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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: **Enterprise Field Services, LLC**	OGRID: **151618**
Contact Name: **Thomas Long**	Contact Telephone: **505-599-2286**
Contact email:**tjlong@eprod.com**	**Incident #** *(assigned by OCD)*: **NRM2035349510**
Contact mailing address: **614 Reilly Ave, Farmington, NM 87401**	

Location of Release Source

Latitude **36.639644** Longitude **-107.784244** *(NAD 83 in decimal degrees to 5 decimal places)*

Site Name **Lateral C-6 Loop**	Site Type **Natural Gas Gathering Pipeline**
Date Release Discovered: **12/1/2020**	Serial Number *(if applicable)*: **N/A**

Unit Letter	Section	Township	Range	County
D	**27**	**28N**	**9W**	**San Juan**

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☒ Condensate	Volume Released (bbls): **3-5 Barrels**	Volume Recovered (bbls): **None**
☒ Natural Gas	Volume Released (Mcf): **1 MCF**	Volume Recovered (Mcf): **None**
☐ Other (describe)	Volume/Weight Released (provide units):	Volume/Weight Recovered (provide units)

Cause of Release: On December 1, 2020, Enterprise had a release of natural gas and natural gas liquids from the Lateral C-6 Loop pipeline. Minimal amount of fluids were release to the ground surface. No washes/waterways were affected. The pipeline was isolated, depressurized, locked and tagged out. Enterprise began repairs and remediation December 4, 2020 and determined this release reportable per NMOCD regulation, due to the volume of impacted subsurface soil. The final excavation dimensions measured approximately 9 feet long by 6 feet wide by 3 feet deep. Approximately 12 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.

Form C-141
Page 1

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

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

Signature: Jon E. Fields Date: 3/4/2021

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: Jennifer Nobui Date: 01/24/2022

Printed Name: Jennifer Nobui Title: Environmental Specialist A

ENSOLUM

CLOSURE REPORT

Property:

Lateral C-6 Loop (12/01/20)
NW ¼, S27 T28N R9W
San Juan County, New Mexico

January 27, 2021
Ensolum Project No. 05A1226128

Prepared for:

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

Prepared by:

Chad D'Aponti
Environmental Scientist

Kyle Summers, CPG
Sr. Project Manager

Table of Contents

LIST OF APPENDICES

ENSOLUM

CLOSURE REPORT

Lateral C-6 Loop (12/01/20)
NW ¼, S27 T28N R9W
San Juan County, New Mexico

Ensolum Project No. 05A1226128

1.0 INTRODUCTION

1.1 Site Description & Background

Operator:	Enterprise Field Services, LLC / Enterprise Products Operating LLC (Enterprise)
Site Name:	Lateral C-6 Loop (12/01/20) (Site)
Incident ID	NRM2035349510
Location:	36.639644 ° North, 107.784244 ° West Northwest (NW) ¼ of Section 27, Township 28 North, Range 9 West San Juan County, New Mexico
Property:	United States Bureau of Land Management (BLM)
Regulatory:	New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD)

On December 1, 2020, a release of natural gas was identified on the Lateral C-6 Loop pipeline. Enterprise subsequently isolated and locked the pipeline out of service. On December 4, 2020, 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. To address the activities related to 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, 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 figures and documentation 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

and includes an interactive map). No PODs were identified within a one (1) mile radius of the Site in the OSE WRRS database. In addition, no PODs were identified in adjacent Public Land Survey System (PLSS) sections (**Figure A**, **Appendix B**).

- Nine (9) cathodic protection wells were identified within one (1) mile of the Site or in adjacent PLSS sections. The closest cathodic protection well (Hancock #3A) is located approximately 0.8 miles northeast of the Site and at a lower elevation (6,165 feet, based on the well record) than the Site (6,977 feet). The record for this cathodic well indicates a depth to water of approximately 40 feet below grade surface (bgs). The remaining cathodic well records for wells located over one (1) mile of the Site indicate water depths ranging from 40 feet bgs to 360 feet bgs (**Figure B**, **Appendix B**).

- The Site is not located within a New Mexico EMNRD OCD-defined continuously flowing 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 fresh water wells used by less than five (5) households for domestic or stock watering purposes were identified within 500 feet of the Site (**Figure E**, **Appendix B**).

- No fresh water 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 located within 300 feet of a wetland (**Figure F**, **Appendix B**).

- Based on information identified in the New Mexico Mining and Minerals Division's Geographic Information System (GIS) Maps and Mine Data database, the Site is not located within an area overlying a subsurface mine (**Figure G**, **Appendix B**).

- The Site is not located within an unstable area.

- Based on information identified in the Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL) geospatial database, the Site is not located within a 100-year floodplain (**Figure H**, **Appendix B**).

Based on the identified siting criteria, the depth to water at the Site is estimated to be greater than 100 feet bgs. However, soil requirements of NMAC 19.15.29.13(D)(1) indicate that a minimum of the upper four (4) feet must contain "uncontaminated" soil and that the soils meet Tier I closure criteria listed in Table 1 of NMAC 19.15.29.12. Petroleum hydrocarbon impact was not encountered below three (3) feet bgs, resulting in the following soil zone closure criteria:

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

3.0 SOIL REMEDIATION ACTIVITIES

On December 4, 2020, Enterprise initiated activities to facilitate the repair of the pipeline and remediate petroleum hydrocarbon impact. During the remediation and corrective action activities, Industrial Mechanical, Inc., (IMI) provided heavy equipment and labor support, while Ensolum provided environmental consulting support.

The final excavation measured approximately nine (9) feet long and six (6) feet wide at the maximum extents. The maximum depth of the excavation measured approximately three (3) feet bgs.

The lithology encountered during the completion of remediation activities consisted primarily of unconsolidated silty sand underlain by sandstone.

Approximately 12 cubic yards of petroleum hydrocarbon affected soils and six (6) barrels (bbls) of hydro-excavation soil cuttings and water were transported to the Envirotech, Inc., (Envirotech) landfarm near Hilltop, New Mexico for disposal/remediation. The executed C-138 solid waste acceptance form is provided in **Appendix C**. The excavation was backfilled with imported fill and then contoured to the surrounding grade.

The map in **Figure 3** (**Appendix A**) 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 five (5) composite soil samples (S-1 through S-5) from the excavation for laboratory analysis. The composite samples were comprised of five (5) aliquots each and represent an estimated 200 square foot sample area per guidelines outlined in 19.15.29.12 Section D NMAC. A clean shovel was utilized to obtain fresh aliquots from each area of the excavation.

On December 4, 2020, sampling was performed at the Site. The BLM and New Mexico EMNRD OCD were notified of the sampling event although no representatives were present during sampling activities. The regulatory correspondence is provided in **Appendix E**.

Composite soil samples S-1 (0'-3'), S-2 (0'-3'), S-3 (0'-3'), and S-4 (0'-3') were collected from the walls of the excavation. Composite soil sample S-5 (3') was collected from the floor of excavation.

The soil samples were 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, 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 #8260; TPH gasoline range organics (GRO), diesel range organics (DRO), and motor oil/lube oil range organics (MRO) using EPA SW-846 Method #8015; and chlorides using EPA Method #300.0.

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

6.0 DATA EVALUATION

Ensolum compared the BTEX, TPH, and chloride laboratory analytical results or laboratory practical quantitation limits (PQLs) / reporting limits (RLs) associated with the composite soil samples (S-1 through S-5) to the applicable New Mexico EMNRD OCD closure criteria.

- The laboratory analytical results for the composite soil samples 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 milligrams per kilogram (mg/kg).

- The laboratory analytical results for the composite soil samples 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 the composite soil samples 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 100 mg/kg.

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

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

7.0 RECLAMATION AND REVEGETATION

The excavation was backfilled with imported soil and then contoured to surrounding grade. The area near the well tie is a driving area.

8.0 FINDINGS AND RECOMMENDATION

- Five (5) composite soil samples were collected from the excavation. Based on laboratory analytical results, no benzene, BTEX, chloride, or combined TPH GRO/DRO/MRO exceedances were identified in the Site soils.

- Approximately 12 cubic yards of petroleum hydrocarbon affected soils and six (6) bbls of hydro-excavation soil cuttings and water were transported to the Envirotech landfarm for disposal/remediation. The excavation was backfilled with imported fill and then contoured to the surrounding grade.

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

9.0 STANDARDS OF CARE, LIMITATIONS, AND RELIANCE

9.1 Standard of Care

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

9.2 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.

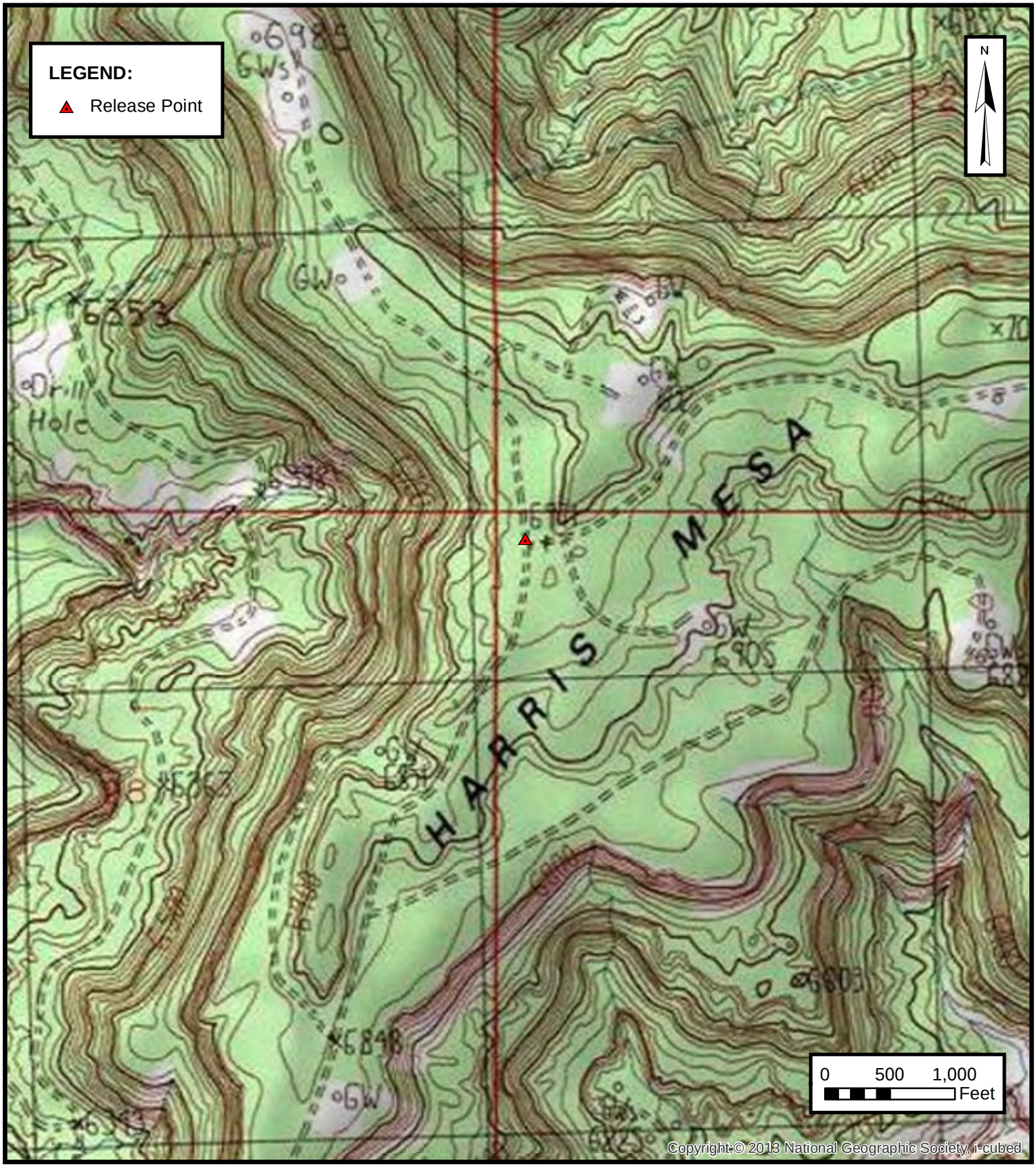
9.3 Reliance

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 report, and Ensolum's Master Services Agreement. The limitation of liability defined in the agreement is the aggregate limit of Ensolum's liability to the client.

ENSOLUM

APPENDIX A

Figures



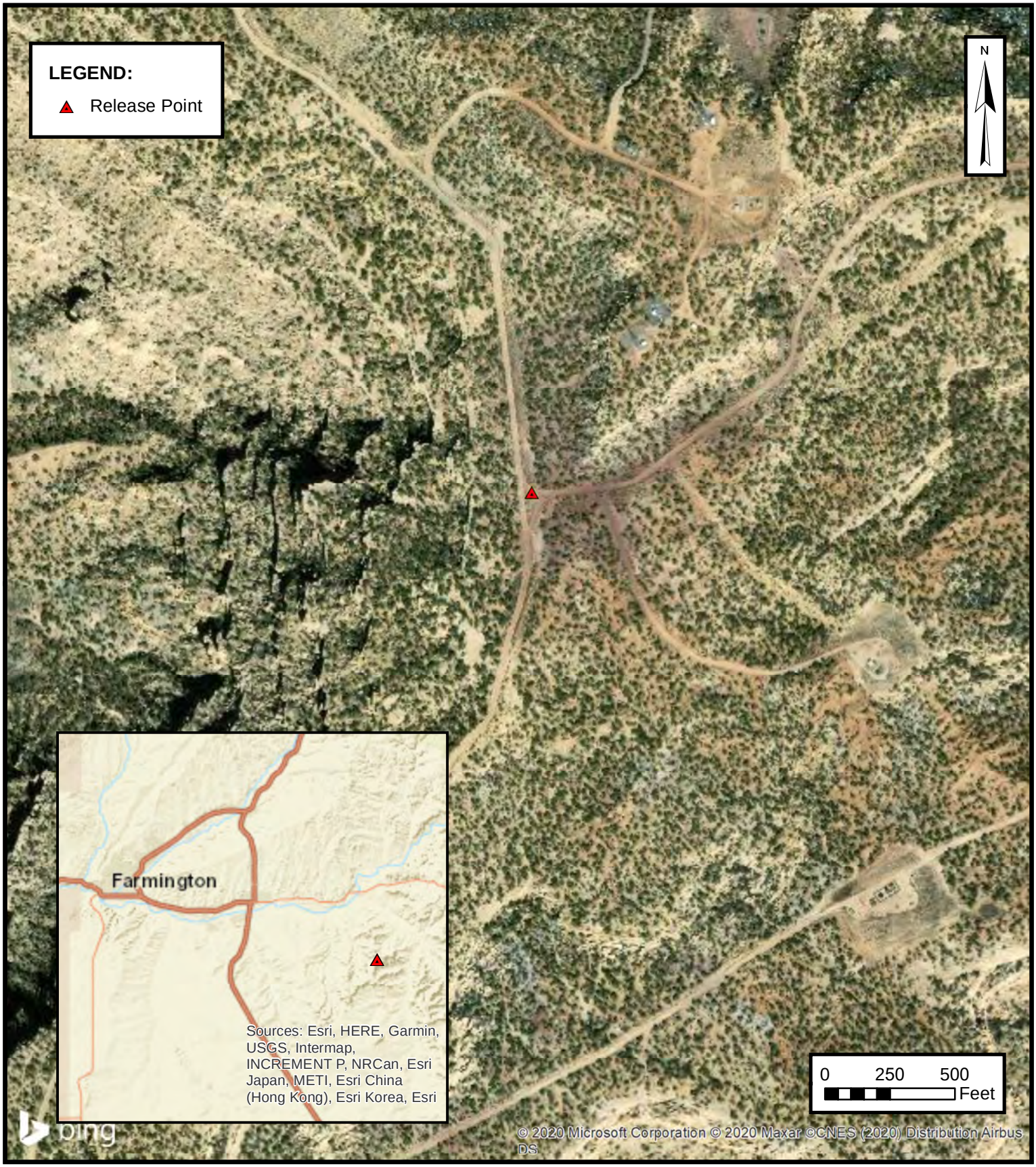
ENSOLUM
Environmental & Hydrogeologic Consultants

TOPOGRAPHIC MAP

ENTERPRISE FIELD SERVICES, LLC
LATERAL C-6 LOOP (12/01/20)
NW ¼, S27 T28N R9W, San Juan County, New Mexico
36.639644° N, 107.784244° W

PROJECT NUMBER: 05A1226128

FIGURE
1



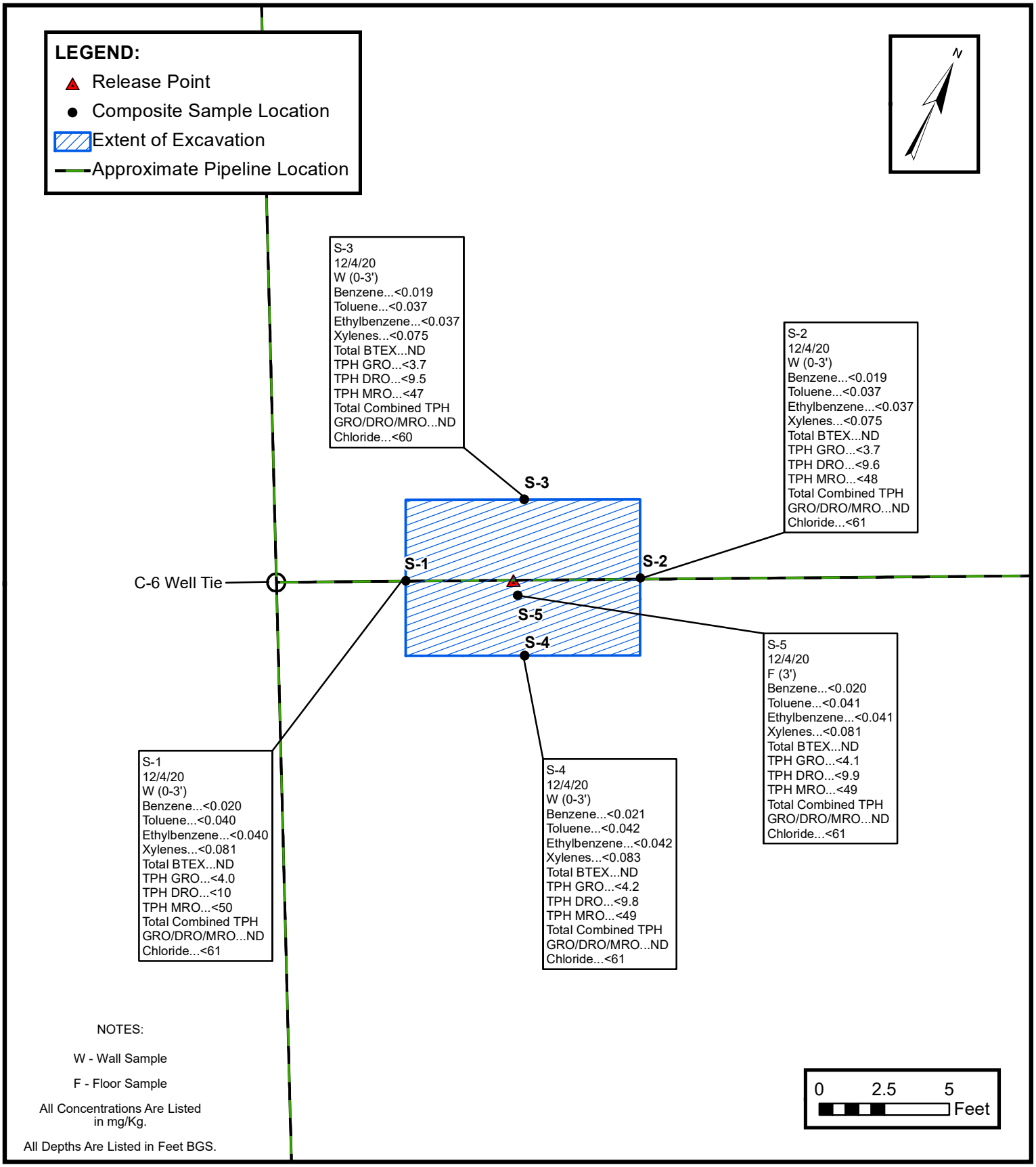
ENSOLUM
Environmental & Hydrogeologic Consultants

SITE VICINITY MAP

ENTERPRISE FIELD SERVICES, LLC
LATERAL C-6 LOOP (12/01/20)
NW ¼, S27 T28N R9W, San Juan County, New Mexico
36.639644° N, 107.784244° W

PROJECT NUMBER: 05A1226128

FIGURE
2



ENSOLUM
Environmental & Hydrogeologic Consultants

SITE MAP

ENTERPRISE FIELD SERVICES, LLC
LATERAL C-6 LOOP (12/01/20)
NW ¼, S27 T28N R9W, San Juan County, New Mexico
36.639644° N, 107.784244° W

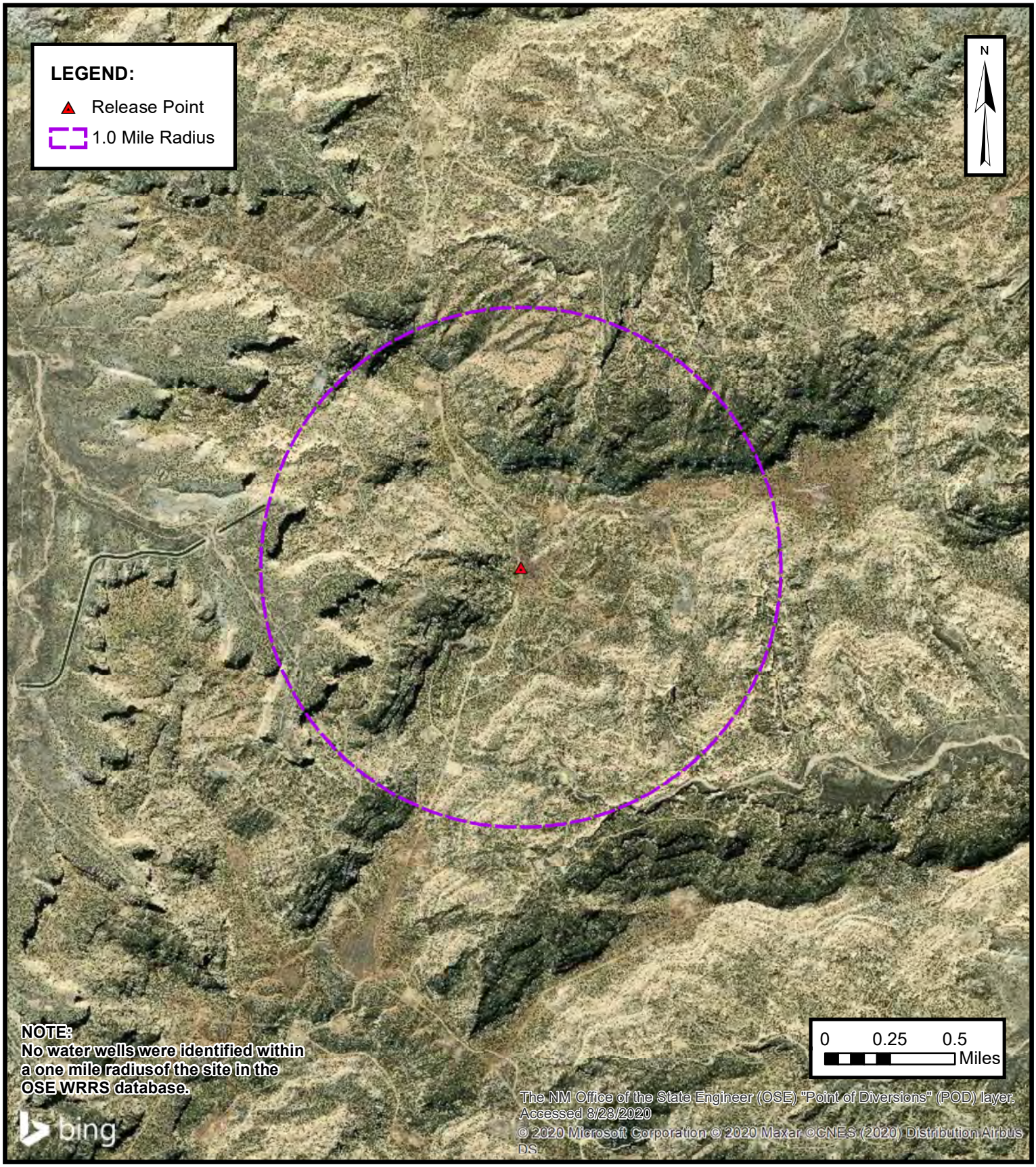
PROJECT NUMBER: 05A1226128

FIGURE
3

ENSOLUM

APPENDIX B

Siting Figures and Documentation



ENSOLUM
Environmental & Hydrogeologic Consultants

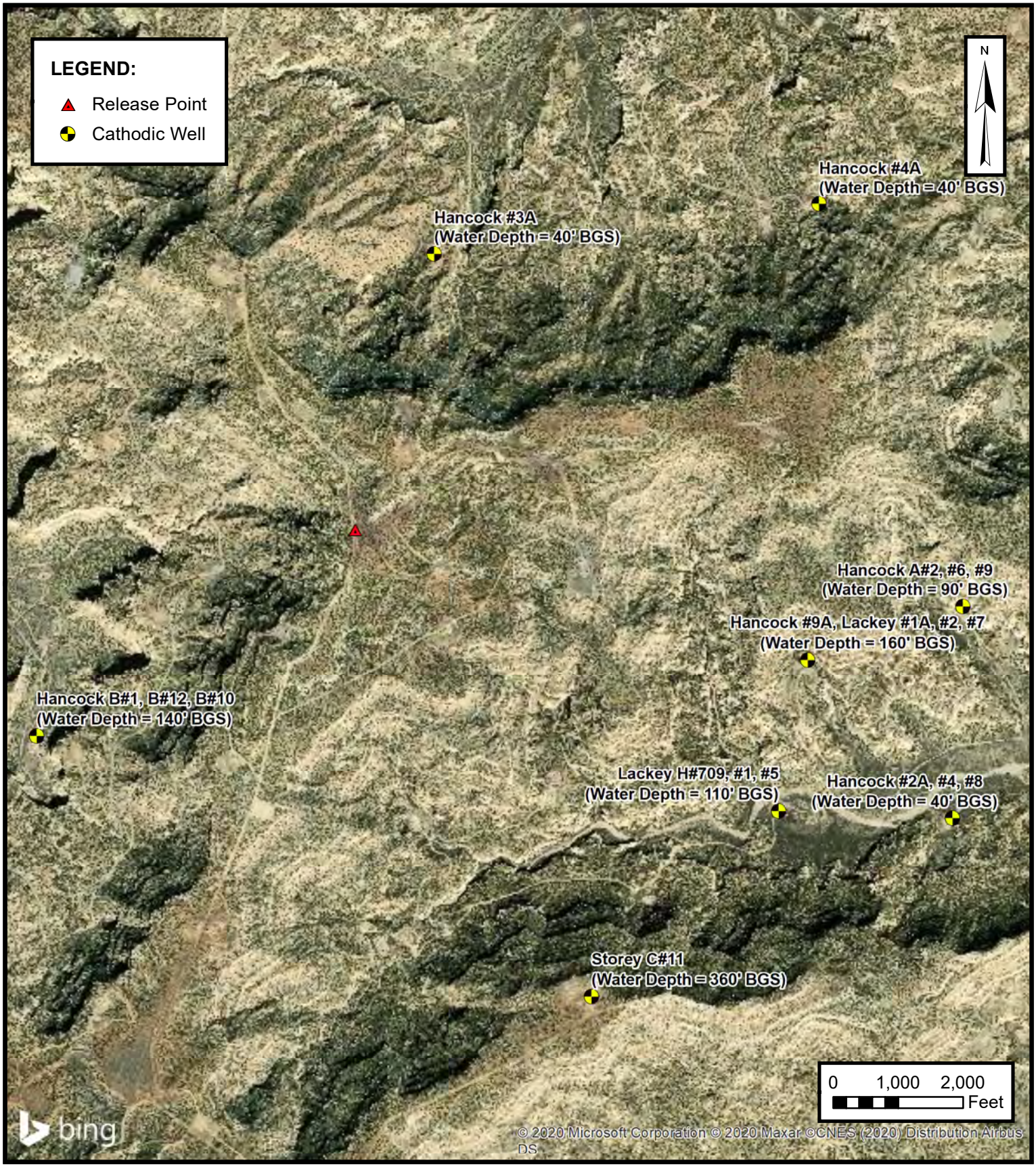
1.0 MILE RADIUS WATER WELL MAP

ENTERPRISE FIELD SERVICES, LLC
LATERAL C-6 LOOP (12/01/20)
NW ¼, S27 T28N R9W, San Juan County, New Mexico
36.639644° N, 107.784244° W

PROJECT NUMBER: 05A1226128

FIGURE

A



ENSOLUM
Environmental & Hydrogeologic Consultants

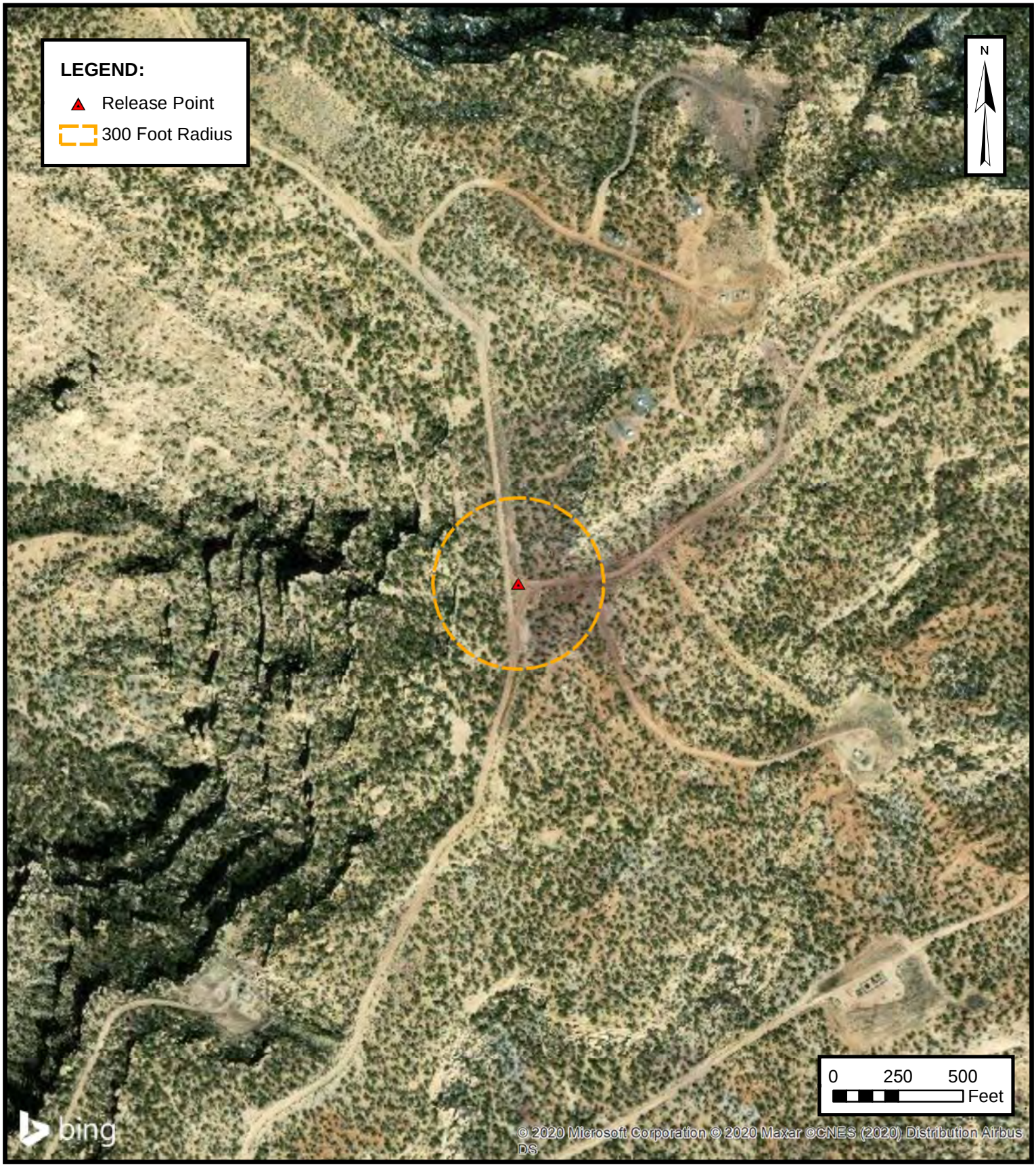
CATHODIC PROTECTION WELL RECORDED DEPTH TO WATER

ENTERPRISE FIELD SERVICES, LLC
LATERAL C-6 LOOP (12/01/20)
NW ¼, S27 T28N R9W, San Juan County, New Mexico
36.639644° N, 107.784244° W

PROJECT NUMBER: 05A1226128

FIGURE

B

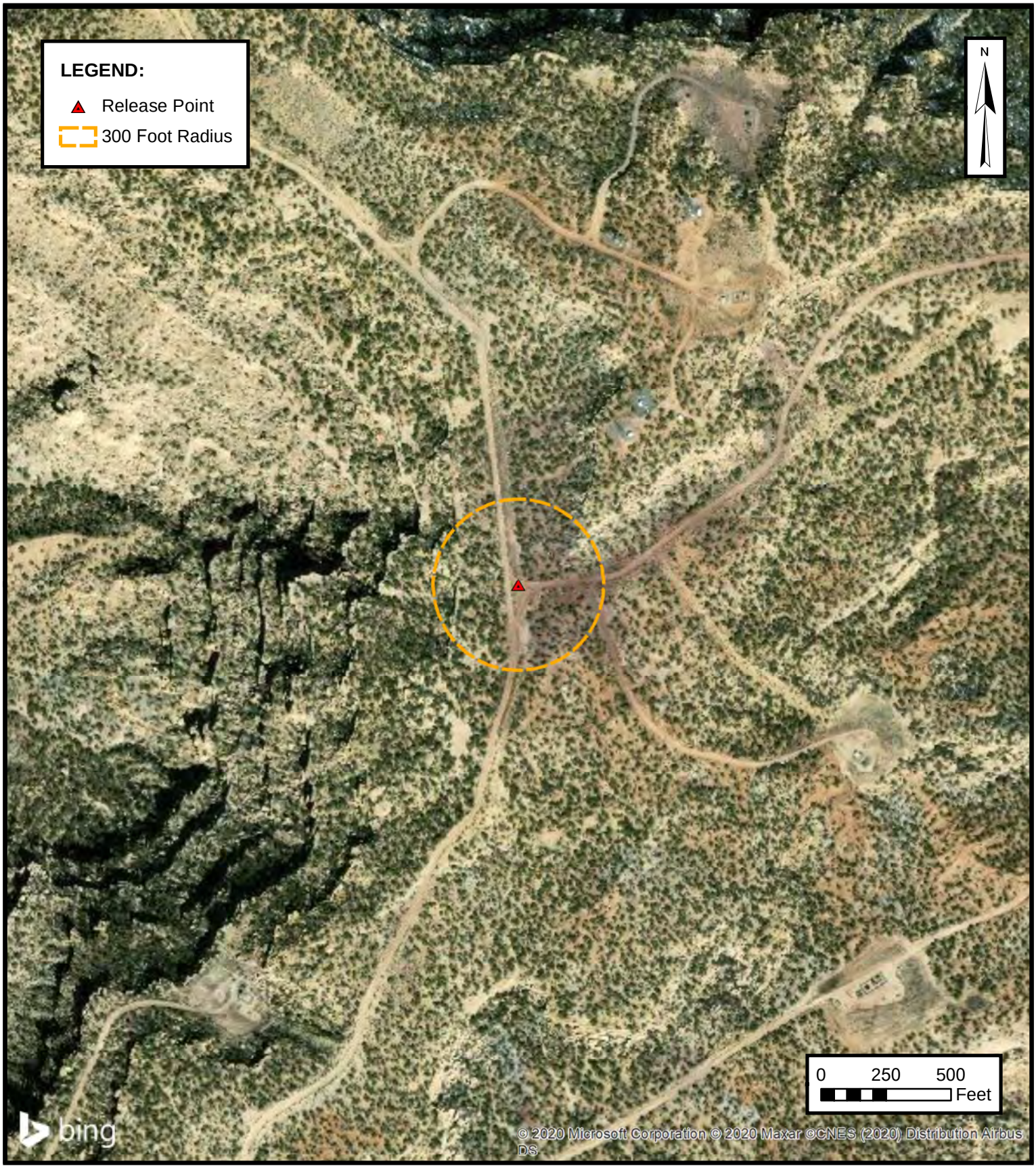


ENSOLUM
Environmental & Hydrogeologic Consultants

300 FOOT RADIUS
WATERCOURSE AND DRAINAGE IDENTIFICATION
ENTERPRISE FIELD SERVICES, LLC
LATERAL C-6 LOOP (12/01/20)
NW ¼, S27 T28N R9W, San Juan County, New Mexico
36.639644° N, 107.784244° W

PROJECT NUMBER: 05A1226128

FIGURE
C



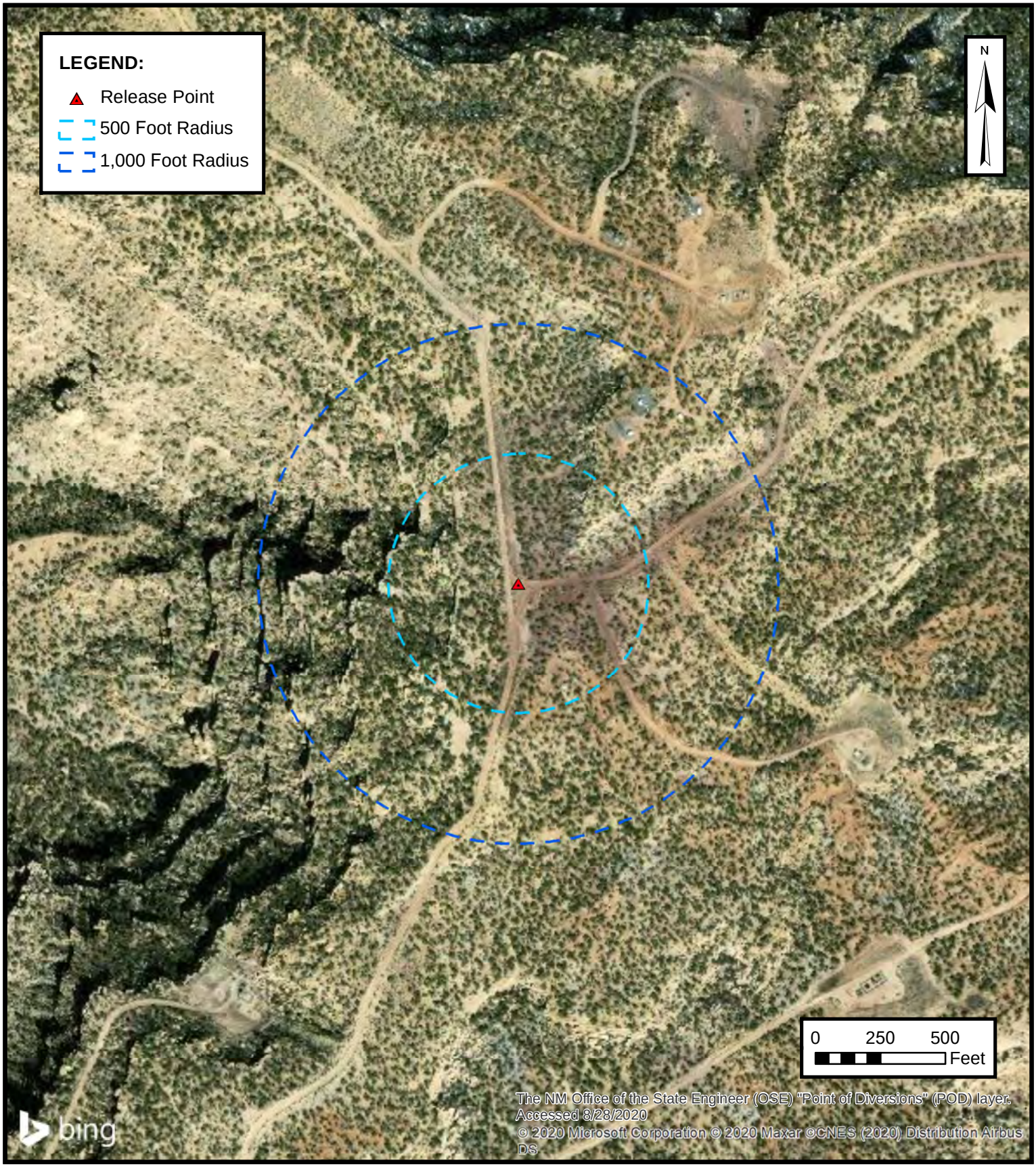
ENSOLUM
Environmental & Hydrogeologic Consultants

300 FOOT RADIUS
OCCUPIED STRUCTURE IDENTIFICATION

ENTERPRISE FIELD SERVICES, LLC
LATERAL C-6 LOOP (12/01/20)
NW ¼, S27 T28N R9W, San Juan County, New Mexico
36.639644° N, 107.784244° W

PROJECT NUMBER: 05A1226128

FIGURE
D



ENSOLUM
Environmental & Hydrogeologic Consultants

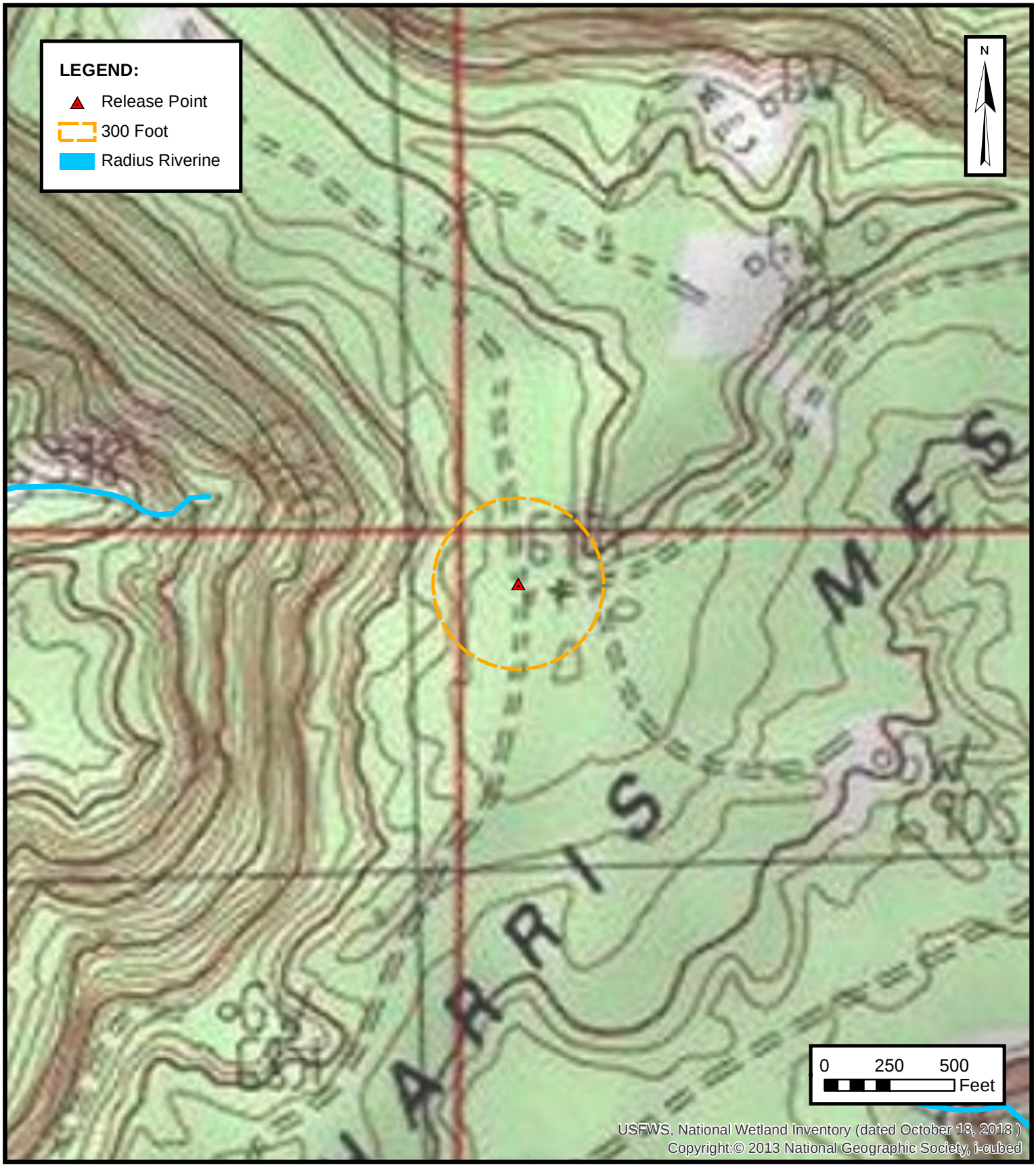
WATER WELL AND NATURAL SPRING LOCATION

ENTERPRISE FIELD SERVICES, LLC
LATERAL C-6 LOOP (12/01/20)
NW ¼, S27 T28N R9W, San Juan County, New Mexico
36.639644° N, 107.784244° W

PROJECT NUMBER: 05A1226128

FIGURE

E



ENSOLUM
Environmental & Hydrogeologic Consultants

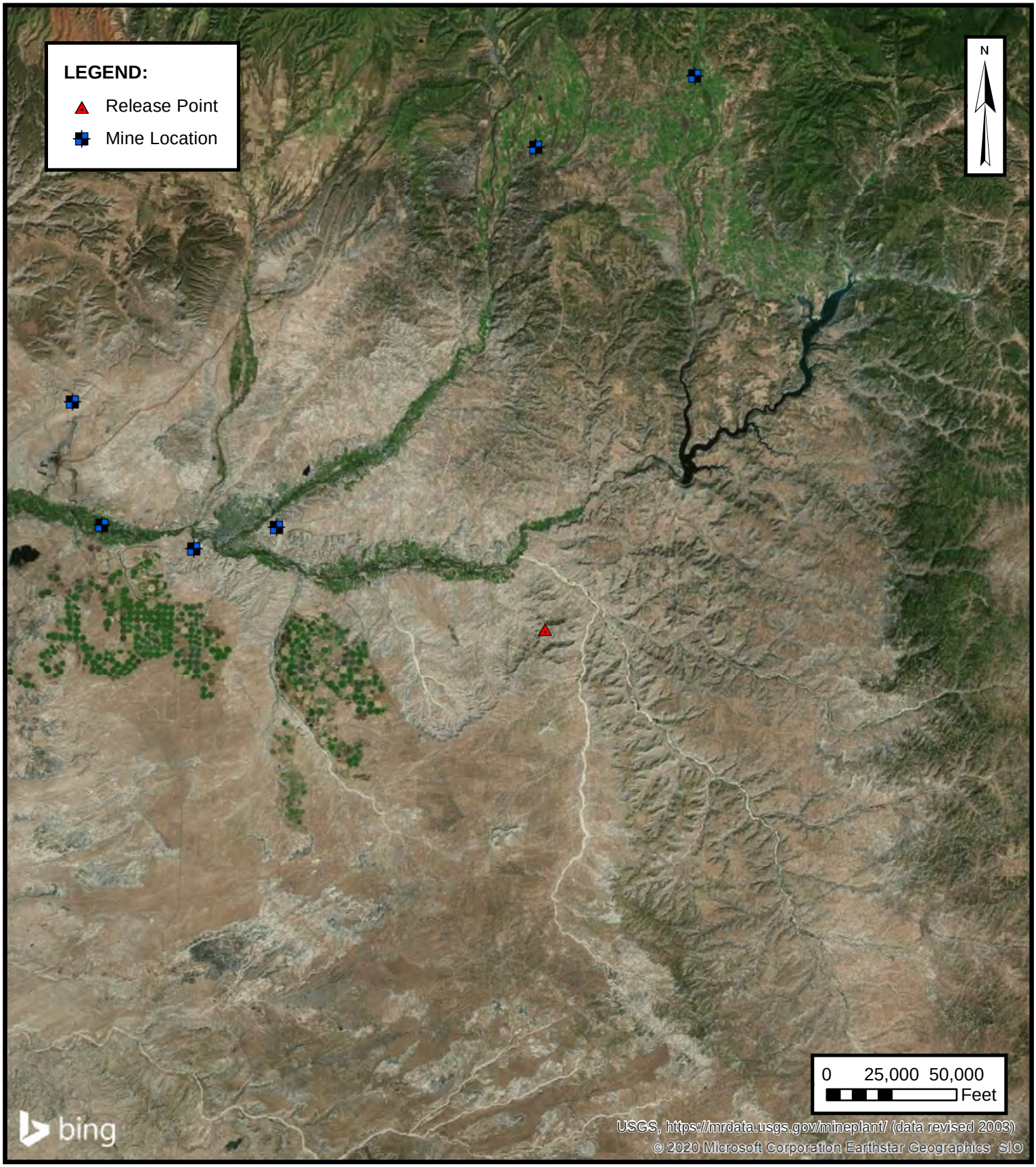
WETLANDS

ENTERPRISE FIELD SERVICES, LLC
LATERAL C-6 LOOP (12/01/20)
NW ¼, S27 T28N R9W, San Juan County, New Mexico
36.639644° N, 107.784244° W

PROJECT NUMBER: 05A1226128

FIGURE

F



ENSOLUM
Environmental & Hydrogeologic Consultants

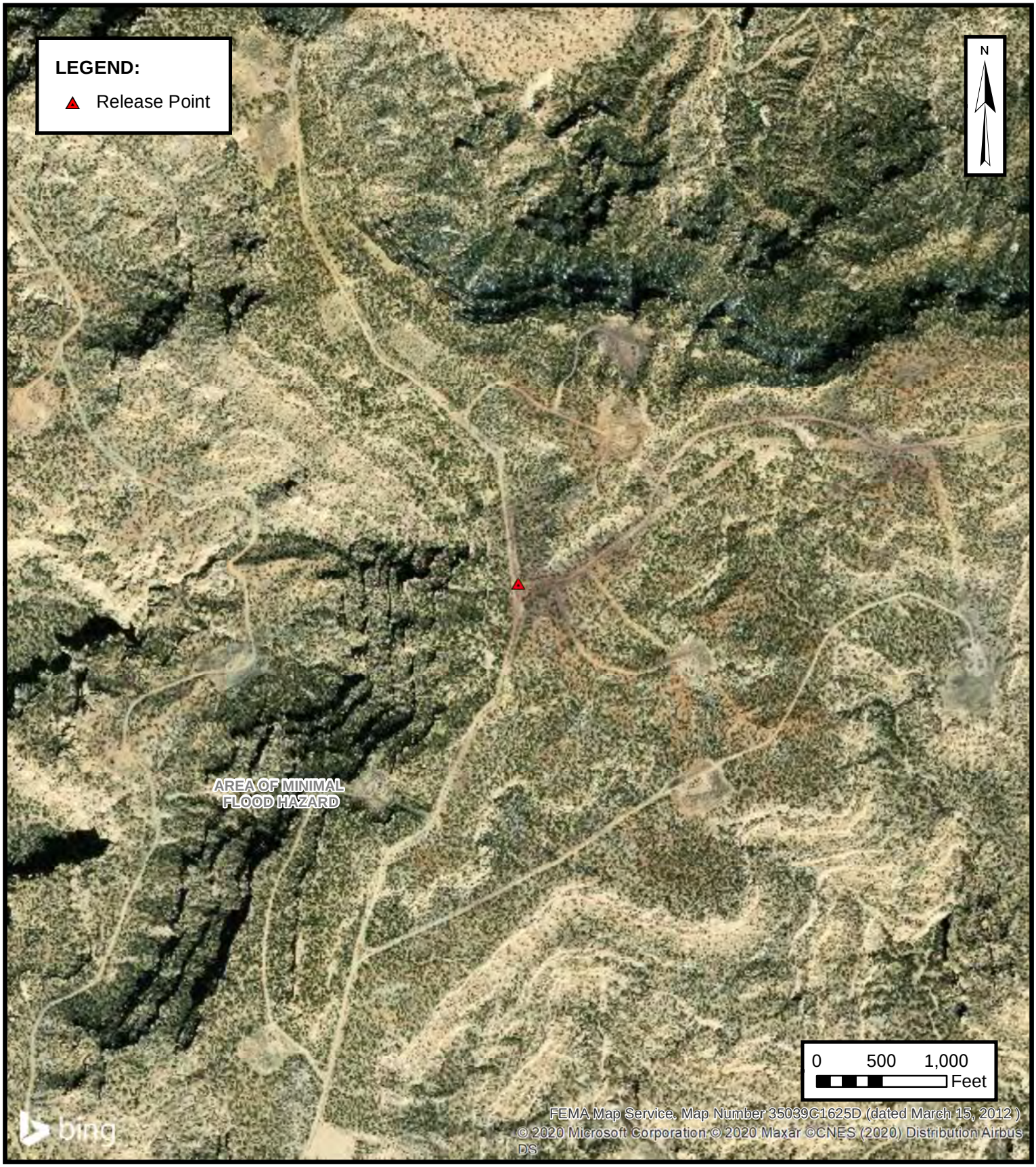
MINES, MILLS AND QUARRIES

ENTERPRISE FIELD SERVICES, LLC
LATERAL C-6 LOOP (12/01/20)
NW ¼, S27 T28N R9W, San Juan County, New Mexico
36.639644° N, 107.784244° W

PROJECT NUMBER: 05A1226128

FIGURE

G



ENSOLUM
Environmental & Hydrogeologic Consultants

100-YEAR FLOOD PLAIN MAP

ENTERPRISE FIELD SERVICES, LLC
LATERAL C-6 LOOP (12/01/20)
NW ¼, S27 T28N R9W, San Juan County, New Mexico
36.639644° N, 107.784244° W

PROJECT NUMBER: 05A1226128

FIGURE

H

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

No records found.

PLSS Search:

Section(s): 27, 21, 22, 23, 26, 28, 33, 34, 35 **Township:** 28N **Range:** 09W

1296

30-045-26464

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

Operator MERIDIAN OIL INC. Location: Unit F Sec. 22 Twp 28 Rng 9

Name of Well/Wells or Pipeline Serviced ANCOCK #3A

cps 1905w

Elevation 6165' Completion Date 11/6/87 Total Depth 390' Land Type* N/A

Casing, Sizes, Types & Depths 20' OF 8" PVC SURFACE CASING

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

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

N/A

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

Fresh, Clear, Salty, Sulphur, Etc. 40', 100' - 140' SAMPLE TAKEN

Depths gas encountered: N/A

Type & amount of coke breeze used: N/A

Depths anodes placed: 355', 345', 335', 325', 265', 255', 245', 235', 225', 170'

Depths vent pipes placed: 383'

Vent pipe perforations: 340'

Remarks: gb #1

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

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

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

PM-07-023S (Rev. 10-82)

WELL CASING

CATHODIC PROTECTION CONSTRUCTION REPORT

DAILY LOG

Drilling Log (Attach Hereto) ☐

T. E. G.

Completion Date 11/6/87

CPS #	Well Name, Line or Plant:	Work Order #	Static:	Ins. Union Check
1905 W	HANCOCK #3A		.78V N.	☒ Good ☐ Bad

Location:	Anode Size:	Anode Type.	Size Bit:
NW 22-28-9	2" X 60"	DURION	6 3/4"

Depth Drilled	Depth Logged	Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
390'	383'				

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Anode Depth	355'	345'	335'	325'	265'	255'	245'	235'	225'	170'
Anode Output (Amps)	4.3	4.5	4.8	5.4	5.4	6.3	6.1	6.2	5.7	6.3

	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20
Anode Depth										
Anode Output (Amps)										

Total Circuit Resistance			No. 8 C.P. Cable Used	No. 2 C.P. Cable Used
Volts 11.98	Amps 26.7	Ohms .45		

Remarks: Driller said water at 40', could not blow water out of hole. More water from 100'–140'. Took water sample. Lost circulation at 220', got circulation back next A.M. Set 20' of 8" P.V.C. surface casing. 1 Hr. setting time. Installed 383' of 1" P.V.C. vent pipe perforated 340'.

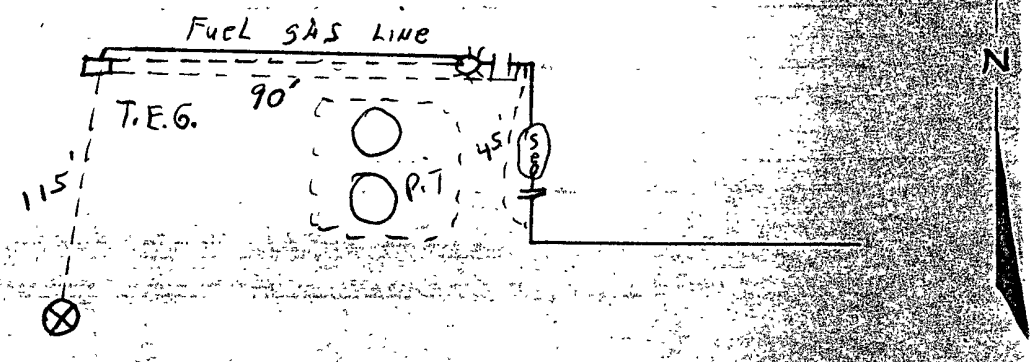
G.B $4399.00

Rectifier Size: — V — A T. E. G.

Addn'l Depth	—	468.00 ✓
Depth Credit:	-117' ✓	
Extra Cable:	130' ✓	26.00 ✓
Ditch & 1 Cable:	250'	175.00 ✓
~~Ditch & 2 Cable:~~		
25' Meter Pole:	—	
20' Meter Pole:	—	
10' Stub Pole:	—	
Junction Box:	1	269.90 ✓
20' of 8" P.V.C. casing.		$100.40
1 Hr. casing Time at $125.00/Hr.		125.00
		$4626.90
		TAX 231.35
		TOTAL $4858.25

All Construction Completed

J. C. Stalla (Signature)



MERIDIAN OIL

P. O. BOX 4289-Phone 327-0251
FARMINGTON, NM

Date 11/6/87

DEEP WELL GROUNDBED LOG

CPS 1905 W

Company Meridian oil

.45 Ω

Well No. Hancock #3A Location NW 22-28-9 Volts Applied 11.98 Amperes 26.7

Depth	Reading	Depth	Reading	Depth	Reading	Depth	Reading
0							
5		230	2.6	455		680	
10		235	3.0 — (8)	460		685	
15		240	3.3	465		690	
20		245	3.2 — (7)	470		695	
25		250	3.1	475		700	
30		255	3.1 — (6)	480		705	1-395-3.7-4.5
35		260	3.0	485		710	2-345-3.6-4.5
40		265	2.7 — (5)	490		715	3-335-3.4-4.8
45		270	2.4	495		720	4-325-3.9-5.4
50		275	2.4	500		725	5-265-3.3-5.[illegible]
55		280	2.0	505		730	6-255-4.1-6.[illegible]
60		285	1.4	510		735	7-245-4.3-6.1
65		290	1.6	515		740	8-235-4.0-6.[illegible]
70		295	1.6	520		745	9-225-3.6-5.[illegible]
75		300	1.6	525		750	10-170-4.5-6.[illegible]
80		305	1.6	530		755	
85		310	1.6	535		760	
90		315	1.3	540		765	
95		320	1.3	545		770	
100	1.4	325	2.9 — (4)	550		775	
105	1.0 (Water)	330	3.0	555		780	
110	1.1 (Water)	335	2.7 — (3)	560		785	
115	1.3 (Water)	340	2.7	565		790	
120	1.9 (Water)	345	2.8 — (2)	570		795	
125	1.3 (Water)	350	2.8	575		800	
130	.7 (Water)	355	2.8 — (1)	580		805	
135	.6 (Water)	360	2.7	585		810	
140	.6 (Water)	365	2.2	590		815	
145	.6	370	1.6	595		820	
150	.8	375	T.D.	600		825	
155	1.1	380	383	605		830	
160	2.2	385		610		835	
165	2.6	390	Drilled To	615		840	
170	3.3 — (10)	395		620		845	
175	3.1	400		625		850	
180	1.6	405		630		855	
185	1.6	410		635		860	
190	2.0	415		640		865	
195	2.2	420		645		870	
200	2.1	425		650		875	
205	2.1	430		655		880	
210	1.7	435		660		885	
215	2.4	440		665		890	
220	2.6	445		670		895	
225	2.9 → (9)	450		675		900	

CATHODIC PROTECTION SERVICES

W L TYPE GROUNDBED DA

DATA SHEET NO. 1 OF 2

COMPANY MERIDIAN OIL CO. JOB No. 13121 DATE: 11-6-87

WELL: HANCOCK #38 PIPELINE:

LOCATION: SEC. 22 TWP. 28 RGE. 9 CO. SAN JUAN STATE NM

ELEV. ____ FT: ROTARY 383' FT: CABLE TOOL -0- FT: CASING 20'-8" PVC

GROUNDBED: DEPTH 383' FT. DIA. 6¾ IN. GAB ____ LBS. ANODES 10-2" x 60" TYPE

DEPTH FT.	DRILLER'S LOG	EXPLORING ANODE TO STRUCTURE E	I	R	NO COKE	WITH COKE	DEPTH TOP OF ANODES NO.	FT.
	FIRST WATER AT 100'-140'							
5	SAND (5GPM)							
10								
15								
20								
25								
30								
35								
40								
45								
50								
55								
60								
65								
70								
75								
80								
85								
90								
95								
100	SANDY SHALE		1.4					
5			1.0					
10			1.1					
15			1.3					
20			1.9					
25			1.3					
30			0.7					
35			0.6					
40			0.6					
45			0.7					
50			0.8					
55			1.1					
60	SHALE		2.2					
65			2.3					
70			3.3		4.5	6.3	160	170
75			3.1					
80			1.6					
85			1.6					
90			2.0					
95			2.2					
200	SANDY SHALE		2.1					
5	(LOST CIRCULATION)		2.1					
10	SHALE		1.7					
15			2.4					

GROUNDBED RESISTANCE: (1) VOLTS 11.98 ÷ AMPS 26.7 = .45 OHMS

(2) VIBROGROUND ____ OHMS

CATHODIC PROTECTION SERVICES

WELL TYPE GROUNDBED DATA

DATA SHEET NO. 2 of 2

COMPANY _____ JOB No. _____ DATE: _____

WELL: HANCOCK #3A PIPELINE: _____

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

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

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

DEPTH FT.	DRILLER'S LOG	EXPLORING ANODE TO STRUCTURE E	I	R	NO COKE I	WITH COKE I	DEPTH TOP OF ANODES NO.	FT.
20	SPACE		2.6					
25			2.9		3.6	5.3	9	225
30			2.6					
35			3.0		4.0	6.2	8	235
40			3.3					
45			3.2		4.3	6.1	7	245
50			3.1					
55			3.1		4.1	6.3	6	255
60			3.0					
65			2.7		3.3	5.4	5	265
70			2.4					
75			2.4					
80			1.9					
85			1.4					
90			1.6					
95			1.6					
300	SAND		1.6					
5			1.6					
10			1.6					
15			1.3					
20			1.3					
25			2.9		3.9	5.4	4	325
30			3.0					
35	SANDY SHALE		2.7		3.2	4.8	3	335
40			2.7					
45			2.8		3.6	4.5	2	345
50			2.8					
55			2.8		3.7	4.3	1	355
60			2.7					
65			2.2					
70			1.6					
75			1.3					
80								
85								
90	TD 383							
95								
400								
5								
10								
15								
20								
25								
30								

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

(2) VIBROGROUND _____ OHMS

CPS-190-CO

API WATER ANALYSIS REPORT FORM

Company		Sample No.	Date Sampled
MERIDIAN OIL COMPANY		1	11-5-87
Field	**Legal Description**	**County or Parish**	**State**
BLANCO	NW 22-28-9	San Juan	N.M.
Lease or Unit	**Well**	**Depth**	**Formation**	**Water, B/D**
	HANCOCK #3A	120'		
Type of Water (Produced, Supply, etc.)	**Sampling Point**	**Sampled By**
	120' Ground Reel	JS

DISSOLVED SOLIDS

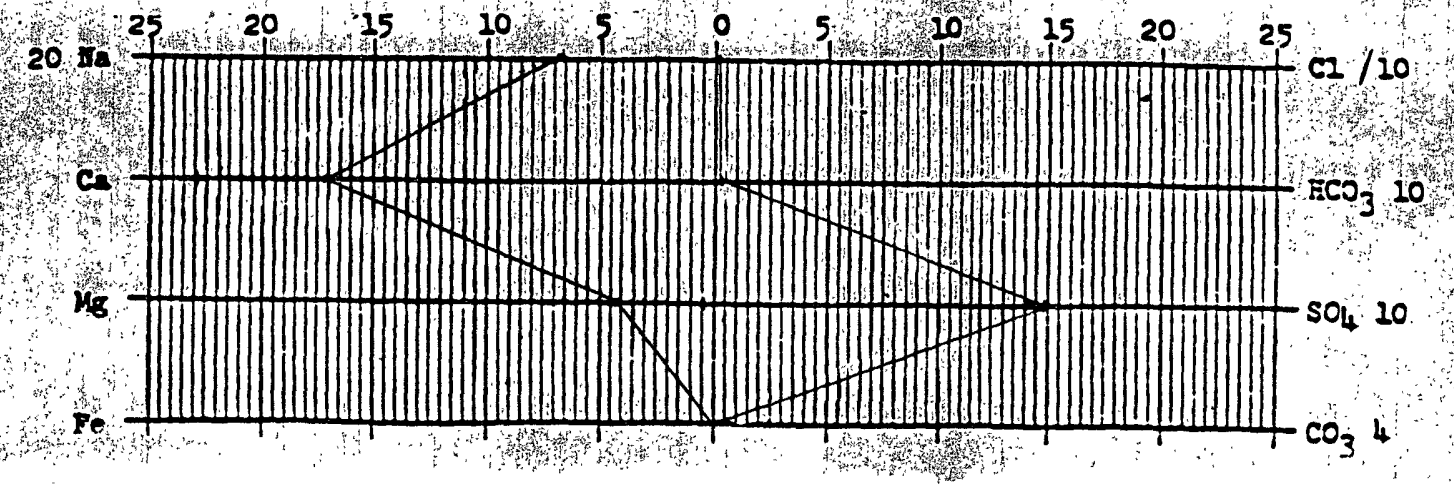
CATIONS	mg/l	me/l
Sodium, Na (calc.)	3054	133
Calcium, Ca	340	17
Magnesium, Mg	53	4.3
Barium, Ba		

ANIONS	mg/l	me/l
Chloride, Cl	64	1.8
Sulfate, SO_4	7300	150.
Carbonate, CO_3	0	0
Bicarbonate, HCO_3	142	2.3

OTHER PROPERTIES

pH	7.41
Specific Gravity, 60/60 F.	1.0089
Resistivity (ohm-meters) 72° F.	1.39
Total Dissolved Solids (calc.)	11,000
Iron, Fe (total)	
Sulfide, as H_2S	0

REMARKS & RECOMMENDATIONS:



1298

30-045-26384

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

Operator MERIDIAN OIL INC. Location: Unit C Sec. 23 Twp 28 Rng 9

Name of Well/Wells or Pipeline Serviced HANCOCK #4A

cps 1906w

Elevation 6164' Completion Date 11/4/87 Total Depth 390' Land Type* N/A

Casing, Sizes, Types & Depths N/A

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

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

N/A

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

Fresh, Clear, Salty, Sulphur, Etc. 40' SAMPLE TAKEN

Depths gas encountered: N/A

Type & amount of coke breeze used: N/A

Depths anodes placed: 345', 335', 325', 315', 305', [illegible] 275', [illegible], 255'

Depths vent pipes placed: 390'

Vent pipe perforations: 340'

Remarks: gb #1

RECEIVED
MAY 31 1991
OIL CON. DIV
DIST. 3

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

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

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

WELL CASING

CATHODIC PROTECTION CONSTRUCTION REPORT

DAILY LOG

Drilling Log (Attach Hereto) ☐ Completion Date 11/4/87

CPS #	Well Name, Line or Plant:	Work Order #	Static:	Ins. Union Check
1906W	HANCOCK "A" 4A		.82 N	☒ Good ☒ Bad Again 11/5

Location	Anode Size	Anode Type	Size Bit:
NW 23-28-9	2"X60"	DURION	6 3/4"

Depth Drilled	Depth Logged	Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
390'	390'				

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Anode Depth	345'	335'	325'	315'	305'	295'	285'	275'	265'	255'
Anode Output (Amps)	3.7	5.3	5.5	5.7	5.2	4.7	4.9	3.8	4.4	3.8

	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20
Anode Depth										
Anode Output (Amps)										

Total Circuit Resistance			No. 8 C.P. Cable Used	No. 2 C.P. Cable Used
Volts 11.79	Amps 21.6	Ohms .54		

Remarks: Driller said water at 40'. (took water sample)
Installed 390' of 1" P.V.C. vent pipe. Perforated 340'.

G.B = $4399.00

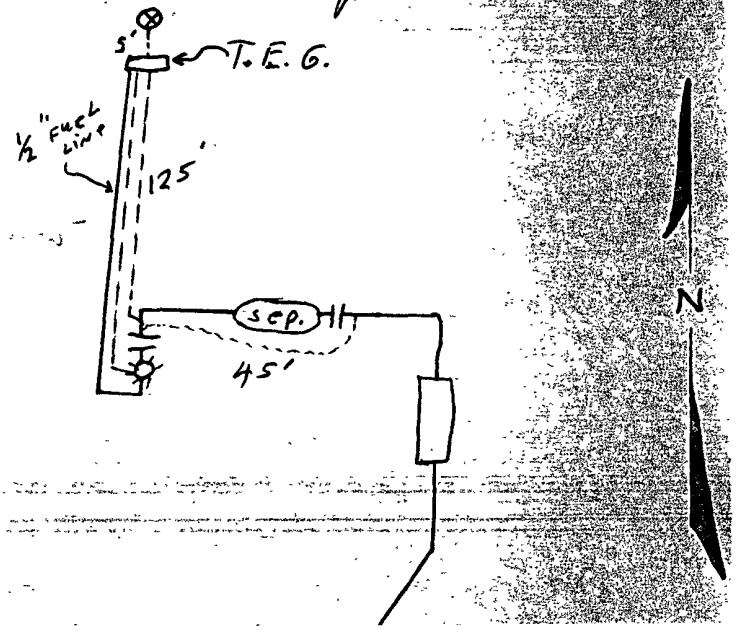
Rectifier Size: ____ V ____ A
Addn'l Depth: —
Depth Credit: -110'
Extra Cable: 165'
Ditch & 1 Cable: 130'
~~Ditch & 2 Cable:~~
25' Meter Pole: —
20' Meter Pole: —
10' Stub Pole: —
Junction Box: 1

T.E.G. no rectifier 199.98 Scottlass
- 440.00
3959.00
3733.00
91.00
269.90

TOTAL 4352.90
TAX @ 5% 217.68
$ 4570.58

All Construction Completed

(Signature)



61164

MERIDIAN OIL

P. O. BOX 4289 Phone 327-0251
FARMINGTON, NM   Date 11/4/87

DEEP WELL GROUNDBED LOG

CPS 1906 W

Company Meridian Oil

Well No Hancock #4A Location NW 23-28-9 Volts Applied 11.79 Amperes 21.6

Depth	Reading	Depth	Reading	Depth	Reading	Depth	Reading
0							
5		230	.9	455		680	
10		235	1.0	460		685	
15		240	1.1	465		690	
20		245	1.3	470		695	
25		250	1.5	475		700	
30		255	2.1 – ⑩	480		705	
35		260	2.0	485		710	
40	1.7 WATER	265	2.5 – ⑨	490		715	1 – 345 – 2.5 – 3.7
45	1.6	270	2.3	495		720	2 – 335 – 3.6 – 5.3
50	1.0	275	2.1 – ⑧	500		725	3 – 325 – 3.8 – 5.5
55	.6	280	2.2	505		730	4 – 315 – 3.8 – 5.7
60	.5	285	2.5 – ⑦	510		735	5 – 305 – 3.8 – 5.2
65	.6	290	2.5	515		740	6 – 295 – 2.9 – 4.7
70	.7	295	2.2 – ⑥	520		745	7 – 285 – 3.4 – 4.9
75	.7	300	2.6	525		750	8 – 275 – 2.8 – 3.8
80	.7	305	2.7 – ⑤	530		755	9 – 265 – 3.3 – 4.4
85	.7	310	2.7	535		760	10 – 255 – 2.8 – 3.8
90	.5	315	2.7 – ④	540		765	
95	.6	320	2.6	545		770	
100	.7	325	2.6 – ③	550		775	
105	.7	330	2.6	555		780	
110	.8	335	2.6 – ②	560		785	
115	.7	340	2.4	565		790	
120	.6	345	1.7 – ①	670		795	
125	.7	350	1.3	575		800	
130	.8	355	1.5	580		805	
135	1.0	360	1.4	585		810	
140	1.2	365	1.4	590		815	
145	1.2	370	1.6	595		820	
150	1.1	375	1.7	600		825	
155	1.1	380	1.5	605		830	
160	1.0	385	1 4.	610		835	
165	1.3	390	T.D. Drilled To	615		840	
170	1.8	395		620		845	
175	1.1	400		625		850	
180	1.0	405		630		855	
185	.8	410		635		860	
190	.7	415		640		865	
195	.7	420		645		870	
200	.7	425		650		875	
205	.6	430		655		880	
210	.6	435		660		885	
215	.6	440		665		890	
220	.6	445		670		895	
225	.7	450		675		900	

CATHODIC PROTECTION SERVICES

WELL TYPE GROUNDBED DATA

DATA SHEET NO. 1 OF 2

COMPANY MERIDIAN OIL CO. JOB No. _____ DATE _____

WELL: HANCOCK #4A PIPELINE: _____

LOCATION: SEC. 23 TWP. 28N RGE. 9W CO. SAN JUAN STATE NM

ELEV. _____ FT: ROTARY 390 FT: CABLE TOOL -0- FT: CASING -0- F

GROUNDBED: DEPTH 390' FT. DIA. 6 3/4 IN. GAB _____ LBS. ANODES 10-2"x60" TEXAS

DEPTH FT.	DRILLER'S LOG	EXPLORING ANODE TO STRUCTURE E	I	R	NO COKE	WITH COKE	DEPTH TOP OF ANODES NO.	FT.
	FIRST WATER AT 40' (5GPM)							
40	0-40 SAND		1.7					
45	SAND		1.6					
50			1.0					
55			0.6					
60			0.5					
65			0.6					
70			0.7					
75			0.7					
80			0.7					
85			0.6					
90			0.5					
95			0.6					
100			0.7					
5			0.7					
10			0.8					
15			0.7					
20			0.6					
25			0.7					
30			0.8					
35			1.0					
40			1.2					
45	SANDY SHALE		1.2					
50			1.1					
55			1.1					
60			1.0					
65			1.3					
70			1.8					
75			1.1					
80			1.0					
85			0.8					
90			0.7					
95			0.7					
800	SAND		0.7					
5			0.6					
10			0.6					
15			0.6					
20			0.6					
25			0.6					
30			0.9					
35			1.0					
40			1.1					
45			1.3					
50			1.5					

GROUNDBED RESISTANCE: (1) VOLTS 11.79 - AMPS 21.6 = .54 OHMS

(2) VIBROGROUND _____ OHMS

WELL TYPE GROUNDBED DATA

DATA SHEET NO. 2 OF 2

COMPANY: MERIDIAN OIL CO. JOB No. DATE:

WELL: HANCOCK #4A PIPELINE:

LOCATION: SEC. TWP. RGE. CO. STATE

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

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

DEPTH, FT.	DRILLER'S LOG	EXPLORING ANODE TO STRUCTURE			NO COKE	WITH COKE	ANODE NO.	DEPTH TOP OF ANODES
		E	I	R	I	I		
55	SAND & SHALE		2.1		2.8	3.8	10	255
60			2.0					
65			2.5		3.3	4.4	9	265
70			2.3					
75			2.1		2.8	3.8	8	275
80			2.2					
85			2.5		3.4	4.9	7	285
90			2.5					
95			2.2		2.9	4.7	6	295
300			2.6					
5			2.7		3.8	5.2	5	305
10			2.7					
15			2.7		3.8	5.7	4	315
20			2.6					
25			2.6		3.8	5.5	3	325
30			2.6					
35			2.6		3.6	5.3	2	335
40			2.4					
45			1.7		2.5	3.7	1	345
50			1.3					
55	SAND		1.5					
60			1.4					
65			1.4					
70			1.6					
75			1.7					
80			1.5					
85			1.4					
90								
95	390'							
400								
5	TD							
10								
15								
20								
25								
30								
35								
40								
45								
50								
55								
60								
65								

GROUNDBED RESISTANCE (I) VOLTS 11.79 ÷ AMPS 21.6 = .54 OHMS

(2) VERIGROUND OHMS

GENERAL CATHODIC PROTECTION SERVICES CO.

A LUKENS COMPANY

CPS - 1906-CO

TECH Inc.
333 Lost Tr
[illegible]

TKH

API WATER ANALYSIS REPORT FORM

Company MERIDIAN OIL COMPANY		Sample No. 2	Date Sampled 11-3-87
Field Blanco	Legal Description	County or Parish San Juan	State N.M.
Lease or Unit	Well Hancock #4A	Depth 60'	Formation
Type of Water (Produced, Supply, etc.)	Sampling Point 60'		Water, B/D
			Sampled By

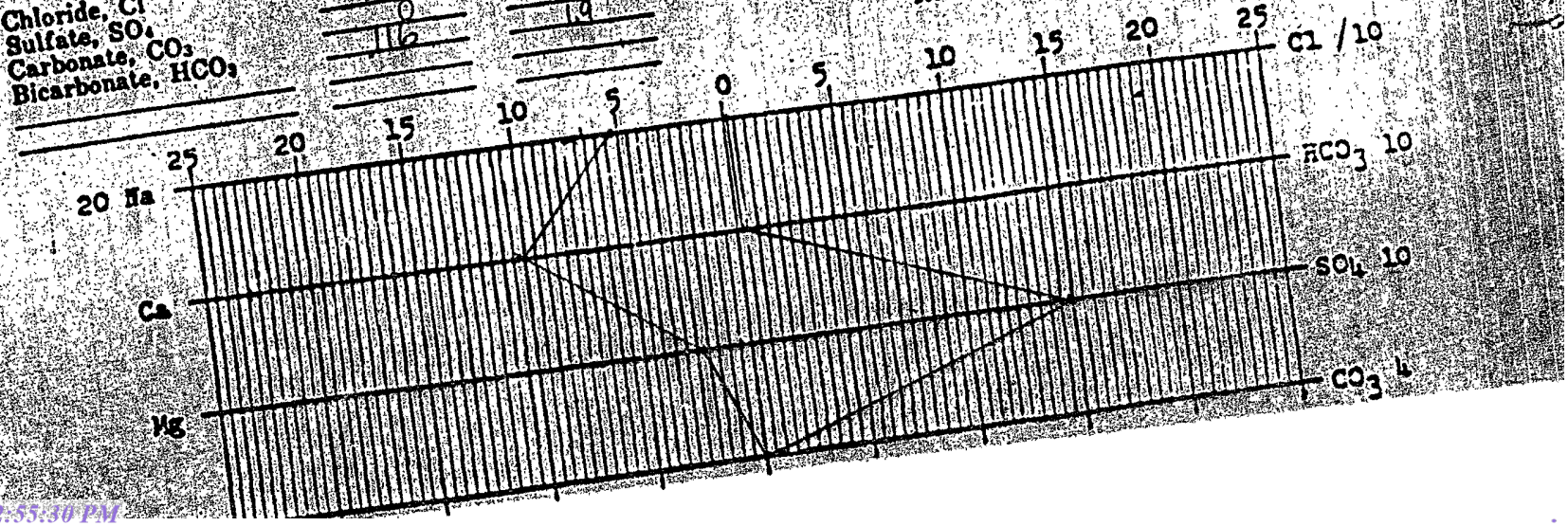
DISSOLVED SOLIDS

	mg/l	me/l
CATIONS		
Sodium, Na (calc.)	2370	103
Calcium, Ca	202	10.1
Magnesium, Mg	33	2.8
Barium, Ba		
ANIONS		
Chloride, Cl	46	1.3
Sulfate, SO_4	5220	113
Carbonate, CO_3	0	0
Bicarbonate, HCO_3	116	1.9

OTHER PROPERTIES

pH	6.74
Specific Gravity, 60/60 F.	1.0085
Resistivity (ohm-meters) 72° F.	1.52
Total Dissolved Solids (calc.)	8000
Iron, Fe (total)	
Sulfide, as H_2S	0

REMARKS & RECOMMENDATIONS:



1301

#1A 30-045-26506
#2 30-045-20625
#7 30-045-21575
#9 30-045-21556

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

Operator MERIDIAN OIL INC. Location: Unit E Sec. 26 Twp 28 Rng 9

Name of Well/Wells or Pipeline Serviced HANCOCK #9, LACKEY #1A, #2, #7

cps 1909w

Elevation 6160' Completion Date 11/10/87 Total Depth 420' Land Type* N/A

Casing, Sizes, Types & Depths N/A

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

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

N/A

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

Fresh, Clear, Salty, Sulphur, Etc. 160'

Depths gas encountered: N/A

Type & amount of coke breeze used: N/A

Depths anodes placed: 375', 365', 340', 330', 320', 285', 260', 250', 240', 220'

Depths vent pipes placed: 424'

Vent pipe perforations: 380'

Remarks: gb #1

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

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

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

MERIDIAN OIL INC.
Farmington Region
Post Office Box 4289
Farmington, New Mexico 87499
(505) 327-0251

Revised 0

Drilling Log (Attach Hereto) ☒ WELL CASING

CATHODIC PROTECTION CONSTRUCTION REPORT

DAILY LOG

Completion Date 11-10-87

CPS #	Well Name, Line or Plant:	Work Order #	Static:	Ins. Union Check:
1909-W	LACKEY #1-A		600'E: .82	☒ Good ☐ Bad
	HANCOCK #9 #2		600'E: .79	
	LACKEY #7		600E: .79	

Location:	Anode Size:	Anode Type:	Size Bit:
E26-28-9	2" x 60"	DURIRON	6 3/4"

Depth Drilled	Depth Logged	Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
420'	419'				

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Anode Depth	375'	365'	340'	330'	320'	285'	260'	250'	240'	220'
Anode Output (Amps)	5.8	5.9	5.8	6.2	6.3	4.9	4.6	5.2	4.9	5.6
Anode Depth	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20
Anode Output (Amps)	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20

Total Circuit Resistance				No. 8 C.P. Cable Used	No. 2 C.P. Cable Used
Volts 12.2	Amps 26.7	Ohms .46			

Remarks: DRILLED 420'; LOGGED 419'. DRILLER SAID WATER AT 160' CAUGHT SAMPLE. INSTALLED 424' of 1" PVC VENT PIPE; PERFORATED BOTTOM 380'

Rectifier Size: 40 V 16 A
Addn'l Depth
Depth Credit: 81' ✓
Extra Cable: 875' ✓
Ditch & 1 Cable: 670' ✓
Ditch & 2 Cable:
25' Meter Pole:
20' Meter Pole: 1 ✓
10' Stub Pole:
Junction Box: 1 ✓

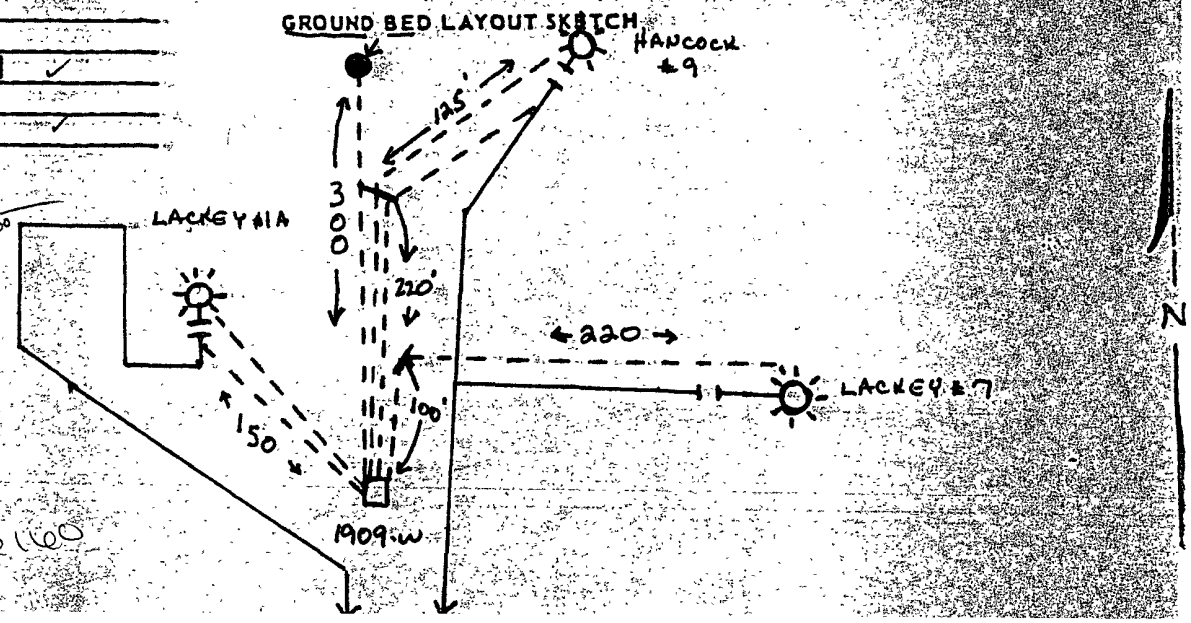
All Construction Completed

(Signature)

4399.00 ✓
-324.00 ✓
175.00 ✓
469.00 ✓
365.00 ✓
269.90
799.98
6153.88
307.69
6461.57

4075.00

GROUND BED LAYOUT SKETCH



MERIDIAN OIL

P. O. BOX 4289-Phone 327-0251

FARMINGTON, NM

Date 11-10-87

DEEP WELL GROUNDBED LOG

Company: Meridian

Well No. Lackey #1-A Location E 26-28-9 Volts Applied 12.2 .46 Amperes 26.

Depth	Reading	Depth	Reading	Depth	Reading	Depth	Reading
0							
5		230	2.5	455		680	(1) 375 - 3.8 - 5.8
10		235	2.7	460		685	(2) 365 - 3.8 - 5.9
15		240	2.8	465		690	(3) 340 - 3.2 - 5.8
20		245	2.6	470		695	(4) 330 - 3.6 - 6.2
25		250	2.7	475		700	(5) 320 - 4.2 - 6.3
30		255	2.8	480		705	(6) 285 - 3.2 - 4.9
35		260	2.7	485		710	(7) 260 - 3.2 - 4.6
40		265	2.4	490		715	(8) 250 - 3.2 - 5.2
45		270	2.1	495		720	(9) 240 - 3.2 - 4.9
50		275	2.1	500		725	(10) 220 - 3.2 - 5.0
55		280	2.2	505		730	
60		285	2.7	510		735	
65		290	2.4	515		740	
70		295	1.9	520		745	
75		300	1.3	525		750	
80		305	.8	530		755	
85		310	2.4	535		760	
90		315	3.3	540		765	
95		320	3.4	545		770	
100		325	3.4	550		775	
105		330	3.3	555		780	
110		335	3.0	560		785	
115		340	2.8	565		790	
120		345	2.9	670		795	
125		350	1.6	575		800	
130		355	2.0	580		805	
135		360	2.4	585		810	
140		365	3.2	590		815	
145		370	3.4	595		820	
150		375	3.3	600		825	
155		380	2.4	605		830	
160		385	2.1	610		835	
165		390	2.2	615		840	
170	1.5	395	2.2	620		845	
175	1.5	400	1.9	625		850	
180	1.3	405	2.0	630		855	
185	1.7	410	1.8	635		860	
190	2.5	415	1.7 to 419'	640		865	
195	2.0	420		645		870	
200	1.4	425		650		875	
205	1.4	430		655		880	
210	2.0	435		660		885	
215	2.3	440		665		890	
220	2.7	445		670		895	
225	2.5	450		675		900	

GENERAL CPS
CATHODIC PROTECTION SERVICES

WELL TYPE GROUNDBED DATA

DATA SHEET NO. 1 OF 2

COMPANY MERIDIAN OIL CO. JOB No. 13120 DATE: 10-10-87

WELL: LACKEY #1A PIPELINE:

LOCATION: SEC 26 TWP. 28N RGE. 9W CO. SAN JUAN STATE NM

ELEV. ____ FT: ROTARY 419' FT: CABLE TOOL -0- FT: CASING -0- FT

GROUNDBED: DEPTH 419' FT. DIA. 6 3/4 IN. GAS ____ LBS. ANODES 10-2" X 60" TYPE L

DEPTH, FT.	DRILLER'S LOG	EXPLORING ANODE TO STRUCTURE E	I	R	NO COKE	WITH COKE	DEPTH TOP OF ANODES NO.	FT.
5	FIRST WATER AT 60' GOOD WATER							
10	AT 175' (SAND)							
15								
20								
25								
30								
35								
40								
45								
50								
55								
60								
65								
70								
75								
80								
85								
90								
95								
100								
5								
10								
15								
20	SAND-SHALE							
25								
30								
35								
40								
45								
50								
55								
60								
65								
70			1.5					
75			1.6					
80			1.3					
85			1.7					
90			2.5					
95			2.0					
200			1.4					
5			1.4					
10			2.0					
15			2.3					

GROUNDBED RESISTANCE (1) VOLTS 122V - AMPS 267 - .46 OHMS

(2) VIBROGROUND _____ OHMS

GENERAL CATHODIC PROTECTION SERVICES

WELL TYPE: GROUNDBED D. A

DATA SHEET NO. _____

COMPANY _____ JOB No. _____ DATE: _____

WELL: _____ PIPELINE: _____

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

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

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

DEPTH: FT.	DRILLER'S LOG	EXPLORING ANODE TO STRUCTURE E	I	R	NO COKE	WITH COKE	DEPTH TOP OF ANODES NO.	FT.
20	SHALE		2.7					
25			2.5					
30			2.5					
35			2.7					
40			2.8					
45			2.6					
50			2.7					
55			2.8					
60			2.7					
65	SANDY SHALE		2.4					
70								
75								
80								
85								
90								
95								
300								
5								
10								
15								
20								
25								
30								
35								
40								
45								
50								
55								
60								
65								
70								
75								
80								
85								
90								
95								
400	SAND							
5								
10								
15								
20								
25								
30								

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

(2) VIBROGROUND _____ OHMS

30-045-07106
A#4 30-045-21557
A#8

3894

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

Operator MERIDIAN OIL INC. Location: Unit O Sec. 26 Twp 28 Rng 9

Name of Well/Wells or Pipeline Serviced HANCOCK A #2A, #4, #8

cps 1951w

Elevation 5955' Completion Date 5/20/88 Total Depth 400' Land Type* N/A

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

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

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

N/A

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

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

Depths gas encountered: N/A

Type & amount of coke breeze used: N/A

Depths anodes placed: 325', 315', 305', 295', 260', 250', 240', 205', 190', 150'

Depths vent pipes placed: 385'

Vent pipe perforations: 360'

Remarks: gb #1

RECEIVED
MAY 31 1991
OIL CON. DIV
DIST. 3

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

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

FM-07-0238 (Rev. 10-87)

WELL CASING

CATHODIC PROTECTION CONSTRUCTION REPORT

DAILY LOG

Comp 6-20-88

Drilling Log (Attach Hereto) ☐ Completion Date 5/20/88

CPS #	Well Name, Line or Plant:	Work Order #	Status:	Ins. Union Check:
1951 W	HANCOCK A-2A #4	54041A		☐ Good ☒ Bad
	HANCOCK A-2A #8	2054041A		

Location	Anode Size	Anode Type	Size Bit
O-26-28-9	2" X 60"	Durion	6 3/4"

Depth Drilled	Depth Logged	Drilling Avg. Time	Total Lbs. Coke Used	Low Calculation Mat'l Used	No. Sacks Mud Used
400'	385'				

Anode Depth	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
	325	315	305	295	260	250	240	205	190	15
Anode Output (Amps)	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
	6.6	6.7	6.9	6.6	6.0	6.6	6.4	6.1	5.8	5.8
Anode Depth	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20
Anode Output (Amps)	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20

Total Circuit Resistance				No. #8 C.P. Cable Used	No. #2 C.P. Cable Used
Volts 11.6	Amps 33.3	Ohms .35			

Remarks: WATER AT 40'. WOULD NOT SETTLE OUT FOR WATER SAMPLE INSTALLED 40' of 8" P.V.C. CASING, 2 Hr. SETTING TIME. INSTALLED 385' of 1" P.V.C. VENT PIPE, PERFERATED 360'.

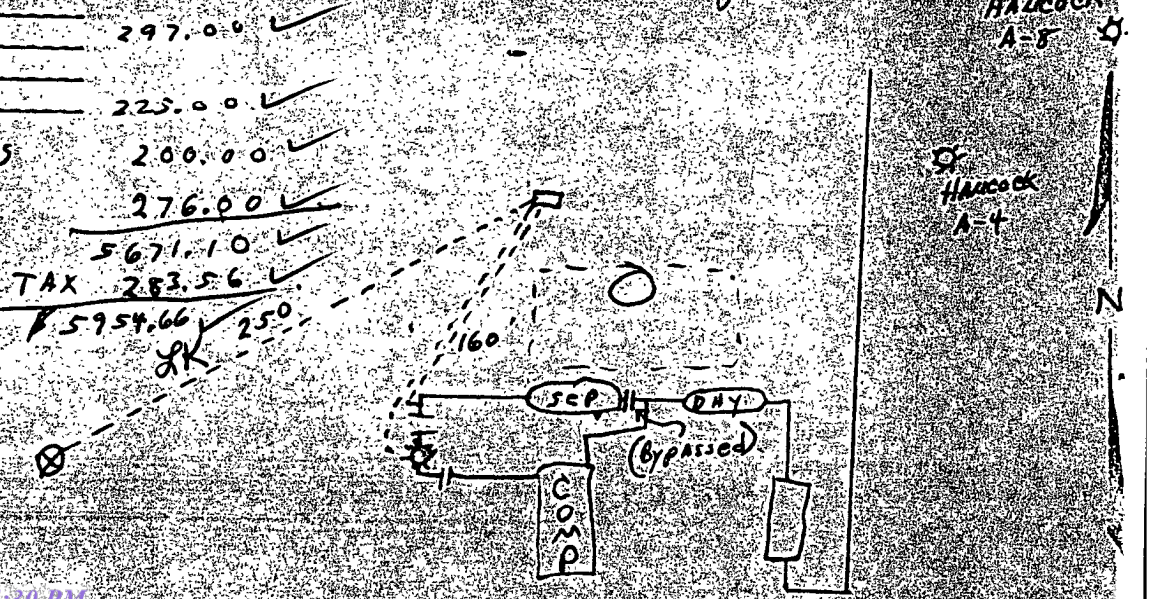
We need TO INSTALL 2 INS UNIONS AT WELL Head

G.B. $4074.00

Rectifier Size:	40 V	16 A	669.00
Addn'l Depth			
Depth Credit:	-115'		-402.50
Extra Cable:	190'		45.60
Ditch & I Cable:	410'		287.00
25' Meter Pole:	—		
20' Meter Pole:	1		297.00
10' Stub Pole:	—		
Junction Box:	1		225.00
2 Joints of 8 P.V.C. CASING			200.00
2 Hr. setting time			276.00
			5671.10
		TAX	283.56
			$5954.66

All Construction Completed

(Signature)



5955

Cathodic Protection Services Co.
1608 Schofield Ln.
P.O. Box
Farmington, NM 87499
(505) 327-9215
(505) 325-1946

Date 5/20/88

Company Meridian Oil

Well No Hancock A-2A Location O-26-28-9 Volts Applied 11.8 Amperes 3.1

0								230	1.8							455								680							
5								235	2.7							460								685							
10								240	3.0				(7)			465								690	1-325-47 = 6.6						
15								245	3.1							470								695	2-315-44 = 6.7						
20								250	3.1				(6)			475								700	3-305-47 = 6.9						
25								255	3.2							480								705	4-295-44 = 6.6						
30								260	2.9				(5)			485								710	5-280-41 = 6.8						
35								265	2.7							490								715	6-290-44 = 6.6						
40	2.5	WATER						270	2.6							495								720	7-240-43 = 6.4						
45	2.7							275	2.3							500								725	8-205-44 =						
50	2.6							280	2.3							505								730	9-190-43 =						
55	2.5							285	2.5							510								735	10-150-44 =						
60	2.9							290	3.0							515								740							
65	2.9							295	3.1				(4)			520								745							
70	2.8							300	3.1							525								750							
75	2.7							305	3.1				(3)			530								755							
80	2.8							310	3.2							535								760							
85	2.4							315	3.0				(2)			540								765							
90	2.0							320	3.1							545								770							
95	1.6							325	3.1				(1)			550								775							
100	2.2							330	2.9							555								780							
105	2.6							335	2.9							560								785							
110	2.4							340	2.8							565								790							
115	2.4							345	2.7							570								795							
120	1.9							350	2.9							575								800							
125	1.6							355	1.5							580								805							
130	1.2							360	1.4							585								810							
135	1.3							365	1.4							590								815							
140	1.4							370	1.3							595								820							
145	2.9							375	1.4							600								825							
150	3.2				(10)			380	1.2							605								830							
155	2.9							385					T.D.			610								835							
160	2.8							390								615								840							
165	2.3							395								620								845							
170	2.0							400					Drilled To			625								850							
175	2.1							405								630								855							
180	2.6							410								635								860							
185	3.0							415								640								865							
190	3.0				(9)			420								645								870							
195	2.8							425								650								875							
200	2.5							430								655								880							
205	3.0				(8)			435								660								885							
210	2.9							440								665								890							
215	2.6							445								670								895							
220	2.3							450								675								900							
225	1.9																														

D. CRASS DRILLING CO.

1951

Drill No. 3

DRILLER'S WELL LOG

S. P No. HANCOCK A-2A Date 5-19-88

Client Meridian Oil Co. Prospect

County SAN JUAN State New Mex.

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

FROM	TO	FORMATION — COLOR — HARDNESS
0	35	SAND
35	70	SANDy Shale
70	125	Shale
125	140	SAND
140	210	Shale
210	230	SANDstone
230	390	Shale
390	400	SANDstone

Mud Bran Lime

Rock Bit Number Make

Remarks: Water @ 40'
Set 40' CASING. 2 Hrs.

Driller Ronnie Brown

1664 #2 30-045-07178
#6 30-045-20917
#9 30-045-07166

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

Operator MERIDIAN OIL INC. Location: Unit G Sec. 26 Twp 28 Rng 9

Name of Well/Wells or Pipeline Serviced HANCOCK A #2, #6, #9

cps 1985w

Elevation 6011' Completion Date 8/22/88 Total Depth 340' Land Type* N/A

Casing, Sizes, Types & Depths 20' OF 8" PVC CASING

If Casing is cemented, show amounts & types used 25'

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

N/A

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

Fresh, Clear, Salty, Sulphur, Etc. 90'

RECEIVED
MAY 31 1991
OIL CON. DIV
DIST. 3

Depths gas encountered: 200'

Type & amount of coke breeze used: N/A

Depths anodes placed: 300', 270', 260', 250', 225', 215', 155', 145', 130', 120'

Depths vent pipes placed: 335'

Vent pipe perforations: 260'

Remarks: gb #1

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

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

1 - 30-045-07152
12 - 30-045-21561
10 - 30-045-20821

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

Operator MERIDIAN OIL Location: Unit L Sec. 28 Twp 28 Rng 9

Name of Well/Wells or Pipeline Serviced HANCOCK B #1 B #12 B #10

Elevation ____ Completion Date ____ Total Depth ____ Land Type ____

Casing Strings, Sizes, Types & Depths 100' of 8" PVC surface CASING

If Casing Strings are cemented, show amounts & types used Yes with 25 bags cement

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

Depths & thickness of water zones with description of water: Fresh, Clear, Salty, Sulphur, Etc. FRESH WATER 140'

Depths gas encountered: No

Ground bed depth with type & amount of coke breeze used: 430' deep with 5750 lbs of Asbury 218 R COKE breeze

Depths anodes placed: 410, 400, 390, 380, 370, 310, 300, 290, 280, 250, 240, 230, 220, 210, 200

Depths vent pipes placed: 430'

Vent pipe perforations: bottom 300'

Remarks:

RECEIVED
JAN 20 1995
OIL CON. DIV.
DIST. 3

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

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

709- 30-045-27235
1- 30-045-07107
5- 30-045-20865

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

22250

Operator MERIDIAN OIL Location: Unit N Sec. 26 Twp 28 Rng 9

Name of Well/Wells or Pipeline Serviced HACKEY H #709, #1 & #5

Elevation ____ Completion Date 12-3-91 Total Depth 382' Land Type F

Casing Strings, Sizes, Types & Depths 8" PVC surface CASING - 95' DEEP

If Casing Strings are cemented, show amounts & types used YES; with 23 SACKS NEAT CEMENT

If Cement or Bentonite Plugs have been placed, show depths & amounts used YES - 105' TO 90'

Depths & thickness of water zones with description of water: Fresh, Clear, Salty, Sulphur, Etc. 110'

Depths gas encountered: 380'

Ground bed depth with type & amount of coke breeze used: 382' DEEP with 5,250 lbs Asbury 4518 Flo Coke & Loresco Type SC

Depths anodes placed: 354, 345, 335, 325, 300, 290, 280, 270, 205, 195, 185, 160

Depths vent pipes placed: 382'

Vent pipe perforations: bottom 250'

Remarks:

RECEIVED
FEB 24 1992
OIL CON. DIV.
DIST. 3

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

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

CPS GROUND BED CONSTRUCTION WORKSHEET

CPS#	P/L NAME(s), NUMBER(s)					
2225-W	LACKEY H #709, #1, #5					
WO #	TOTAL	VOLTS	AMPS	- OHMS	DATE	NAME
J013		71.56	31.4	.368	12-3-91	MRW

REMARKS (notes for construction log) 95' CASING 23 SACKS CEMENT

N 26-28-9 DRILLED 400' LOGGED 382 H_2O AT 100'

PERFORATED BOTTOM 250' MAKING SMALL AMOUNT OF GAS, JUSTALLED PLAC

5 BAGS LORESCO 100 ASBURY 4518 FLO COKE

DEPTH	LOG ANODE	ANODE #	DEPTH	LOG ANODE	ANODE #	DEPTH	LOG ANODE	ANODE #	DEPTH	LOG ANODE	ANODE #	
100	1.9		295	3.5		490			685			
105	1.9		300	3.4		495			690			
110	2.8		305	2.3		500			695			
115	3.8		310	1.9		505			700			
120	4.0		315	2.4		510			ANODE #	DEPTH	NO COKE	FULLY COK'D
125	4.2		320	2.8		515						
130	3.7		325	3.2		520			1	354	2.8	6.7
135	3.5		330	3.5		525			2	345	3.5	7.4
140	3.3		335	3.6		530			3	335	3.6	7.3
145	3.2		340	3.5		535			4	325	3.2	6.6
150	2.9		345	3.5		540			5	300	3.6	6.8
155	3.1		350	3.3		545			6	290	4.1	7.5
160	3.1		355	2.8 -		550			7	280	4.0	7.6
165	2.8		360	2.6		555			8	270	4.1	7.7
170	2.6		365	2.6		560			9	205	3.1	6.9
175	2.6		370	2.3		565			10	195	3.3	7.4
180	3.0		375	2.0		570			11	185	3.7	7.9
185	3.6		380	TD	382	575			12	160	3.1	6.9
190	3.3		385			580			13			
195	3.3		390			585			14			
200	3.1		395			590			15			
205	3.1		400			595			16			
210	2.7		405			600			17			
215	2.5		410			605			18			
220	2.7		415			610			19			
225	2.7		420			615			20			
230	2.8		425			620			21			
235	2.6		430			625			22			
240	2.5		435			630			23			
245	2.9		440			635			24			
250	2.9		445			640			25			
255	2.8		450			645			26			
260	2.3		455			650			27			
265	3.4		460			655			28			
270	3.9		465			660			29			
275	4.2		470			665			30			
280	4.0		475			670						
285	4.3		480			675						
290	3.6		485			680						

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

30-045-07028

DATE: 5/8/96

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

Operator Meridian Oil Inc. Location: Unit G Sec. 34 Twp 28 Rng 09

Name of Well/Wells or Pipeline Serviced
Storey C #11

Elevation 6824' Completion Date 5/8/96 Total Depth 491' Land Type F

Casing Strings, Sizes, Types & Depths 5/7 Set 59' of 8" PVC Casing.
No Gas, Water, or Boulders were Encountered During Casing.

If Casing Strings are cemented, show amounts & types used Cemented
With 15 Sacks

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

Depths & thickness of water zones with description of water: Fresh, Clear,
Salty, Sulphur, Etc. Hit Fresh Water at 360'.

Depths gas encountered: None

Ground bed depth with type & amount of coke breeze used: 491' Depth.
Used 130 Sacks of Asbury 218R (6500#)

Depths anodes placed: 475', 465', 455', 445', 435', 425', 415', 405', 395', 355', 345', 325', 315', 230', +165'

Depths vent pipes placed: Surface To 491'.

Vent pipe perforations: Bottom 360'.

Remarks:

RECEIVED
FEB 19 1997
OIL CON. DIV.
DIST. 3

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

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

CPS GROUND BED CONSTRUCTION WORKSHEET

CPS# 2915-W | P/L NAME(S) & NUMBER(S): STorey C #11

NO = 2I15 | TOTAL | VOLTS 11.7? | AMPS 19.3 | OHMS .610 | DATE 5/8/96 | NAME: JOHN L. MOSS

REMARKS (notes for construction log): Driller Reported DAMP AREAS AT 70', 200', 260', AND WATER AT 360'. INSTALLED 491' OF 1" PE VENT PIPE, WITH THE BOTTOM 360' PERFORATED. COKE BREEZE TO 115'.

DEPTH	LOG ANODE	ANODE #	DEPTH	LOG ANODE	ANODE #	DEPTH	LOG ANODE	ANODE #	DEPTH	LOG ANODE	ANODE #
100			295			490	TD	491'	685		
105			300			495			690		
110			305			500			695		
115			310			505			700		
120			315			510					
125			320			515					
130			325			520					
135			330			525					
140			335			530					
145			340			535					
150			345			540					
155			350			545					
160			355			550					
165			360			555					
170			365			560					
175			370			565					
180			375			570					
185			380			575					
190			385			580					
195			390			585					
200			395			590					
205			400			595					
210			405			600					
215			410			605					
220			415			610					
225			420			615					
230			425			620					
235			430			625					
240			435			630					
245			440			635					
250			445			640					
255			450			645					
260			455			650					
265			460			655					
270			465			660					
275			470			665					
280			475			670					
285			480			675					
290			485			680					

DEPTH	LOG ANODE	NO COKE	FULLY COKED
1	475'	1.8	4.0
2	465'	1.7	3.9
3	455'	1.7	4.0
4	445'	3.0	4.6
5	435'	1.4	3.1
6	425'	1.3	2.8
7	415'	1.2	2.7
8	405'	1.6	3.1
9	395'	1.4	3.2
10	255'	1.3	3.6
11	345'	1.2	3.6
12	225'	1.3	3.3
13	215'	1.5	3.2
14	220'	3.0	5.4
15	165'	1.7	2.3
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			

DISTRIBUTION - ORIGINAL - CORPORATE CPS FILE

DIVISION CORROSION SUPERVISOR

ENSOLUM

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.

97057-425

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

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

AFE: N49886
PayKey: RB21200
PM: Maron O'Brien

2. Originating Site:
Lateral C-6 Loop

3. **Location of Material (Street Address, City, State or ULSTR):**
UL D Section 27 T28N R9W; 36.639644 -107.784244

Dec 2020

4. Source and Description of Waste:
Source: Remediation activities associated with a natural gas pipeline leak.
Description: Hydrocarbon/Condensate impacted soil associated natural gas pipeline release.
Estimated Volume 50 yd³ / bbls Known Volume (to be entered by the operator at the end of the haul) 12/6 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) 12-3-2020, representative for Enterprise Products Operating authorizes Envirotech, Inc. to complete
Generator Signature
the required testing/sign the Generator Waste Testing Certification.

I, _____, 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: IMI, Inc.

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: **Envirotech Inc. Soil Remediation Facility * Permit #: NM 01-0011**
Address of Facility: **Hilltop, NM**
Method of Treatment and/or Disposal:
☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☒ **APPROVED** ☐ **DENIED** (Must Be Maintained As Permanent Record)

PRINT NAME: Greg Crabtree TITLE: Envmo Manager DATE: 12/4/20
SIGNATURE: _____ TELEPHONE NO.: 505-632-0615
Surface Waste Management Facility Authorized Agent

ENSOLUM

APPENDIX D

Photographic Documentation

SITE PHOTOGRAPHS

Enterprise Field Services, LLC
Closure Report
Lateral C-6 Loop (12/01/20)
Ensolum Project No. 05A1226128

ENSOLUM

Photograph 1 Photograph Description: View of the release area.	
Photograph 2 Photograph Description: View of the excavation.	
Photograph 3 Photograph Description: View of the excavation after initial restoration.	

ENSOLUM

APPENDIX E

Regulatory Correspondence

From: Long, Thomas
To: "Smith, Cory, EMNRD"; "slandon@blm.gov"
Cc: Stone, Brian
Subject: RE: Lateral 6C Loop - UL D Section 27 T28N R9W; 36.639644 -107.784244
Date: Monday, December 7, 2020 2:36:00 PM
Attachments: Lateral 6-C Site Drawing.jpg
Lateral 6-C.pdf

Cory/Sheri,

Please find the attached site sketch and lab report for the Lateral C-6 Loop excavation. All sample results are below NMOCD Tier I remediation standards. Enterprise will backfill the excavation with clean imported fill material. 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

Enterprise Products

From: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Sent: Friday, December 4, 2020 2:21 PM
To: Long, Thomas <tjlong@eprod.com>; 'slandon@blm.gov' <slandon@blm.gov>
Cc: Stone, Brian <bmstone@eprod.com>
Subject: [EXTERNAL] RE: Lateral 6C Loop - UL D Section 27 T28N R9W; 36.639644 -107.784244

[Use caution with links/attachments]
Tom,

Since an OCD inspector stopped by earlier today and your earlier phone call OCD is ok with Enterprise sampling today with the condition that the Surface Owner is also ok with the accelerated sampling schedule.

Please sample per 19.15.29 NMAC or if need be you can proposed alternative sampling sizes but please include pictures/site sketch so OCD can make a better determination.

Thanks,

Cory Smith • Environmental Specialist
Environmental Bureau

EMNRD - Oil Conservation Division
1000 Rio Brazos | Aztec, NM 87410
505.334.6178 x115 | Cory.Smith@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Long, Thomas <tjlong@eprod.com>
Sent: Friday, December 4, 2020 1:37 PM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; 'slandon@blm.gov' <slandon@blm.gov>
Cc: Stone, Brian <bmstone@eprod.com>
Subject: [EXT] Lateral 6C Loop - UL D Section 27 T28N R9W; 36.639644 -107.784244

Cory/Sheri,

The email is a notification and a follow up to our phone conversations earlier today. Entperise had a release of natural gas and natural gas fluids from the Lateral C-6 Loop pipeline on December 3, 2020. Minimal fluids were observed on the ground surface. No washes/waterways were affected. The pipeline was isolated, depressurized, locked and tagged out. Enterprise began the remediation and repairs today and determined this release reportable per NMOCD regulation, due to the volume of impacted subsurface soil. Currently, the excavation is 9 feet long by 6 feet wide by 3 feet deep and ready for closure sampling. Entperise is requesting a variance from the 48-hour sample notification requirement and requesting to sample today to complete the remediation of this release site. Please acknowledge acceptance of the variance request. 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

ENSOLUM

APPENDIX F

Table 1 – Soil Analytical Summary

ENSOLUM

TABLE 1
Lateral C-6 Loop (12/01/20)
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/MRO) (mg/kg)	Chloride (mg/kg)
New Mexico Energy, Mineral & Natural Resources Department Oil Conservation Division Closure Criteria (Tier I)				**10**	**NE**	**NE**	**NE**	**50**				**100**	**600**
Excavation Composite Soil Samples													
S-1	12.04.20	C	0 to 3	<0.020	<0.040	<0.040	<0.081	ND	<4.0	<10	<50	ND	<61
S-2	12.04.20	C	0 to 3	<0.019	<0.037	<0.037	<0.075	ND	<3.7	<9.6	<48	ND	<61
S-3	12.04.20	C	0 to 3	<0.019	<0.037	<0.037	<0.075	ND	<3.7	<9.5	<47	ND	<60
S-4	12.04.20	C	0 to 3	<0.021	<0.042	<0.042	<0.083	ND	<4.2	<9.8	<49	ND	<61
S-5	12.04.20	C	3	<0.020	<0.041	<0.041	<0.081	ND	<4.1	<9.9	<49	ND	<61

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

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

NE = Not established

mg/kg = milligram per kilogram

BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes

TPH = Total Petroleum Hydrocarbon

GRO = Gasoline Range Organics

DRO = Diesel Range Organics

MRO = Motor Oil/Lube Oil Range Organics

ENSOLUM

APPENDIX 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: clients.hallenvironmental.com

December 09, 2020

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

RE: Lateral C-6 OrderNo.: 2012298

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 5 sample(s) on 12/5/2020 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued December 08, 2020.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2012298**
Date Reported: **12/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-1
Project: Lateral C-6 **Collection Date:** 12/4/2020 1:00:00 PM
Lab ID: 2012298-001 **Matrix:** MEOH (SOIL) **Received Date:** 12/5/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	61		mg/Kg	20	12/7/2020 11:42:41 AM	56826
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	12/5/2020 11:28:56 AM	G73810
Surr: BFB	104	70-130		%Rec	1	12/5/2020 11:28:56 AM	G73810
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/5/2020 12:47:21 PM	56811
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/5/2020 12:47:21 PM	56811
Surr: DNOP	83.9	30.4-154		%Rec	1	12/5/2020 12:47:21 PM	56811
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.020		mg/Kg	1	12/5/2020 11:28:56 AM	S73810
Toluene	ND	0.040		mg/Kg	1	12/5/2020 11:28:56 AM	S73810
Ethylbenzene	ND	0.040		mg/Kg	1	12/5/2020 11:28:56 AM	S73810
Xylenes, Total	ND	0.081		mg/Kg	1	12/5/2020 11:28:56 AM	S73810
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	12/5/2020 11:28:56 AM	S73810
Surr: 4-Bromofluorobenzene	99.8	70-130		%Rec	1	12/5/2020 11:28:56 AM	S73810
Surr: Dibromofluoromethane	111	70-130		%Rec	1	12/5/2020 11:28:56 AM	S73810
Surr: Toluene-d8	100	70-130		%Rec	1	12/5/2020 11:28:56 AM	S73810

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

Qualifiers:

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

Analytical Report
Lab Order **2012298**
Date Reported: **12/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-2
Project: Lateral C-6 **Collection Date:** 12/4/2020 1:05:00 PM
Lab ID: 2012298-002 **Matrix:** MEOH (SOIL) **Received Date:** 12/5/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	61		mg/Kg	20	12/7/2020 11:55:05 AM	56826
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	12/5/2020 11:57:33 AM	G73810
Surr: BFB	111	70-130		%Rec	1	12/5/2020 11:57:33 AM	G73810
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/5/2020 1:58:28 PM	56811
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/5/2020 1:58:28 PM	56811
Surr: DNOP	88.7	30.4-154		%Rec	1	12/5/2020 1:58:28 PM	56811
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.019		mg/Kg	1	12/5/2020 11:57:33 AM	S73810
Toluene	ND	0.037		mg/Kg	1	12/5/2020 11:57:33 AM	S73810
Ethylbenzene	ND	0.037		mg/Kg	1	12/5/2020 11:57:33 AM	S73810
Xylenes, Total	ND	0.075		mg/Kg	1	12/5/2020 11:57:33 AM	S73810
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	12/5/2020 11:57:33 AM	S73810
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	12/5/2020 11:57:33 AM	S73810
Surr: Dibromofluoromethane	109	70-130		%Rec	1	12/5/2020 11:57:33 AM	S73810
Surr: Toluene-d8	103	70-130		%Rec	1	12/5/2020 11:57:33 AM	S73810

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

Qualifiers:

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

Analytical Report
Lab Order **2012298**
Date Reported: **12/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-3
Project: Lateral C-6 **Collection Date:** 12/4/2020 1:10:00 PM
Lab ID: 2012298-003 **Matrix:** MEOH (SOIL) **Received Date:** 12/5/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	12/7/2020 12:07:30 PM	56826
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	12/5/2020 12:26:12 PM	G73810
Surr: BFB	106	70-130		%Rec	1	12/5/2020 12:26:12 PM	G73810
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	12/5/2020 5:55:53 PM	56811
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/5/2020 5:55:53 PM	56811
Surr: DNOP	91.5	30.4-154		%Rec	1	12/5/2020 5:55:53 PM	56811
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.019		mg/Kg	1	12/5/2020 12:26:12 PM	S73810
Toluene	ND	0.037		mg/Kg	1	12/5/2020 12:26:12 PM	S73810
Ethylbenzene	ND	0.037		mg/Kg	1	12/5/2020 12:26:12 PM	S73810
Xylenes, Total	ND	0.075		mg/Kg	1	12/5/2020 12:26:12 PM	S73810
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	12/5/2020 12:26:12 PM	S73810
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/5/2020 12:26:12 PM	S73810
Surr: Dibromofluoromethane	114	70-130		%Rec	1	12/5/2020 12:26:12 PM	S73810
Surr: Toluene-d8	97.7	70-130		%Rec	1	12/5/2020 12:26:12 PM	S73810

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

Qualifiers:

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

Analytical Report
Lab Order **2012298**
Date Reported: **12/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-4
Project: Lateral C-6 **Collection Date:** 12/4/2020 1:15:00 PM
Lab ID: 2012298-004 **Matrix:** MEOH (SOIL) **Received Date:** 12/5/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	61		mg/Kg	20	12/7/2020 12:19:55 PM	56826
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	12/5/2020 12:54:53 PM	G73810
Surr: BFB	106	70-130		%Rec	1	12/5/2020 12:54:53 PM	G73810
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	12/5/2020 6:19:23 PM	56811
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/5/2020 6:19:23 PM	56811
Surr: DNOP	91.0	30.4-154		%Rec	1	12/5/2020 6:19:23 PM	56811
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.021		mg/Kg	1	12/5/2020 12:54:53 PM	S73810
Toluene	ND	0.042		mg/Kg	1	12/5/2020 12:54:53 PM	S73810
Ethylbenzene	ND	0.042		mg/Kg	1	12/5/2020 12:54:53 PM	S73810
Xylenes, Total	ND	0.083		mg/Kg	1	12/5/2020 12:54:53 PM	S73810
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	12/5/2020 12:54:53 PM	S73810
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	12/5/2020 12:54:53 PM	S73810
Surr: Dibromofluoromethane	113	70-130		%Rec	1	12/5/2020 12:54:53 PM	S73810
Surr: Toluene-d8	97.7	70-130		%Rec	1	12/5/2020 12:54:53 PM	S73810

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

Qualifiers:

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

Analytical Report
Lab Order **2012298**
Date Reported: **12/9/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-5
Project: Lateral C-6 **Collection Date:** 12/4/2020 1:20:00 PM
Lab ID: 2012298-005 **Matrix:** MEOH (SOIL) **Received Date:** 12/5/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	61		mg/Kg	20	12/7/2020 12:32:19 PM	56826
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	12/5/2020 1:23:41 PM	G73810
Surr: BFB	104	70-130		%Rec	1	12/5/2020 1:23:41 PM	G73810
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/5/2020 3:09:55 PM	56811
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/5/2020 3:09:55 PM	56811
Surr: DNOP	91.8	30.4-154		%Rec	1	12/5/2020 3:09:55 PM	56811
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.020		mg/Kg	1	12/5/2020 1:23:41 PM	S73810
Toluene	ND	0.041		mg/Kg	1	12/5/2020 1:23:41 PM	S73810
Ethylbenzene	ND	0.041		mg/Kg	1	12/5/2020 1:23:41 PM	S73810
Xylenes, Total	ND	0.081		mg/Kg	1	12/5/2020 1:23:41 PM	S73810
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	12/5/2020 1:23:41 PM	S73810
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	12/5/2020 1:23:41 PM	S73810
Surr: Dibromofluoromethane	115	70-130		%Rec	1	12/5/2020 1:23:41 PM	S73810
Surr: Toluene-d8	98.4	70-130		%Rec	1	12/5/2020 1:23:41 PM	S73810

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2012298**

09-Dec-20

Client: ENSOLUM

Project: Lateral C-6

Sample ID: **MB-56826**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **56826**	RunNo: **73830**
Prep Date: **12/7/2020**	Analysis Date: **12/7/2020**	SeqNo: **2604047** Units: **mg/Kg**

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

Sample ID: **LCS-56826**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **56826**	RunNo: **73830**
Prep Date: **12/7/2020**	Analysis Date: **12/7/2020**	SeqNo: **2604048** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.6	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 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#: **2012298**

09-Dec-20

Client: ENSOLUM

Project: Lateral C-6

Sample ID: **MB-56811**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **56811**	RunNo: **73818**
Prep Date: **12/5/2020**	Analysis Date: **12/5/2020**	SeqNo: **2602395** 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	7.3		10.00		73.1	30.4	154			

Sample ID: **LCS-56811**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **56811**	RunNo: **73818**
Prep Date: **12/5/2020**	Analysis Date: **12/5/2020**	SeqNo: **2602396** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	85.5	70	130			
Surr: DNOP	3.3		5.000		65.2	30.4	154			

Sample ID: **2012298-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **S-1**	Batch ID: **56811**	RunNo: **73818**
Prep Date: **12/5/2020**	Analysis Date: **12/5/2020**	SeqNo: **2602397** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.6	47.89	3.091	89.9	15	184			
Surr: DNOP	4.1		4.789		85.8	30.4	154			

Sample ID: **2012298-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **S-1**	Batch ID: **56811**	RunNo: **73818**
Prep Date: **12/5/2020**	Analysis Date: **12/5/2020**	SeqNo: **2602398** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	9.4	47.04	3.091	85.3	15	184	6.60	23.9	
Surr: DNOP	4.1		4.704		87.4	30.4	154	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2012298**

09-Dec-20

Client: ENSOLUM

Project: Lateral C-6

Sample ID: **mb1**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **S73810**	RunNo: **73810**
Prep Date:	Analysis Date: **12/5/2020**	SeqNo: **2601700** 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: 1,2-Dichloroethane-d4	0.50		0.5000		100	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		103	70	130			
Surr: Dibromofluoromethane	0.53		0.5000		106	70	130			
Surr: Toluene-d8	0.48		0.5000		96.6	70	130			

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS**	Batch ID: **S73810**	RunNo: **73810**
Prep Date:	Analysis Date: **12/5/2020**	SeqNo: **2601701** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	1.000	0	99.3	70	130			
Toluene	0.95	0.050	1.000	0	94.9	70	130			
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		104	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		100	70	130			
Surr: Dibromofluoromethane	0.50		0.5000		99.9	70	130			
Surr: Toluene-d8	0.48		0.5000		95.4	70	130			

Sample ID: **2012298-001ams**	SampType: **MS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **S-1**	Batch ID: **S73810**	RunNo: **73810**
Prep Date:	Analysis Date: **12/5/2020**	SeqNo: **2601703** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.81	0.020	0.8084	0	100	67.9	137			
Toluene	0.79	0.040	0.8084	0.005497	96.6	70	130			
Surr: 1,2-Dichloroethane-d4	0.45		0.4042		111	70	130			
Surr: 4-Bromofluorobenzene	0.42		0.4042		104	70	130			
Surr: Dibromofluoromethane	0.41		0.4042		103	70	130			
Surr: Toluene-d8	0.39		0.4042		95.5	70	130			

Sample ID: **2012298-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **S-1**	Batch ID: **S73810**	RunNo: **73810**
Prep Date:	Analysis Date: **12/5/2020**	SeqNo: **2601704** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.77	0.020	0.8084	0	95.4	67.9	137	4.88	20	
Toluene	0.73	0.040	0.8084	0.005497	90.0	70	130	7.05	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
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#: **2012298**

09-Dec-20

Client: ENSOLUM

Project: Lateral C-6

Sample ID: **2012298-001amsd** SampType: **MSD** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **S-1** Batch ID: **S73810** RunNo: **73810**

Prep Date: Analysis Date: **12/5/2020** SeqNo: **2601704** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.45		0.4042		110	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.43		0.4042		107	70	130	0	0	
Surr: Dibromofluoromethane	0.44		0.4042		108	70	130	0	0	
Surr: Toluene-d8	0.39		0.4042		96.8	70	130	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2012298**

09-Dec-20

Client: ENSOLUM

Project: Lateral C-6

Sample ID: **mb1**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **G73810**	RunNo: **73810**
Prep Date:	Analysis Date: **12/5/2020**	SeqNo: **2601720** 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	530		500.0		105	70	130			

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G73810**	RunNo: **73810**
Prep Date:	Analysis Date: **12/5/2020**	SeqNo: **2601721** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.4	70	130			
Surr: BFB	530		500.0		106	70	130			

Sample ID: **2012298-002ams**	SampType: **MS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **S-2**	Batch ID: **G73810**	RunNo: **73810**
Prep Date:	Analysis Date: **12/5/2020**	SeqNo: **2601724** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	17	3.7	18.74	1.064	83.2	49.2	122			
Surr: BFB	380		374.8		103	70	130			

Sample ID: **2012298-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **S-2**	Batch ID: **G73810**	RunNo: **73810**
Prep Date:	Analysis Date: **12/5/2020**	SeqNo: **2601725** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	16	3.7	18.74	1.064	78.4	49.2	122	5.46	20	
Surr: BFB	380		374.8		103	70	130	0	0	

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **ENSOLUM** Work Order Number: **2012298** RcptNo: **1**

Received By: **Cheyenne Cason** **12/5/2020 8:00:00 AM**

Completed By: **Cheyenne Cason** **12/5/2020 8:31:43 AM**

Reviewed By: EM 12/5/20

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: SGL 12/5/20

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	2.1	Good	Yes			

Chain-of-Custody Record

Client: Ensolum LLC

Mailing Address: 606 S Rio Grande Suit A

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 100% Same Day
☐ Standard ☒ Rush 12-7-20

Project Name: Lotera 16-C

Project #: 05A1226128

Project Manager: K Summers

Sampler: ADAgosti

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.1+0=2.1 (°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. 2012298	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
12/4	1300	S	S-1	1 4oz Jar	Cool	001	X	X					X			
12/4	1305	S	S-2		Cool	002	X	X					X			
12/4	1310	S	S-3		Cool	003	X	X					X			
12/4	1315	S	S-4		Cool	004	X	X					X			
12/4	1320	S	S-5		Cool	005	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
12/4/20	1547		CNA Walt		12/4/2020	1547
12/4/2020	1811		Eric Corr		12/5/20	0800

Remarks: PM Tom Long
AFE # NM9886
Ray by RBDI 2020
Send results one 12/5/20
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.

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 19644

CONDITIONS

Operator: Enterprise Field Services, LLC PO Box 4324 Houston, TX 77210	OGRID: 241602
	Action Number: 19644
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	None	1/24/2022