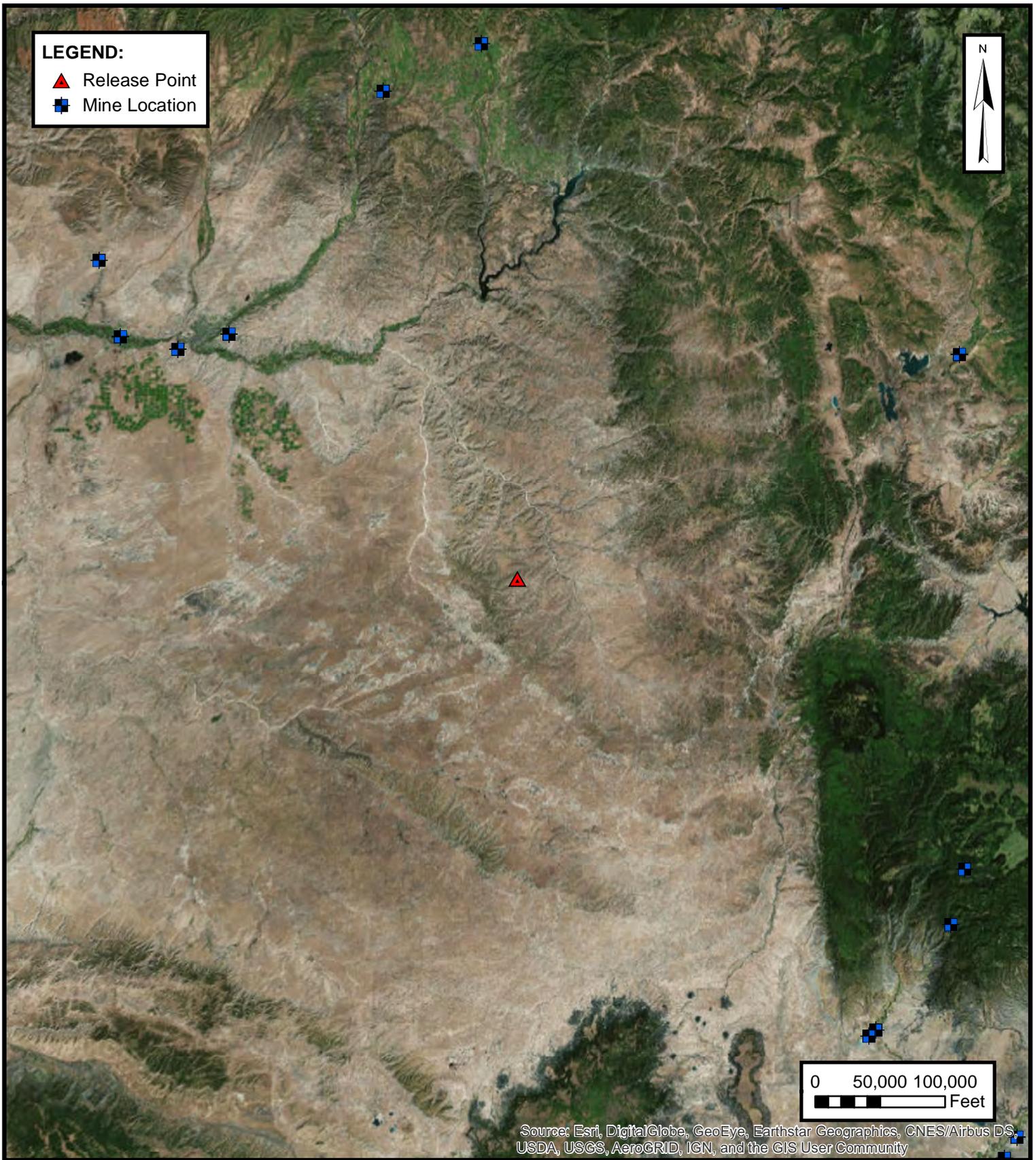


WETLANDS

ENTERPRISE FIELD SERVICES, LLC
LATERAL 2C-116 PIPELINE RELEASE
SW ¼, S12 T24N R7W, Rio Arriba County, New Mexico
36.323769° N, 107.532816° W

PROJECT NUMBER: 05A1226082

FIGURE
F



MINES, MILLS AND QUARRIES
ENTERPRISE FIELD SERVICES, LLC
LATERAL 2C-116 PIPELINE RELEASE
SW ¼, S12 T24N R7W, Rio Arriba County, New Mexico
36.323769° N, 107.532816° W
PROJECT NUMBER: 05A1226082

FIGURE
G



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

No records found.

PLSS Search:

Section(s): 12, 1, 2, 11, 14, **Township:** 24N **Range:** 07W
13

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



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

No records found.

PLSS Search:

Section(s): 6, 7, 18

Township: 24N

Range: 06W

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



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

No records found.

UTMNAD83 Radius Search (in meters):

Easting (X): 272634

Northing (Y): 4022846.585

Radius: 804.67

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

No PODs found.

UTMNAD83 Radius Search (in meters):

Easting (X): 272634

Northing (Y): 4022846.585

Radius: 804.67



New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum)

(R=POD has been replaced and no longer serves this file, (quarters are 1=NW 2=NE 3=SW 4=SE)

C=the file is closed (quarters are smallest to largest) (NAD83 UTM in meters)

WR File Nbr	Sub		Diversion	Owner	County	POD Number	Well			q q q			X	Y		
	basin	Use					Tag	Code	Grant	Source	6416 4	Sec			Tws	Rng
SJ 00681 2	SJ	STK	4.839	HOMER C. BERRY	RA	SJ 00681 2				Source	6416 4	Sec	Tws	Rng	X	Y
											2 3 3	01	24N	07W	272654	4024369*

Record Count: 1

PLSS Search:

Section(s): 12, 1, 2, 11, 14, **Township:** 24N **Range:** 07W
13

Sorted by: File Number

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum)

(R=POD has been replaced and no longer serves this file, (quarters are 1=NW 2=NE 3=SW 4=SE)

C=the file is closed) (quarters are smallest to largest) (NAD83 UTM in meters)

WR File Nbr	Sub		Diversion	Owner	County	POD Number	Well			q q q				X	Y			
	basin	Use					Tag	Code	Grant	Source	6416	4	Sec			Tws	Rng	
SJ 00681 16	SJ	STK	24.195	HOMER C. BERRY	RA	SJ 00681 16					4	4	3	07	24N	06W	274606	4022441*
SJ 00681 4	SJ	STK	9.678	HOMER C. BERRY	RA	SJ 00681 4					3	1	3	18	24N	06W	273955	4021213*

Record Count: 2

PLSS Search:

Section(s): 6, 7, 18

Township: 24N

Range: 06W

Sorted by: File Number

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



APPENDIX C

Executed C-138 Solid Waste Acceptance Form

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

97057-1050 Form C-138
Revised 08/01/11
*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 Ave, Farmington NM 87401

2. Originating Site:
Lateral 2C-116
AFE: N44342
PM: Maron O'Brien
Pay Key: RB21200

2. Location of Material (Street Address, City, State or ULSTR):
UL M Section 12 T24N R7W; 36.323769, -107.532816
Nov. 2019

4. Source and Description of Waste:
Source: Hydrocarbon contaminated soil/sludge associated with remediation activities from a natural gas pipeline release.
Description: Hydrocarbon contaminated soil/sludge associated with remediation activities from a natural gas pipeline release.
Estimated Volume 50 (yd³) bbls Known Volume (to be entered by the operator at the end of the haul) 172 (yd³) bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long *Thomas Long*, representative or authorized agent for Enterprise Products Operating do hereby
Generator Signature
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* 11-14-19, representative for Enterprise Products Operating authorize to complete
Generator Signature
the required 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: TBD *Sierra Oilfield*
OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM01-0011
Address of Facility: Hill Top, 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: *Enviro Manager* DATE: *11/15/19*

SIGNATURE: *Greg Crabtree* TELEPHONE NO.: *505-632-0615*
Surface Waste Management Facility Authorized Agent



APPENDIX D

Photographic Documentation

SITE PHOTOGRAPHS

Enterprise Field Services, LLC
Closure Report
Lateral 2C-116 Pipeline Release
Ensolum Project No. 05A1226082



Photograph 1

Photograph Description: View of the release.



Photograph 2

Photograph Description: View of the initial pipeline repair excavation.



Photograph 3

Photograph Description: View of the excavation during the second sampling event.



SITE PHOTOGRAPHS

Enterprise Field Services, LLC
Closure Report
Lateral 2C-116 Pipeline Release
Ensolum Project No. 05A1226082



Photograph 4

Photograph Description: View of in-process excavation activities.



Photograph 5

Photograph Description: View of the final excavation.





APPENDIX E

Table 1 – Soil Analytical Summary



TABLE 1
Lateral 2C-116 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 (GRO/DRO) (mg/kg)	Total Combined TPH (GRO/DRO/MRO) (mg/kg)	Chloride (mg/kg)
New Mexico Energy, Mineral & Natural Resources Department Oil Conservation Division Closure Criteria				10	NE	NE	NE	50				1,000	2,500	20,000
Composite Soil Samples Removed by Excavation														
S-1	11.15.19	C	4.5	46	160	41	210	457	9,100	3,100	1,200	12,200	13,400	420
S-2	11.15.19	C	0 to 4.5	1.6	12	6.2	34	54	1,100	680	260	1,780	2,040	210
S-3	11.15.19	C	0 to 4.5	3.7	26	9.3	49	88	1,900	2,500	890	4,400	5,290	82
S-4	11.15.19	C	0 to 4.5	2.3	17	8.9	51	79	1,500	1,600	520	3,100	3,620	120
S-5	11.15.19	C	0 to 4.5	11	53	16	93	173	3,300	2,000	670	5,300	5,970	<60
S-8	11.25.19	C	7	0.27	1.5	0.64	4.0	6.4	180	1,400	530	1,580	2,110	140
S-11	11.25.19	C	0 to 7	<0.021	<0.041	<0.041	<0.083	ND	<4.1	<9.6	<48	ND	ND	170
S-14	11.25.19	C	0 to 7	<0.018	<0.036	<0.036	<0.073	ND	<3.6	<9.6	<48	ND	ND	100
S-15	11.25.19	C	3 to 7	<0.11	0.76	0.40	3.0	4.2	150	930	280	1,080	1,360	220
S-16	11.25.19	C	3 to 7	0.42	6.7	3.0	16	26	510	1,100	410	1,610	2,020	240
Excavation Composite Soil Samples														
S-6	11.25.19	C	7	0.14	1.2	0.75	4.8	6.9	170	780	270	950	1,220	150
S-7	11.25.19	C	7	<0.089	<0.18	<0.18	<0.36	ND	<18	210	100	210	310	150
S-9	11.25.19	C	0 to 7	<0.021	<0.042	<0.042	<0.083	ND	<4.2	<9.0	<45	ND	ND	240
S-10	11.25.19	C	0 to 7	<0.020	<0.039	<0.039	<0.079	ND	<3.9	<10	<50	ND	ND	160
S-12	11.25.19	C	0 to 7	<0.018	<0.037	<0.037	<0.074	ND	<3.7	<9.6	<48	ND	ND	140
S-13	11.25.19	C	0 to 7	<0.020	<0.041	<0.041	<0.082	ND	<4.1	<9.5	<47	ND	ND	120
S-17	12.03.19	C	8	<0.088	<0.18	<0.18	<0.35	ND	<18	71	<49	71	71	88
S-18	12.03.19	C	7	<0.10	<0.20	<0.20	<0.41	ND	<20	73	<47	73	73	100
S-19	12.03.19	C	0 to 7	<0.10	<0.21	<0.21	<0.42	ND	<21	15	<48	15	15	200
S-20	12.03.19	C	1 to 7	<0.11	<0.22	<0.22	<0.43	ND	<22	110	55	110	165	<60
S-21	12.03.19	C	7	1.0	4.9	1.3	7.0	14.2	300	180	56	480	536	180
S-22	12.03.19	C	0 to 7	<0.10	<0.20	<0.20	<0.41	ND	<20	<9.7	<49	ND	ND	200
S-23	12.03.19	C	1 to 7	<0.10	<0.20	<0.20	<0.41	ND	<20	16	<47	16	16	200

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



APPENDIX F

Laboratory Data Sheets & Chain of Custody Documentation



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

November 19, 2019

Kyle Summers

ENSOLUM

606 S. Rio Grande Suite A

Aztec, NM 87410

TEL: (903) 821-5603

FAX

RE: Lateral 2C 116

OrderNo.: 1911767

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 5 sample(s) on 11/16/2019 for the analyses presented in the following report.

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

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a white background.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order **1911767**

Date Reported: **11/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: S-1

Project: Lateral 2C 116

Collection Date: 11/15/2019 4:30:00 PM

Lab ID: 1911767-001

Matrix: SOIL

Received Date: 11/16/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	420	60		mg/Kg	20	11/18/2019 10:17:46 AM	48832
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	3100	95		mg/Kg	10	11/18/2019 9:08:04 AM	48829
Motor Oil Range Organics (MRO)	1200	480		mg/Kg	10	11/18/2019 9:08:04 AM	48829
Surr: DNOP	0	70-130	S	%Rec	10	11/18/2019 9:08:04 AM	48829
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	9100	440		mg/Kg	100	11/18/2019 11:43:28 AM	G64584
Surr: BFB	315	77.4-118	S	%Rec	100	11/18/2019 11:43:28 AM	G64584
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	46	0.44		mg/Kg	20	11/18/2019 9:26:51 AM	B64584
Toluene	160	4.4		mg/Kg	100	11/18/2019 11:43:28 AM	B64584
Ethylbenzene	41	0.88		mg/Kg	20	11/18/2019 9:26:51 AM	B64584
Xylenes, Total	210	1.8		mg/Kg	20	11/18/2019 9:26:51 AM	B64584
Surr: 4-Bromofluorobenzene	155	80-120	S	%Rec	20	11/18/2019 9:26:51 AM	B64584

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **1911767**

Date Reported: **11/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: S-2

Project: Lateral 2C 116

Collection Date: 11/15/2019 4:35:00 PM

Lab ID: 1911767-002

Matrix: SOIL

Received Date: 11/16/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	210	60		mg/Kg	20	11/18/2019 10:30:11 AM	48832
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	680	50		mg/Kg	5	11/18/2019 10:16:56 AM	48829
Motor Oil Range Organics (MRO)	260	250		mg/Kg	5	11/18/2019 10:16:56 AM	48829
Surr: DNOP	160	70-130	S	%Rec	5	11/18/2019 10:16:56 AM	48829
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	1100	22		mg/Kg	5	11/18/2019 9:49:48 AM	G64584
Surr: BFB	1210	77.4-118	S	%Rec	5	11/18/2019 9:49:48 AM	G64584
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	1.6	0.11		mg/Kg	5	11/18/2019 9:49:48 AM	B64584
Toluene	12	0.22		mg/Kg	5	11/18/2019 9:49:48 AM	B64584
Ethylbenzene	6.2	0.22		mg/Kg	5	11/18/2019 9:49:48 AM	B64584
Xylenes, Total	34	0.44		mg/Kg	5	11/18/2019 9:49:48 AM	B64584
Surr: 4-Bromofluorobenzene	139	80-120	S	%Rec	5	11/18/2019 9:49:48 AM	B64584

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **1911767**

Date Reported: **11/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: S-3

Project: Lateral 2C 116

Collection Date: 11/15/2019 4:40:00 PM

Lab ID: 1911767-003

Matrix: SOIL

Received Date: 11/16/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	82	60		mg/Kg	20	11/18/2019 10:42:35 AM	48832
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	2500	92		mg/Kg	10	11/18/2019 9:44:14 AM	48829
Motor Oil Range Organics (MRO)	890	460		mg/Kg	10	11/18/2019 9:44:14 AM	48829
Surr: DNOP	0	70-130	S	%Rec	10	11/18/2019 9:44:14 AM	48829
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	1900	72		mg/Kg	20	11/18/2019 10:12:39 AM	G64584
Surr: BFB	596	77.4-118	S	%Rec	20	11/18/2019 10:12:39 AM	G64584
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	3.7	0.36		mg/Kg	20	11/18/2019 10:12:39 AM	B64584
Toluene	26	0.72		mg/Kg	20	11/18/2019 10:12:39 AM	B64584
Ethylbenzene	9.3	0.72		mg/Kg	20	11/18/2019 10:12:39 AM	B64584
Xylenes, Total	49	1.4		mg/Kg	20	11/18/2019 10:12:39 AM	B64584
Surr: 4-Bromofluorobenzene	120	80-120		%Rec	20	11/18/2019 10:12:39 AM	B64584

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **1911767**

Date Reported: **11/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: S-4

Project: Lateral 2C 116

Collection Date: 11/15/2019 4:45:00 PM

Lab ID: 1911767-004

Matrix: SOIL

Received Date: 11/16/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	120	59		mg/Kg	20	11/18/2019 10:55:00 AM	48832
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	1600	95		mg/Kg	10	11/18/2019 9:58:17 AM	48829
Motor Oil Range Organics (MRO)	520	470		mg/Kg	10	11/18/2019 9:58:17 AM	48829
Surr: DNOP	0	70-130	S	%Rec	10	11/18/2019 9:58:17 AM	48829
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	1500	22		mg/Kg	5	11/18/2019 10:35:21 AM	G64584
Surr: BFB	1850	77.4-118	S	%Rec	5	11/18/2019 10:35:21 AM	G64584
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	2.3	0.11		mg/Kg	5	11/18/2019 10:35:21 AM	B64584
Toluene	17	0.22		mg/Kg	5	11/18/2019 10:35:21 AM	B64584
Ethylbenzene	8.9	0.22		mg/Kg	5	11/18/2019 10:35:21 AM	B64584
Xylenes, Total	51	0.44		mg/Kg	5	11/18/2019 10:35:21 AM	B64584
Surr: 4-Bromofluorobenzene	186	80-120	S	%Rec	5	11/18/2019 10:35:21 AM	B64584

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **1911767**

Date Reported: **11/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: S-5

Project: Lateral 2C 116

Collection Date: 11/15/2019 4:50:00 PM

Lab ID: 1911767-005

Matrix: SOIL

Received Date: 11/16/2019 10:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	11/18/2019 11:07:24 AM	48832
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	2000	92		mg/Kg	10	11/18/2019 9:46:57 AM	48829
Motor Oil Range Organics (MRO)	670	460		mg/Kg	10	11/18/2019 9:46:57 AM	48829
Surr: DNOP	0	70-130	S	%Rec	10	11/18/2019 9:46:57 AM	48829
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	3300	370		mg/Kg	100	11/18/2019 12:29:01 PM	G64584
Surr: BFB	244	77.4-118	S	%Rec	100	11/18/2019 12:29:01 PM	G64584
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	11	0.092		mg/Kg	5	11/18/2019 10:58:01 AM	B64584
Toluene	53	3.7		mg/Kg	100	11/18/2019 12:29:01 PM	B64584
Ethylbenzene	16	3.7		mg/Kg	100	11/18/2019 12:29:01 PM	B64584
Xylenes, Total	93	7.3		mg/Kg	100	11/18/2019 12:29:01 PM	B64584
Surr: 4-Bromofluorobenzene	109	80-120		%Rec	100	11/18/2019 12:29:01 PM	B64584

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911767

19-Nov-19

Client: ENSOLUM
Project: Lateral 2C 116

Sample ID: MB-48832	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 48832	RunNo: 64581								
Prep Date: 11/18/2019	Analysis Date: 11/18/2019	SeqNo: 2212442	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-48832	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 48832	RunNo: 64581								
Prep Date: 11/18/2019	Analysis Date: 11/18/2019	SeqNo: 2212443	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.0	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 Quantitative 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#: 1911767

19-Nov-19

Client: ENSOLUM
Project: Lateral 2C 116

Sample ID: LCS-48829	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 48829	RunNo: 64571								
Prep Date: 11/18/2019	Analysis Date: 11/18/2019	SeqNo: 2211224	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.6	63.9	124			
Surr: DNOP	4.2		5.000		83.4	70	130			

Sample ID: MB-48829	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 48829	RunNo: 64571								
Prep Date: 11/18/2019	Analysis Date: 11/18/2019	SeqNo: 2211225	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	9.1		10.00		90.6	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 Quantitative 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#: 1911767

19-Nov-19

Client: ENSOLUM
Project: Lateral 2C 116

Sample ID: RB	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: G64584	RunNo: 64584								
Prep Date:	Analysis Date: 11/18/2019	SeqNo: 2211908			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	1000		1000		101	77.4	118			

Sample ID: 2.5UG GRO LCS	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: G64584	RunNo: 64584								
Prep Date:	Analysis Date: 11/18/2019	SeqNo: 2211909			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	106	80	120			
Surr: BFB	1100		1000		111	77.4	118			

Sample ID: 1911767-001AMS	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: S-1	Batch ID: G64584	RunNo: 64584								
Prep Date:	Analysis Date: 11/18/2019	SeqNo: 2211910			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	9800	440	2189	9062	33.3	69.1	142			S
Surr: BFB	250000		87570		289	77.4	118			S

Sample ID: 1911767-001AMSD	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: S-1	Batch ID: G64584	RunNo: 64584								
Prep Date:	Analysis Date: 11/18/2019	SeqNo: 2211911			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	9300	440	2189	9062	11.0	69.1	142	5.13	20	S
Surr: BFB	250000		87570		281	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 Quantitative 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#: 1911767

19-Nov-19

Client: ENSOLUM
Project: Lateral 2C 116

Sample ID: RB	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: B64584	RunNo: 64584								
Prep Date:	Analysis Date: 11/18/2019	SeqNo: 2211932	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	0.96		1.000		96.4	80	120			

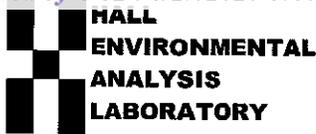
Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: B64584	RunNo: 64584								
Prep Date:	Analysis Date: 11/18/2019	SeqNo: 2211933	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	108	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	99.6	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	0.98		1.000		98.3	80	120			

Sample ID: 1911767-005AMS	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: S-5	Batch ID: B64584	RunNo: 64584								
Prep Date:	Analysis Date: 11/18/2019	SeqNo: 2211934	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	78	1.8	73.48	9.666	93.4	76	123			
Toluene	110	3.7	73.48	53.31	75.7	80.3	127			S
Ethylbenzene	79	3.7	73.48	16.05	85.7	80.2	131			
Xylenes, Total	270	7.3	220.4	93.12	79.7	78	133			
Surr: 4-Bromofluorobenzene	76		73.48		103	80	120			

Sample ID: 1911767-005AMSD	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: S-5	Batch ID: B64584	RunNo: 64584								
Prep Date:	Analysis Date: 11/18/2019	SeqNo: 2211935	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	73	1.8	73.48	9.666	85.6	76	123	7.61	20	
Toluene	100	3.7	73.48	53.31	65.8	80.3	127	6.91	20	S
Ethylbenzene	74	3.7	73.48	16.05	79.0	80.2	131	6.43	20	S
Xylenes, Total	250	7.3	220.4	93.12	72.5	78	133	6.10	20	S
Surr: 4-Bromofluorobenzene	76		73.48		104	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 Quantitative 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
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: 1911767 RcptNo: 1

Received By: Anne Thorne 11/16/2019 10:22:00 AM
Completed By: Anne Thorne 11/18/2019 7:06:19 AM
Reviewed By: [Signature] 11/18/19

[Signatures]

Chain of Custody

- 1. Is Chain of Custody complete? Yes [checked] No [] Not Present []
2. How was the sample delivered? Courier

Log In

- 3. Was an attempt made to cool the samples? Yes [checked] No [] NA []
4. Were all samples received at a temperature of >0° C to 6.0°C Yes [checked] No [] NA []
5. Sample(s) in proper container(s)? Yes [checked] No []
6. Sufficient sample volume for indicated test(s)? Yes [checked] No []
7. Are samples (except VOA and ONG) properly preserved? Yes [checked] No []
8. Was preservative added to bottles? Yes [] No [checked] NA []
9. VOA vials have zero headspace? Yes [] No [] No VOA Vials [checked]
10. Were any sample containers received broken? Yes [] No [checked]
11. Does paperwork match bottle labels? Yes [checked] No []
12. Are matrices correctly identified on Chain of Custody? Yes [checked] No []
13. Is it clear what analyses were requested? Yes [checked] No []
14. Were all holding times able to be met? Yes [checked] No []

of preserved bottles checked for pH: (<2 or >12 unless noted)
Adjusted?
Checked by: AT 11/18/19

Special Handling (if applicable)

- 15. Was client notified of all discrepancies with this order? Yes [] No [] NA [checked]

Person Notified: [] Date []
By Whom: [] Via: [] eMail [] Phone [] Fax [] In Person []
Regarding: []
Client Instructions: []

16. Additional remarks:

CUSTODY SEALS INTACT ON SOIL JARS/at 11/18/19

17. Cooler Information

Table with 7 columns: Cooler No, Temp °C, Condition, Seal Intact, Seal No, Seal Date, Signed By. Row 1: 1, 1.4, Good, Yes, [], [], []

Chain-of-Custody Record

Client: Enselum, LLC
 Mailing Address: 606 S. Rio Grande Suite A
Artec, NM 87102
 Phone #: _____

Project Manager: K Summers
 email or Fax#: ksummers@enselum.com
 QA/QC Package:
 Standard Level 4 (Full Validation)
 Accreditation: AZ Compliance
 NELAC Other
 EDD (Type) _____

Date	Time	Matrix	Sample Name	Type and #	Preservative	HEAL No.
11/15/19	1630	S	S-1	1x 4oz Per	cool	201
11/15/19	1635	S	S-2	1x 4oz Per	cool	202
11/15/19	1640	S	S-3	1x 4oz Per	cool	203
11/15/19	1645	S	S-4	1x 4oz Per	cool	204
11/15/19	1650	S	S-5	1x 4oz Per	cool	205

Turn-Around Time:
 Standard Rush 100%
 Project Name: Lateral 2C-110
 Project #: see notes

Sampler: Boerchling
 On Ice: Yes No
 # of Coolers: 1
 Cooler Temp (including ice): 20-86 = 14

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 ₂ , NO ₃ , PO ₄ , SO ₄	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					

BTEX / MTBE / TMBs (8021)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO ₂ , NO ₃ , PO ₄ , SO ₄	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					

Received by: [Signature] Date: 11/15/19 Time: 1813
 Relinquished by: [Signature]
 Received by: [Signature] Date: 11/16/19 Time: 1022
 Relinquished by: [Signature]



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

Analysis Request

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 ₂ , NO ₃ , PO ₄ , SO ₄	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					

Remarks: PM - Tom Lung (EPR05)
Pay Key - R20200
Non APE - N44342

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

December 02, 2019

Kyle Summers

ENSOLUM

606 S. Rio Grande Suite A

Aztec, NM 87410

TEL: (903) 821-5603

FAX:

RE: Lateral 2C 116

OrderNo.: 1911B71

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 11 sample(s) on 11/26/2019 for the analyses presented in the following report.

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

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a white background.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order **1911B71**

Date Reported: **12/2/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: S-6

Project: Lateral 2C 116

Collection Date: 11/25/2019 12:20:00 PM

Lab ID: 1911B71-001

Matrix: SOIL

Received Date: 11/26/2019 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	150	60		mg/Kg	20	11/26/2019 11:49:11 AM	49033
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	780	19		mg/Kg	2	11/26/2019 12:54:19 PM	49028
Motor Oil Range Organics (MRO)	270	96		mg/Kg	2	11/26/2019 12:54:19 PM	49028
Surr: DNOP	131	70-130	S	%Rec	2	11/26/2019 12:54:19 PM	49028
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	170	21		mg/Kg	5	11/26/2019 9:44:40 AM	G64783
Surr: BFB	360	77.4-118	S	%Rec	5	11/26/2019 9:44:40 AM	G64783
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	0.14	0.10		mg/Kg	5	11/26/2019 9:44:40 AM	B64783
Toluene	1.2	0.21		mg/Kg	5	11/26/2019 9:44:40 AM	B64783
Ethylbenzene	0.75	0.21		mg/Kg	5	11/26/2019 9:44:40 AM	B64783
Xylenes, Total	4.8	0.41		mg/Kg	5	11/26/2019 9:44:40 AM	B64783
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	5	11/26/2019 9:44:40 AM	B64783

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **1911B71**

Date Reported: **12/2/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: S-7

Project: Lateral 2C 116

Collection Date: 11/25/2019 12:25:00 PM

Lab ID: 1911B71-002

Matrix: SOIL

Received Date: 11/26/2019 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	150	59		mg/Kg	20	11/26/2019 12:01:31 PM	49033
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	210	9.2		mg/Kg	1	11/26/2019 1:03:27 PM	49028
Motor Oil Range Organics (MRO)	100	46		mg/Kg	1	11/26/2019 1:03:27 PM	49028
Surr: DNOP	118	70-130		%Rec	1	11/26/2019 1:03:27 PM	49028
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	18		mg/Kg	5	11/26/2019 10:07:37 AM	G64783
Surr: BFB	112	77.4-118		%Rec	5	11/26/2019 10:07:37 AM	G64783
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.089		mg/Kg	5	11/26/2019 10:07:37 AM	B64783
Toluene	ND	0.18		mg/Kg	5	11/26/2019 10:07:37 AM	B64783
Ethylbenzene	ND	0.18		mg/Kg	5	11/26/2019 10:07:37 AM	B64783
Xylenes, Total	ND	0.36		mg/Kg	5	11/26/2019 10:07:37 AM	B64783
Surr: 4-Bromofluorobenzene	95.7	80-120		%Rec	5	11/26/2019 10:07:37 AM	B64783

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **1911B71**

Date Reported: **12/2/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: S-8

Project: Lateral 2C 116

Collection Date: 11/25/2019 12:30:00 PM

Lab ID: 1911B71-003

Matrix: SOIL

Received Date: 11/26/2019 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	140	60		mg/Kg	20	11/26/2019 12:13:53 PM	49033
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	1400	96		mg/Kg	10	11/26/2019 11:14:45 AM	49028
Motor Oil Range Organics (MRO)	530	480		mg/Kg	10	11/26/2019 11:14:45 AM	49028
Surr: DNOP	0	70-130	S	%Rec	10	11/26/2019 11:14:45 AM	49028
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	180	24		mg/Kg	5	11/26/2019 10:30:34 AM	G64783
Surr: BFB	309	77.4-118	S	%Rec	5	11/26/2019 10:30:34 AM	G64783
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	0.27	0.12		mg/Kg	5	11/26/2019 10:30:34 AM	B64783
Toluene	1.5	0.24		mg/Kg	5	11/26/2019 10:30:34 AM	B64783
Ethylbenzene	0.64	0.24		mg/Kg	5	11/26/2019 10:30:34 AM	B64783
Xylenes, Total	4.0	0.47		mg/Kg	5	11/26/2019 10:30:34 AM	B64783
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	5	11/26/2019 10:30:34 AM	B64783

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **1911B71**

Date Reported: **12/2/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: S-9

Project: Lateral 2C 116

Collection Date: 11/25/2019 12:35:00 PM

Lab ID: 1911B71-004

Matrix: SOIL

Received Date: 11/26/2019 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	240	60		mg/Kg	20	11/26/2019 12:26:14 PM	49033
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	11/26/2019 11:23:59 AM	49028
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	11/26/2019 11:23:59 AM	49028
Surr: DNOP	83.3	70-130		%Rec	1	11/26/2019 11:23:59 AM	49028
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	11/26/2019 10:53:29 AM	G64783
Surr: BFB	106	77.4-118		%Rec	1	11/26/2019 10:53:29 AM	G64783
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.021		mg/Kg	1	11/26/2019 10:53:29 AM	B64783
Toluene	ND	0.042		mg/Kg	1	11/26/2019 10:53:29 AM	B64783
Ethylbenzene	ND	0.042		mg/Kg	1	11/26/2019 10:53:29 AM	B64783
Xylenes, Total	ND	0.083		mg/Kg	1	11/26/2019 10:53:29 AM	B64783
Surr: 4-Bromofluorobenzene	91.9	80-120		%Rec	1	11/26/2019 10:53:29 AM	B64783

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **1911B71**

Date Reported: **12/2/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: S-10

Project: Lateral 2C 116

Collection Date: 11/25/2019 12:40:00 PM

Lab ID: 1911B71-005

Matrix: SOIL

Received Date: 11/26/2019 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	160	60		mg/Kg	20	11/26/2019 12:38:34 PM	49033
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/26/2019 11:33:13 AM	49028
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/26/2019 11:33:13 AM	49028
Surr: DNOP	80.3	70-130		%Rec	1	11/26/2019 11:33:13 AM	49028
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	11/26/2019 11:16:24 AM	G64783
Surr: BFB	104	77.4-118		%Rec	1	11/26/2019 11:16:24 AM	G64783
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.020		mg/Kg	1	11/26/2019 11:16:24 AM	B64783
Toluene	ND	0.039		mg/Kg	1	11/26/2019 11:16:24 AM	B64783
Ethylbenzene	ND	0.039		mg/Kg	1	11/26/2019 11:16:24 AM	B64783
Xylenes, Total	ND	0.079		mg/Kg	1	11/26/2019 11:16:24 AM	B64783
Surr: 4-Bromofluorobenzene	89.3	80-120		%Rec	1	11/26/2019 11:16:24 AM	B64783

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **1911B71**

Date Reported: **12/2/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: S-11

Project: Lateral 2C 116

Collection Date: 11/25/2019 12:45:00 PM

Lab ID: 1911B71-006

Matrix: SOIL

Received Date: 11/26/2019 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	170	60		mg/Kg	20	11/26/2019 12:50:56 PM	49033
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/26/2019 11:42:29 AM	49028
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/26/2019 11:42:29 AM	49028
Surr: DNOP	98.1	70-130		%Rec	1	11/26/2019 11:42:29 AM	49028
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	11/26/2019 11:39:19 AM	G64783
Surr: BFB	105	77.4-118		%Rec	1	11/26/2019 11:39:19 AM	G64783
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.021		mg/Kg	1	11/26/2019 11:39:19 AM	B64783
Toluene	ND	0.041		mg/Kg	1	11/26/2019 11:39:19 AM	B64783
Ethylbenzene	ND	0.041		mg/Kg	1	11/26/2019 11:39:19 AM	B64783
Xylenes, Total	ND	0.083		mg/Kg	1	11/26/2019 11:39:19 AM	B64783
Surr: 4-Bromofluorobenzene	90.5	80-120		%Rec	1	11/26/2019 11:39:19 AM	B64783

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **1911B71**

Date Reported: **12/2/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: S-12

Project: Lateral 2C 116

Collection Date: 11/25/2019 12:50:00 PM

Lab ID: 1911B71-007

Matrix: SOIL

Received Date: 11/26/2019 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	140	60		mg/Kg	20	11/26/2019 1:03:17 PM	49033
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/26/2019 11:51:41 AM	49028
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/26/2019 11:51:41 AM	49028
Surr: DNOP	99.5	70-130		%Rec	1	11/26/2019 11:51:41 AM	49028
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	11/26/2019 12:02:17 PM	G64783
Surr: BFB	103	77.4-118		%Rec	1	11/26/2019 12:02:17 PM	G64783
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.018		mg/Kg	1	11/26/2019 12:02:17 PM	B64783
Toluene	ND	0.037		mg/Kg	1	11/26/2019 12:02:17 PM	B64783
Ethylbenzene	ND	0.037		mg/Kg	1	11/26/2019 12:02:17 PM	B64783
Xylenes, Total	ND	0.074		mg/Kg	1	11/26/2019 12:02:17 PM	B64783
Surr: 4-Bromofluorobenzene	88.1	80-120		%Rec	1	11/26/2019 12:02:17 PM	B64783

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **1911B71**

Date Reported: **12/2/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: S-13

Project: Lateral 2C 116

Collection Date: 11/25/2019 12:55:00 PM

Lab ID: 1911B71-008

Matrix: SOIL

Received Date: 11/26/2019 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	120	60		mg/Kg	20	11/26/2019 1:15:38 PM	49033
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	11/26/2019 12:00:54 PM	49028
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/26/2019 12:00:54 PM	49028
Surr: DNOP	109	70-130		%Rec	1	11/26/2019 12:00:54 PM	49028
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	11/26/2019 12:25:00 PM	G64783
Surr: BFB	105	77.4-118		%Rec	1	11/26/2019 12:25:00 PM	G64783
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.020		mg/Kg	1	11/26/2019 12:25:00 PM	B64783
Toluene	ND	0.041		mg/Kg	1	11/26/2019 12:25:00 PM	B64783
Ethylbenzene	ND	0.041		mg/Kg	1	11/26/2019 12:25:00 PM	B64783
Xylenes, Total	ND	0.082		mg/Kg	1	11/26/2019 12:25:00 PM	B64783
Surr: 4-Bromofluorobenzene	89.2	80-120		%Rec	1	11/26/2019 12:25:00 PM	B64783

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **1911B71**

Date Reported: **12/2/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: S-14

Project: Lateral 2C 116

Collection Date: 11/25/2019 1:00:00 PM

Lab ID: 1911B71-009

Matrix: SOIL

Received Date: 11/26/2019 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	100	60		mg/Kg	20	11/26/2019 1:52:40 PM	49033
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/26/2019 12:10:05 PM	49028
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/26/2019 12:10:05 PM	49028
Surr: DNOP	80.3	70-130		%Rec	1	11/26/2019 12:10:05 PM	49028
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	11/26/2019 12:47:55 PM	G64783
Surr: BFB	105	77.4-118		%Rec	1	11/26/2019 12:47:55 PM	G64783
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.018		mg/Kg	1	11/26/2019 12:47:55 PM	B64783
Toluene	ND	0.036		mg/Kg	1	11/26/2019 12:47:55 PM	B64783
Ethylbenzene	ND	0.036		mg/Kg	1	11/26/2019 12:47:55 PM	B64783
Xylenes, Total	ND	0.073		mg/Kg	1	11/26/2019 12:47:55 PM	B64783
Surr: 4-Bromofluorobenzene	88.8	80-120		%Rec	1	11/26/2019 12:47:55 PM	B64783

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **1911B71**

Date Reported: **12/2/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: S-15

Project: Lateral 2C 116

Collection Date: 11/25/2019 1:05:00 PM

Lab ID: 1911B71-010

Matrix: SOIL

Received Date: 11/26/2019 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	220	60		mg/Kg	20	11/26/2019 2:05:01 PM	49033
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	930	46		mg/Kg	5	11/26/2019 12:36:09 PM	49028
Motor Oil Range Organics (MRO)	280	230		mg/Kg	5	11/26/2019 12:36:09 PM	49028
Surr: DNOP	92.2	70-130		%Rec	5	11/26/2019 12:36:09 PM	49028
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	150	21		mg/Kg	5	11/26/2019 1:10:49 PM	G64783
Surr: BFB	378	77.4-118	S	%Rec	5	11/26/2019 1:10:49 PM	G64783
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.11		mg/Kg	5	11/26/2019 1:10:49 PM	B64783
Toluene	0.76	0.21		mg/Kg	5	11/26/2019 1:10:49 PM	B64783
Ethylbenzene	0.40	0.21		mg/Kg	5	11/26/2019 1:10:49 PM	B64783
Xylenes, Total	3.0	0.43		mg/Kg	5	11/26/2019 1:10:49 PM	B64783
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	5	11/26/2019 1:10:49 PM	B64783

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **1911B71**

Date Reported: **12/2/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: S-16

Project: Lateral 2C 116

Collection Date: 11/25/2019 1:10:00 PM

Lab ID: 1911B71-011

Matrix: SOIL

Received Date: 11/26/2019 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	240	60		mg/Kg	20	11/26/2019 2:17:22 PM	49033
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	1100	46		mg/Kg	5	11/26/2019 12:45:12 PM	49028
Motor Oil Range Organics (MRO)	410	230		mg/Kg	5	11/26/2019 12:45:12 PM	49028
Surr: DNOP	194	70-130	S	%Rec	5	11/26/2019 12:45:12 PM	49028
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	510	21		mg/Kg	5	11/26/2019 9:23:48 AM	49012
Surr: BFB	502	77.4-118	S	%Rec	5	11/26/2019 9:23:48 AM	49012
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	0.42	0.10		mg/Kg	5	11/26/2019 9:23:48 AM	49012
Toluene	6.7	0.21		mg/Kg	5	11/26/2019 9:23:48 AM	49012
Ethylbenzene	3.0	0.21		mg/Kg	5	11/26/2019 9:23:48 AM	49012
Xylenes, Total	16	0.42		mg/Kg	5	11/26/2019 9:23:48 AM	49012
Surr: 4-Bromofluorobenzene	126	80-120	S	%Rec	5	11/26/2019 9:23:48 AM	49012

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 Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911B71

02-Dec-19

Client: ENSOLUM
Project: Lateral 2C 116

Sample ID: MB-49033	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 49033	RunNo: 64785								
Prep Date: 11/26/2019	Analysis Date: 11/26/2019	SeqNo: 2221522	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-49033	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 49033	RunNo: 64785								
Prep Date: 11/26/2019	Analysis Date: 11/26/2019	SeqNo: 2221523	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.7	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 Quantitative 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#: 1911B71

02-Dec-19

Client: ENSOLUM
Project: Lateral 2C 116

Sample ID: LCS-49028	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 49028	RunNo: 64772								
Prep Date: 11/26/2019	Analysis Date: 11/26/2019	SeqNo: 2220198	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	106	63.9	124			
Surr: DNOP	4.8		5.000		95.6	70	130			

Sample ID: MB-49028	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 49028	RunNo: 64772								
Prep Date: 11/26/2019	Analysis Date: 11/26/2019	SeqNo: 2220199	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	8.3		10.00		82.9	70	130			

Sample ID: 1911B71-001AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: S-6	Batch ID: 49028	RunNo: 64772								
Prep Date: 11/26/2019	Analysis Date: 11/26/2019	SeqNo: 2220302	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	810	18	46.21	748.3	137	57	142			
Surr: DNOP	8.3		4.621		179	70	130			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 Quantitative 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#: 1911B71

02-Dec-19

Client: ENSOLUM
Project: Lateral 2C 116

Sample ID: RB	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: G64783	RunNo: 64783								
Prep Date:	Analysis Date: 11/26/2019	SeqNo: 2220677	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		105	77.4	118			

Sample ID: 2.5UG GRO LCSB	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: G64783	RunNo: 64783								
Prep Date:	Analysis Date: 11/26/2019	SeqNo: 2220678	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	1300		1000		128	77.4	118			S

Sample ID: 1911B71-001AMS	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: S-6	Batch ID: G64783	RunNo: 64783								
Prep Date:	Analysis Date: 11/27/2019	SeqNo: 2220679	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	260	21	102.6	166.6	93.4	69.1	142			
Surr: BFB	14000		4105		347	77.4	118			S

Sample ID: 1911B71-001AMSD	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: S-6	Batch ID: G64783	RunNo: 64783								
Prep Date:	Analysis Date: 11/27/2019	SeqNo: 2220680	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	260	21	102.6	166.6	88.0	69.1	142	2.12	20	
Surr: BFB	14000		4105		333	77.4	118	0	0	S

Sample ID: MB-49012	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 49012	RunNo: 64782								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2220741	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		107	77.4	118			

Sample ID: LCS-49012	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 49012	RunNo: 64782								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2220742	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative 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#: 1911B71

02-Dec-19

Client: ENSOLUM
Project: Lateral 2C 116

Sample ID: LCS-49012	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 49012	RunNo: 64782								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2220742			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	106	80	120			
Surr: BFB	1300		1000		126	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 Quantitative 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#: 1911B71

02-Dec-19

Client: ENSOLUM
Project: Lateral 2C 116

Sample ID: RB	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: B64783	RunNo: 64783								
Prep Date:	Analysis Date: 11/26/2019	SeqNo: 2220709	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	0.92		1.000		92.5	80	120			

Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: B64783	RunNo: 64783								
Prep Date:	Analysis Date: 11/26/2019	SeqNo: 2220710	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.0	80	120			
Toluene	0.86	0.050	1.000	0	85.8	80	120			
Ethylbenzene	0.86	0.050	1.000	0	85.7	80	120			
Xylenes, Total	2.6	0.10	3.000	0	86.2	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID: 1911B71-002AMS	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: S-7	Batch ID: B64783	RunNo: 64783								
Prep Date:	Analysis Date: 11/27/2019	SeqNo: 2220711	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	3.4	0.089	3.569	0.03701	93.4	76	123			
Toluene	3.2	0.18	3.569	0.03087	89.0	80.3	127			
Ethylbenzene	3.1	0.18	3.569	0.04029	85.9	80.2	131			
Xylenes, Total	9.2	0.36	10.71	0.1119	84.6	78	133			
Surr: 4-Bromofluorobenzene	3.4		3.569		95.1	80	120			

Sample ID: 1911B71-002AMSD	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: S-7	Batch ID: B64783	RunNo: 64783								
Prep Date:	Analysis Date: 11/27/2019	SeqNo: 2220712	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	3.3	0.089	3.569	0.03701	91.3	76	123	2.20	20	
Toluene	3.1	0.18	3.569	0.03087	85.8	80.3	127	3.59	20	
Ethylbenzene	3.1	0.18	3.569	0.04029	84.9	80.2	131	1.17	20	
Xylenes, Total	9.0	0.36	10.71	0.1119	82.9	78	133	1.95	20	
Surr: 4-Bromofluorobenzene	3.3		3.569		91.5	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 Quantitative 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#: 1911B71

02-Dec-19

Client: ENSOLUM
Project: Lateral 2C 116

Sample ID: MB-49012	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 49012	RunNo: 64782								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2220768	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120			

Sample ID: LCS-49012	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 49012	RunNo: 64782								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2220769	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	94.9	80	120			
Toluene	0.96	0.050	1.000	0	96.2	80	120			
Ethylbenzene	0.97	0.050	1.000	0	96.6	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.5	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	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 Quantitative 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
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: 1911B71

RcptNo: 1

Received By: Anne Thorne

11/26/2019 7:50:00 AM

[Signature]

Completed By: Anne Thorne

11/26/2019 8:02:14 AM

[Signature]

Reviewed By: ENM

11/26/19

Chain of Custody

1. Is Chain of Custody complete? Yes [checked] No [] Not Present []

2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes [checked] No [] NA []

4. Were all samples received at a temperature of >0° C to 6.0°C Yes [checked] No [] NA []

5. Sample(s) in proper container(s)? Yes [checked] No []

6. Sufficient sample volume for indicated test(s)? Yes [checked] No []

7. Are samples (except VOA and ONG) properly preserved? Yes [checked] No []

8. Was preservative added to bottles? Yes [] No [checked] NA []

9. VOA vials have zero headspace? Yes [] No [] No VOA Vials [checked]

10. Were any sample containers received broken? Yes [] No [checked]

11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes [checked] No []

12. Are matrices correctly identified on Chain of Custody? Yes [checked] No []

13. Is it clear what analyses were requested? Yes [checked] No []

14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes [checked] No []

of preserved bottles checked for pH: (<2 or >12 unless noted) Adjusted? Checked by: [Signature]

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes [] No [] NA [checked]

Person Notified: [] Date: [] By Whom: [] Via: [] eMail [] Phone [] Fax [] In Person [] Regarding: [] Client Instructions: []

16. Additional remarks:

CUSTODY SEALS INTACT ON SOIL JARS/at 11/26/19

17. Cooler Information

Table with 7 columns: Cooler No, Temp °C, Condition, Seal Intact, Seal No, Seal Date, Signed By. Row 1: 1, 1.0, Good, Yes, [], [], []



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

December 05, 2019

Kyle Summers

ENSOLUM

606 S. Rio Grande Suite A

Aztec, NM 87410

TEL: (903) 821-5603

FAX

RE: Lateral 2C 116

OrderNo.: 1912108

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 7 sample(s) on 12/4/2019 for the analyses presented in the following report.

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

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order **1912108**

Date Reported: **12/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: S-17

Project: Lateral 2C 116

Collection Date: 12/3/2019 2:00:00 PM

Lab ID: 1912108-001

Matrix: MEOH (SOIL) **Received Date:** 12/4/2019 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	88	60		mg/Kg	20	12/4/2019 10:14:22 AM	49141
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	71	9.8		mg/Kg	1	12/4/2019 11:38:24 AM	49137
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/4/2019 11:38:24 AM	49137
Surr: DNOP	95.8	70-130		%Rec	1	12/4/2019 11:38:24 AM	49137
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	18		mg/Kg	5	12/4/2019 9:28:03 AM	G64924
Surr: BFB	94.3	77.4-118		%Rec	5	12/4/2019 9:28:03 AM	G64924
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.088		mg/Kg	5	12/4/2019 9:28:03 AM	B64924
Toluene	ND	0.18		mg/Kg	5	12/4/2019 9:28:03 AM	B64924
Ethylbenzene	ND	0.18		mg/Kg	5	12/4/2019 9:28:03 AM	B64924
Xylenes, Total	ND	0.35		mg/Kg	5	12/4/2019 9:28:03 AM	B64924
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	5	12/4/2019 9:28:03 AM	B64924

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **1912108**

Date Reported: **12/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: S-18

Project: Lateral 2C 116

Collection Date: 12/3/2019 2:05:00 PM

Lab ID: 1912108-002

Matrix: MEOH (SOIL)

Received Date: 12/4/2019 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	100	59		mg/Kg	20	12/4/2019 10:26:44 AM	49141
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	73	9.5		mg/Kg	1	12/4/2019 1:07:49 PM	49137
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/4/2019 1:07:49 PM	49137
Surr: DNOP	120	70-130		%Rec	1	12/4/2019 1:07:49 PM	49137
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	20		mg/Kg	5	12/4/2019 9:50:59 AM	G64924
Surr: BFB	89.3	77.4-118		%Rec	5	12/4/2019 9:50:59 AM	G64924
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.10		mg/Kg	5	12/4/2019 9:50:59 AM	B64924
Toluene	ND	0.20		mg/Kg	5	12/4/2019 9:50:59 AM	B64924
Ethylbenzene	ND	0.20		mg/Kg	5	12/4/2019 9:50:59 AM	B64924
Xylenes, Total	ND	0.41		mg/Kg	5	12/4/2019 9:50:59 AM	B64924
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	5	12/4/2019 9:50:59 AM	B64924

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **1912108**

Date Reported: **12/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: S-19

Project: Lateral 2C 116

Collection Date: 12/3/2019 2:10:00 PM

Lab ID: 1912108-003

Matrix: MEOH (SOIL)

Received Date: 12/4/2019 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	200	60		mg/Kg	20	12/4/2019 10:39:06 AM	49141
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	15	9.7		mg/Kg	1	12/4/2019 1:16:46 PM	49137
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/4/2019 1:16:46 PM	49137
Surr: DNOP	95.6	70-130		%Rec	1	12/4/2019 1:16:46 PM	49137
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	21		mg/Kg	5	12/4/2019 10:13:51 AM	G64924
Surr: BFB	82.9	77.4-118		%Rec	5	12/4/2019 10:13:51 AM	G64924
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.10		mg/Kg	5	12/4/2019 10:13:51 AM	B64924
Toluene	ND	0.21		mg/Kg	5	12/4/2019 10:13:51 AM	B64924
Ethylbenzene	ND	0.21		mg/Kg	5	12/4/2019 10:13:51 AM	B64924
Xylenes, Total	ND	0.42		mg/Kg	5	12/4/2019 10:13:51 AM	B64924
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	5	12/4/2019 10:13:51 AM	B64924

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **1912108**

Date Reported: **12/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: S-20

Project: Lateral 2C 116

Collection Date: 12/3/2019 2:15:00 PM

Lab ID: 1912108-004

Matrix: MEOH (SOIL)

Received Date: 12/4/2019 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	12/4/2019 10:51:27 AM	49141
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	110	9.6		mg/Kg	1	12/4/2019 1:48:36 PM	49137
Motor Oil Range Organics (MRO)	55	48		mg/Kg	1	12/4/2019 1:48:36 PM	49137
Surr: DNOP	98.7	70-130		%Rec	1	12/4/2019 1:48:36 PM	49137
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	22		mg/Kg	5	12/4/2019 10:36:47 AM	G64924
Surr: BFB	93.8	77.4-118		%Rec	5	12/4/2019 10:36:47 AM	G64924
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.11		mg/Kg	5	12/4/2019 10:36:47 AM	B64924
Toluene	ND	0.22		mg/Kg	5	12/4/2019 10:36:47 AM	B64924
Ethylbenzene	ND	0.22		mg/Kg	5	12/4/2019 10:36:47 AM	B64924
Xylenes, Total	ND	0.43		mg/Kg	5	12/4/2019 10:36:47 AM	B64924
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	5	12/4/2019 10:36:47 AM	B64924

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **1912108**

Date Reported: **12/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: S-21

Project: Lateral 2C 116

Collection Date: 12/3/2019 4:00:00 PM

Lab ID: 1912108-005

Matrix: MEOH (SOIL)

Received Date: 12/4/2019 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	180	60		mg/Kg	20	12/4/2019 11:03:47 AM	49141
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	180	9.4		mg/Kg	1	12/4/2019 1:57:32 PM	49137
Motor Oil Range Organics (MRO)	56	47		mg/Kg	1	12/4/2019 1:57:32 PM	49137
Surr: DNOP	110	70-130		%Rec	1	12/4/2019 1:57:32 PM	49137
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	300	21		mg/Kg	5	12/4/2019 10:59:47 AM	G64924
Surr: BFB	303	77.4-118	S	%Rec	5	12/4/2019 10:59:47 AM	G64924
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	1.0	0.10		mg/Kg	5	12/4/2019 10:59:47 AM	B64924
Toluene	4.9	0.21		mg/Kg	5	12/4/2019 10:59:47 AM	B64924
Ethylbenzene	1.3	0.21		mg/Kg	5	12/4/2019 10:59:47 AM	B64924
Xylenes, Total	7.0	0.42		mg/Kg	5	12/4/2019 10:59:47 AM	B64924
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	5	12/4/2019 10:59:47 AM	B64924

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **1912108**

Date Reported: **12/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: S-22

Project: Lateral 2C 116

Collection Date: 12/3/2019 4:05:00 PM

Lab ID: 1912108-006

Matrix: MEOH (SOIL) **Received Date:** 12/4/2019 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	200	60		mg/Kg	20	12/4/2019 11:16:09 AM	49141
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	12/4/2019 2:06:36 PM	49137
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/4/2019 2:06:36 PM	49137
Surr: DNOP	90.5	70-130		%Rec	1	12/4/2019 2:06:36 PM	49137
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	20		mg/Kg	5	12/4/2019 11:45:47 AM	G64924
Surr: BFB	83.8	77.4-118		%Rec	5	12/4/2019 11:45:47 AM	G64924
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.10		mg/Kg	5	12/4/2019 11:45:47 AM	B64924
Toluene	ND	0.20		mg/Kg	5	12/4/2019 11:45:47 AM	B64924
Ethylbenzene	ND	0.20		mg/Kg	5	12/4/2019 11:45:47 AM	B64924
Xylenes, Total	ND	0.41		mg/Kg	5	12/4/2019 11:45:47 AM	B64924
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	5	12/4/2019 11:45:47 AM	B64924

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order **1912108**

Date Reported: **12/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM

Client Sample ID: S-23

Project: Lateral 2C 116

Collection Date: 12/3/2019 4:10:00 PM

Lab ID: 1912108-007

Matrix: MEOH (SOIL) **Received Date:** 12/4/2019 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	200	60		mg/Kg	20	12/4/2019 11:28:30 AM	49141
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	16	9.4		mg/Kg	1	12/4/2019 2:15:40 PM	49137
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/4/2019 2:15:40 PM	49137
Surr: DNOP	88.6	70-130		%Rec	1	12/4/2019 2:15:40 PM	49137
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	20		mg/Kg	5	12/4/2019 12:08:54 PM	G64924
Surr: BFB	85.3	77.4-118		%Rec	5	12/4/2019 12:08:54 PM	G64924
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.10		mg/Kg	5	12/4/2019 12:08:54 PM	B64924
Toluene	ND	0.20		mg/Kg	5	12/4/2019 12:08:54 PM	B64924
Ethylbenzene	ND	0.20		mg/Kg	5	12/4/2019 12:08:54 PM	B64924
Xylenes, Total	ND	0.41		mg/Kg	5	12/4/2019 12:08:54 PM	B64924
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	5	12/4/2019 12:08:54 PM	B64924

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912108

05-Dec-19

Client: ENSOLUM
Project: Lateral 2C 116

Sample ID: MB-49141	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 49141	RunNo: 64920								
Prep Date: 12/4/2019	Analysis Date: 12/4/2019	SeqNo: 2227342	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-49141	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 49141	RunNo: 64920								
Prep Date: 12/4/2019	Analysis Date: 12/4/2019	SeqNo: 2227343	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.6	90	110			

Sample ID: MB-49141	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 49141	RunNo: 64921								
Prep Date: 12/4/2019	Analysis Date: 12/4/2019	SeqNo: 2227377	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-49141	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 49141	RunNo: 64921								
Prep Date: 12/4/2019	Analysis Date: 12/4/2019	SeqNo: 2227379	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.9	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 Quantitative 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#: 1912108

05-Dec-19

Client: ENSOLUM
Project: Lateral 2C 116

Sample ID: LCS-49137	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 49137	RunNo: 64915								
Prep Date: 12/4/2019	Analysis Date: 12/4/2019	SeqNo: 2226144	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.3	63.9	124			
Surr: DNOP	4.0		5.000		79.3	70	130			

Sample ID: MB-49137	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 49137	RunNo: 64915								
Prep Date: 12/4/2019	Analysis Date: 12/4/2019	SeqNo: 2226145	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	8.2		10.00		81.6	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 Quantitative 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#: 1912108

05-Dec-19

Client: ENSOLUM
Project: Lateral 2C 116

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: G64924	RunNo: 64924								
Prep Date:	Analysis Date: 12/4/2019	SeqNo: 2227062	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	840		1000		83.6	77.4	118			

Sample ID: 2.5ug gro lcs	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: G64924	RunNo: 64924								
Prep Date:	Analysis Date: 12/4/2019	SeqNo: 2227063	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	101	80	120			
Surr: BFB	1000		1000		101	77.4	118			

Sample ID: 1912108-001ams	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: S-17	Batch ID: G64924	RunNo: 64924								
Prep Date:	Analysis Date: 12/4/2019	SeqNo: 2227064	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	87	18	88.09	0	98.6	69.1	142			
Surr: BFB	3600		3524		102	77.4	118			

Sample ID: 1912108-001amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: S-17	Batch ID: G64924	RunNo: 64924								
Prep Date:	Analysis Date: 12/4/2019	SeqNo: 2227065	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	82	18	88.09	0	93.4	69.1	142	5.46	20	
Surr: BFB	3400		3524		96.6	77.4	118	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 Quantitative 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#: 1912108

05-Dec-19

Client: ENSOLUM
Project: Lateral 2C 116

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: B64924	RunNo: 64924								
Prep Date:	Analysis Date: 12/4/2019	SeqNo: 2227068	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: B64924	RunNo: 64924								
Prep Date:	Analysis Date: 12/4/2019	SeqNo: 2227069	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	96.5	80	120			
Toluene	0.96	0.050	1.000	0	96.0	80	120			
Ethylbenzene	0.96	0.050	1.000	0	95.5	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.3	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		105	80	120			

Sample ID: 1912108-002ams	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: S-18	Batch ID: B64924	RunNo: 64924								
Prep Date:	Analysis Date: 12/4/2019	SeqNo: 2227070	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4.0	0.10	4.095	0.03006	97.4	76	123			
Toluene	4.0	0.20	4.095	0.04808	97.4	80.3	127			
Ethylbenzene	4.0	0.20	4.095	0.04386	97.6	80.2	131			
Xylenes, Total	12	0.41	12.28	0.1475	98.2	78	133			
Surr: 4-Bromofluorobenzene	4.4		4.095		107	80	120			

Sample ID: 1912108-002amsd	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: S-18	Batch ID: B64924	RunNo: 64924								
Prep Date:	Analysis Date: 12/4/2019	SeqNo: 2227071	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	3.9	0.10	4.095	0.03006	94.3	76	123	3.19	20	
Toluene	3.9	0.20	4.095	0.04808	94.0	80.3	127	3.48	20	
Ethylbenzene	3.9	0.20	4.095	0.04386	94.6	80.2	131	3.12	20	
Xylenes, Total	12	0.41	12.28	0.1475	95.2	78	133	3.16	20	
Surr: 4-Bromofluorobenzene	4.3		4.095		104	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 Quantitative 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
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: 1912108

RcptNo: 1

Received By: Juan Rojas 12/4/2019 8:15:00 AM

Completed By: Erin Melendrez 12/4/2019 8:34:01 AM

Reviewed By: DM 12/4/19

Handwritten initials

Chain of Custody

- 1. Is Chain of Custody sufficiently complete? Yes [checked] No [] Not Present []
2. How was the sample delivered? Courier

Log In

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

of preserved bottles checked for pH: (<2 or >12 unless noted)
Adjusted?
Checked by: ENM 12/4/19

Special Handling (if applicable)

- 15. Was client notified of all discrepancies with this order? Yes [] No [] NA [checked]

Person Notified: [] Date: []
By Whom: [] Via: [] eMail [] Phone [] Fax [] In Person []
Regarding: []
Client Instructions: []

16. Additional remarks:

17. Cooler Information

Table with 7 columns: Cooler No, Temp °C, Condition, Seal Intact, Seal No, Seal Date, Signed By. Contains 2 rows of data.

Chain-of-Custody Record

Client: Ensolumental
 Mailing Address: 606 S. Rio Grande Street
Aztec, NM 87100
 Phone #: _____

email or Fax#: Ysummers@ensolum.com
 QA/QC Package:
 Standard Level 4 (Full Validation)
 Accreditation: AZ Compliance
 NELAC Other _____
 EDD (Type) _____

Date	Time	Matrix	Sample Name
12/3/19	1400	S	S-17
12/3/19	1405	S	S-18
12/3/19	1410	S	S-19
12/3/19	1415	S	S-20
12/3/19	1600	S	S-21
12/3/19	1605	S	S-22
12/3/19	1610	S	S-23

Relinquished by: [Signature] Date: 12/3/19 Time: 1841
 Relinquished by: [Signature] Date: 12/3/19 Time: 1907

Turn-Around Time:
 Standard Rush 100%
 Project Name: Lateral 2C-116
 Project #: See notes

Project Manager: ksummers
 Sampler: RDeeehilly
 On Ice: Yes No
 # of Coolers: 2

Cooler Temp (including CF): 3.8 to 3.4
 Container Type and #
 Preservative Type
 HEAL No.
1x 4oz Jar 1001 -001
1x 4oz Jar 1004 -002
1x 4oz Jar 1002 -003
1x 4oz Jar 1001 -004
1x 4oz Jar 1001 -005
1x 4oz Jar 1001 -006
1x 4oz Jar 1001 -007

Received by: [Signature] Date: 12/3/19 Time: 1841
 Received by: [Signature] Date: 12/4/19 Time: 8:15

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Analysis Request

Analysis Request	Response
BTX / MTBE / TMBs (8021)	X
TPH:8015D(GRO / DRO / MRO)	X
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)	<u>Childs</u>

Remarks: SAME DAY
PM - Tom Long (EPRD)
Pay Key - EB21200
NUMAPE - N44342



APPENDIX G

Regulatory Correspondence

From: [Long, Thomas](#)
To: [EMNRD Smith Cory](#); kwchristesen@blm.gov
Cc: [Stone, Brian](#)
Subject: Fwd: Lateral 2C-116 - UL M Section 12 T24N R7W; 36.323769, -107.532816
Date: Friday, November 22, 2019 1:18:35 PM

Cory/Kenneth,

This email is to notify you that Enterprise will be collecting soil samples for laboratory analysis at the Lateral 2C-116 excavation on Monday, November 25, 2019 at 10:30 am. If you have any questions, please call or email.

Tom Long

Begin forwarded message:

From: "Long, Thomas" <tjlong@eprod.com>
Date: November 21, 2019 at 8:36:00 AM MST
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: FW: Lateral 2C-116 - UL M Section 12 T24N R7W; 36.323769, -107.532816

Cory/Kenneth,

This email is to notify you that Enterprise will be postponing sampling due to weather until further notice. If you have any questions, please call or email.

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



From: Long, Thomas

Sent: Tuesday, November 19, 2019 9:23 AM
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: FW: Lateral 2C-116 - UL M Section 12 T24N R7W; 36.323769, -107.532816

Cory/Kenneth,

This email is to notify you that Enterprise will be collecting soil samples for laboratory analysis on Thursday, November 21, 2019 at 2:00 pm. If you have any questions, please call or email.

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



From: Long, Thomas
Sent: Monday, November 18, 2019 3:22 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: FW: Lateral 2C-116 - UL M Section 12 T24N R7W; 36.323769, -107.532816

Cory/Kenneth,

Enterprise has determined this release reportable due the volume of impacted subsurface soil. I will keep you informed as to when we will be collecting soil samples for laboratory analysis. If you have any questions, please call or email.

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



From: Long, Thomas
Sent: Tuesday, November 12, 2019 1:02 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 2C-116 - UL M Section 12 T24N R7W; 36.323769, -107.532816

Cory/Kenneth,

This email is a courtesy notification that Enterprise had a release of natural gas and condensate on the Lateral 2C-116 pipeline today. Enterprise has not yet determined this release reportable per NMOCD regulation. No washes were affected. An area of approximately three feet in diameter and a flow path of approximately six feet was affected by the released fluids. The pipeline was isolated, depressurized, locked out and tagged out. The release site is located at UL M Section 12 T24N R7W; 36.323769, -107.532816. I will keep you informed as to the reporting status. 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



District I
 1625 N. French Dr., Hobbs, NM 88240
 Phone:(575) 393-6161 Fax:(575) 393-0720

District II
 811 S. First St., Artesia, NM 88210
 Phone:(575) 748-1283 Fax:(575) 748-9720

District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV
 1220 S. St Francis Dr., Santa Fe, NM 87505
 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS
 Action 9772

CONDITIONS

Operator: Enterprise Field Services, LLC PO Box 4324 Houston, TX 77210	OGRID: 241602
	Action Number: 9772
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvez	None	3/25/2022