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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: **Enterprise Field Services, LLC**	OGRID: **241602**
Contact Name: **Thomas Long**	Contact Telephone: **505-599-2286**
Contact email:**tjlong@eprod.com**	Incident # *(assigned by OCD)* **nAPP2305944258**
Contact mailing address: **614 Reilly Ave, Farmington, NM 87401**	

Location of Release Source

Latitude **36.59961** Longitude **-107.71999** *(NAD 83 in decimal degrees to 5 decimal places)*

Site Name **Lateral K-17**	Site Type **Natural Gas Gathering Pipeline**
Date Release Discovered: **02/22/2023**	Serial Number *(if applicable)*: **N/A**

Unit Letter	Section	Township	Range	County
O	**6**	**27N**	**8W**	**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)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☒ Condensate	Volume Released (bbls): **Estimated 10 BBLs**	Volume Recovered (bbls): **None**
☒ Natural Gas	Volume Released (Mcf): **52.4 MCF**	Volume Recovered (Mcf): **None**
☐ Other (describe)	Volume/Weight Released (provide units):	Volume/Weight Recovered (provide units)

Cause of Release: On February 21, 2023, Enterprise had a release of natural gas and natural gas liquids from the Lateral K-17 pipeline. The pipeline was isolated, depressurized, locked and tagged out. No fire nor injuries occurred. Repairs and remediation began on February 28, 2023, at which time Enterprise determined the release reportable per NMOCD regulation, due to the volume of impacted subsurface soil. Remediation and repairs were completed on March 7, 2023. The final excavation dimensions measured approximately fifteen (15) feet long by fifteen (15) feet wide by twenty-two (22) feet deep. A total of 300 cubic yards of hydrocarbon impacted soil was excavated and transported to a New Mexico Oil Conservation Division (NMOCD) approved land farm. A third party closure report is included with this "Final" C-141.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Thomas Long Title: Senior Environmental Scientist

Signature: Thomas Long Date: 6-13-2023

email: tjlong@eprod.com Telephone: (505) 599-2286

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: Nelson Velez Date: 06/13/2023

Printed Name: Nelson Velez Title: Environmental Specialist - Adv

ENSOLUM

CLOSURE REPORT

Property:

Lateral K-17 (02/28/23)
Unit Letter O, S20 T27N R8W
San Juan County, New Mexico

New Mexico EMNRD OCD Incident ID No. NAPP2305944258

June 8, 2023

Ensolum Project No. 05A1226230

Prepared for:

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

Prepared by:

Chad D'Aponti
Project Scientist

Kyle Summers
Senior Managing Geologist

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LIST OF APPENDICES

1.0 INTRODUCTION

1.1 Site Description & Background

Operator:	Enterprise Field Services, LLC / Enterprise Products Operating LLC (Enterprise)
Site Name:	Lateral K-17 (02/28/23) (Site)
NM EMNRD OCD Incident ID No.	NAPP2305944258
Location:	36.558486° North, 107.707610° West Unit Letter O, Section 20, Township 27 North, Range 8 West San Juan County, New Mexico
Property:	United States Bureau of Land Management (BLM)
Regulatory:	New Mexico (NM) Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD)

On February 21, 2023, Enterprise discovered a potential release on the Lateral K-17 pipeline. Enterprise personnel subsequently isolated and locked the pipeline out of service. On February 28, 2023, Enterprise initiated activities to repair the pipeline and remediate potential petroleum hydrocarbon impact. In addition, Enterprise determined the release was "reportable" due to the estimated volume of impacted soil. The NM EMNRD OCD was subsequently notified.

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 NM EMNRD OCD closure criteria.

2.0 CLOSURE CRITERIA

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. Ensolum, LLC (Ensolum) referenced 19.15.29 New Mexico Administrative Code (NMAC), which establishes investigation and abatement action requirements for oil and gas release sites that are subject to reporting and/or corrective action, during the evaluation and remediation of the Site. The appropriate closure criteria for sites are determined using the siting requirements outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC. Ensolum utilized the general site characteristics and information available from NM state agency databases and federal agency geospatial databases to determine the appropriate closure criteria for the Site. Supporting figures and documentation associated with the following Siting bullets are provided in **Appendix B**.

- The NM Office of the State Engineer (OSE) tracks the usage and assignment of water rights and water well installations and records this information in the Water Rights Reporting System (WRRS) database. Water wells and other points of diversion (PODs) are each assigned POD numbers in the database (which is searchable and includes an interactive map). No PODs were identified in the same Public Land Survey System (PLSS) section as the Site or in the adjacent PLSS sections (**Figure A**, **Appendix B**).

- No cathodic protection wells (CPWs) were identified in the NM EMNRD OCD imaging database in the same PLSS section as the Site, and no CPWs were identified in the adjacent PLSS sections **Figure B** (**Appendix B**).

- The Site is not located within 300 feet of a NM EMNRD OCD-defined continuously flowing watercourse or significant watercourse (**Figure C**, **Appendix B**).
- 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 (**Figure D**, **Appendix B**).
- No springs, or private domestic freshwater wells used by less than five households for domestic or stock watering purposes were identified within 500 feet of the Site (**Figure E**, **Appendix B**).
- No freshwater wells or springs were identified within 1,000 feet of the Site (**Figure E**, **Appendix B**).
- 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 New Mexico Statutes Annotated (NMSA) 1978, Section 3-27-3.
- Based on information identified in the U.S. Fish & Wildlife Service National Wetlands Inventory Wetlands Mapper, the Site is not within 300 feet of a wetland (**Figure F**, **Appendix B**).
- Based on information identified in the NM Mining and Minerals Division's Geographic Information System (GIS) Maps and Mine Data database, the Site is not within an area overlying a subsurface mine (**Figure G**, **Appendix B**).
- The Site is not located within an unstable area per Paragraph (6) of Subsection U of 19.15.2.7 NMAC.
- Based on information provided by the Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL) geospatial database, the Site is not within a 100-year floodplain (**Figure H**, **Appendix B**).

Based on available information Enterprise estimates the depth to water at the Site to be greater than 50 feet bgs, resulting in a Tier II ranking. However, the soil requirements of NMAC 19.15.29.13(D)(1) indicate that a minimum of the upper four feet must contain "uncontaminated" soil and that the soils meet Tier I closure criteria listed in Table 1 of NMAC 19.15.29.12. Applicable closure criteria for Tier I soils and Tier II soils (below four feet) remaining in place at the Site include:

Tier II Closure Criteria for Soils Impacted by a Release		
Constituent[1]	**Method**	**Limit**
Chloride	EPA 300.0 or SM4500 Cl B	10,000 mg/kg
TPH (GRO+DRO+MRO)[2]	EPA SW-846 Method 8015	2,500 mg/kg
TPH (GRO+DRO)	EPA SW-846 Method 8015	1,000 mg/kg
BTEX[3]	EPA SW-846 Method 8021 or 8260	50 mg/kg
Benzene	EPA SW-846 Method 8021 or 8260	10 mg/kg

[1] – Constituent concentrations are in milligrams per kilogram (mg/kg).
[2] – Total Petroleum Hydrocarbons (TPH). Gasoline Range Organics (GRO). Diesel Range Organics (DRO). Motor Oil/Lube Oil Range Organics (MRO).
[3] – Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX).

Tier I Closure Criteria for Soils Impacted by a Release		
Constituent[1]	**Method**	**Limit**
Chloride	EPA 300.0 or SM4500 Cl B	600 mg/kg
TPH (GRO+DRO+MRO)[2]	EPA SW-846 Method 8015	100 mg/kg
BTEX[3]	EPA SW-846 Method 8021 or 8260	50 mg/kg
Benzene	EPA SW-846 Method 8021 or 8260	10 mg/kg

[1] – Constituent concentrations are in milligrams per kilogram (mg/kg).
[2] – Total Petroleum Hydrocarbons (TPH). Gasoline Range Organics (GRO). Diesel Range Organics (DRO). Motor Oil/Lube Oil Range Organics (MRO).
[3] – Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX).

3.0 SOIL REMEDIATION ACTIVITIES

On February 28, 2023, Enterprise initiated activities to repair the pipeline and remediate petroleum hydrocarbon impact resulting from the release. During the remediation and corrective action activities, Sunland Construction, Inc, provided heavy equipment and labor support, while Ensolum provided environmental consulting support.

The final excavation measured approximately 15 feet long and 15 feet wide at the maximum extents. The maximum depth of the excavation measured approximately 22 feet bgs. The lithology encountered during the completion of remediation activities consisted primarily of silty sand underlain by sandstone.

Approximately 300 cubic yards (yd^3) of petroleum hydrocarbon-affected soils were transported to the Envirotech, Inc., (Envirotech) landfarm near Hilltop, NM for disposal/remediation. The executed C-138 solid waste acceptance form is provided in **Appendix C**. The excavation was backfilled with imported fill and then contoured to the surrounding topography.

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

4.0 SOIL SAMPLING PROGRAM

Ensolum field screened 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 six composite soil samples (S-1a and S-1 through S-5) from the excavation for laboratory analysis. The composite samples were comprised of five aliquots each and represent an estimated 200 square foot (ft^2) sample area or less per guidelines outlined in Section D of 19.15.29.12 NMAC. The excavator bucket was utilized to obtain fresh aliquots from each area of the excavation. Regulatory correspondence is provided in **Appendix E**.

First Sampling Event

On March 1, 2023, sampling was performed at the Site. The NM EMNRD OCD was notified of the sampling event although no representative was present during sampling activities. Composite soil sample S-1 (13') was collected from the floor of the excavation. Composite soil samples S-2 (0' to 13'), S-3 (0' to 13'), S-4 (0' to 13'), and S-5 (0' to 13') were collected from the walls of the excavation. Subsequent soil analytical results identified total BTEX, and TPH concentrations that exceeded the NM EMNRD OCD closure criteria for composite soil sample S-1.

Second Sampling Event

In response to the exceedances of composite sample S-1 during the first sampling event, the excavation was deepened. The impacted soils were removed by excavation and transported to the landfarm for disposal/remediation. On March 7, 2023, a second sampling event was performed at the Site. The NM EMNRD OCD was notified of the sampling event although no representative was present during sampling activities. Composite soil sample S-1a (22') was collected from the floor of the excavation to replace composite soil sample S-1.

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

5.0 SOIL LABORATORY ANALYTICAL METHODS

The composite soil samples were analyzed for BTEX using Environmental Protection Agency (EPA) SW-846 Method 8021; TPH GRO/DRO/MRO using EPA SW-846 Method 8015; and chlorides using EPA Method 300.0.

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

6.0 SOIL DATA EVALUATION

Ensolum compared the benzene, BTEX, TPH, and chloride laboratory analytical results or laboratory practical quantitation limits (PQLs) / reporting limits (RLs) associated with the composite soil samples (S-1a and S-2 through S-5) to the applicable NM EMNRD OCD closure criteria. The soil associated with composite soil sample S-1 was removed from the Site, and therefore, is not included in the following discussion. The laboratory analytical results are summarized in **Table 1** (**Appendix F**).

- The laboratory analytical results for all 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 NM EMNRD OCD closure criteria of 10 mg/kg.

- The laboratory analytical results for composite soil samples S-2, S-3, S-4, and S-5 indicate total BTEX concentrations of 0.13 mg/kg (for each sample), which are less than the New Mexico EMNRD OCD closure criteria of 50 mg/kg. The laboratory analytical results for composite soil sample S-1a indicate total BTEX is not present at concentrations greater than the laboratory PQLs/RLs, which are less than the NM EMNRD OCD closure criteria of 50 mg/kg.

- The laboratory analytical results for composite soil sample S-3 indicates a combined TPH GRO/DRO concentration of 17 mg/kg, which is less than the New Mexico EMNRD OCD closure criteria of 100 mg/kg or 1,000 mg/kg (depending on the depth of the represented soil). The laboratory analytical results for all other 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 New Mexico EMNRD OCD closure criteria of 100 mg/kg or 1,000 mg/kg (depending on the depth of the represented soil).

- The laboratory analytical results for composite soil sample S-3 indicates a combined TPH GRO/DRO/MRO concentration of 17 mg/kg, which is less than the New Mexico EMNRD OCD

closure criteria of 100 mg/kg or 2,500 mg/kg (depending on the depth of the represented soil). The laboratory analytical results for all other 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 New Mexico EMNRD OCD closure criteria of 100 mg/kg or 2,500 mg/kg (depending on the depth of the represented soil).

- The laboratory analytical results for composite soil samples S-2, S-4, and S-5 indicate chloride concentrations of 130 mg/kg, 120 mg/kg, and 120 mg/kg, respectively, which are less than the New Mexico EMNRD OCD closure criteria of 600 mg/kg or 10,000 mg/kg (depending on the depth of the represented soil). The laboratory analytical results for all composite soil samples collected from soils remaining at the Site indicate chloride is not present at concentrations greater than the laboratory PQLs/RLs, which are less than the New Mexico EMNRD OCD closure criteria of 600 mg/kg or 10,000 mg/kg (depending on the depth of the represented soil).

7.0 RECLAMATION AND REVEGETATION

The excavation was backfilled with imported fill and then contoured to the surrounding topography.

8.0 FINDINGS AND RECOMMENDATION

- Six composite soil samples were collected from the Site. Based on laboratory analytical results, no benzene, total BTEX, chloride, or combined TPH GRO/DRO or TPH GRO/DRO/MRO exceedances were identified in the soils remaining at the Site.

- Approximately 300 yd^3 of petroleum hydrocarbon-affected soils were transported to the Envirotech landfarm for disposal/remediation. The excavation was backfilled with imported fill and then contoured to the surrounding topography.

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

9.0 STANDARDS OF CARE, LIMITATIONS, AND RELIANCE

9.1 Standard of Care

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

9.2 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 recommendation are based solely upon data available to Ensolum at the time of these services.

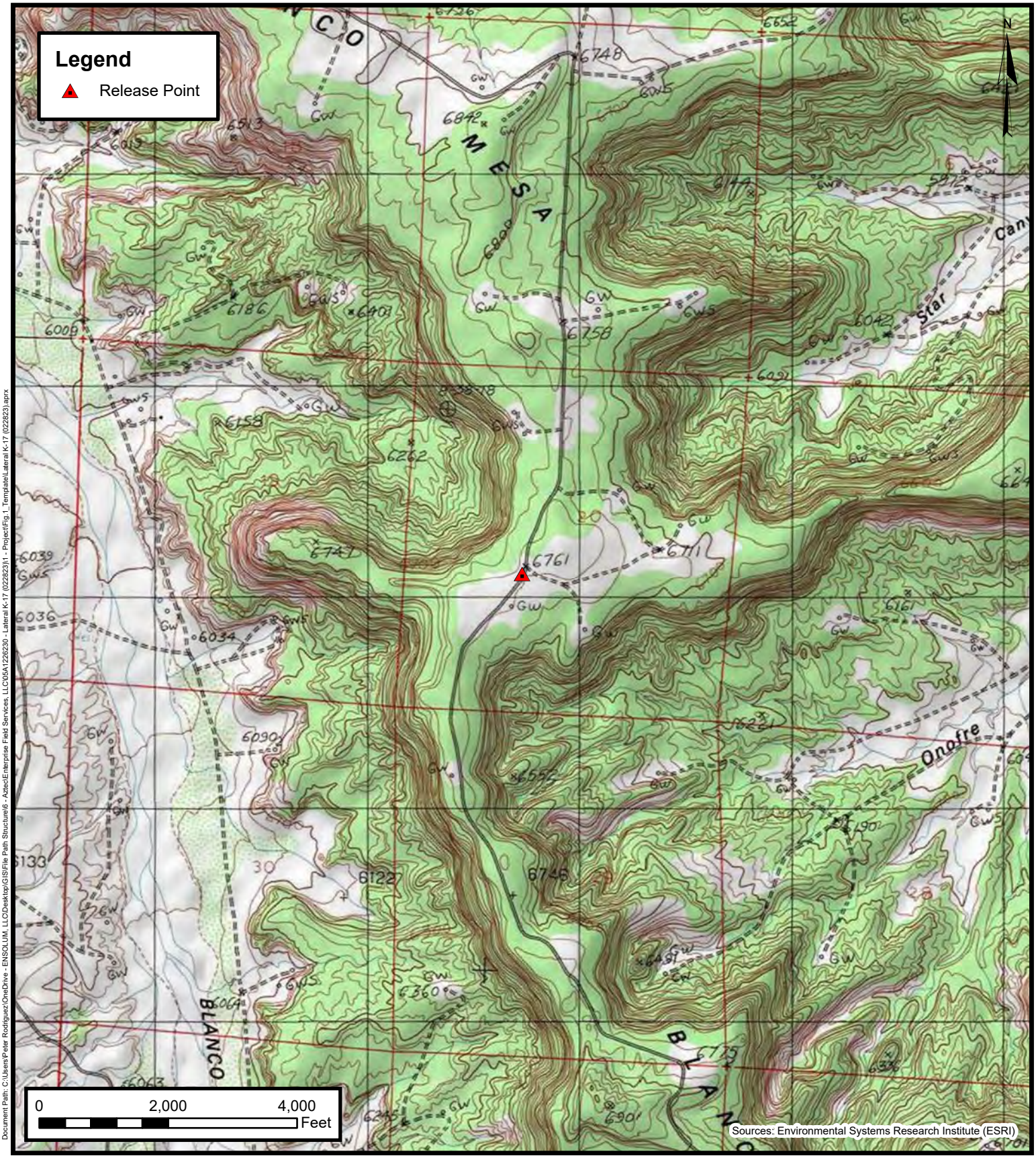
9.3 Reliance

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.

ENSOLUM

APPENDIX A

Figures



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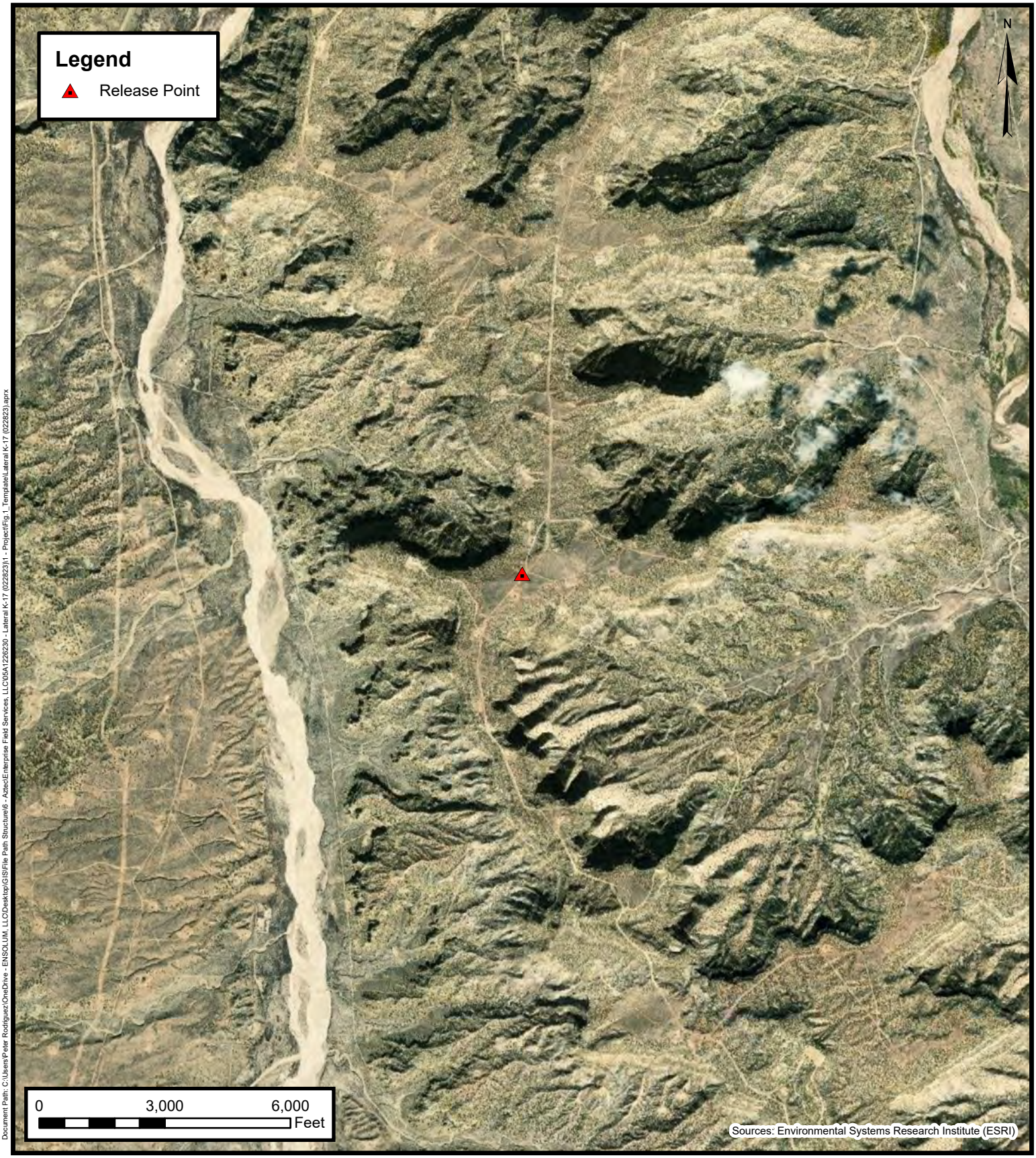
Environmental, Engineering and Hydrogeologic Consultants

Topographic Map

Enterprise Field Services, LLC
Lateral K-17 (02/28/23)
Project Number: 05A1226230
Unit Letter O, S20 T27N R8W, San Juan County, New Mexico
36.558486, -107.70761

FIGURE

1



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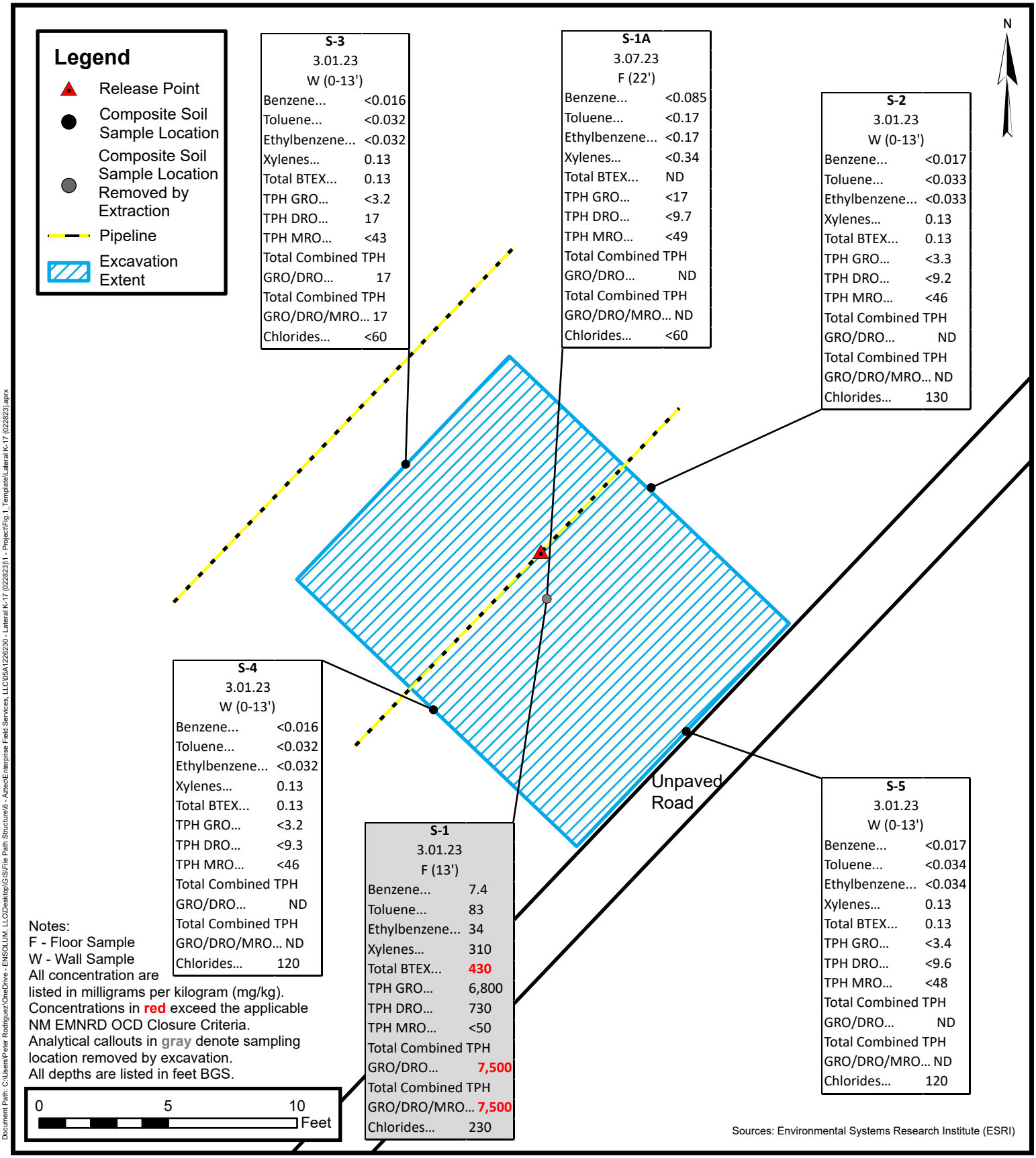
Environmental, Engineering and Hydrogeologic Consultants

Site Vicinity Map

Enterprise Field Services, LLC
Lateral K-17 (02/28/23)
Project Number: 05A1226230
Unit Letter O, S20 T27N R8W, San Juan County, New Mexico
36.558486, -107.70761

FIGURE

2



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Environmental, Engineering and Hydrogeologic Consultants

Site Map with Soil Analytical Results

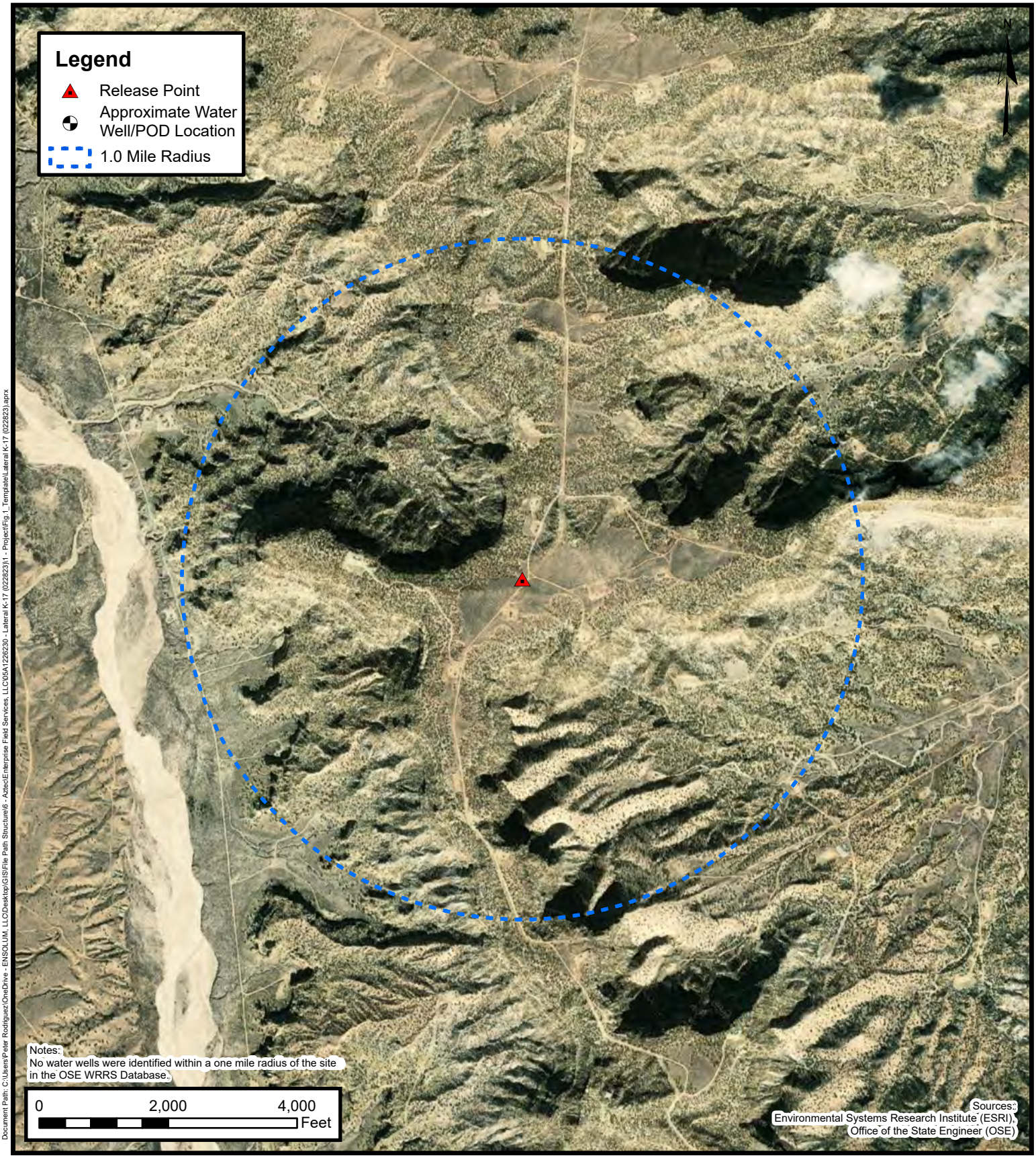
Enterprise Field Services, LLC
Lateral K-17 (02/28/23)
Project Number: 05A1226230
Unit Letter O, S20 T27N R8W, San Juan County, New Mexico
36.558486, -107.70761

FIGURE
3

ENSOLUM

APPENDIX B

Siting Figures and Documentation



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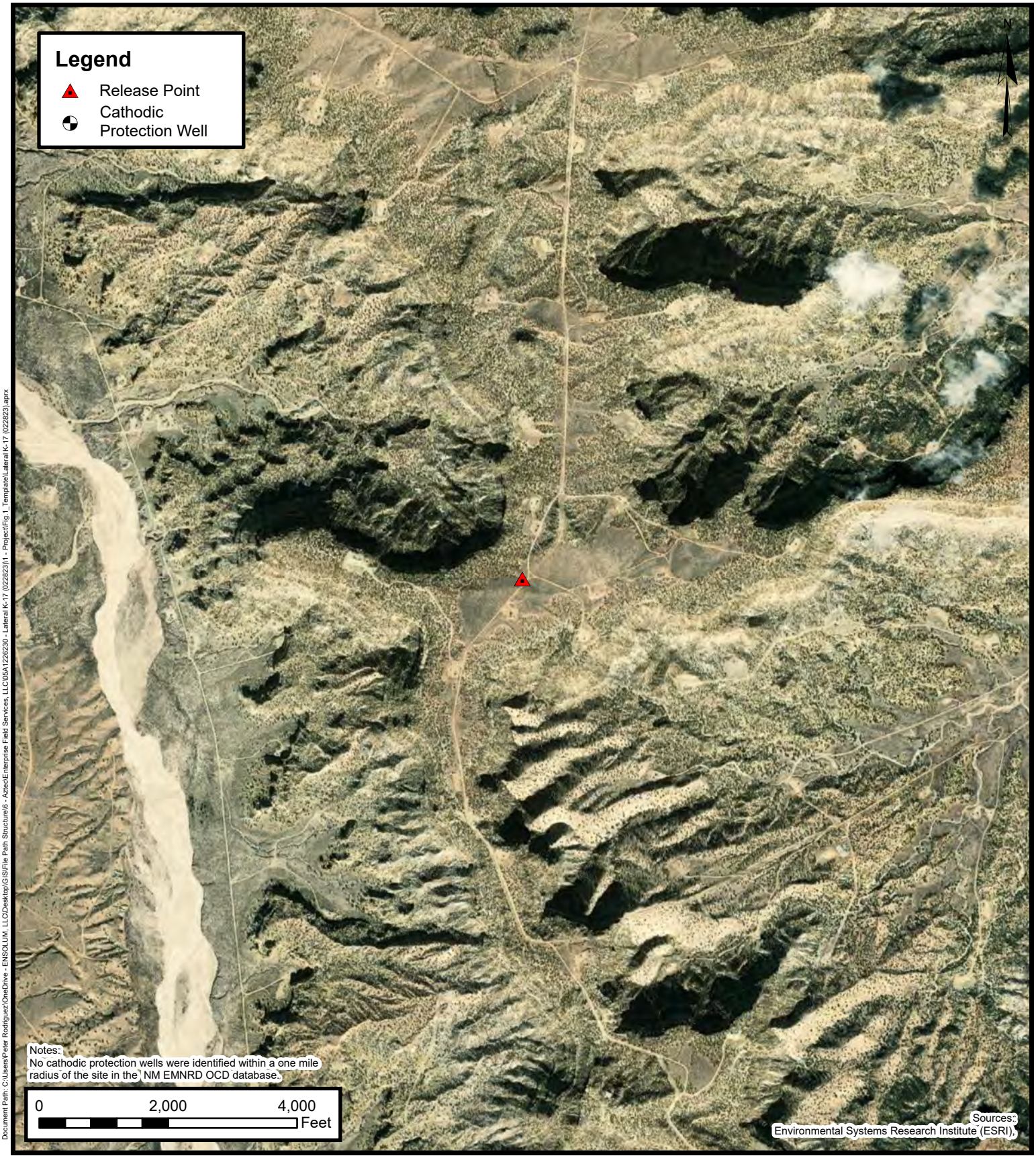
1.0 Mile Radius Water Well/ POD Location Map

Enterprise Field Services, LLC
Lateral K-17 (02/28/23)
Project Number: 05A1226230
Unit Letter O, S20 T27N R8W, San Juan County, New Mexico
36.558486, -107.70761

FIGURE

A



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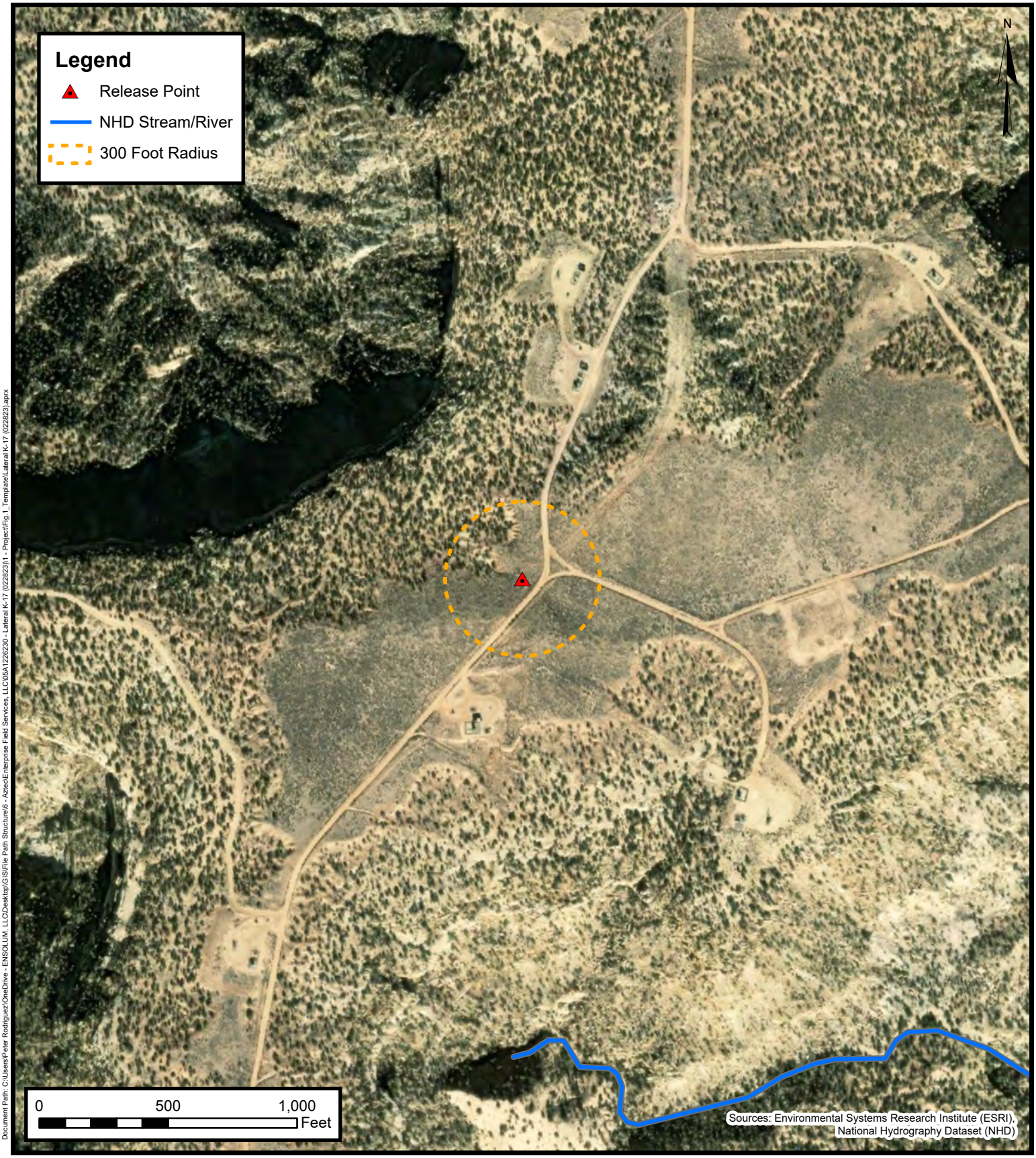
Environmental, Engineering and Hydrogeologic Consultants

Cathodic Protection Well Recorded Depth to Water

Enterprise Field Services, LLC
Lateral K-17 (02/28/23)
Project Number: 05A1226230
Unit Letter O, S20 T27N R8W, San Juan County, New Mexico
36.558486, -107.70761

FIGURE
B



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

300 Foot Radius Watercourse and Drainage Identification

Enterprise Field Services, LLC
Lateral K-17 (02/28/23)
Project Number: 05A1226230
Unit Letter O, S20 T27N R8W, San Juan County, New Mexico
36.558486, -107.70761

FIGURE
C

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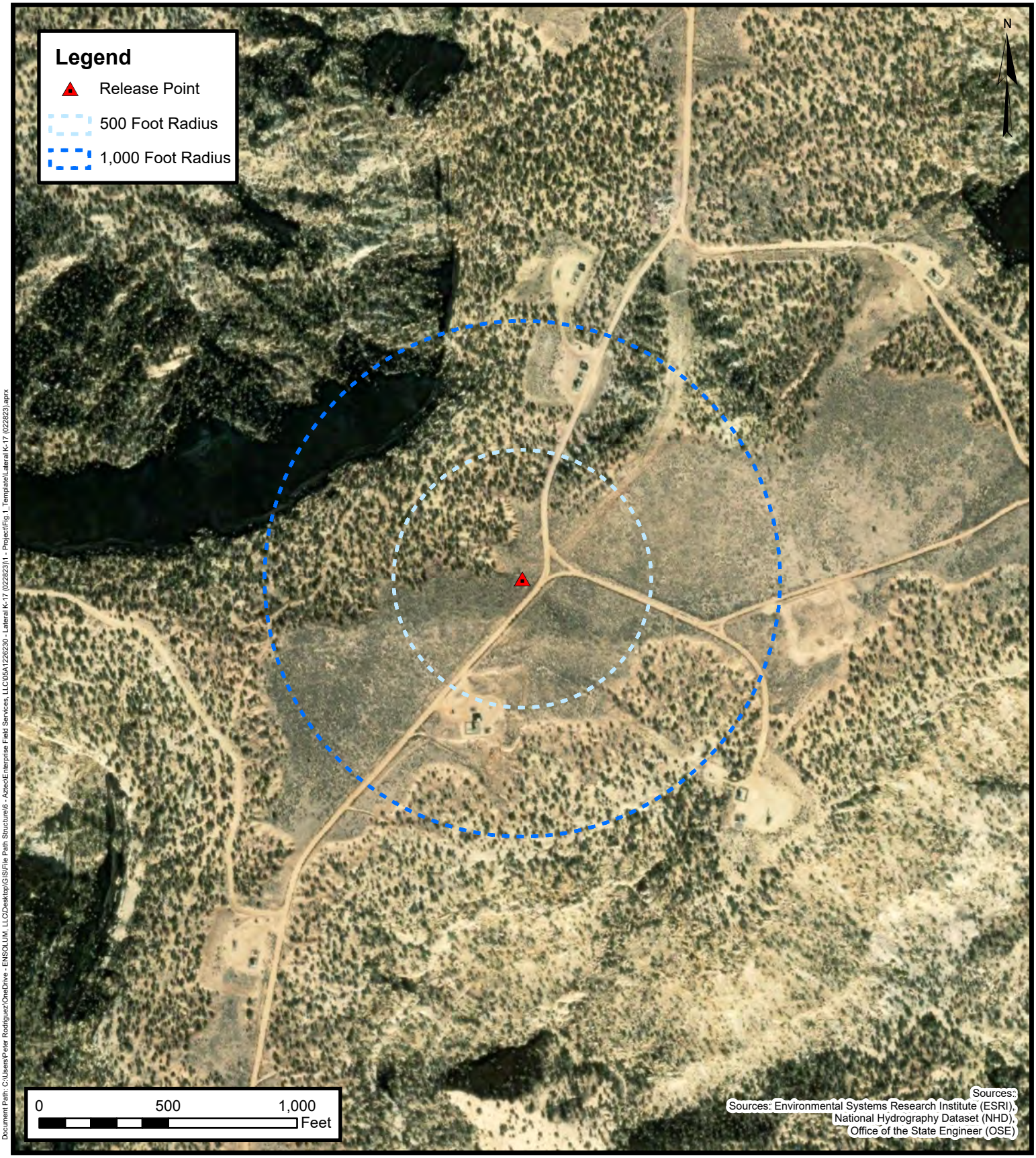
ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

300 Foot Radius Occupied Structure Identification

Enterprise Field Services, LLC
Lateral K-17 (02/28/23)
Project Number: 05A1226230
Unit Letter O, S20 T27N R8W, San Juan County, New Mexico
36.558486, -107.70761

FIGURE
D

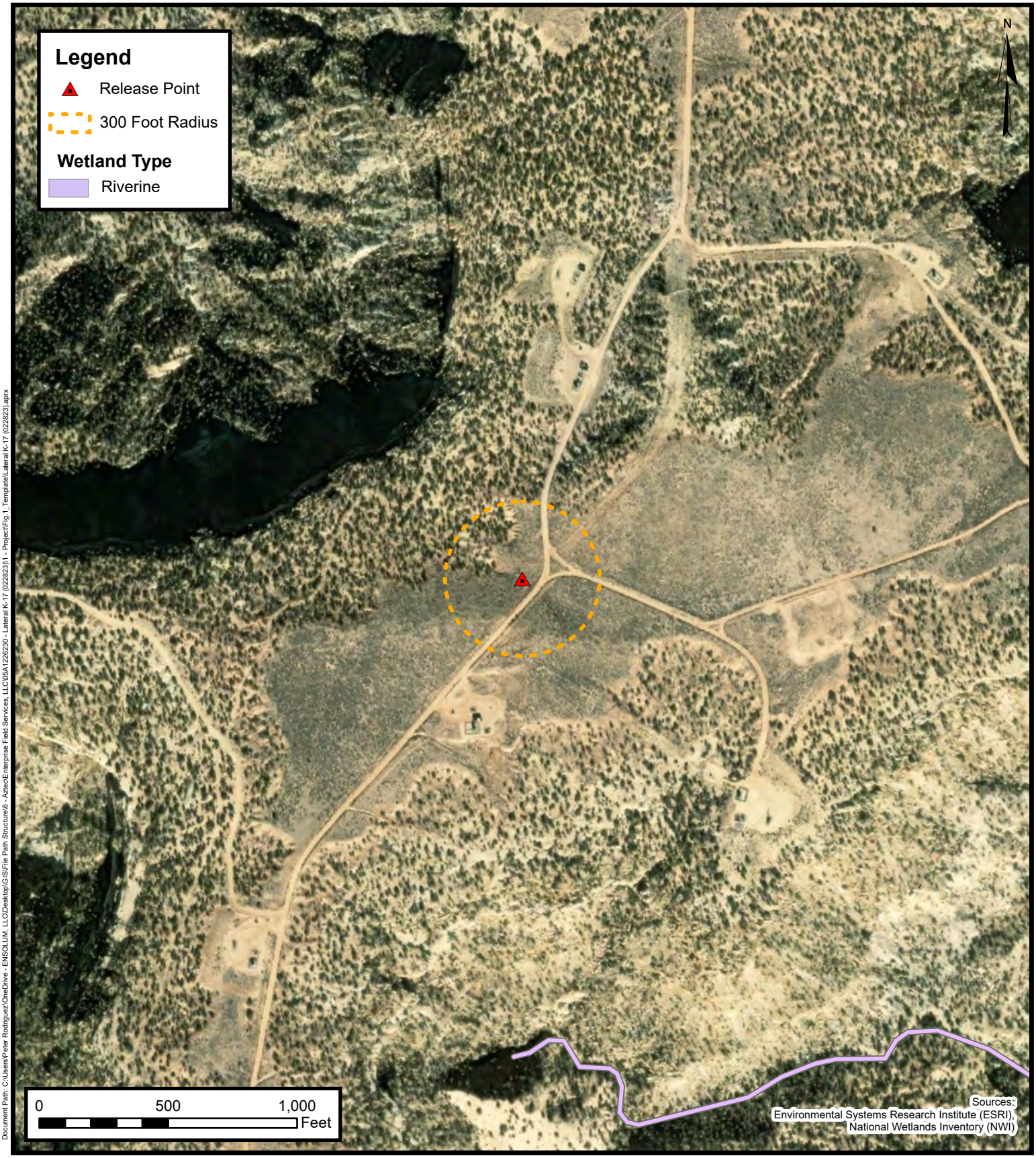


ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Water Well and Natural Spring Location

Enterprise Field Services, LLC
Lateral K-17 (02/28/23)
Project Number: 05A1226230
Unit Letter O, S20 T27N R8W, San Juan County, New Mexico
36.558486, -107.70761

FIGURE
E



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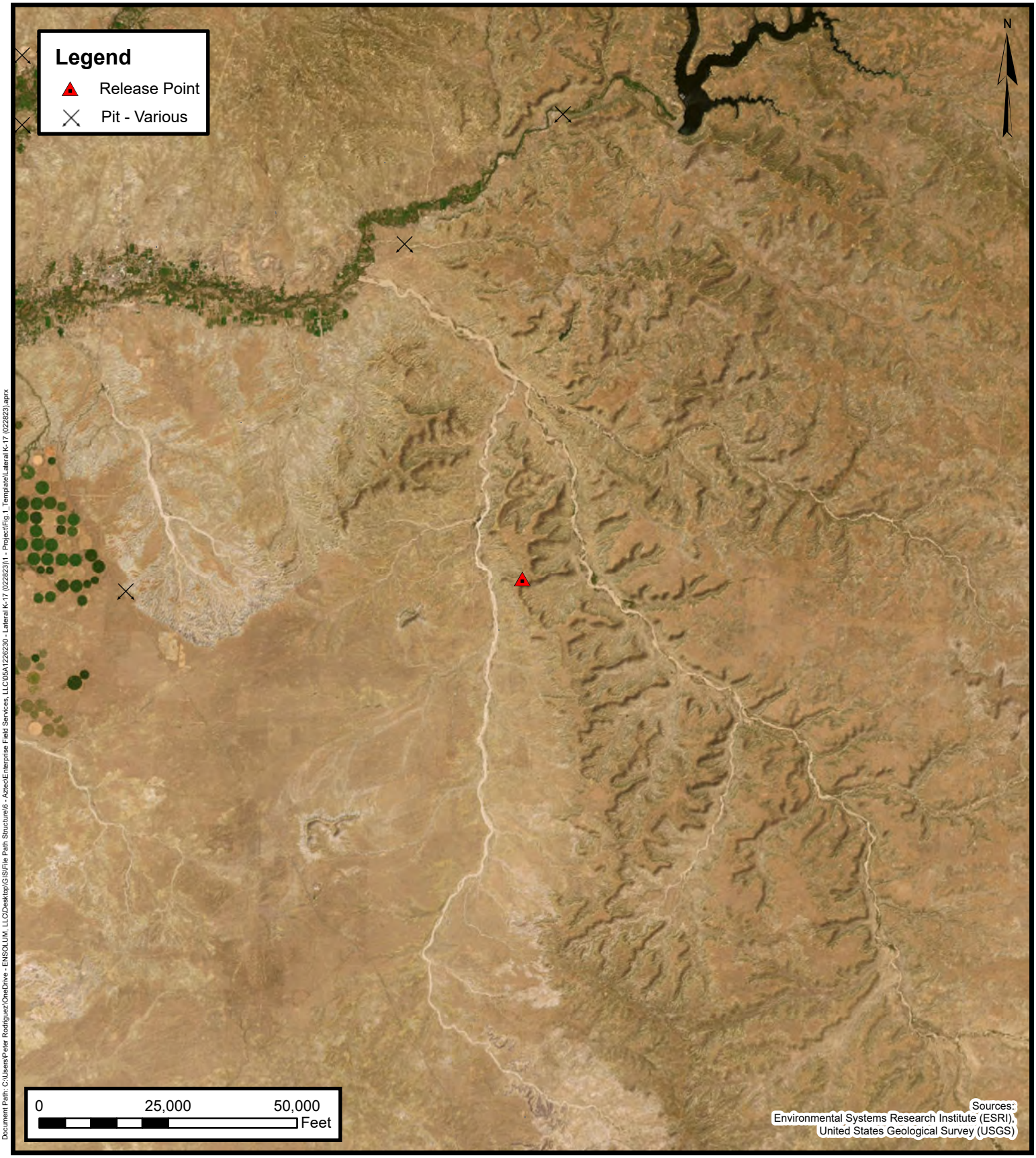
ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Wetlands

Enterprise Field Services, LLC
Lateral K-17 (02/28/23)
Project Number: 05A1226230
Unit Letter O, S20 T27N R8W, San Juan County, New Mexico
36.558486, -107.70761

FIGURE
F

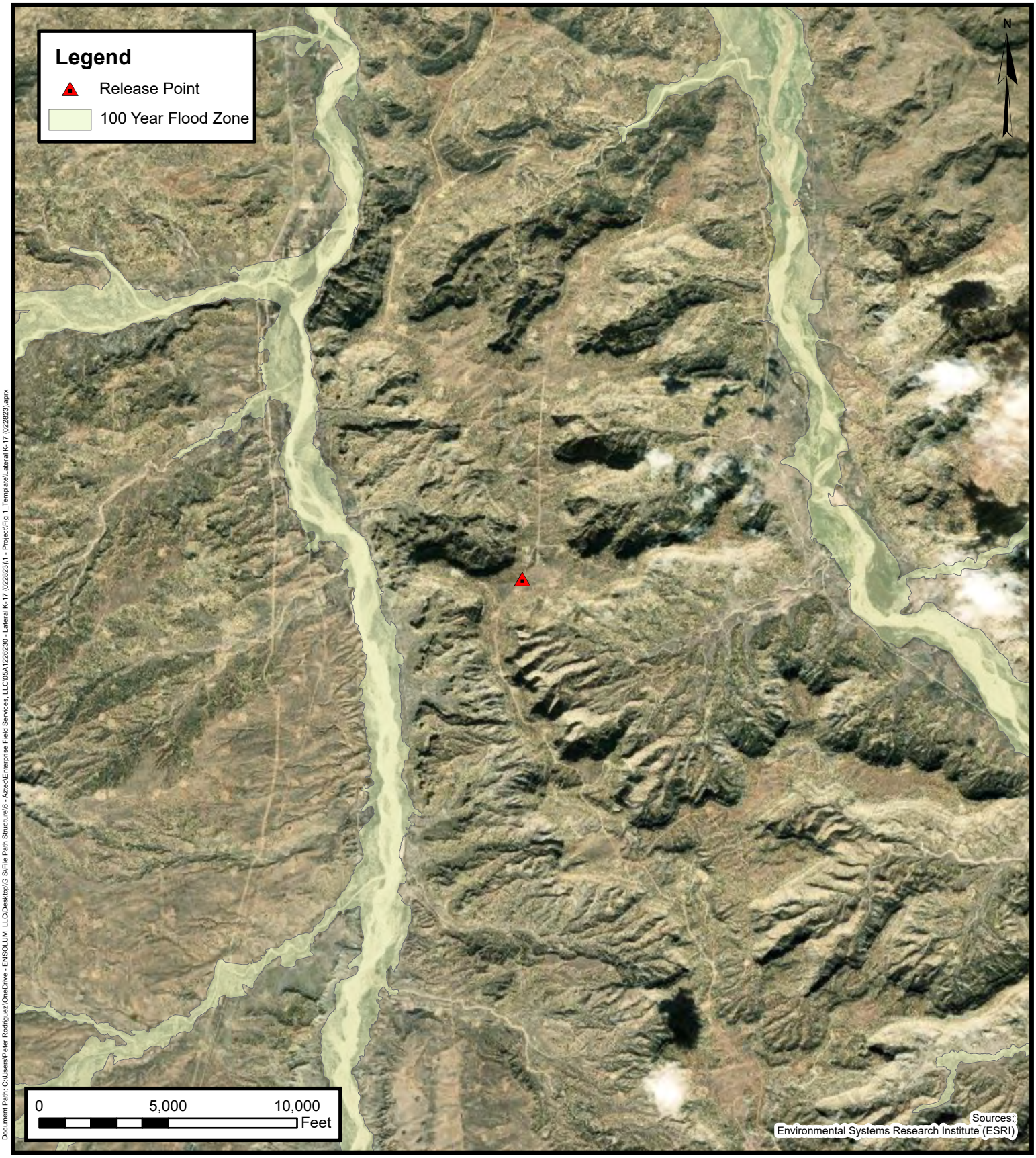


ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Mines, Mills, and Quarries

Enterprise Field Services, LLC
Lateral K-17 (02/28/23)
Project Number: 05A1226230
Unit Letter O, S20 T27N R8W, San Juan County, New Mexico
36.558486, -107.70761

FIGURE
G



Document Path: C:\Users\Peter Rodriguez\OneDrive - ENSOLUM, LLC\Desktop\GIS\File Path Structure\6 - Aztec\Enterprise Field Services, LLC\05A1226230 - Lateral K-17 (022823)\1 - Project\Fig.1_Template\Lateral K-17 (022823).aprx

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

100-Year Flood Plain Map

Enterprise Field Services, LLC
Lateral K-17 (02/28/23)
Project Number: 05A1226230
Unit Letter O, S20 T27N R8W, San Juan County, New Mexico
36.558486, -107.70761

FIGURE
H

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

No records found.

PLSS Search:

Section(s): 20, 16, 17, 18, 19, 21, 28, 29, 30 **Township:** 27N **Range:** 08W

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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

Form C-138
Revised 08/01/11

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

97057-1125

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 K-17

AFE: N64942
PM: ME Eddleman
Pay Key: AM14058

2. Location of Material (Street Address, City, State or ULSTR):
UL O Section 6 T27N R8W; 36.59961, -107.71999

Feb/March 2023

4. Source and Description of Waste:
Source: Hydrocarbon contaminated soil associated with remediation activities from a natural gas pipeline release.
Description: Hydrocarbon contaminated soil 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) 300 (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) 2-27-2023, 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: Sunland Construction

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: 2/27/23

SIGNATURE: TELEPHONE NO.: 505-632-0615

Surface Waste Management Facility Authorized Agent

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APPENDIX D

Photographic Documentation

SITE PHOTOGRAPHS

Closure Report
Enterprise Field Services, LLC
Lateral K-17 (02/28/23)
Ensolum Project No. 05A1226230

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Photograph 1 Photograph Description: View of the in-process excavation activities.	
Photograph 2 Photograph Description: View of the excavation (first sampling event).	
Photograph 3 Photograph Description: View of the excavation (second sampling event).	

SITE PHOTOGRAPHS

Closure Report
Enterprise Field Services, LLC
Lateral K-17 (02/28/23)
Ensolum Project No. 05A1226230

ENSOLUM

Photograph 4 Photograph Description: View of the site after initial restoration.	

ENSOLUM

APPENDIX E

Regulatory Correspondence

From:	Kyle Summers
To:	Chad D"Aponti
Cc:	Ranee Deechilly
Subject:	FW: [EXTERNAL] Lateral K-17 - UL O Section 6 T27N R8W; 36.59961, -107.71999- Incident # nAPP2305944258
Date:	Monday, March 6, 2023 12:14:33 PM
Attachments:	image004.png image005.png image006.png

Kyle Summers
Principal
903-821-5603
Ensolum, LLC

From: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Sent: Monday, March 6, 2023 10:58 AM
To: Long, Thomas <tjlong@eprod.com>; slandon@blm.gov
Cc: Stone, Brian <bmstone@eprod.com>; Kyle Summers <ksummers@ensolum.com>
Subject: RE: [EXTERNAL] Lateral K-17 - UL O Section 6 T27N R8W; 36.59961, -107.71999- Incident # nAPP2305944258

[**EXTERNAL EMAIL**]

Tom,

Thank you for the notice. Your variance request specifically addressing 19.15.29.12D (1a) NMAC is approved.

If an OCD representative is not on-site on the date &/or time given, please sample per 19.15.29 NMAC. For whatever reason, if the sampling timeframe is altered, please notify the OCD as soon as possible so we may adjust our schedule(s). Failure to notify the OCD of this change may result in the closure sample(s) not being accepted.

Please keep a copy of this communication for inclusion within the appropriate report submittal.

Regards,

Nelson Velez ● Environmental Specialist - Adv
Environmental Bureau | EMNRD - Oil Conservation Division
1000 Rio Brazos Road | Aztec, NM 87410
(505) 469-6146 | nelson.velez@emnrd.nm.gov
http://www.emnrd.state.nm.us/OCD/

From: Long, Thomas <tjlong@eprod.com>
Sent: Monday, March 6, 2023 10:20 AM
To: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>; slandon@blm.gov
Cc: Stone, Brian <bmstone@eprod.com>; Kyle Summers <ksummers@ensolum.com>
Subject: FW: [EXTERNAL] Lateral K-17 - UL O Section 6 T27N R8W; 36.59961, -107.71999- Incident # nAPP2305944258

Nelson/Sherrie,

This email is a notification and a variance request. Enterprise is requesting a variance for required 48 hour notification per 19.15.29.12D (1a) NMAC. The base sample in the last sampling event exceeded remediation standards and additional excavating was required. Enterprise will be collecting soil samples for laboratory analysis tomorrow March 7, 2023 at 10:00 a.m. Please acknowledge acceptance of this variance request. If you have any questions, please call or email.

Thank you,

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

Enterprise Products

From: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Sent: Tuesday, February 28, 2023 2:46 PM
To: Long, Thomas <tjlong@eprod.com>; slandon@blm.gov
Cc: Stone, Brian <bmstone@eprod.com>; Kyle Summers <ksummers@ensolum.com>
Subject: RE: [EXTERNAL] Lateral K-17 - UL O Section 6 T27N R8W; 36.59961, -107.71999- Incident # nAPP2305944258

[Use caution with links/attachments]
Tom,

Thank you for the notice. Your variance request specifically addressing 19.15.29.12D (1a) NMAC is approved.

If an OCD representative is not on-site on the date &/or time given, please sample per 19.15.29 NMAC. For whatever reason, if the sampling timeframe is altered, please notify the OCD as soon as possible so we may adjust our schedule(s). Failure to notify the OCD of this change may result in the closure sample(s) not being accepted.

Please keep a copy of this communication for inclusion within the appropriate report submittal.

The OCD requires a copy of all correspondence relative to remedial activities be included in all proposals and/or final closure reports. Correspondence required to be included in reports may include, but not limited to, notifications for liner inspections, sample events, spill/release/fire, and request for time extensions or variances.

Regards,

Nelson Velez ● Environmental Specialist - Adv
Environmental Bureau | EMNRD - Oil Conservation Division
1000 Rio Brazos Road | Aztec, NM 87410
(505) 469-6146 | nelson.velez@emnrd.nm.gov
http://www.emnrd.state.nm.us/OCD/

From: Long, Thomas <tjlong@eprod.com>
Sent: Tuesday, February 28, 2023 2:14 PM
To: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>; slandon@blm.gov
Cc: Stone, Brian <bmstone@eprod.com>; Kyle Summers <ksummers@ensolum.com>
Subject: [EXTERNAL] Lateral K-17 - UL O Section 6 T27N R8W; 36.59961, -107.71999- Incident # nAPP2305944258

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Nelson/Sherrie,

This email is a notification and a variance request. Enterprise is requesting a variance for required 48 hour notification per 19.15.29.12D (1a) NMAC. Enterprise will be collecting soil samples for laboratory analysis tomorrow March 1, 2023 at 10:00 a.m. Please acknowledge acceptance of this variance request. If you have any questions, please call or email.

Thank you,

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

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APPENDIX F

Table 1 – Soil Analytical Summary

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TABLE 1
Lateral K-17 (02/28/23)
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[1] (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)	Total Combined TPH (GRO/DRO/)[1] (mg/kg)	Total Combined TPH (GRO/DRO/MRO)[1] (mg/kg)	Chloride (mg/kg)
New Mexico Energy, Mineral & Natural Resources Department Oil Conservation Division Closure Criteria (Tier I & Tier II)				**10**	**NE**	**NE**	**NE**	**50**	**NE**	**NE**	**NE**	**Tier II - 1,000**	**Tier I (<4 feet) - 100 Tier II - 2,500**	**Tier I (<4 feet) - 600 Tier II - 10,000**
Composite Soil Samples Removed by Excavation and Transported to the Landfarm for Diposal/Remediation														
S-1	3.01.23	C	13	7.4	83	34	310	**430**	6,800	730	<50	**7,500**	**7,500**	230
Excavation Composite Soil Samples														
S-1A	3.07.23	C	22	<0.085	<0.17	<0.17	<0.34	ND	<17	<9.7	<49	ND	ND	<60
S-2	3.01.23	C	0 to 13	<0.017	<0.033	<0.033	0.13	0.13	<3.3	<9.2	<46	ND	ND	130
S-3	3.01.23	C	0 to 13	<0.016	<0.032	<0.032	0.13	0.13	<3.2	17	<43	17	17	<60
S-4	3.01.23	C	0 to 13	<0.016	<0.032	<0.032	0.13	0.13	<3.2	<9.3	<46	ND	ND	120
S-5	3.01.23	C	0 to 13	<0.017	<0.034	<0.034	0.13	0.13	<3.4	<9.6	<48	ND	ND	120

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

[1] = Total combined concentrations are rounded to two (2) significant figures to match the laboratory resolution of the individual constituents.

ND = Not Detected above the Practical Quantitation Limits (PQLs) or Reporting Limits (RLs)

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

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APPENDIX G

Laboratory Data Sheets & Chain of Custody Documentation

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

March 07, 2023

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

RE: Lateral K 17 OrderNo.: 2303078

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 5 sample(s) on 3/2/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2303078**
Date Reported: **3/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-1
Project: Lateral K 17 **Collection Date:** 3/1/2023 10:00:00 AM
Lab ID: 2303078-001 **Matrix:** MEOH (SOIL) **Received Date:** 3/2/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	230	60		mg/Kg	20	3/2/2023 11:48:31 AM	73477
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	730	10		mg/Kg	1	3/2/2023 10:40:50 AM	73474
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/2/2023 10:40:50 AM	73474
Surr: DNOP	85.9	69-147		%Rec	1	3/2/2023 10:40:50 AM	73474
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**JJP**
Gasoline Range Organics (GRO)	6800	160		mg/Kg	50	3/2/2023 1:01:55 PM	GS94977
Surr: BFB	523	37.7-212	S	%Rec	50	3/2/2023 1:01:55 PM	GS94977
EPA METHOD 8021B: VOLATILES						Analyst:	**JJP**
Benzene	7.4	0.79		mg/Kg	50	3/2/2023 1:01:55 PM	R94977
Toluene	83	1.6		mg/Kg	50	3/2/2023 1:01:55 PM	R94977
Ethylbenzene	34	1.6		mg/Kg	50	3/2/2023 1:01:55 PM	R94977
Xylenes, Total	310	3.2		mg/Kg	50	3/2/2023 1:01:55 PM	R94977
Surr: 4-Bromofluorobenzene	115	70-130		%Rec	50	3/2/2023 1:01:55 PM	R94977

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	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2303078**
Date Reported: **3/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-2
Project: Lateral K 17 **Collection Date:** 3/1/2023 10:05:00 AM
Lab ID: 2303078-002 **Matrix:** MEOH (SOIL) **Received Date:** 3/2/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	130	60		mg/Kg	20	3/2/2023 12:00:52 PM	73477
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	3/2/2023 10:51:25 AM	73474
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/2/2023 10:51:25 AM	73474
Surr: DNOP	91.8	69-147		%Rec	1	3/2/2023 10:51:25 AM	73474
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**JJP**
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	3/2/2023 11:28:14 AM	GS94977
Surr: BFB	112	37.7-212		%Rec	1	3/2/2023 11:28:14 AM	GS94977
EPA METHOD 8021B: VOLATILES						Analyst:	**JJP**
Benzene	ND	0.017		mg/Kg	1	3/2/2023 11:28:14 AM	R94977
Toluene	ND	0.033		mg/Kg	1	3/2/2023 11:28:14 AM	R94977
Ethylbenzene	ND	0.033		mg/Kg	1	3/2/2023 11:28:14 AM	R94977
Xylenes, Total	0.13	0.066		mg/Kg	1	3/2/2023 11:28:14 AM	R94977
Surr: 4-Bromofluorobenzene	95.5	70-130		%Rec	1	3/2/2023 11:28:14 AM	R94977

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	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2303078**
Date Reported: **3/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-3
Project: Lateral K 17 **Collection Date:** 3/1/2023 10:10:00 AM
Lab ID: 2303078-003 **Matrix:** MEOH (SOIL) **Received Date:** 3/2/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	ND	60		mg/Kg	20	3/2/2023 12:13:13 PM	73477
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	17	8.7		mg/Kg	1	3/2/2023 11:01:56 AM	73474
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	3/2/2023 11:01:56 AM	73474
Surr: DNOP	93.1	69-147		%Rec	1	3/2/2023 11:01:56 AM	73474
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**JJP**
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	3/2/2023 11:51:38 AM	GS94977
Surr: BFB	121	37.7-212		%Rec	1	3/2/2023 11:51:38 AM	GS94977
EPA METHOD 8021B: VOLATILES						Analyst:	**JJP**
Benzene	ND	0.016		mg/Kg	1	3/2/2023 11:51:38 AM	R94977
Toluene	ND	0.032		mg/Kg	1	3/2/2023 11:51:38 AM	R94977
Ethylbenzene	ND	0.032		mg/Kg	1	3/2/2023 11:51:38 AM	R94977
Xylenes, Total	0.13	0.064		mg/Kg	1	3/2/2023 11:51:38 AM	R94977
Surr: 4-Bromofluorobenzene	95.3	70-130		%Rec	1	3/2/2023 11:51:38 AM	R94977

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	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2303078**
Date Reported: **3/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-4
Project: Lateral K 17 **Collection Date:** 3/1/2023 10:15:00 AM
Lab ID: 2303078-004 **Matrix:** MEOH (SOIL) **Received Date:** 3/2/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	120	61		mg/Kg	20	3/2/2023 12:25:34 PM	73477
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	3/2/2023 11:12:33 AM	73474
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/2/2023 11:12:33 AM	73474
Surr: DNOP	91.8	69-147		%Rec	1	3/2/2023 11:12:33 AM	73474
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**JJP**
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	3/2/2023 12:15:02 PM	GS94977
Surr: BFB	112	37.7-212		%Rec	1	3/2/2023 12:15:02 PM	GS94977
EPA METHOD 8021B: VOLATILES						Analyst:	**JJP**
Benzene	ND	0.016		mg/Kg	1	3/2/2023 12:15:02 PM	R94977
Toluene	ND	0.032		mg/Kg	1	3/2/2023 12:15:02 PM	R94977
Ethylbenzene	ND	0.032		mg/Kg	1	3/2/2023 12:15:02 PM	R94977
Xylenes, Total	0.13	0.064		mg/Kg	1	3/2/2023 12:15:02 PM	R94977
Surr: 4-Bromofluorobenzene	94.4	70-130		%Rec	1	3/2/2023 12:15:02 PM	R94977

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	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2303078**
Date Reported: **3/7/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-5
Project: Lateral K 17 **Collection Date:** 3/1/2023 10:20:00 AM
Lab ID: 2303078-005 **Matrix:** MEOH (SOIL) **Received Date:** 3/2/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	120	60		mg/Kg	20	3/2/2023 12:37:55 PM	73477
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/2/2023 11:23:08 AM	73474
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/2/2023 11:23:08 AM	73474
Surr: DNOP	84.7	69-147		%Rec	1	3/2/2023 11:23:08 AM	73474
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**	
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	3/2/2023 12:38:30 PM	GS94977
Surr: BFB	112	37.7-212		%Rec	1	3/2/2023 12:38:30 PM	GS94977
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**	
Benzene	ND	0.017		mg/Kg	1	3/2/2023 12:38:30 PM	R94977
Toluene	ND	0.034		mg/Kg	1	3/2/2023 12:38:30 PM	R94977
Ethylbenzene	ND	0.034		mg/Kg	1	3/2/2023 12:38:30 PM	R94977
Xylenes, Total	0.13	0.068		mg/Kg	1	3/2/2023 12:38:30 PM	R94977
Surr: 4-Bromofluorobenzene	93.7	70-130		%Rec	1	3/2/2023 12:38:30 PM	R94977

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	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2303078**

07-Mar-23

Client: ENSOLUM

Project: Lateral K 17

Sample ID: **MB-73477**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **73477**	RunNo: **94984**
Prep Date: **3/2/2023**	Analysis Date: **3/2/2023**	SeqNo: **3435051** Units: **mg/Kg**

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

Sample ID: **LCS-73477**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **73477**	RunNo: **94984**
Prep Date: **3/2/2023**	Analysis Date: **3/2/2023**	SeqNo: **3435052** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.6	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2303078**

07-Mar-23

Client: ENSOLUM

Project: Lateral K 17

Sample ID: **MB-73474**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **73474**	RunNo: **94965**
Prep Date: **3/2/2023**	Analysis Date: **3/2/2023**	SeqNo: **3434009** 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	8.4		10.00		84.0	69	147			

Sample ID: **LCS-73474**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **73474**	RunNo: **94965**
Prep Date: **3/2/2023**	Analysis Date: **3/2/2023**	SeqNo: **3434010** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	10	50.00	0	80.9	61.9	130			
Surr: DNOP	4.5		5.000		90.1	69	147			

Sample ID: **2303078-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **S-1**	Batch ID: **73474**	RunNo: **94965**
Prep Date: **3/2/2023**	Analysis Date: **3/2/2023**	SeqNo: **3434127** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	900	9.6	47.80	725.9	372	54.2	135			S
Surr: DNOP	5.6		4.780		117	69	147			

Sample ID: **2303078-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **S-1**	Batch ID: **73474**	RunNo: **94965**
Prep Date: **3/2/2023**	Analysis Date: **3/2/2023**	SeqNo: **3434128** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	780	9.1	45.50	725.9	121	54.2	135	14.6	29.2	
Surr: DNOP	4.5		4.550		99.2	69	147	0	0	

Sample ID: **MB-73456**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **73456**	RunNo: **94965**
Prep Date: **3/1/2023**	Analysis Date: **3/2/2023**	SeqNo: **3434451** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		113	69	147			

Sample ID: **LCS-73456**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **73456**	RunNo: **94965**
Prep Date: **3/1/2023**	Analysis Date: **3/2/2023**	SeqNo: **3434452** Units: **%Rec**

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2303078**

07-Mar-23

Client: ENSOLUM

Project: Lateral K 17

Sample ID: **LCS-73456**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **73456**	RunNo: **94965**
Prep Date: **3/1/2023**	Analysis Date: **3/2/2023**	SeqNo: **3434452** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.0		5.000		100	69	147			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2303078**

07-Mar-23

Client: ENSOLUM

Project: Lateral K 17

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **GS94977**	RunNo: **94977**
Prep Date:	Analysis Date: **3/2/2023**	SeqNo: **3433961** 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	72.3	137			
Surr: BFB	2000		1000		199	37.7	212			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **GS94977**	RunNo: **94977**
Prep Date:	Analysis Date: **3/2/2023**	SeqNo: **3433962** 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		103	37.7	212			

Sample ID: **2303078-002ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **S-2**	Batch ID: **GS94977**	RunNo: **94977**
Prep Date:	Analysis Date: **3/2/2023**	SeqNo: **3434555** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	3.3	16.54	1.806	103	70	130			
Surr: BFB	1400		661.4		211	37.7	212			

Sample ID: **2303078-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **S-2**	Batch ID: **GS94977**	RunNo: **94977**
Prep Date:	Analysis Date: **3/2/2023**	SeqNo: **3434556** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	18	3.3	16.54	1.806	101	70	130	1.46	20	
Surr: BFB	1400		661.4		214	37.7	212	0	0	S

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2303078**

07-Mar-23

Client: ENSOLUM

Project: Lateral K 17

Sample ID: **100ng btex lcs**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **R94977**	RunNo: **94977**
Prep Date:	Analysis Date: **3/2/2023**	SeqNo: **3433969** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.025	1.000	0	86.7	80	120			
Toluene	0.90	0.050	1.000	0	89.7	80	120			
Ethylbenzene	0.89	0.050	1.000	0	89.1	80	120			
Xylenes, Total	2.7	0.10	3.000	0	90.0	80	120			
Surr: 4-Bromofluorobenzene	0.93		1.000		92.8	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **R94977**	RunNo: **94977**
Prep Date:	Analysis Date: **3/2/2023**	SeqNo: **3433970** 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		91.8	70	130			

Sample ID: **2303078-003ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **S-3**	Batch ID: **R94977**	RunNo: **94977**
Prep Date:	Analysis Date: **3/2/2023**	SeqNo: **3434564** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.55	0.016	0.6423	0.01240	83.6	68.8	120			
Toluene	0.58	0.032	0.6423	0.01413	87.5	73.6	124			
Ethylbenzene	0.58	0.032	0.6423	0.01683	87.6	72.7	129			
Xylenes, Total	1.8	0.064	1.927	0.1318	88.2	75.7	126			
Surr: 4-Bromofluorobenzene	0.62		0.6423		95.8	70	130			

Sample ID: **2303078-003amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **S-3**	Batch ID: **R94977**	RunNo: **94977**
Prep Date:	Analysis Date: **3/2/2023**	SeqNo: **3434565** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.53	0.016	0.6423	0.01240	81.0	68.8	120	3.06	20	
Toluene	0.56	0.032	0.6423	0.01413	84.4	73.6	124	3.57	20	
Ethylbenzene	0.57	0.032	0.6423	0.01683	85.5	72.7	129	2.40	20	
Xylenes, Total	1.8	0.064	1.927	0.1318	87.0	75.7	126	1.32	20	
Surr: 4-Bromofluorobenzene	0.61		0.6423		94.4	70	130	0	0	

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: ENSOLUM | Work Order Number: 2303078 | RcptNo: 1

Received By: Tracy Casarrubias 3/2/2023 7:00:00 AM

Completed By: Tracy Casarrubias 3/2/2023 7:45:21 AM

Reviewed By: CM 3/2/23

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: SCA 3/2/23

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.9	Good	Yes	Morty		

Chain-of-Custody Record

Client: Ensolum, LLC.

Mailing Address: 606 S Rio Grande Suite A 87410

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: Hold
☐ Standard ☒ Rush 3-2-23

Project Name: Lateral K-17

Project #:

Project Manager: K Summers

Sampler: P DiAponti

On Ice: ☒ Yes ☐ No Monty

# of Coolers: 1

Cooler Temp(Including CF): 2.1 -0.2=1.9 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 230376	BTEX / ~~MTBE~~ / ~~TMB~~'s (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, ~~F~~, ~~Br~~, ~~NO3~~, ~~NO2~~, ~~PO4~~, ~~SO4~~	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
3/1	1000	S	S-1	1 4oz Jar	Cool	001	✓	✓					✓			
3/1	1005	S	S-2	"	Cool	002	✓	✓					✓			
3/1	1010	S	S-3	"	Cool	003	✓	✓					✓			
3/1	1015	S	S-4	"	Cool	004	✓	✓					✓			
3/1	1020	S	S-5	"	Cool	005	✓	✓					✓			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
3/1/23	1348			Walk	3/1/23	1348
3/1/22	1746			Courier	3/2/23	7:00

Remarks: Tom Long
AFE # N64942
Pay Key AM14058
Same Day

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

March 13, 2023

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

RE: Lateral K 17 OrderNo.: 2303377

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/8/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2303377**
Date Reported: **3/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-1A
Project: Lateral K 17 **Collection Date:** 3/7/2023 10:00:00 AM
Lab ID: 2303377-001 **Matrix:** MEOH (SOIL) **Received Date:** 3/8/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SNS**	
Chloride	ND	60		mg/Kg	20	3/8/2023 10:36:50 AM	73574
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/8/2023 10:15:34 AM	73568
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/8/2023 10:15:34 AM	73568
Surr: DNOP	93.4	69-147		%Rec	1	3/8/2023 10:15:34 AM	73568
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	17		mg/Kg	5	3/8/2023 10:43:00 AM	GS95092
Surr: BFB	99.5	37.7-212		%Rec	5	3/8/2023 10:43:00 AM	GS95092
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**	
Benzene	ND	0.085		mg/Kg	5	3/8/2023 10:43:00 AM	BS95092
Toluene	ND	0.17		mg/Kg	5	3/8/2023 10:43:00 AM	BS95092
Ethylbenzene	ND	0.17		mg/Kg	5	3/8/2023 10:43:00 AM	BS95092
Xylenes, Total	ND	0.34		mg/Kg	5	3/8/2023 10:43:00 AM	BS95092
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	5	3/8/2023 10:43:00 AM	BS95092

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	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2303377**

13-Mar-23

Client: ENSOLUM

Project: Lateral K 17

Sample ID: **MB-73574** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **73574** RunNo: **95131**

Prep Date: **3/8/2023** Analysis Date: **3/8/2023** SeqNo: **3440395** Units: **mg/Kg**

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

Sample ID: **LCS-73574** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **73574** RunNo: **95131**

Prep Date: **3/8/2023** Analysis Date: **3/8/2023** SeqNo: **3440396** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.4	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2303377**

13-Mar-23

Client: ENSOLUM

Project: Lateral K 17

Sample ID: **LCS-73568** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **73568** RunNo: **95100**

Prep Date: **3/8/2023** Analysis Date: **3/8/2023** SeqNo: **3439417** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	10	50.00	0	80.4	61.9	130			
Surr: DNOP	4.1		5.000		82.5	69	147			

Sample ID: **MB-73568** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **73568** RunNo: **95100**

Prep Date: **3/8/2023** Analysis Date: **3/8/2023** SeqNo: **3439418** 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	9.2		10.00		91.8	69	147			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2303377**

13-Mar-23

Client: ENSOLUM

Project: Lateral K 17

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **GS95092**	RunNo: **95092**
Prep Date:	Analysis Date: **3/8/2023**	SeqNo: **3439423** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	94.0	70	130			
Surr: BFB	2200		1000		220	37.7	212			S

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **GS95092**	RunNo: **95092**
Prep Date:	Analysis Date: **3/8/2023**	SeqNo: **3439424** 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	37.7	212			

Sample ID: **2303377-001ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **S-1A**	Batch ID: **GS95092**	RunNo: **95092**
Prep Date:	Analysis Date: **3/8/2023**	SeqNo: **3441084** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	84	17	85.09	0	98.4	70	130			
Surr: BFB	7400		3404		219	37.7	212			S

Sample ID: **2303377-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **S-1A**	Batch ID: **GS95092**	RunNo: **95092**
Prep Date:	Analysis Date: **3/8/2023**	SeqNo: **3441085** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	80	17	85.09	0	94.4	70	130	4.15	20	
Surr: BFB	7200		3404		211	37.7	212	0	0	

Qualifiers:

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PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2303377**
13-Mar-23

Client: ENSOLUM
Project: Lateral K 17

Sample ID: **100ng btex lcs** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **BS95092** RunNo: **95092**
Prep Date: Analysis Date: **3/8/2023** SeqNo: **3439426** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	90.3	80	120			
Toluene	0.92	0.050	1.000	0	92.0	80	120			
Ethylbenzene	0.92	0.050	1.000	0	92.2	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.4	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	70	130			

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **BS95092** RunNo: **95092**
Prep Date: Analysis Date: **3/8/2023** SeqNo: **3439427** 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	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: ENSOLUM | Work Order Number: 2303377 | RcptNo: 1

Received By: Juan Rojas 3/8/2023 7:30:00 AM

Completed By: Sean Livingston 3/8/2023 7:54:17 AM

Reviewed By: JR 3-8-23

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: JR 3/8/23

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.0	Good	Not Present	YOGI		

Chain-of-Custody Record

Client: Ensolum, LLC.

Mailing Address: 606 S Rio Grande Suit A 87410

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 100%
☐ Standard ☑ Rush 3-8-23

Project Name: Lateral K-17

Project #:

Project Manager: M. Summers

Sampler: C. Aponte

On Ice: ~~☑ Yes~~ ☐ No

# of Coolers: 1 (909)

Cooler Temp (Including CF): 0.1-0.1=0 (°C)

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2303377
3/7	1000	S	S-1a	1 4oz Jar	Cool	001

Analysis Request

BTEX / ~~MTBE~~ / ~~TMB's~~ (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	~~Cl, F, Br, NO3, NO2, PO4, SO4~~	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
✓	✓					✓			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
3/7/23	1409				3/7/23	1409
3/7/23	1811			courier	3/8/23	7:30

Remarks: Tom Long
AFE # N64542
Pay key AM14058

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 226802

CONDITIONS

Operator: Enterprise Field Services, LLC PO Box 4324 Houston, TX 77210	OGRID: 241602
	Action Number: 226802
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	None	6/13/2023