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-144
Revised April 3, 2017

For temporary pits, below-grade tanks, and multi-well fluid management pits, submit to the appropriate NMOCD District Office.
For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

Pit, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application

Type of action: ☒ Below grade tank registration
☐ Permit of a pit or proposed alternative method
BGT 1 ☐ Closure of a pit, below-grade tank, or proposed alternative method
☐ Modification to an existing permit/or registration
☒ Closure plan only submitted for an existing permitted or non-permitted pit, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.
Operator: Enterprise Products Operating, LLC OGRID #: 151618
Address: P.O. Box 4324, Houston, TX 77210
Facility or well name: San Juan 28-7 Unit #35A
API Number: 30-039-23984 OCD Permit Number:
U/L or Qtr/Qtr NE1/4NW1/4 Section 1 Township 27N Range 7W County: Rio Arriba
Center of Proposed Design: Latitude 36.606734 Longitude -107.528723 NAD83
Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.
☐ **Pit:** Subsection F, G or J of 19.15.17.11 NMAC
Temporary: ☐ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A ☐ Multi-Well Fluid Management Low Chloride Drilling Fluid ☐ yes ☐ no
☐ Lined ☐ Unlined Liner type: Thickness _____mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
☐ String-Reinforced
Liner Seams: ☐ Welded ☐ Factory ☐ Other _____ Volume: _____bbl Dimensions: L_____ x W_____ x D_____

3.
☒ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: Approximately 40 bbl Type of fluid: Produced water and condensate
Tank Construction material: Steel wall and bottom
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☒ Visible sidewalls and liner ☐ Visible sidewalls only ☒ Other 7-inch lift present, overflow protection unknown
Liner type: Thickness Unknown mil ☐ HDPE ☐ PVC ☐ Other _____

4.
☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

5.
Fencing: Subsection D of 19.15.17.11 NMAC *(Applies to permanent pits, temporary pits, and below-grade tanks)*
☐ Chain link, six feet in height, two strands of barbed wire at top *(Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)*
☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet
☒ Alternate. Please specify 4 ft hog wire fencing with steel bar on top

6.

Netting: Subsection E of 19.15.17.11 NMAC *(Applies to permanent pits and permanent open top tanks)*

☐ Screen ☐ Netting ☒ Other Grated steel cover

☐ Monthly inspections (If netting or screening is not physically feasible)

7.

Signs: Subsection C of 19.15.17.11 NMAC

☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☐ Signed in compliance with 19.15.16.8 NMAC

8.

Variances and Exceptions:

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

☒ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.

☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

9.

Siting Criteria (regarding permitting): 19.15.17.10 NMAC

Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. **Siting criteria does not apply to drying pads or above-grade tanks.**

General siting	
Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank. - ☒ NM Office of the State Engineer - iWATERS database search; ☐ USGS; ☒ Data obtained from nearby wells	☐ Yes ☒ No ☐ NA
Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit . NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. **(Does not apply to below grade tanks)** - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within the area overlying a subsurface mine. **(Does not apply to below grade tanks)** - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. **(Does not apply to below grade tanks)** - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. **(Does not apply to below grade tanks)** - FEMA map	☐ Yes ☐ No
Below Grade Tanks	
Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Temporary Pit using Low Chloride Drilling Fluid (maximum chloride content 15,000 mg/liter)	
Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.) - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300feet of any other fresh water well or spring, in existence at the time of the initial application. NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No

Within 100 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Temporary Pit Non-low chloride drilling fluid	
Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application; - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Permanent Pit or Multi-Well Fluid Management Pit	
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No

10.

Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

☒ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
☐ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
☒ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☒ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☒ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

11.

Multi-Well Fluid Management Pit Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☐ A List of wells with approved application for permit to drill associated with the pit.
☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
☐ Hydrogeologic Data - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

12.
Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including H_2S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

13.
Proposed Closure: 19.15.17.13 NMAC
Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

Type: ☐ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☒ Below-grade Tank ☐ Multi-well Fluid Management Pit ☐ Alternative

Proposed Closure Method: ☒ Waste Excavation and Removal
☐ Waste Removal (Closed-loop systems only)
☐ On-site Closure Method (Only for temporary pits and closed-loop systems)
☐ In-place Burial ☐ On-site Trench Burial
☐ Alternative Closure Method

14.
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

- ☒ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☒ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.13 NMAC
- ☒ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- ☒ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☒ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

15.
Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC
Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 25 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is between 25-50 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within 300 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	

adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☐ No

16.
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection E of 19.15.17.13 NMAC
- ☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K of 19.15.17.11 NMAC
- ☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Waste Material Sampling Plan - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
- ☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

17.
Operator Application Certification:
I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): Jon E. Fields Title: Director, Field Environmental

Signature: Jon E. Fields Date: 3/2/2021

e-mail address: jefields@eprod.com Telephone: 713-381-6684

18.
OCD Approval: ☐ Permit Application (including closure plan) ☒ Closure Plan (only) ☐ OCD Conditions (see attachment)

OCD Representative Signature: CRWhitehead **Approval Date:** July 2, 2021

Title: Environmental Specialist **OCD Permit Number:** BGT 1

19.
Closure Report (required within 60 days of closure completion): 19.15.17.13 NMAC
Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☐ **Closure Completion Date:** _____

20.
Closure Method:
☐ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)
☐ If different from approved plan, please explain.

21.
Closure Report Attachment Checklist: ***Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.***

- ☐ Proof of Closure Notice (surface owner and division)
- ☐ Proof of Deed Notice (required for on-site closure for private land only)
- ☐ Plot Plan (for on-site closures and temporary pits)
- ☐ Confirmation Sampling Analytical Results (if applicable)
- ☐ Waste Material Sampling Analytical Results (required for on-site closure)
- ☐ Disposal Facility Name and Permit Number
- ☐ Soil Backfilling and Cover Installation
- ☐ Re-vegetation Application Rates and Seeding Technique
- ☐ Site Reclamation (Photo Documentation)

On-site Closure Location: Latitude _____ Longitude _____ NAD: ☐1927 ☐ 1983

22.

Operator Closure Certification:

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): _____ Title: _____

Signature:_____ Date: _____

e-mail address:_____ Telephone: _____

ENSOLUM

BELOW-GRADE TANK REGISTRATION

Property:

San Juan 28-7 Unit #35A
NW ¼, S1 T27N R7W
Rio Arriba County, New Mexico

February 22, 2021
Ensolum Project No. 05A1226131

Prepared for:

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

Prepared by:

Ranee Deechilly
Environmental Scientist

Kyle Summers, CPG
Sr. Project Manager

Table of Contents

LIST OF APPENDICES

ENSOLUM

1.0 INTRODUCTION

Ensolum, LLC (Ensolum) has prepared a below grade tank permit application for the Enterprise Field Services, LLC (Enterprise) San Juan 28-7 Unit #35A site, hereinafter referred to as the "Site".

Based on correspondence from the New Mexico Energy Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD), dated December 9, 2020, Enterprise is required to submit a below grade tank permit application no later than March 4, 2021. The permit application includes a detailed plan that is required per New Mexico Administrative Code (NMAC) 19.15.17.

1.1 Site Description & Background

Operator:	Enterprise Field Services, LLC / Enterprise Products Operating LLC (Enterprise)
Site Name:	San Juan 28-7 Unit #35A (Site)
Location:	36.606734 ° North, 107.528723 ° West Northwest (NW) ¼ of Section 1, Township 27 North, Range 7 West Rio Arriba County, New Mexico
Property:	Bureau of Land Management (BLM)
Regulatory:	New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD)

Tank Information	
Tank Capacity:	Approximately 40 barrels (bbls)
Tank Dimensions:	Height: Approximately 5 feet; Diameter: 8 feet
Tank Contents:	Produced water and condensate
Tank Construction:	Steel wall tank

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**. **Figure 3** is a **Site Map** that depicts the location of the below-grade tank and the associated meter run (**Appendix A**).

2.0 SITING REQUIREMENTS

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. To address the activities related to oil and gas pits, closed-loop systems, below-grade tanks and sumps, the New Mexico EMNRD OCD references 19.15.17 NMAC *Pits, Closed-Loop Systems, Below-Grade Tanks and Sumps.* Ensolum utilized information provided by Enterprise, the general site characteristics, and information available from the New Mexico Office of the State Engineer (OSE) and the New Mexico EMNRD OCD imaging database to determine the appropriate siting requirements 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. Two (2) PODs (SJ-03001-POD1 and SJ-03001-POD2) were identified over one (1) mile and in the adjacent Public Land Survey System (PLSS) section of the Site. The

records from these PODs indicate depths to water of 41 feet below grade surface (bgs) and 45 feet bgs, respectively (**Figure A**, **Appendix B**) (New Mexico Office of the State Engineer, 2010).

- The data record for a monitoring well (unpermitted) that was located at the Conoco, Inc., San Juan 28-7 Unit #126 well site, located approximately 0.55 miles south of the Site and at a higher elevation (6,170 feet, based on the published data) than the Site (6,131 feet), indicates an average depth to water of 75 feet bgs (based on published data) (New Mexico Energy, Minerals and Natural Resources Department, 2012).

- Several cathodic protection wells were identified within one (1) mile of the Site as well as in adjacent PLSS sections. The closest cathodic protection well (San Juan 28-7 Unit #126F) is located approximately 0.4 miles south of the Site and at a higher elevation (6,178 feet) than the Site. The record for this cathodic well indicates a depth to water of approximately 100 feet bgs. The record for the cathodic protection well associated with the San Juan 28-6 Unit #186M oil/gas well location (located approximately 0.9 miles east of the Site and at a higher elevation (6,153 feet) than the Site) indicates a depth to water of approximately 200 feet bgs. The remaining cathodic well records for wells located over one (1) mile of the Site indicate water depths ranging from 35 feet bgs to 190 feet bgs (**Figure B**, **Appendix B**) (New Mexico Energy, Minerals and Natural Resources Department, 2012).

- The Site is not located within 100 feet of a New Mexico EMNRD OCD-defined continuously flowing or significant watercourse. The Site is located approximately 120 feet southwest of an ephemeral wash and approximately 1,098 feet south of Carrizo Canyon Creek (**Figure C**, **Appendix B**).

- The Site is not located within 100 feet of a lakebed, sinkhole, or playa lake (**Figure C**, **Appendix B**).

- Based on information provided by the OSE WRRS database and the United States Geological Survey (USGS), there are no springs, or fresh water wells used for public or livestock consumption identified within 200 feet of the Site (**Figure D**, **Appendix B**) (New Mexico Office of the State Engineer, 2010) (U.S. Geological Survey The National Map, 2019).

- Based on information identified in the U.S. Fish & Wildlife Service National Wetlands Inventory Wetlands Mapper, the Site is not located within 100 feet of a wetland. The site is located approximately 160 feet south of a freshwater forested/shrub wetland and approximately 358 feet southeast of a riparian forested/shrub (**Figure E**, **Appendix B**) (U.S. Fish & Wildlife Service, 2020).

Based on the local topography, proximity to the ephemeral wash and Carrizo Canyon Creek, and the records from nearby cathodic protection wells and New Mexico OSE PODs, the estimated depth to groundwater is less than 50 feet bgs.

Based on the identified siting criteria, the San Juan 28-7 Unit #35A below-grade tank may not meet the siting requirement of Subparagraph (c) of Paragraph (8) of Subsection A of 19.15.17.10 NMAC. A variance request is included in Section 4.0 of this document.

3.0 SITE CHARACTERIZATION

3.1 Regional Geology and Hydrogeology

The Site is located within the San Juan Basin, which is the major structural feature in the northwest region of New Mexico. The structures that bound the basin to the north, south, east, and west formed during the Laramide Orogeny. The basin consists of various sedimentary rocks ranging from Permian to Quaternary in age; however, the rocks that were deposited during the formation of the basin mostly range from Pennsylvanian through Tertiary.

The San Juan Basin is classified as an arid to semiarid region. The central part of the basin receives less than 10 inches of precipitation per year with the mountainous regions surrounding the basin receiving as much as 30 inches a year (U.S. Bureau of Reclamation, 1976, as cited in Stone, et al., 1983).

As described in Stone (2002):

> most of the [aquifers] in the San Juan Basin [exist] under confined (artesian) or semi-confined hydrologic conditions…In Mesozoic rocks of the region, the [confined] sandstone aquifers are interbedded with shales that behave as…aquitards. The Triassic mudrock sequence is the aquitard for the Permian Limestone…Groundwater in the alluvium along streams and in the shallow Tertiary sandstone aquifers is generally unconfined…and is open to the atmosphere through pores in the overlying permeable rocks. (Stone, 2020, p.36)

The major aquifer underlying the Site vicinity is listed as the Colorado Plateaus Aquifer, which is comprised of four aquifers – Uinta-Anima, Mesa Verde, Dakota-Glen, and Coconino-De Chelly. The general composition of the aquifers is moderately to well-consolidated sedimentary rocks of an age ranging from Permian to Tertiary. Each of the four aquifers is separated from the others by an impermeable confining unit. The two thickest confining units are the Mancos and Chinle-Moenkopi, which are completely impermeable and cover the entire area of the aquifers. Other confining units in the region are less extensive and thinner. These units allow water to flow between the principal aquifers (Robson and Banta, 1995).

According to the New Mexico Bureau of Geology and Mineral Resource (Geologic Map of New Mexico, 2003), the Site is located within the lower Eocene San Jose Formation which comprises four lithologic units – Cuba Mesa, Regina, Llaves, and Tapicitos. The rocks that comprise the San Jose Formation were deposited in alluvial or fluvial environments. The San Jose Formation contains a mixture of clastic sedimentary rocks varying from siltstones and mudstones to medium to coarse grain sandstones (Smith and Lucas, 1991).

3.2 Local Geology and Hydrogeology

According to the Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS) database the Site is located on soil classified as Sparank-San Mateo silt loams. The Sparank-San Mateo silt loams are composed of Quaternary alluvial deposits derived from erosion of the parent San Jose sandstones and siltstones which comprise the canyon walls.

According to Domenico and Schwartz (1990) a default hydraulic conductivity value for the silt unit at the Site would range between $1x10^{-9}$ m/sec to $2x10^{-5}$ m/sec, which is equivalent to between $2.8x10^{-4}$ feet per day (ft/day) to 5.7 ft/day. The sand unit at the Site would be, on average, $2x10^{-6}$ m/sec which is equivalent to 0.57 feet per day (ft/day).

The groundwater-bearing unit at the Site is estimated to be less than 50 feet bgs. This estimation is based on the following on the following data and published records:

Groundwater Depth based on New Mexico OSE POD Records:

- The two OSE PODs identified in the WRRS database indicate depths to water of 41 feet bgs and 43 feet bgs. The PODs are located approximately 1.6 miles southeast of the Site. These two PODs are located approximately 250 feet from the Carrizo Canyon Creek. The average elevation for the two PODs is approximately 6,183 feet (25 feet higher in elevation than the creek). Similarly, the Site is located approximately 27 feet higher in elevation than the Carrizo Canyon Creek. Using this correlation, the depth to groundwater at the Site would be approximately 45 feet bgs.

Groundwater Depth based on Cathodic Well Records:

- The record for the closest cathodic protection well (San Juan 28-7 Unit #126F) indicates depth to water of 100 feet bgs. The approximate elevation for this cathodic well is 6,178 feet which is 47 feet higher in elevation than the Site. Using this correlation, the anticipated depth to water at the Site would be approximately 53 feet bgs.

Groundwater Depth based on Historic Monitoring Well Records:

- The groundwater data for the monitoring well that was located at the Conoco, Inc., San Juan 28-7 Unit #126 well site indicates depth to water of 75 feet bgs. The elevation for the San Juan 28-7 Unit #126 is 6,170 feet which is 39 feet higher in elevation than the Site. Using this correlation, the anticipated depth to water at the Site would be approximately 36 feet bgs.

Groundwater Depth based on Proximity to Creek:

- The Site is located approximately 1,098 feet from Carrizo Canyon Creek and is approximately 27 feet higher in elevation than the Creek. It is assumed that subgrade water flows within Carrizo Canyon Creek. Due to the proximity of the Creek, it is possible that the depth to groundwater at the Site is less than 50 feet bgs.

4.0 VARIANCE REQUEST

Enterprise requests a variance from the siting requirements of Paragraph (8) of Subsection A of 19.15.17.10 NMAC and the signage requirement of 19.15.17.11 NMAC. The San Juan 28-7 Unit #35A below-grade tank is an out-of-service historical unregistered below-grade tank. The below-grade tank will be removed from service per the closure requirements of 19.15.17 NMAC once the tank is registered with the New Mexico EMNRD OCD. The below-grade tank is located on the Enterprise meter run which includes signage for the nearby well site.

5.0 STANDARDS OF CARE, LIMITATIONS, AND RELIANCE

5.1 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).

5.2 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.

5.3 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.

References:

Domenico, P.A. and F.W. Schwartz, 1990. *Physical and Chemical Hydrogeology*, John Wiley & Sons, New York, 824 p.

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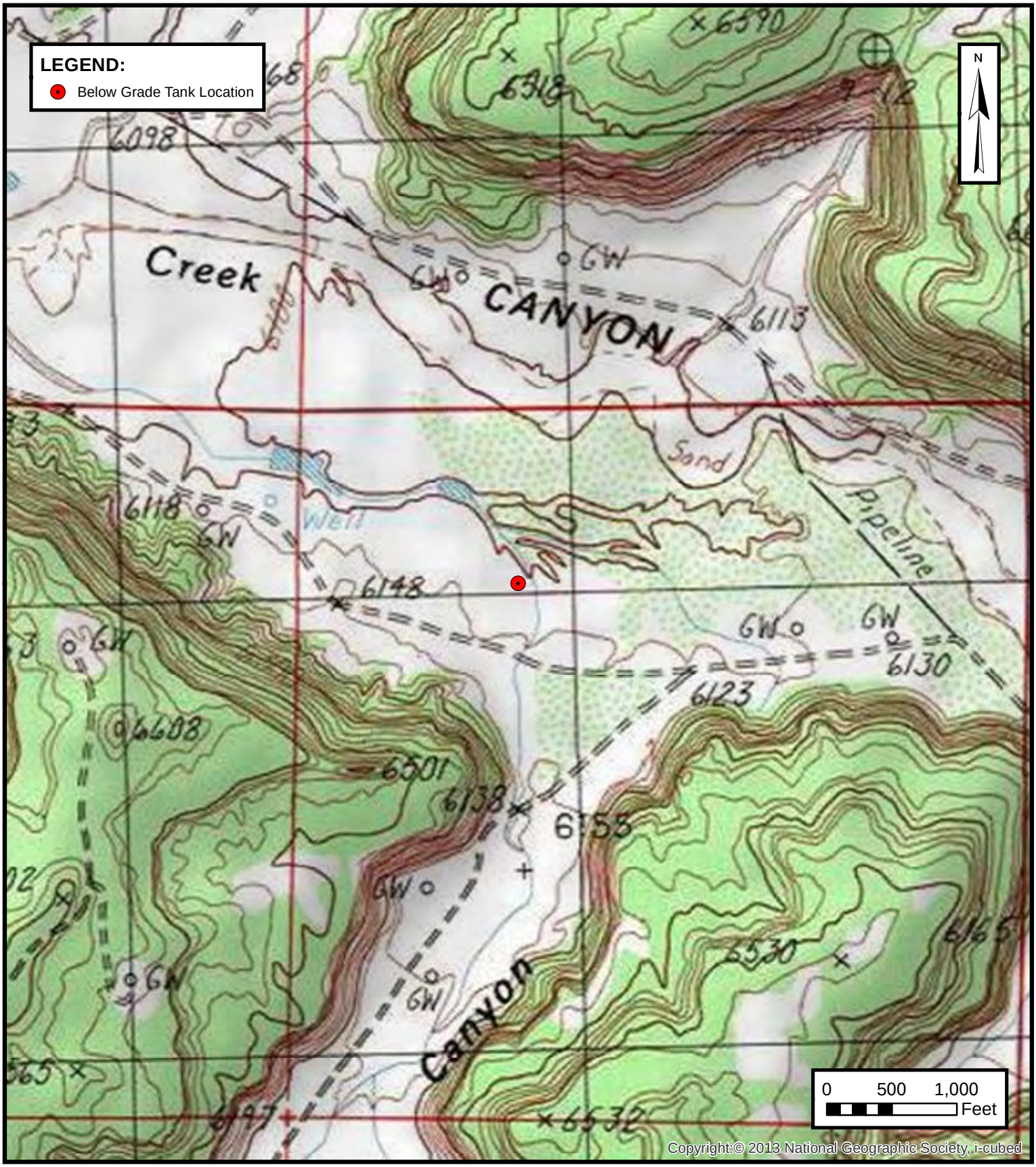
APPENDIX A

Figures



ENSOLUM
Environmental & Hydrogeologic Consultants

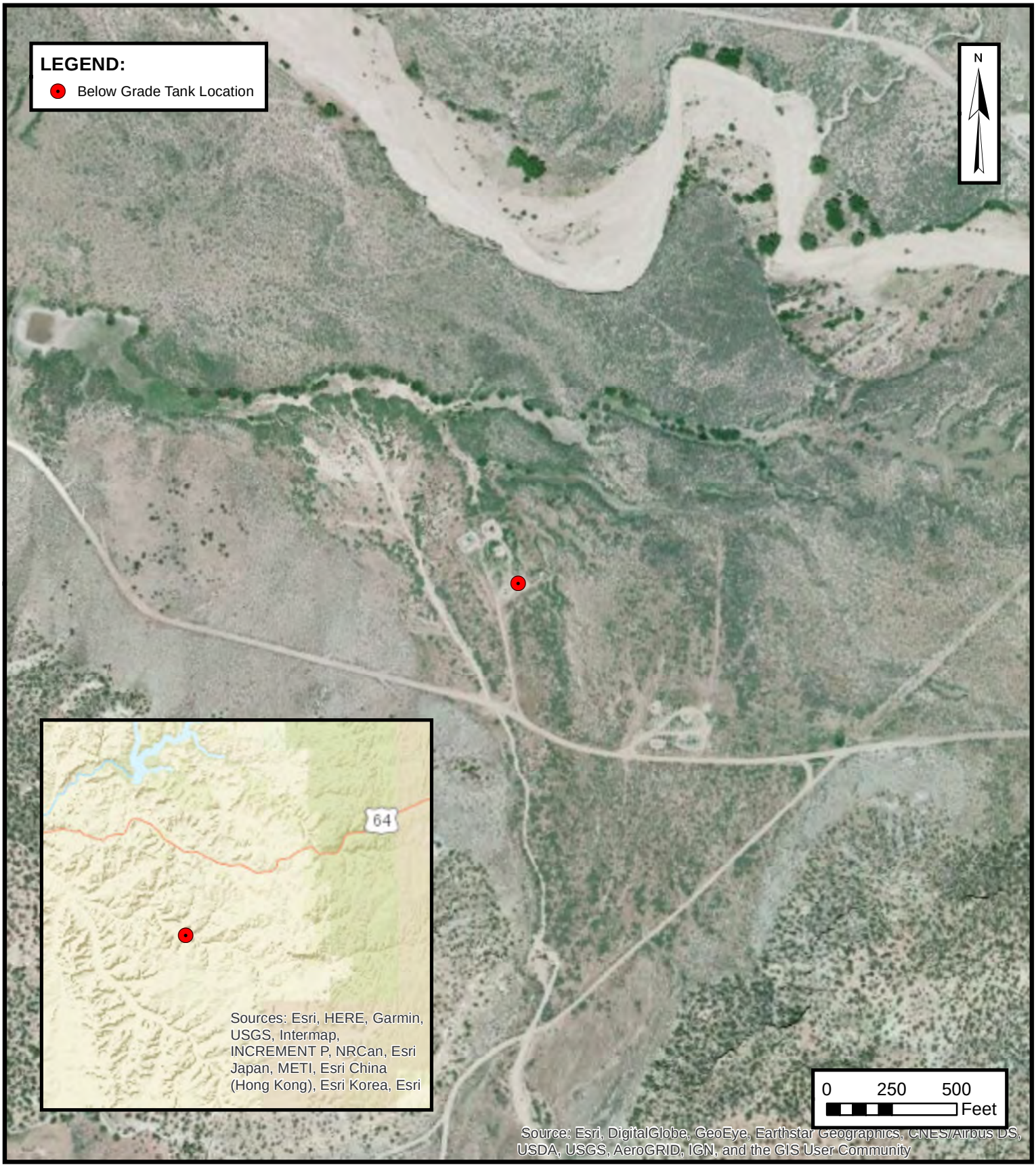
TOPOGRAPHIC MAP

ENTERPRISE FIELD SERVICES, LLC
SAN JUAN 28-7 UNIT #35A
NW ¼, S1 T27N R7W, Rio Arriba County, New Mexico
36.606734° N, 107.528723° W

PROJECT NUMBER: 05A1226131

FIGURE

1



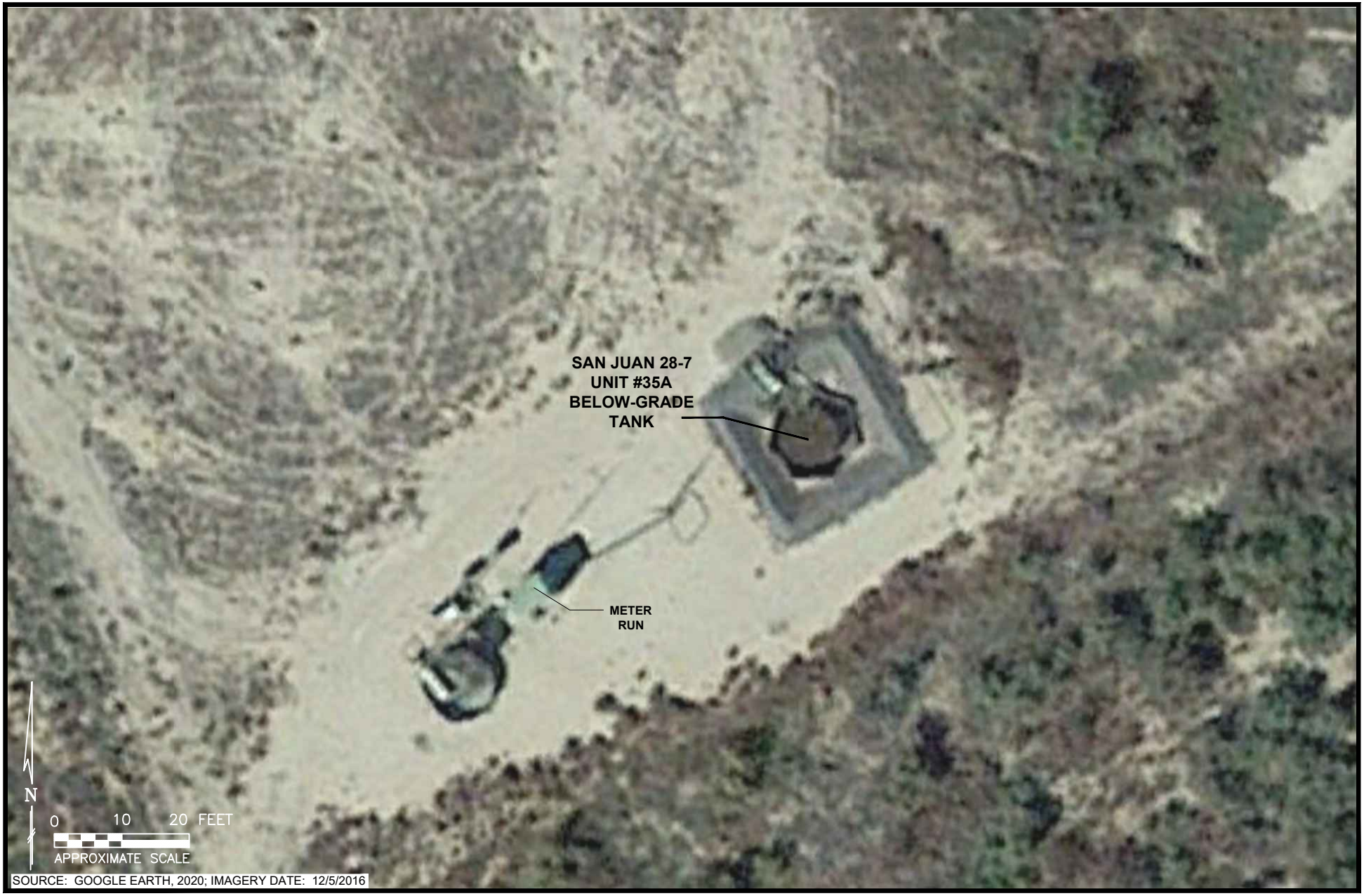
ENSOLUM
Environmental & Hydrogeologic Consultants

SITE VICINITY MAP

ENTERPRISE FIELD SERVICES, LLC
SAN JUAN 28-7 UNIT #35A
NW ¼, S1 T27N R7W, Rio Arriba County, New Mexico
36.606734° N, 107.528723° W

PROJECT NUMBER: 05A1226131

FIGURE
2



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Environmental & Hydrogeologic Consultants

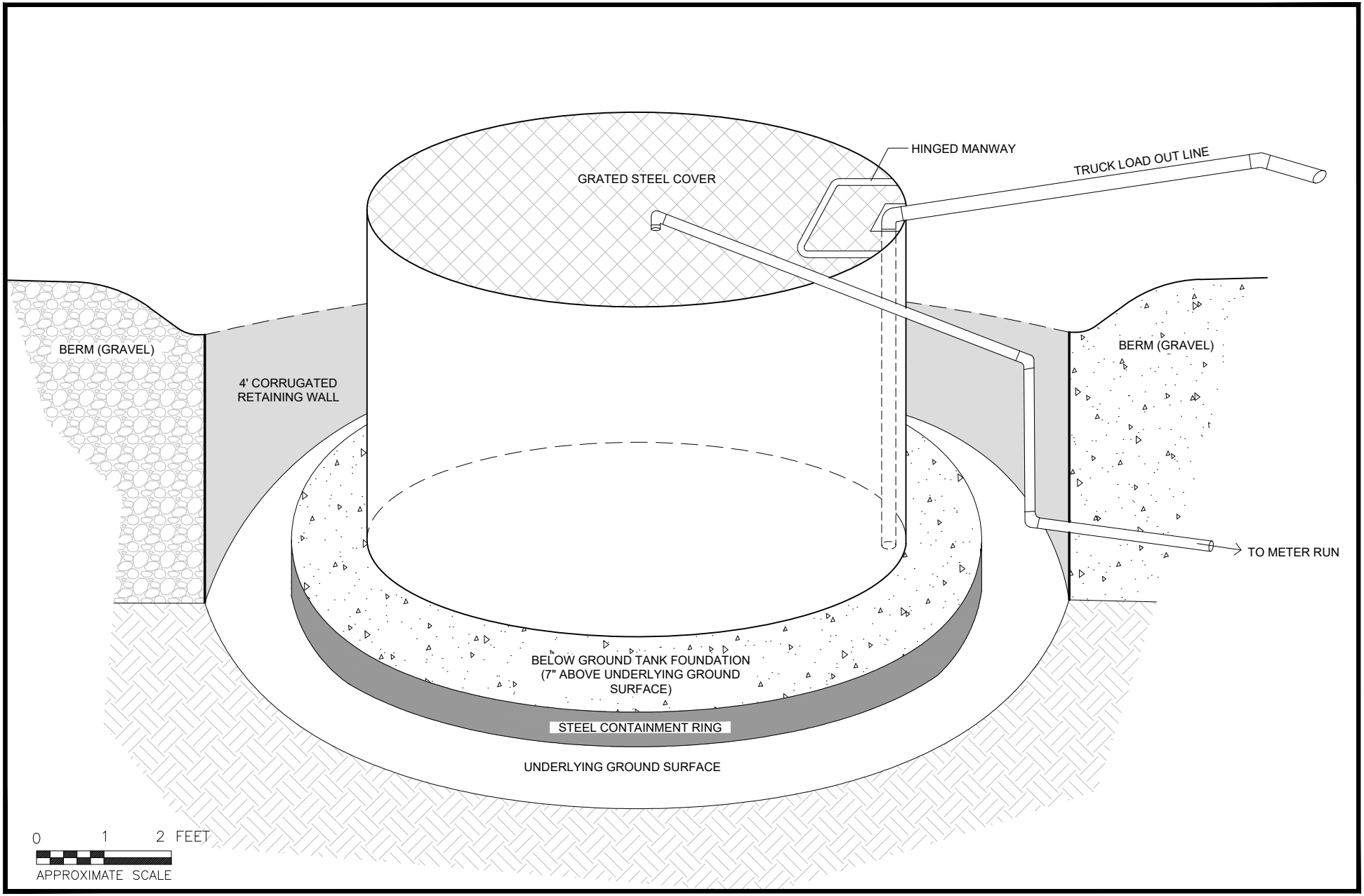
SITE MAP

ENTERPRISE FIELD SERVICES, LLC
SAN JUAN 28-7 UNIT #35A
NW ¼, S1 T27N R7W, Rio Arriba County, New Mexico
36.606734° N, 107.528723° W

PROJECT NUMBER: 05A1226131

FIGURE

3



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BELOW-GRADE TANK SCHEMATIC

ENTERPRISE FIELD SERVICES, LLC
SAN JUAN 28-7 UNIT #35A
NW ¼, S1 T27N R7W, Rio Arriba County, New Mexico
36.606734° N, 107.528723° W

PROJECT NUMBER: 05A1226131

FIGURE

4

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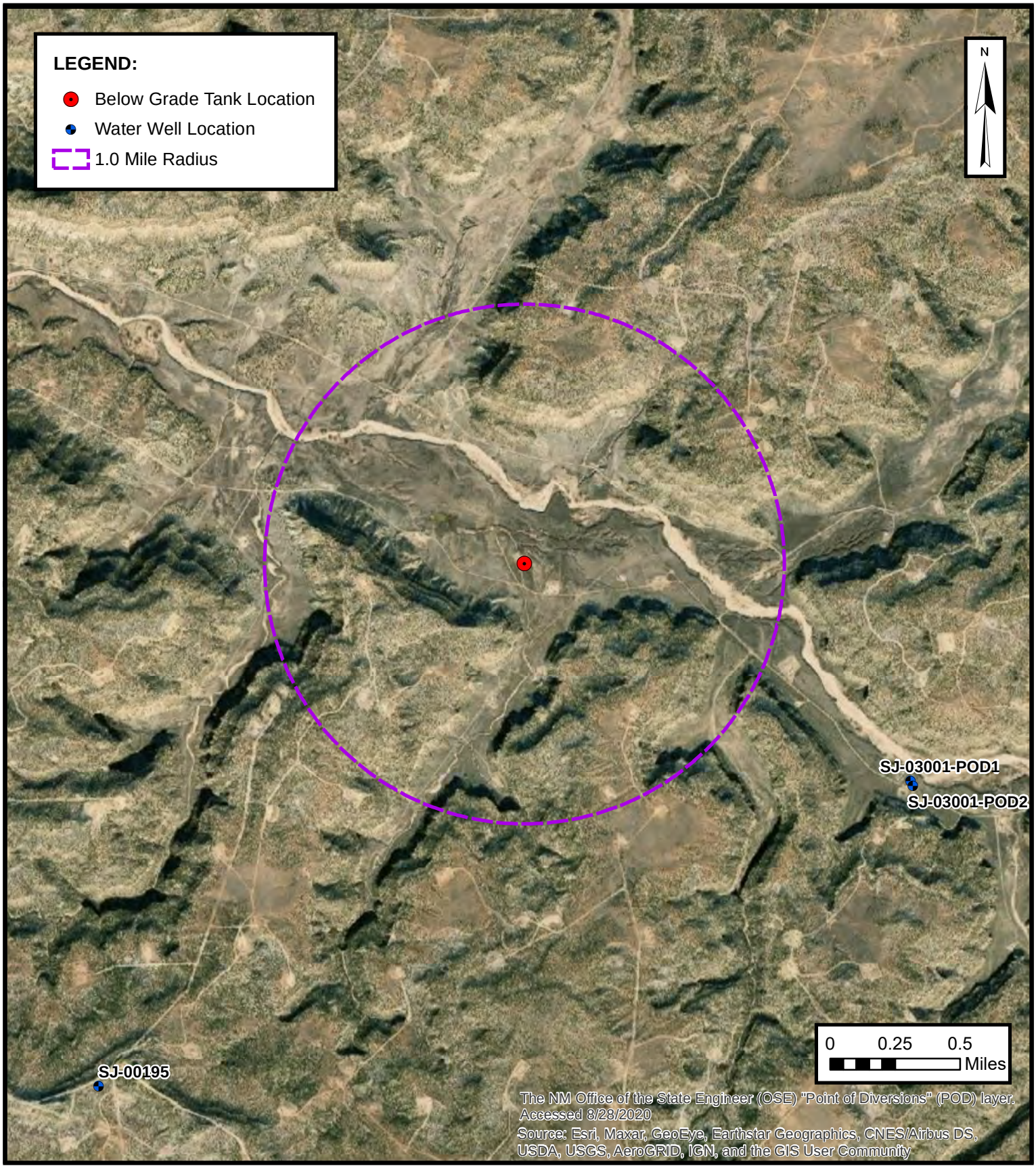
APPENDIX B

Siting Figures and Documentation



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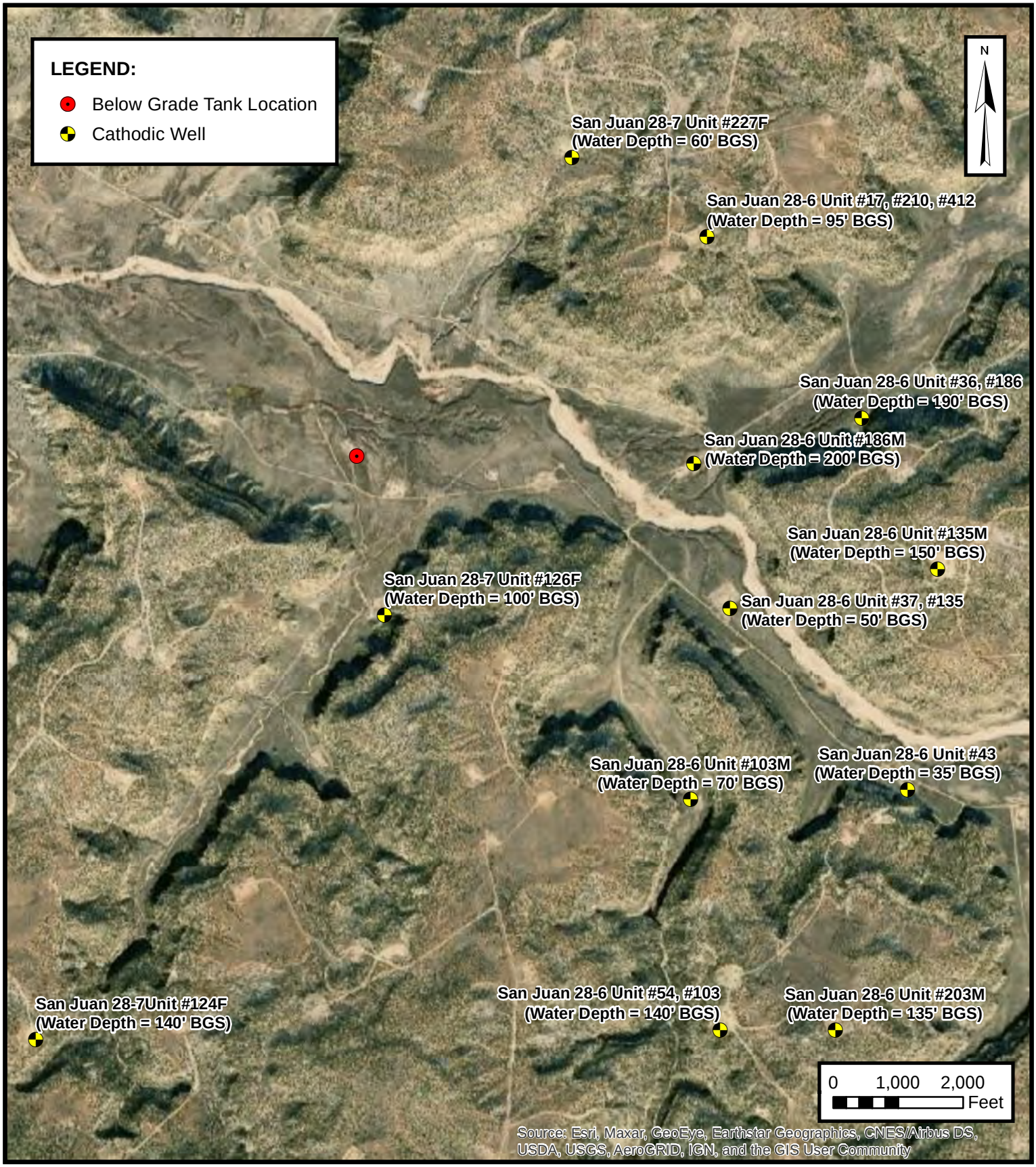
1.0 MILE RADIUS WATER WELL MAP

ENTERPRISE FIELD SERVICES, LLC
SAN JUAN 28-7 UNIT #35A
NW ¼, S1 T27N R7W, Rio Arriba County, New Mexico
36.606734° N, 107.528723° W

PROJECT NUMBER: 05A1226131

FIGURE

A



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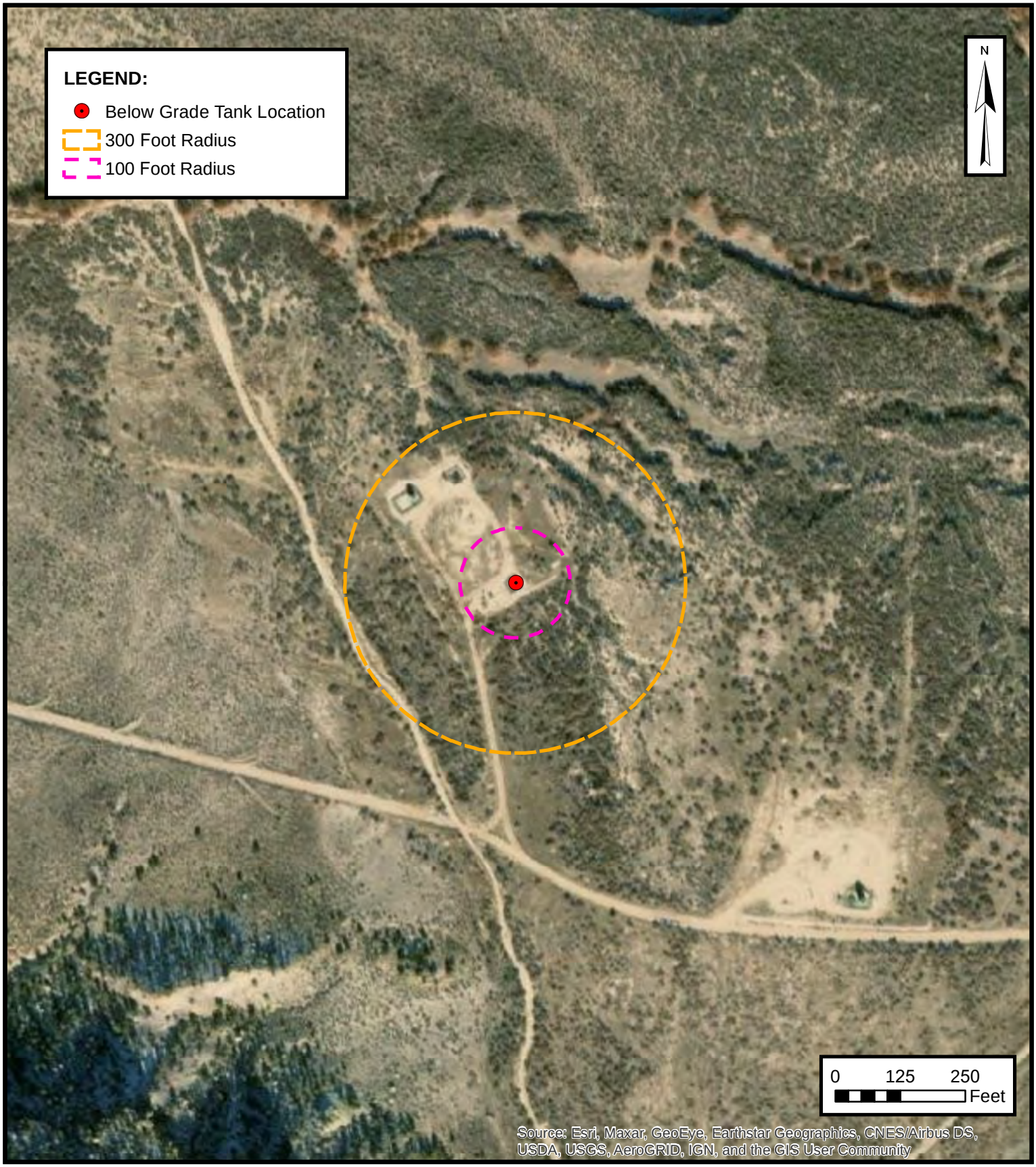
CATHODIC PROTECTION WELL RECORDED DEPTH TO WATER

ENTERPRISE FIELD SERVICES, LLC
SAN JUAN 28-7 UNIT #35A
NW ¼, S1 T27N R7W, Rio Arriba County, New Mexico
36.606734° N, 107.528723° W

PROJECT NUMBER: 05A1226131

FIGURE

B



ENSOLUM
Environmental & Hydrogeologic Consultants

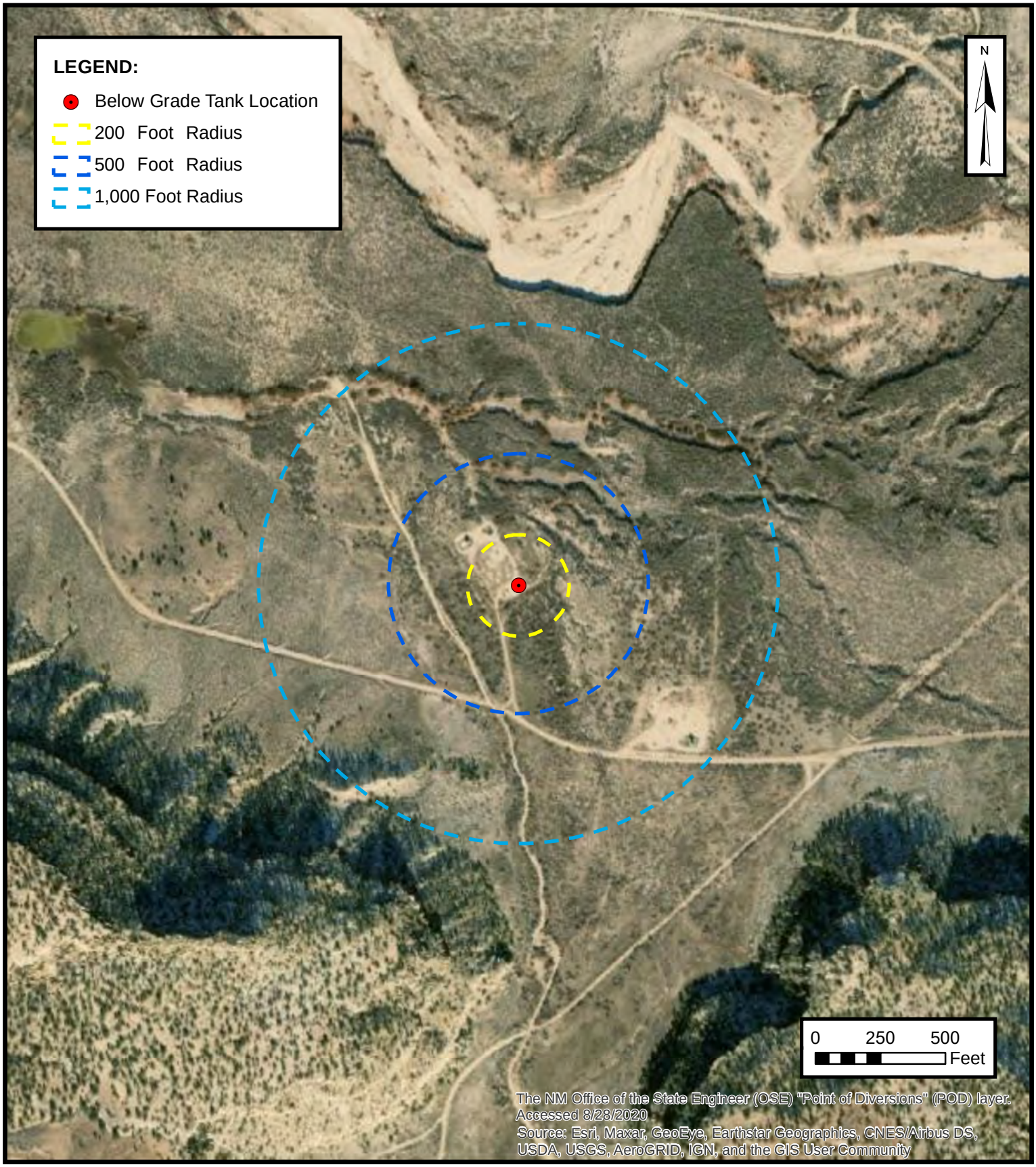
WATERCOURSE AND DRAINAGE IDENTIFICATION

ENTERPRISE FIELD SERVICES, LLC
SAN JUAN 28-7 UNIT #35A
NW ¼, S1 T27N R7W, Rio Arriba County, New Mexico 36.606734° N, 107.528723° W

PROJECT NUMBER: 05A1226131

FIGURE

C



ENSOLUM
Environmental & Hydrogeologic Consultants

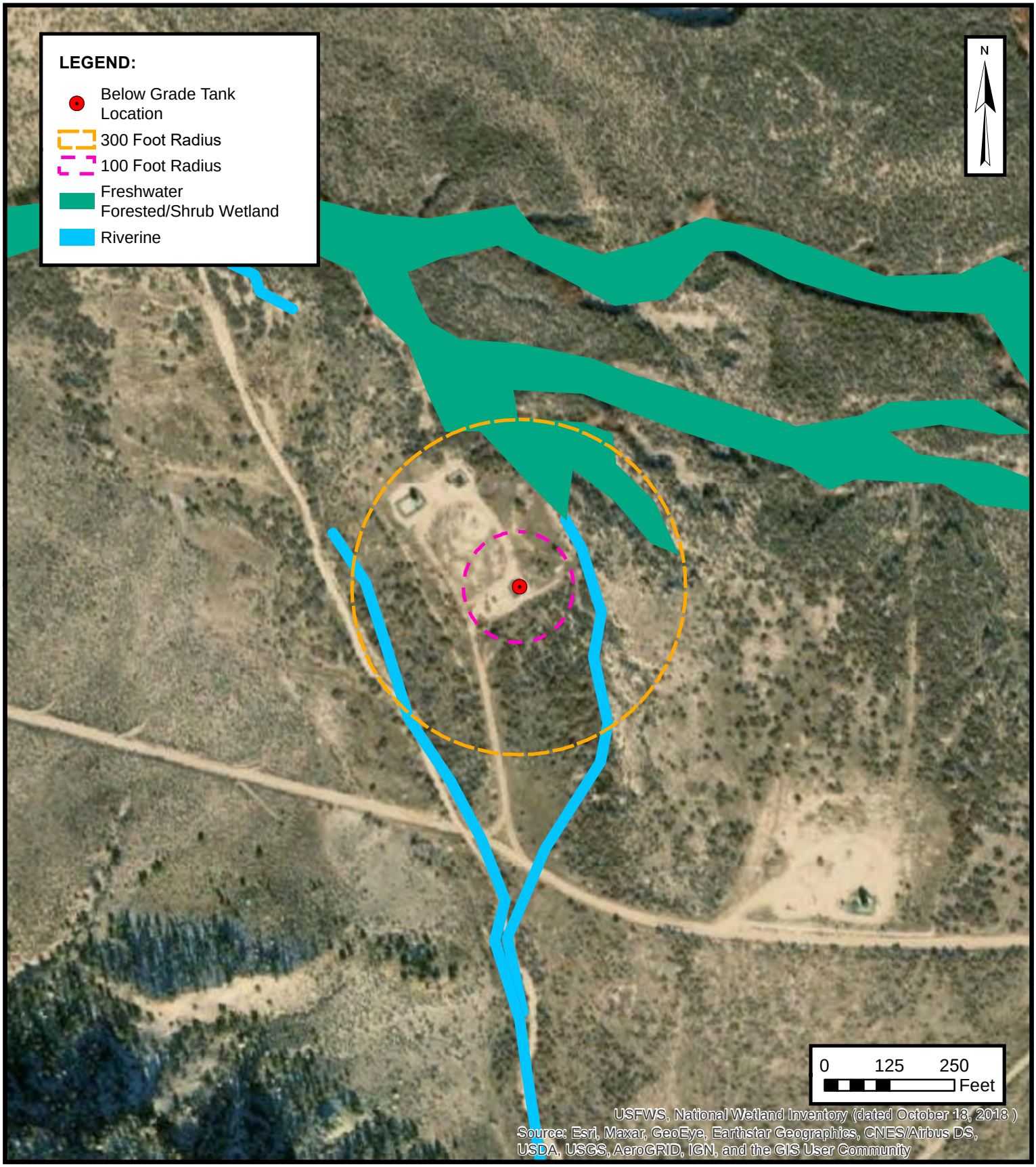
WATER WELL AND NATURAL SPRING LOCATION

ENTERPRISE FIELD SERVICES, LLC
SAN JUAN 28-7 UNIT #35A
NW ¼, S1 T27N R7W, Rio Arriba County, New Mexico
36.606734° N, 107.528723° W

PROJECT NUMBER: 05A1226131

FIGURE

D



ENSOLUM
Environmental & Hydrogeologic Consultants

WETLANDS

ENTERPRISE FIELD SERVICES, LLC
SAN JUAN 28-7 UNIT #35A
NW ¼, S1 T27N R7W, Rio Arriba County, New Mexico
36.606734° N, 107.528723° W

PROJECT NUMBER: 05A1226131

FIGURE

E

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

No records found.

PLSS Search:

Section(s): 1, 2, 11, 12 **Township:** 27N **Range:** 07W

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

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 03001 POD1	R	SJ	RA	1	2	2	07	27N	06W	276165	4052831*	141	41	100
SJ 03001 POD2		SJ	RA	1	2	2	07	27N	06W	276178	4052801	140	45	95

Average Depth to Water: **43 feet**

Minimum Depth: **41 feet**

Maximum Depth: **45 feet**

Record Count: 2

PLSS Search:

Section(s): 6, 7 **Township:** 27N **Range:** 06W

***UTM location was derived from PLSS - see Help**

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

No records found.

PLSS Search:

Section(s): 31 **Township:** 28N **Range:** 06W

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

No records found.

PLSS Search:

Section(s): 35, 36 **Township:** 28N **Range:** 07W

OCD CATHODIC PROTECTION DEEPWELL GROUNDBED REPORT
DATA SHEET: NORTHWESTERN NEW MEXICO

OPERATOR: ConocoPhillips CO.
FARMINGTON, NM 87401
PHONE: 599-3400

SUBMIT 2 COPIES TO O.C.D. AZTEC OFFICE

LOCATION INFORMATION

API Number: 30-039-26942

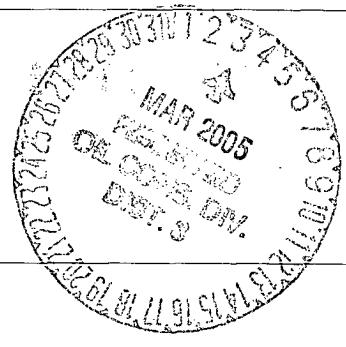
WELL NAME OR PIPELINE SERVED: 28-7 126F
LEGAL LOCATION: 1-27-7
INSTALLATION DATE: 3/24/2004
PPCO. RECTIFIER NO.: FM-137A
ADDITIONAL WELLS:
TYPE OF LEASE: FEDERAL
LEASE NUMBER: SF-079321-A

GROUND BED INFORMATION

TOTAL DEPTH: 295
CASING DIAMETER: 8-IN
TYPE OF CASING: PVC
CASING DEPTH: 20'
CASING CEMENTED: ☐
TOP ANODE DEPTH: 205
BOTTOM ANODE DEPTH: 295
ANODE DEPTHS: 205,215,225,235,245,255,265,275,285,295
AMOUNT OF COKE: 2200#

WATER INFORMATION

WATER DEPTH (1): 100
WATER DEPTH (2):
GAS DEPTH:
CEMENT PLUGS:



OTHER INFORMATION

TOP OF VENT PERFORATIONS: 120
VENT PIPE DEPTH: 300
REMARKS:

IF ANY OF THE ABOVE DATA IS UNAVAILABLE, PLEASE INDICATE SO. COPIES OF ALL LOGS, INCLUDING DRILLERS LOGS, WATER ANALYSIS, AND WELL BORE SCHEMATICS SHOULD BE SUBMITTED WHEN AVAILABLE. UNPLUGGED UNABANDONED 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.

Tuesday, January

3349

90720

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

30-039-25615

Operator Burlington Resources Location: Unit ___ Sec. 6 Twp 27 Rng 6

Name of Well/Wells or Pipeline Serviced SJ 28-6 #186M

Elevation 6144 Completion Date 7-17-97 Total Depth 340' Land Type ____

Casing Strings, Sizes, Types & Depths 8" PVC x 120'

If Casing Strings are cemented, show amounts & types used 4 Bags Portland cement

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. 200' seep

Depths gas encountered: None

Ground bed depth with type & amount of coke breeze used: 340' Loresco SW coke breeze 1800lbs

Depths anodes placed: 320, 314, 308, 302, 296, 290, 284, 278, 272, 266

Depths vent pipes placed: 340'

Vent pipe perforations: Bottom 140'

Remarks:

RECEIVED
FEB 25 1998
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.

TIERRA DYNAMIC COMPANY DEEP WELL GROUNDED LOG DATA SHEET

COMPANY NAME: Burlington Resources

WELL NAME : SJ 28-6 # 186M

LEGAL LOCATION: 6-27-6 COUNTY: Rio Arriba

DATE: 7-17-97

DEPTH: 340'

BIT SIZE: 6 3/4

DRILLER NAME: Bud Mercer

SIZE AND TYPE OF CASING: 8" PVC

TYPE OF COKE: Loresco SW

AMT. OF COKE BACKFILL: 1800 lbs

VENT PIPE: 340'

PERF. PIPE: Bottom 140'

ANODE AMT. & TYPE: Anotes - Durion

BOULDER DRILLING:

DEPTH FT.	LOG	ANODE	DEPTH FT.	LOG	ANODE	DEPTH FT.	LOG	ANODE
100			265	1.2	10	430		
105			270	1.4	9	435		
110			275	1.4		440		
115			280	1.2	8	445		
120			285	1.1	7	450		
125			290	1.0	6	455		
130			295	.9	5	460		
135			300	.8	4	465		
140			305	.8		470		
145			310	.9	3	475		
150			315	1.0	2	480		
155	.7		320	.9	1	485		
160	.7		325	.4		490		
165	.8		330	.4		495		
170	.8		335	.2		500		
175	.8		340	T.D.		505		
180	1.0		345			510		
185	1.0		350			515		
190	.9		355			520		
195	.8		360			525		
200	.5		365			530		
205	.5		370			535		
210	.6		375			540		
215	.7		380			545		
220	.7		385			550		
225	.3		390			555		
230	.2		395			560		
235	.2		400			565		
240	.4		405			570		
245	.4		410			575		
250	.7		415			580		
255	.7		420			585		
260	.8		425			590		
						595		

COMPLETION INFORMATION:

WATER DEPTHS:

ISOLATION PLUGS:

ANODE#	DEPTH	OUTPUT NO COK	OUTPUT COKED
1	320	.9	1.9
2	314	1.0	2.0
3	308	.8	1.4
4	302	.7	1.3
5	296	1.0	2.1
6	290	1.0	2.2
7	284	1.2	2.4
8	278	1.5	3.9
9	272	1.6	3.8
10	266	1.2	3.16
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			

LOGING VOLTS: 11.10 VOLTAGE SOURCE: Auto

TOTAL AMPS: 11.0 TOTAL G/B RESISTANCE: 1.0

REMARKS:

910 17-30-039-07236
210-30-039-20841
412-30-039-24841

E

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

Operator MERIDIAN OIL Location: Unit SW Sec. 31 Twp 28 Rng 6

Name of Well/Wells or Pipeline Serviced SAN JUAN 28-6 UNIT #17, #210, #412

cps 1177w

Elevation 6636' Completion Date 7/19/77 Total Depth 426' 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. DAMP AT 95'

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

Depths gas encountered: N/A

Type & amount of coke breeze used: 57 SACKS

Depths anodes placed: 350', 340', 295', 285', 270', 260', 250', 240', 230', 210'

Depths vent pipes placed: 355'

Vent pipe perforations: 200'

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.

El Paso Natural Gas Company
Form 7-238 (Rev. 11-71)

WELL CASING
CATHODIC PROTECTION CONSTRUCTION REPORT
DAILY LOG

Drilling Log (Attach Hereto). ☐ 210 412

Completion Date 7-19-77

Well Name	Location	CPS No.
SJ. 28-6 #17	SW 31-28-6	1177W

Type & Size Bit Used	Work Order No.
6 3/4	40046. 50-20

Anode Hole Depth	Total Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
606426		57 SAcks		

	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10
Anode Depth	350	340	295	285	270	260	250	240	230	210
Anode Output (Amps)	3.8	3.9	3.6	4.0	4.2	4.6	3.2	3.6	4.0	4.0
Anode Depth	# 11	# 12	# 13	# 14	# 15	# 16	# 17	# 18	# 19	# 20
Anode Output (Amps)	# 11	# 12	# 13	# 14	# 15	# 16	# 17	# 18	# 19	# 20

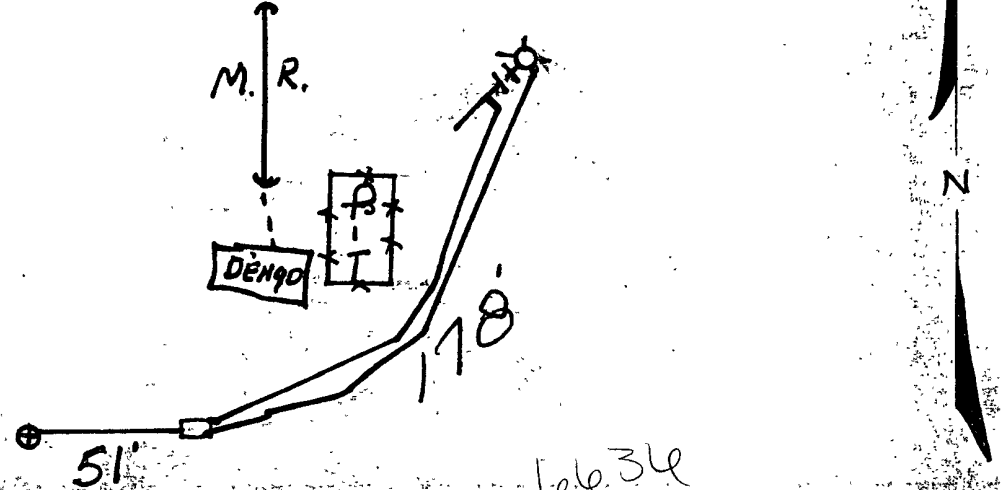
Total Circuit Resistance			No. 8 C.P. Cable Used	No. 2 C.P. Cable Used
Volts 12.0	Amps 15.5	Ohms 0.77		

Remarks: STATIC 600' S = 0.87 - DRILL TO 160' - BLEW WATER OUT OVER WEEK END - DRILL TO 440' FILL WATER TO 200' & LOG. VENT TO 355, PERFORATED 200' SLURRY 57 COKE INSTALL STUB POLE & 40-16 RECT.

All Construction Completed

Daniels
(Signature)

GROUND BED LAYOUT SKETCH



DISTRIBUTION:
WHITE – Division Corrosion Office
YELLOW – Area Corrosion Office
PINK – Originator File

tele 34

Form 1 (Rev. 8-75)

El Paso Natural Gas Company
ENGINEERING CALCULATION

Sheet: ____ of ____
Date:
By:
File:

1177W

SJ 28-6 #17 - SW 31-28-6

MW		gals/mol
16.04	C_1	6.4
30.07	C_2	10.12
44.10	C_3	10.42
58.12	iC_4	12 38
58.12	nC_4	11.93
72.15	iC_5	13.85
72.15	nC_5	13.71
86.18	iC_6	15.50
86.18	C_6	15 57
100.21	iC_7	17 2
100.21	C_7	17.46
114.23	C_8	19 39
28.05	$C_2^=$	9.64
42.08	$C_3^=$	9.67

MISC. MW		gals/mol
32.00	O_2	3.37
28.01	CO	4 19
44.01	CO_2	6.38
64.06	SO_2	5.50
34.08	H_2S	5.17
28.01	N_2	4 16
2.02	H_2	3.38

160		385	.6		DRILL TO 160			
		50	.6		BLEW SMALL AMOUNT OF			
35			1.1		WATER OUT OVER WEEKEND			
		400	1.1		DRILLER ARRIVED AT 12:30			
60			1.7		DRILLED TO 440			
		15	1.8		7-19-77			
90			1.8		FILL WATER TO 200			
		20			& LOG			
200	1.6		426TD					
	1.8	35						
10	1.6							
	1.4	45						
30	12							
	14							
30	17				Vent to 355			
	1.8				Perf 200'			
40	1.7				57 Coke			
	1.6							
50	1.6							
	1.6							
60	1.9			1	350	2.0	3.8	
	2.1			2	340	2.4	3.9	
70	1.8			3	295	2.4	3.6	
	1.4			4	285	2.0	4.0	
60	1.7			5	270	2.3	4.2	
	1.9			6	260	2.6	4.6	
50	1.9			7	250	2.0	3.2	
	1.9			8	240	2.0	3.6	
300	1.4			9	230	2.0	4.0	
	1.2			10	210	2.0	4.0	
10	1.0							
	.9							
20	.9			155	12.0 V		15.5 A	0.775
	.6				1150			
30	.7							
	1.2							
40	1.8							
	1.8							
50	1.6							
	.9							
60	.6							
	.8							
70	.6							
	.6							
80	.5							

Form 22-2 (Rev. 1-61)

EL PASO NATURAL GAS COMPANY
DRILLING DEPARTMENT

DAILY DRILLING REPORT

LEASE WELL NO. 111W CONTRACTOR O'Brient RIG NO. 1 REPORT NO. DATE 7-19 1977

MORNING

Driller Total Men In Crew

FROM	TO	FORMATION	WT-BIT	R.P.M.
0	50	Sandstone		
50	58	Shale		
58	75	Sandstone		
75	95	Sandstone - damp		

NO. DC SIZE LENG.

BIT NO.

NO. DC SIZE LENG.

SERIAL NO. STANDS

SIZE SINGLES

TYPE DOWN ON KELLY

MAKE TOTAL DEPTH

MUD RECORD

Time	Wt.	Vis.

MUD, ADDITIVES USED AND RECEIVED

FROM	TO	TIME BREAKDOWN

REMARKS -

DAYLIGHT

Driller Total Men In Crew

FROM	TO	FORMATION	WT-BIT	R.P.M.
95	120	Sandy Shale		
120	135	Sandstone	- water	
135	153	Shale		
153	195	Sandy shale		

NO. DC SIZE LENG.

BIT NO.

NO. DC SIZE LENG.

SERIAL NO. STANDS

SIZE SINGLES

TYPE DOWN ON KELLY

MAKE TOTAL DEPTH

MUD RECORD

Time	Wt.	Vis.

MUD, ADDITIVES USED AND RECEIVED

6 3/4 hole
Drilled To 440
Logged To 426

FROM	TO	TIME BREAKDOWN

REMARKS -

O'Brient

EVENING

Driller Total Men In Crew

FROM	TO	FORMATION	WT-BIT	R.P.M.
195	258	Shale		
258	270	Red, Sandy Shale		
270	360	Shaley Sand		
360	400	Sandy Stone		
400	440	Shale		

NO. DC SIZE LENG.

BIT NO.

NO. DC SIZE LENG.

SERIAL NO. STANDS

SIZE SINGLES

TYPE DOWN ON KELLY

MAKE TOTAL DEPTH

MUD RECORD

Time	Wt.	Vis.

MUD, ADDITIVES USED AND RECEIVED

FROM	TO	TIME BREAKDOWN

REMARKS -

SIGNED: Toolpusher _____ Company Supervisor _____

RCVD MAR28'07
OIL CONS. DIV.

OCD CATHODIC PROTECTION DEEPWELL GROUNDBED REPORT DIST. 3
DATA SHEET: NORTHWESTERN NEW MEXICO

OPERATOR: ConocoPhillips CO.
FARMINGTON, NM 87401
PHONE: 599-3400

SUBMIT 2 COPIES TO O.C.D. AZTEC OFFICE

LOCATION INFORMATION

API Number ~~300327260~~ 30-039-27261

WELL NAME OR PIPELINE SERVED: 28-7 227F
LEGAL LOCATION: 36-28-7
INSTALLATION DATE: 5/25/2006
PPCO. RECTIFIER NO.: FM-1318A
ADDITIONAL WELLS: N/A
TYPE OF LEASE: FEDERAL
LEASE NUMBER: SF-079294

GROUND BED INFORMATION

TOTAL DEPTH: 320
CASING DIAMETER: 8-IN
TYPE OF CASING: PVC
CASING DEPTH:
CASING CEMENTED: ☐
TOP ANODE DEPTH: 190
BOTTOM ANODE DEPTH: 310
ANODE DEPTHS: 190,200,210,230,240,250,280,290,300,310
AMOUNT OF COKE: 2500#

WATER INFORMATION

WATER DEPTH [1]: 60
WATER DEPTH [2]:
GAS DEPTH:
CEMENT PLUGS:

OTHER INFORMATION

TOP OF VENT PERFORATIONS: 180
VENT PIPE DEPTH: 320
REMARKS:

IF ANY OF THE ABOVE DATA IS UNAVAILABLE, PLEASE INDICATE SO. COPIES OF ALL LOGS, INCLUDING DRILLERS LOGS, WATER ANALYSIS, AND WELL BORE SCHEMATICS SHOULD BE SUBMITTED WHEN AVAILABLE. UNPLUGGED UNABANDONED 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.

1006

36-30-039-07211

186-30-039-20582

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

Operator MERIDIAN OIL Location: Unit NE Sec. 6 Twp 27 Rng 6

Name of Well/Wells or Pipeline Serviced SAN JUAN 28-6 UNIT #36, #186

cps 1285w

Elevation 6183' Completion Date 9/14/78 Total Depth 60' Land Type* N/A

Casing, Sizes, Types & Depths 30' 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. 190' SAMPLE TAKEN

Depths gas encountered: N/A

Type & amount of coke breeze used: 46 SACKS

Depths anodes placed: 300', 280', 180', 170', 160', 150', 140', 130', 120', 110'

Depths vent pipes placed: 340'

Vent pipe perforations: 260'

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.

El Paso Natural Gas Company
Form 7-238 (Rev. 11-71)

WELL CASING
CATHODIC PROTECTION CONSTRUCTION REPORT
DAILY LOG

Drilling Log (Attach Hereto). ☐ Completion Date 9-14-78

Well Name	Location	CPS No.
S.J. 28-6 #36 #186	NE 6-27-6	1285W

Type & Size Bit Used		Work Order No.
6 3/4"	CONTRACT #2	#52705-19 #55346-19

Anode Hole Depth	Total Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
360 - 350 Logged				

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Anode Depth	300	280	180	170	160	150	140	130	120	110
Anode Output (Amps)	2.1	2.4	3.3	4.3	3.3	2.6	2.4	2.7	3.0	3.1
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 12.1	Amps 8.7	Ohms 1.4		

Remarks: Static 600' SW #36 = 0.86. Static 600' SW #186 = 0.88. Driller said making water @ 190'. 45' Gals Per Min. Perforated 260' of 1" PVC vent Pipe. Installed 340' of 1" PVC vent Pipe. Slurryed SACKS of Co. Installed 30' of 8" PVC Surface Casing. Water standing @ 90' After 30 Min. Wa.

60V 30A Rectifier

20' Meter Pole

Hole Depth = - 150

Ditch & Cable = 1951'

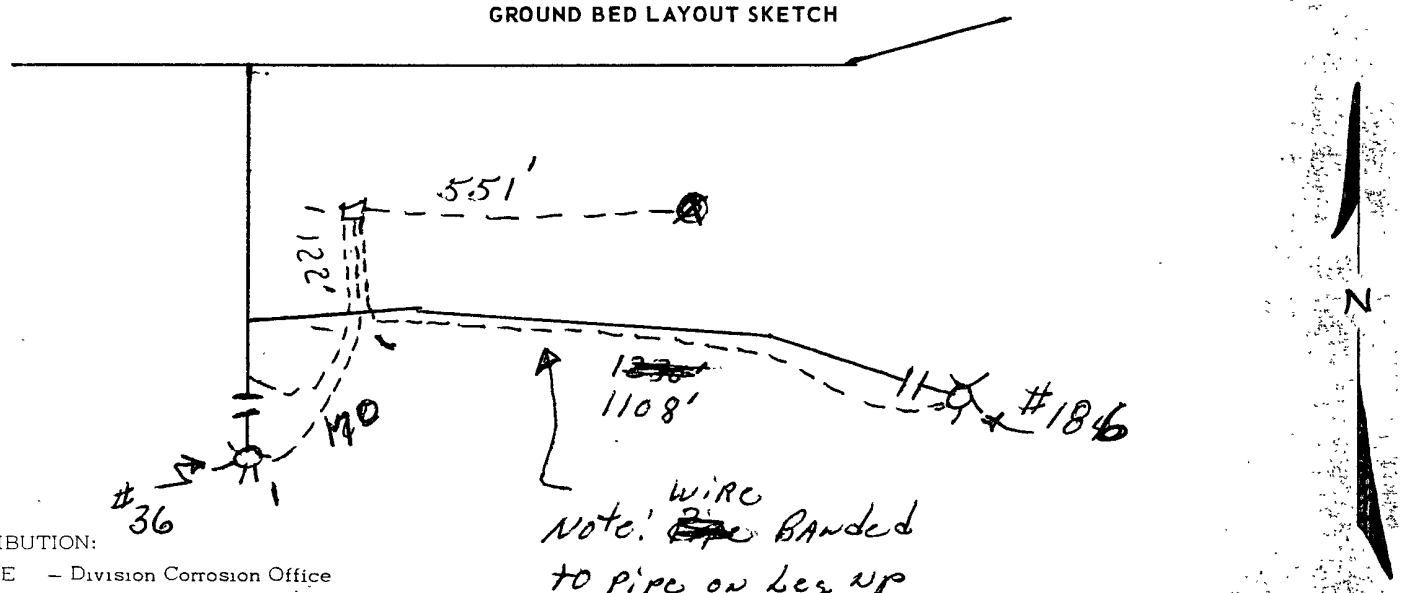
Extra Cable = 414'

Hole caved @ 53' was able to wash Bridge out.

All Construction Completed

W F Lovett
(Signature)

GROUND BED LAYOUT SKETCH



DISTRIBUTION:
WHITE – Division Corrosion Office
YELLOW – Area Corrosion Office
PINK – Originator File

6183

Form 71 (Rev 9-71)

El Paso Natural Gas Company
ENGINEERING CALCULATION

Sheet: ____ of ____
Date:
By:
File:

S.J. 28-6 #36 — 52705-19-50-28
S.J. 28-6 #186 — NE 6-29-6 — 1285 MV — 55346-19-50-80
CONTRACT #2

MW		gals/mol
16.04	C_1	6 4
30.07	C_2	10 12
44.10	C_3	10 42
58 12	iC_4	12.38
58.12	nC_4	11.93
72.15	iC_5	13.85
72.15	nC_5	13.71
86.18	iC_6	15.50
86.18	C_6	15.57
100.21	iC_7	17.2
100.21	C_7	17.46
114.23	C_8	19 39
28.05	$C_2^=$	9.64
42.08	$C_3^=$	9 67

MISC MW		gals/mol
32.00	O_2	3.37
28.01	CO	4 19
44.01	CO_2	6.38
64.06	SO_2	5 50
34.08	H_2S	5 17
28.01	N_2	4 16
2.02	H_2	3.38

STATIC 600'SW #36=0.88
STATIC 600'SW #186=0.86

DRILLER SAID MAKING WATER @ 190'. GALS PER
PERFORATED 260' OF 1" PVC VENT PIPE
INSTALLED 340' OF 1" PVC VENT PIPE
SLURRYED 46 SACKS OF COKE
INSTALLED 30' OF 8" SURFACE CASING PVC.

1 80	1.4	③	60	— After 30 MIN WATER STANDING @ 90'		90		
	1.2					95	1.8	—40 1.1 ⑦
90	.9		70			—100	2.1	1.0
	1.0						1.5	—50 1.4 ⑥
2 00	.6		80			— 10	1.8 ⑩	1.4
	.5						1.5	—60 1.7 ⑤
10	.5		90			—20	1.3 ⑨	2.2
	.5						1.3	—70 2.2 ④
20	.5		400			—30	1.3 ⑧	2.0
	.5						1.1	
30	.5							
	.5							
40	.6							
	.6							
50	.6							
	.6							
60	.7							
	.8							
70	.7							
	.9							
80	1.3	②						
	.7							
90	.7							
	1.0							
300	1.1	①						
	.8							
10	.5							
	.5							
20	.6							
	.6							
30	.6							
	.6							
40	.5							
	.5							
50	.5	HD						

Hole Caved @ 53'
Washed Bridge out

60V 30A Rectifier
20' meter Pole
Hole Depth = -150'
Ditch'd Cable = 1951'
Extra Cable = 414'

①	300	1.2	2.1
②	280	1.4	2,4
③	180	1.9	3.3
④	170	2.7	4.3
⑤	160	1.8	3.3
⑥	150	1.4	2.6
⑦	140	1.3	2.4
⑧	130	1.5	2.7
⑨	120	1.7	3.0
⑩	110	1.8	3.1

Volts = 12.1
Amps = 8.7
Ohms = 1.4

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

Analysis No. 1-9349 Date 11-8-78

Operator _____ Well Name San Juan 28-6 #36 & 186

Location NE6-27-6 County Rio Arriba State NM

Field _____ Formation _____

Sampled From CPS [redacted] W WTR @ 190 45 GPM

Date Sampled _____ By _____

Tbg. Press. _____ Csg. Press. _____ Surface Csg. Press _____

	ppm	epm		ppm	epm
Sodium	966	42	Chloride	20	.6
Calcium	154	8	Bicarbonate	390	6
Magnesium	0	0	Sulfate	2060	43
Iron	PRESENT		Carbonate	0	0
H_2S	ABSENT		Hydroxide	0	0

cc: D.C.Adams
R.A.Ullrich
E.R.Paulek
J.W.McCarthy
A.M.Smith
W.B.Shropshire
File

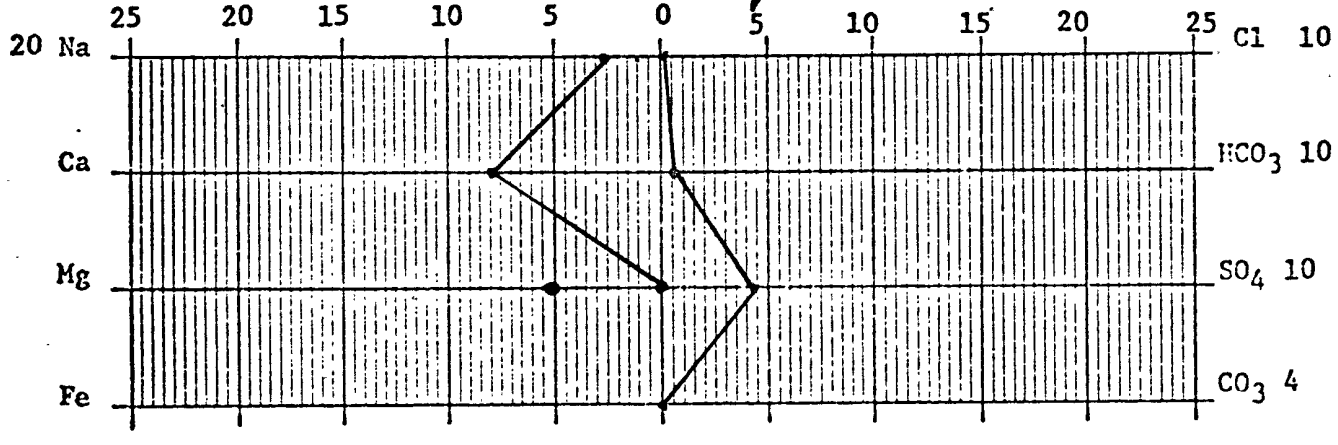
Total Solids Dissolved 3086

pH 7.7

Sp. Gr. 1.0037 at _____ 60°F

Resistivity 320 ohm-cm at 71 °F

Joe Barnett RZE
Chemist



Scale: epm

Form 3-331 Dec. 1963

EL PASO NATURAL GAS COMPANY

DRILLING DEPARTMENT

CONTRACT #2

DAILY DRILLING REPORT

LEASE WELL NO. 1285 M CONTRACTOR D+K Enter. RIG NO. 2 REPORT NO. DATE Sep 14 1978

MORNING					DAYLIGHT					EVENING				
Driller		Total Men In Crew			Driller		Total Men In Crew			Driller		Total Men In Crew		
FROM	TO	FORMATION	WT-BIT	R.P.M.	FROM	TO	FORMATION	WT-BIT	R.P.M.	FROM	TO	FORMATION	WT-BIT	R.P.M.

	NO. DC SIZE LENG.		NO. DC SIZE LENG.		NO. DC SIZE LENG.
BIT	NO. DC SIZE LENG.	BIT NO.	NO. DC SIZE LENG.	BIT NO.	NO. DC SIZE LENG.
SERIAL NO.	STANDS	SERIAL NO.	STANDS	SERIAL NO.	STANDS
SIZE	SINGLES	SIZE	SINGLES	SIZE	SINGLES
TYPE	DOWN ON KELLY	TYPE	DOWN ON KELLY	TYPE	DOWN ON KELLY
MAKE	TOTAL DEPTH	MAKE	TOTAL DEPTH	MAKE	TOTAL DEPTH

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

FROM	TO	TIME BREAKDOWN	FROM	TO	TIME BREAKDOWN	FROM	TO	TIME BREAKDOWN
0	28	Sand	180	190	Shale & (water Sand)	350	355	Shale
28	40	Sand Stone & Shale	190	240	Sandy Shale			
40	80	Shale	240	280	Shale			
80	120	Sandy Shale	280	300	Sandy Shale			
120	160	Sand Stone	300	340	Shale			
160	180	Shale	340	350	Sandy Shale			

REMARKS –

REMARKS –

SJ 28-6-36
186

REMARKS –

Set Sign 6 3/4
Drilled to 355
Logged to 350

Cut 45 gal. mud

Set 28 ft. of 8" pipe

SIGNED: Toolpusher D. K McDonald Company Supervisor

30-039-25628

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

CPS 9057W

Operator Burlington Resources Location: Unit ___ Sec. 6 Twp 27 Rng 6

Name of Well/Wells or Pipeline Serviced SJ 28-6 # 135M

Elevation ___ Completion Date 5-13-97 Total Depth 420 Land Type ___

Casing Strings, Sizes, Types & Depths 8" PVC X 20'

If Casing Strings are cemented, show amounts & types used 4 Bags Portland Type 2 cement

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. 150 Seep

Depths gas encountered: none

Ground bed depth with type & amount of coke breeze used: 420', Loresco SW coke breeze

Depths anodes placed: 400, 393, 381, 374, 368, 362, 355, 348, 341, 330

Depths vent pipes placed: 420'

Vent pipe perforations: Bottom 200'

Remarks:

RECEIVED
FEB 25 1998
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.

90570

ENTERED

TIERRA DYNAMIC COMPANY DEEP WELL GROUNDED LOG DATA SHEET

COMPANY NAME: Burlington Resources

WELL NAME : SJ 28-6 #135M

LEGAL LOCATION: NESE Sec 6-27-6 COUNTY: Rio Arriba

CPS#

DATE: 5-12-97 TYPE OF COKE: Loresco SW

DEPTH: 420' AMT. OF COKE BACKFILL: 25001bs Coke

BIT SIZE: 7 7/8 VENT PIPE: 420'

DRILLER NAME: Jack Ledbetter PERF. PIPE: Bottom 200 ft.

SIZE AND TYPE OF CASING: 8" PVC X 20' ANODE AMT. & TYPE: 10 Anotec Anodes

BOULDER DRILLING: None

DEPTH FT.	LOG	ANODE	DEPTH FT.	LOG	ANODE	DEPTH FT.	LOG	ANODE
100			265	.2		430		
105			270	.2		435		
110			275	.4		440		
115			280	.4		445		
120			285	.8		450		
125			290	1.0		455		
130			295	.8		460		
135			300	.6		465		
140			305	.4		470		
145			310	.3		475		
150			315	.5		480		
155			320	.8		485		
160			325	1.0		490		
165			330	1.5	10	495		
170			335	1.4		500		
175			340	1.6		505		
180			345	1.7	9	510		
185			350	1.9	8	515		
190			355	1.7	7	520		
195			360	1.3		525		
200	.3		365	1.4	6	530		
205	.2		370	2.0	5	535		
210	.1		375	2.1	4	540		
215	.1		380	1.4	3	545		
220	.1		385	1.2		550		
225	.1		390	1.4	2	555		
230	.1		395	1.5		560		
235	.1		400	1.6	1	565		
240	.2		405	1.8		570		
245	.4		410	1.3		575		
250	.4		415	413	T.D.	580		
255	.4		420			585		
260	.3		425			590		
						595		

COMPLETION INFORMATION:

WATER DEPTHS: 150 Soap

ISOLATION PLUGS:

ANODE#	DEPTH	OUTPUT NO COK	OUTPUT COKED
1	400	1.5	3.7
2	393	1.5	3.6
3	381	1.4	3.7
4	374	2.1	4.5
5	368	1.9	4.4
6	362	1.4	4.0
7	355	1.7	4.1
8	348	1.7	4.1
9	341	1.5	3.8
10	330	1.3	26
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			

LOGING VOLTS: 11.80 VOLTAGE SOURCE: Auto

TOTAL AMPS: 12.5 TOTAL G/B RESISTANCE: .94

REMARKS:

1007

37-30-039-07175

135-30-039-20577

E

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

Operator MERIDIAN OIL Location: Unit SW Sec. 6 Twp 27 Rng 6

Name of Well/Wells or Pipeline Serviced SAN JUAN 28-6 UNIT #37, #135

cps 1286w

Elevation 6155 Completion Date 9/12/78 Total Depth 260' 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. 50'

Depths gas encountered: N/A

Type & amount of coke breeze used: 40 SACKS

Depths anodes placed: 220', 145', 135', 125', 95', 85', 75', 65', [illegible]', 45'

Depths vent pipes placed: 240'

Vent pipe perforations: 200'

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.

El Paso Natural Gas Company.
Form 7-238 (Rev. 11-71)

WELL CASING

CATHODIC PROTECTION CONSTRUCTION REPORT

DAILY LOG

Drilling Log (Attach Hereto). ☐ Completion Date 9/12/78

Well Name	Location	CPS No.
S.J 28-6 #37 S.J 28-6 #135	S W 6-27-6	1286 W
Type & Size Bit Used		**Work Order No.**
6 3/4		52738-19 20663-19

Anode Hole Depth	Total Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
260 — T.D 255'		40 SACKS		

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Anode Depth	220'	145'	135'	125'	95'	85'	75'	65'	55'	45'
Anode Output (Amps)	1.9	2.5	3.4	3.5	1.9	1.9	2.8	3.4	2.8	3.1

	#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 11.5 V	Amps 11.6 A	Ohms .99			

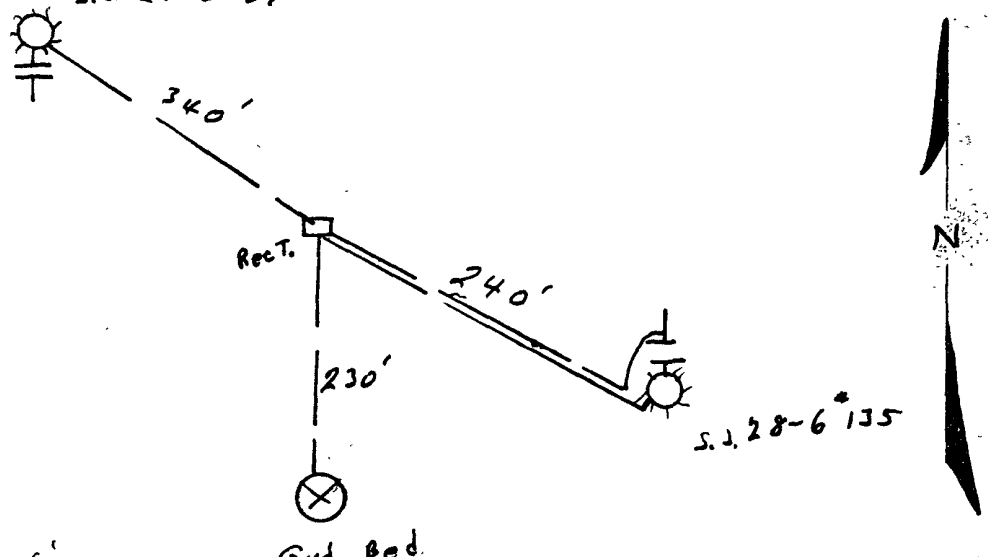
Remarks: (Bond Box ON #135 STATIC 600 W. = .92 V.) Drilled 60' WATER AT 50'. Approx. 75 BBLS (STATIC 600' N. 2,91 V ON #37) Took WATER SAMPLE. WATER STANDING IN HOLE NEXT A.M. AT 30'. Drilled To 260'. Logged 255'. INSTALLED 240' of 1" P.V.C. VENT pipe. PERFORATED 200'. SET 20' of 8" P.V.C. SURFACE CASEING. 1 1/2" X 60" Duriron

DITCH & 1 CABLE = 810'
EXTRA CABLE = 240'
60V 30A RECT. & 20' METER LOOP POLE
HOLE DEPTH — 245'

All Construction Completed

J. E. Stalle
(Signature)

GROUND BED LAYOUT SKETCH



DISTRIBUTION:
WHITE — Division Corrosion Office
YELLOW — Area Corrosion Office
PINK — Originator File

Less'

Form 22-2 (Rev. 1-61)

EL PASO NATURAL GAS COMPANY

DRILLING DEPARTMENT

DAILY DRILLING REPORT

LEASE WELL NO. 1286 W CONTRACTOR D+R Ent. RIG NO. 2 REPORT NO. DATE Sep 12 1978

MORNING

Driller Total Men In Crew

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

BIT NO. NO. DC SIZE LENG.

SERIAL NO. NO. DC SIZE LENG.

SIZE STANDS

TYPE SINGLES

MAKE DOWN ON KELLY

TOTAL DEPTH

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

FROM	TO	TIME BREAKDOWN
0	10	Sand Stone
10	20	Sand
20	40	Sand Stone
4	50	Sandy Shale
50	55	Water Sand
55	60	Sandy Shale

REMARKS –

DAYLIGHT

Driller Total Men In Crew

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

BIT NO. NO. DC SIZE LENG.

SERIAL NO. NO. DC SIZE LENG.

SIZE STANDS

TYPE SINGLES

MAKE DOWN ON KELLY

TOTAL DEPTH

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

FROM	TO	TIME BREAKDOWN
60	80	Shale
80	90	Sandy Shale
90	120	Shale
120	140	Sandy Shale
140	150	Shale
150	160	Sandy Shale

REMARKS –

EVENING

Driller Total Men In Crew

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

BIT NO. NO. DC SIZE LENG.

SERIAL NO. NO. DC SIZE LENG.

SIZE STANDS

TYPE SINGLES

MAKE DOWN ON KELLY

TOTAL DEPTH

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

FROM	TO	TIME BREAKDOWN
160	180	Shale
180	200	Sandy Shale
200	240	Shale
240	260	Sandy Shale

REMARKS –

Drilled to 260
Logged to 255
Set 75 or 80 gt. m.
Set 20' of 8" Pipe

SIGNED: Toolpusher Company Supervisor

Form 7-1 (Rev 9-77)

El Paso Natural Gas Company
ENGINEERING CALCULATION

Sheet: _____ of _____
Date:
By:
File:

CPS - 1286 W

S.J. 28-6 #37 — 52718-19
S.J. 28-6 #135 — SW 6-27-6 — 20663-19

MW		gals/mol
16.04	C_1	6.4
30.07	C_2	10.12
44.10	C_3	10.42
58.12	iC_4	12.38
58.12	nC_4	11.93
72.15	iC_5	13.85
72.15	nC_5	13.71
86.18	iC_6	15.50
86.18	C_6	15.57
100.21	iC_7	17.2
100.21	C_7	17.46
114.23	C_8	19.39
28.05	$C_2^=$	9.64
42.08	$C_3^=$	9.67

MW	MISC.	gals/mol
32.00	O_2	3.37
28.01	CO	4.19
44.01	CO_2	6.38
64.06	SO_2	5.50
34.08	H_2S	5.17
28.01	N_2	4.16
2.02	H_2	3.38

Drilled 60' Driller water at 50'. Approx 75-80 gal/m
Took water sample, water standing in hole next A.M. at 30'
Drilled to 260' Logged 255'
Installed 240' of 4" PVC vent pipe, perforated 200'
Set 20' of 8" P.V.C. Surface casing.

40 — .7
1.4 — (10)
50 — 1.5
1.4 — (9)
60 — 1.6
1.8 — (8)
70 — 1.8
1.7 — (7)
80 — 1.3
1.2 — (6)
90 — 1.0
.9 — (5)
100 — .9
.7
10 — .7
.8
20 — 1.0
1.6 — (4)
30 — 1.6
1.6 — (3)
40 — 1.2
1.3 — (2)
50 — .7
.7
60 — .6
.6
70 — .6
.6
80 — .6
.5
90 — .6
.6
200 — .8
.8

10 — .9
.7
20 — 1.1 — (1)
1.0
30 — .6
.5
40 — .5
.6
50 — .6
.6 T.D
60 — Drilled

9/12/78

1	220	1.1	1.9
2	145	1.5	2.5
3	135	2.2	3.4
4	125	2.2	3.5
5	95	1.2	1.9
6	85	1.3	1.9
7	75	2.0	2.8
8	65	2.2	3.4
9	55	1.7	2.8
10	45	1.7	3.1

11.5 V 11.6 A = .99

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

Analysis No. 1-9355 Date 11-8-78

Operator _____ Well Name San Juan 28-6 #135

Location SW 6-27-6 County Rio Arriba State NM

Field _____ Formation _____

Sampled From C.P.S. 1286 W WTR @ 50' 75-80 GPM

Date Sampled _____ By _____

Tbg. Press. _____ Csg. Press. _____ Surface Csg. Press _____

	ppm	epm		ppm	epm
Sodium	1212	53	Chloride	24	.7
Calcium	395	20	Bicarbonate	366	6
Magnesium	151	12	Sulfate	3750	78
Iron	PRESENT		Carbonate	0	0
H_2S	ABSENT		Hydroxide	0	0

Total Solids Dissolved 5398

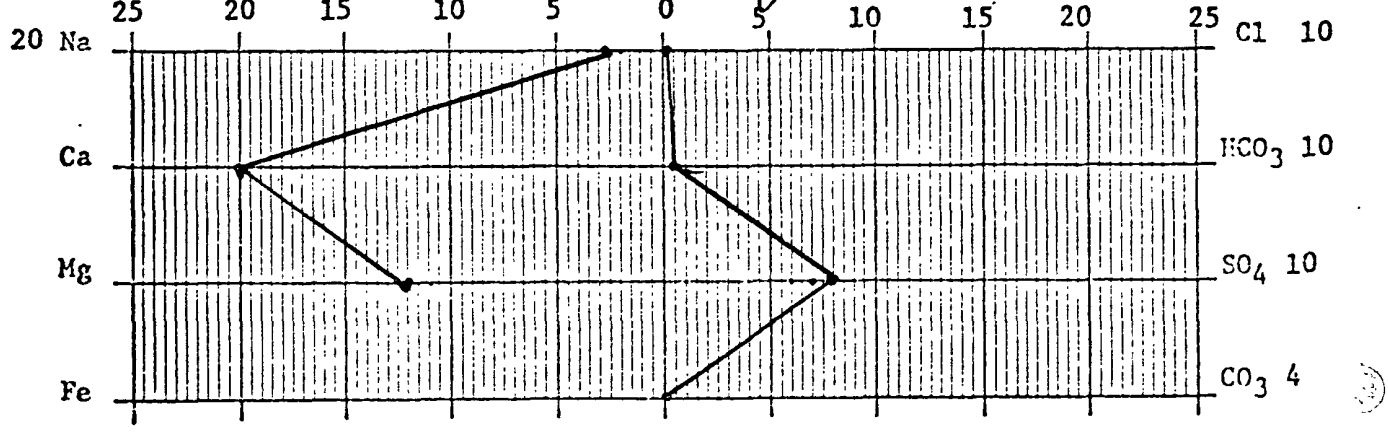
pH 7.9

Sp. Gr. 1.0058 at 60°F

Resistivity 185 ohm-cm at 71 °F

Joe Barnett RZE
Chemist

cc: D.C.Adams
R.A.Ullrich
E.R.Paulek
J.W.McCarthy
A.M.Smith
W.B.Shropshire
File



Scale: epm

1008

30-039-07149

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

Operator MERIDIAN OIL Location: Unit NE Sec. 7 Twp 27 Rng 6

Name of Well/Wells or Pipeline Serviced SAN JUAN 28-6 UNIT #43

cps 1287w1

Elevation 6174' Completion Date 9/8/78 Total Depth 198' 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. 35' SAMPLE TAKEN

Depths gas encountered: N/A

Type & amount of coke breeze used: 26 SACKS

Depths anodes placed: 155', 115', 105', 95', 85', 75', 65', 55', 45', 35'

Depths vent pipes placed: 180'

Vent pipe perforations: 160'

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.

El Paso Natural Gas Company

Form 7-238 (Rev. 11-71)

WELL CASING

CATHODIC PROTECTION CONSTRUCTION REPORT

DAILY LOG

Drilling Log (Attach Hereto) ☒

Completion Date 9/8/78

Well Name	Location	CPS No.
S.J. 28-6 #43	NE 7-27-6	1287 W

Type & Size Bit Used	Work Order No.
6 3/4"	52717-19

Anode Hole Depth	Total Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
6 3/4-198		26		

Anode Depth	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
	155'	115'	105'	95'	85'	75'	65'	55'	45'	35'
Anode Output (Amps)	2.1	2.0	2.5	3.6	2.7	3.0	4.0	3.4	1.8	1.8

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

Total Circuit Resistance			No. 8 C.P. Cable Used	No. 2 C.P. Cable Used
Volts 12.1	Amps 12.1	Ohms 1.0		

Remarks: DRILLER SAID WATER AT 35', Approx. 65 GAL/MIN. DRILLED TO 200', Logged 198'. INSTALLED 20' of 6" P.V.C. SURFACE CASING. INSTALLED 180' of 1" P.V.C. VENT PIPE. PERFED ATOP TO 160'.

STATIC 600' W. = .89 V.

DITCH & 1 CABLE = 407'

EXTRA CABLE = 240'

20' METER LOOP POLE & 40V 16A RECT.

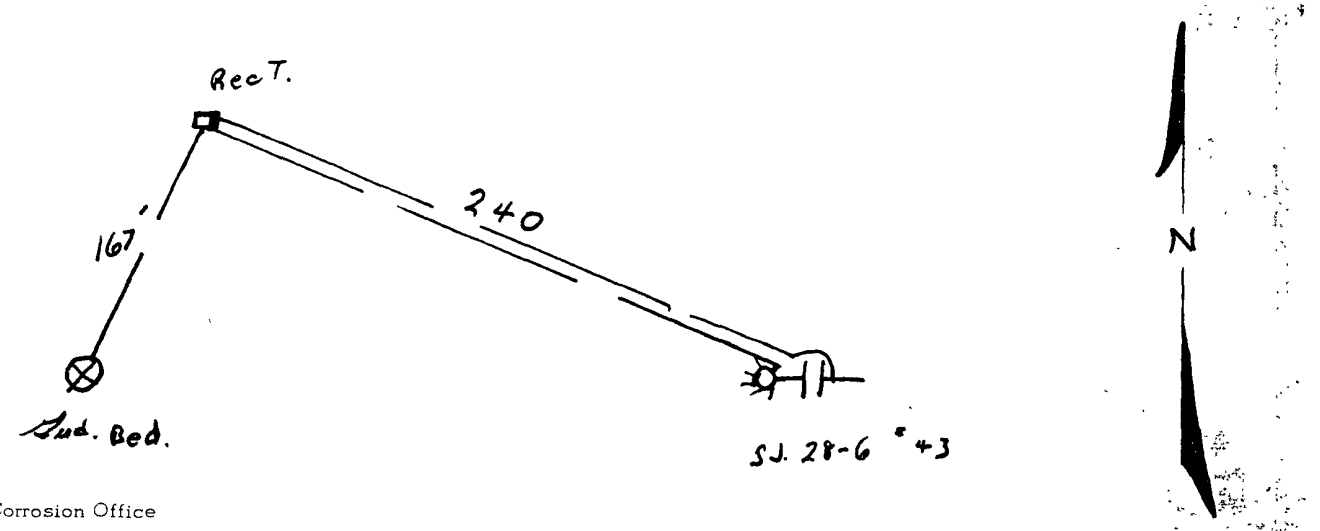
HOLE DEPTH — 302'

All Construction Completed

J.E. Stobb

(Signature)

GROUND BED LAYOUT SKETCH



DISTRIBUTION:

WHITE — Division Corrosion Office

YELLOW — Area Corrosion Office

PINK — Originator File

6274

Form 7-4 (Rev. 9-77)

El Paso Natural Gas Company
ENGINEERING CALCULATION

Sheet: ____ of ____
Date:
By:
File:

CPS #1287 ✓

S.J. #28-6 #43 NE 7-27-6 52717-19

MW		gals/mol
16.04	C_1	6.4
30.07	C_2	10.12
44.10	C_3	10.42
58.12	iC_4	12.38
58.12	nC_4	11.93
72.15	iC_5	13.85
72.15	nC_5	13.71
86.18	iC_6	15.50
86.18	C_6	15.57
100.21	iC_7	17.2
100.21	C_7	17.46
114.23	C_8	19.39
28.05	$C_2^=$	9.64
42.08	$C_3^=$	9.67

MISC. MW		gals/mol
32.00	O_2	3.37
28.01	CO	4.19
44.01	CO_2	6.38
64.06	SO_2	5.50
34.08	H_2S	5 17
28.01	N_2	4 16
2.02	H_2	3 38

Driller said water at 35' approx 65 gal/min.
Drilled to 200' Logged 198'
Installed 180' of 4" P.V.C. Heat Pipe. Perforated 160'
Installed 20' of 8" P.V.C Surface Casing.

35 — 1.1 — (10)
40 — 1.1
1.1 — (9)
50 — 1.1
1.1 — (8)
60 — 1.7
2.1 — (7)
70 — 2.4
2.3 — (6)
80 — 2.0
1.3 — (5)
90 — 1.4
2.1 — (4)
100 — 2.0
1.7 — (3)
110 — 1.2
1.2 — (2)
120 — .9
.7
130 — .7
.6
140 — .6
.5
150 — .9
1.0 — (1)
160 — .9
.8
170 — .5
.5
180 — .6
1.1
190 — 1.0
198' T.D
200 —

1 = 155' 1.1 — 2.1
2 = 115' 1.2 — 2.0
3 = 105' 1.6 — 2.5
4 = 95' 2.4 — 3.6
5 = 85' 1.6 — 2.7
6 = 75' 2.1 — 2.0
7 = 65' 2.9 — 4.0
8 = 55' 2.3 — 3.4
9 = 45' 1.2 — 1.8
10 = 35' 1.2 — 1.8

12.1 V. 12.1 A. 1.0Ω

9/8/78
JS

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

Analysis No. 1-9337 Date SEPTEMBER 19, 1978

Operator EPNG Well Name CPS #1287W SJ 28-6 #43

Location 7-27-6 County RIO ARRIBA State NM

Field Formation

Sampled From 35' 65 gal/m

Date Sampled By

Tbg. Press. Csg. Press. Surface Csg. Press

	ppm	epm		ppm	epm
Sodium	547	23.8	Chloride	14	.4
Calcium	446	22.3	Bicarbonate	320	5.2
Magnesium	108	8.9	Sulfate	2375	49.4
Iron	PRESENT		Carbonate	0	0
H_2S	ABSENT		Hydroxide	0	0

Total Solids Dissolved 1715

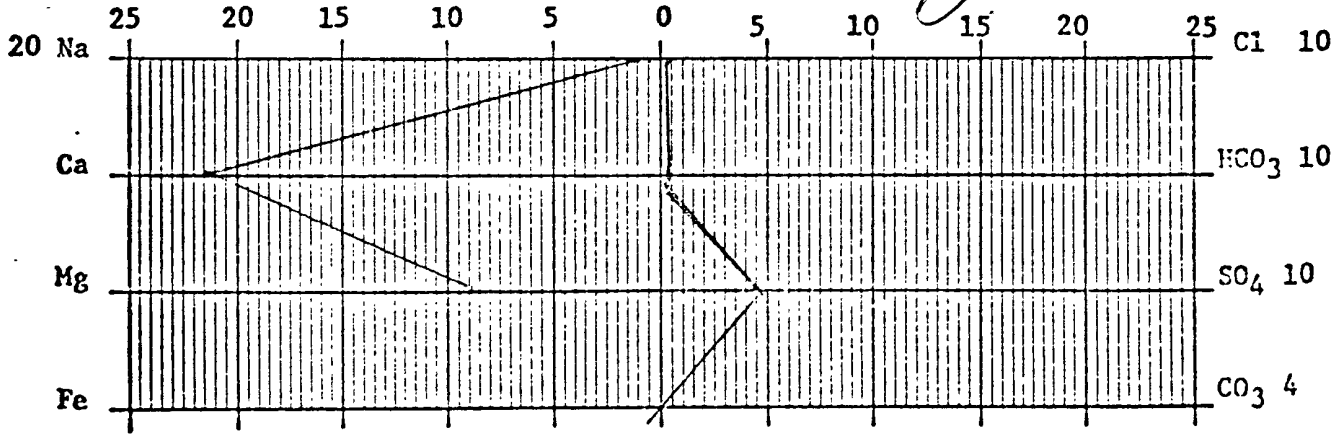
pH 7.75

Sp. Gr. 1.0038 at 60°F

Resistivity 270 ohm-cm at 71 °F

cc: D.C.Adams
R.A.Ullrich
E.R.Paulek
J.W.McCarthy
A.M.Smith
W.B.Shropshire
File

Chemist



Scale: epm

Form 22-2 (Rev. 1-61)

EL PASO NATURAL GAS COMPANY
DRILLING DEPARTMENT

DAILY DRILLING REPORT

LEASE ____ WELL NO. 1287 x CONTRACTOR L & K Entp. RIG NO. 2 REPORT NO. ____ DATE Sep 8 1978

MORNING

Driller ____ Total Men In Crew ____

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

BIT NO. ____ NO. DC ____ SIZE ____ LENG. ____
SERIAL NO. ____ NO. DC ____ SIZE ____ LENG. ____
SIZE ____ STANDS ____
TYPE ____ SINGLES ____
MAKE ____ DOWN ON KELLY ____
TOTAL DEPTH ____

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

FROM	TO	TIME BREAKDOWN
0	20	Fill Sand
20	35	water Sand
35	80	Shale
8	90	Sandy Shale
90	110	Shale
110	140	Sandy Shale

REMARKS –

DAYLIGHT

Driller ____ Total Men In Crew ____

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

BIT NO. ____ NO. DC ____ SIZE ____ LENG. ____
SERIAL NO. ____ NO. DC ____ SIZE ____ LENG. ____
SIZE ____ STANDS ____
TYPE ____ SINGLES ____
MAKE ____ DOWN ON KELLY ____
TOTAL DEPTH ____

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

FROM	TO	TIME BREAKDOWN
140	160	Shale
160	180	Sandy Shale
180	200	Shale

REMARKS –

EVENING

Driller ____ Total Men In Crew ____

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

BIT NO. ____ NO. DC ____ SIZE ____ LENG. ____
SERIAL NO. ____ NO. DC ____ SIZE ____ LENG. ____
SIZE ____ STANDS ____
TYPE ____ SINGLES ____
MAKE ____ DOWN ON KELLY ____
TOTAL DEPTH ____

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

FROM	TO	TIME BREAKDOWN

REMARKS –

Drilled to 200
Logged 198
Est 35 to 65 g.t.m.
Set 20'6 of 8" casing

SIGNED: Toolpusher L. K McDonald Company Supervisor ____

30-039-25638

monthly
339
307

ENTERED

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

9070W 33790A prop 007970319

Operator Burlington Resources Location: Unit D Sec. 7 NWNW Twp 027 Rng 006

Name of Well/Wells or Pipeline Serviced San Juan 28-6 103M

Elevation 6208 Completion Date 7/16/97 Total Depth 300' Land Type S

Casing Strings, Sizes, Types & Depths 7/16 set 60' of 8" PVC casing
no gas, water, or Boulders were Encountered During Casing

If Casing Strings are cemented, show amounts & types used Cemented
with 12 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 A Fresh water seep at 70'

Depths gas encountered: none

Ground bed depth with type & amount of coke breeze used: 300' Depth
used 18 sacks of Loresco SW (1800#)

Depths anodes placed: 285, 279, 273, 267, 261, 255, 249, 243, 237, 231, 225, 209

Depths vent pipes placed: surface to 300'

Vent pipe perforations: Bottom 100'

Remarks:

RECEIVED
FEB 25 1998
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.

D. Thomas Need CBS#

TIERRA DYNAMIC COMPANY — DEEP WELL GROUNDED LOG DATA SHEET

COMPANY NAME: Burlington Resources

WELL NAME: San Juan 28-6 103M

LEGAL LOCATION: sec. 7 - 027N - 006W COUNTY: Rio Arriba

DATE: 7/16/97

DEPTH: 300'

BIT SIZE: 6 3/4

DRILLER NAME: Bud Mercer

SIZE AND TYPE OF CASING: 8" PVC - 60'

TYPE OF COKE: Loresco SW

AMT. OF COKE BACKFILL: 1800 #

VENT PIPE: 300'

PERF. PIPE: 100'

ANODE AMT. & TYPE: ANOtec

BOULDER DRILLING: none

DEPTH FT.	LOG	ANODE	DEPTH FT.	LOG	ANODE	DEPTH FT.	LOG	ANODE
100	3.5		265	.8		430		
105	3.4		270	1.0		435		
110	2.8		275	2.0		440		
115	2.0		280	2.2		445		
120	2.9		285	1.3		450		
125	3.0		290	.8		455		
130	2.7		295	TD		460		
135	1.5		300			465		
140	1.3		305			470		
145	1.2		310			475		
150	1.0		315			480		
155	.8		320			485		
160	.9		325			490		
165	1.0		330			495		
170	.9		335			500		
175	.8		340			505		
180	.7		345			510		
185	.8		350			515		
190	.8		355			520		
195	.7		360			525		
200	1.5		365			530		
205	1.2		370			535		
210	.9		375			540		
215	.7		380			545		
220	.9		385			550		
225	2.2		390			555		
230	1.9		395			560		
235	1.7		400			565		
240	1.5		405			570		
245	1.3		410			575		
250	1.0		415			580		
255	1.1		420			585		
260	1.2		425			590		
						595		

COMPLETION INFORMATION:

WATER DEPTHS: 70' Damp

ISOLATION PLUGS:

ANODE#	DEPTH	OUTPUT NO COK	OUTPUT COKED
1	285	1.3	3.9
2	279	2.1	4.6
3	273	1.6	4.0
4	267	1.0	3.6
5	261	1.2	3.8
6	255	1.1	3.8
7	249	1.0	3.8
8	243	1.4	4.6
9	237	1.6	5.0
10	231	1.9	4.9
11	225	1.9	4.3
12	209	1.1	2.6
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			

LOGING VOLTS: 11.45 VOLTAGE SOURCE: AUTO

TOTAL AMPS: 11.8 TOTAL G/B RESISTANCE: .97

REMARKS:

#203M 30-039-25451

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

Operator Meridian Oil Inc. Location: Unit O Sec. 7 Twp 27 Rng 06

Name of Well/Wells or Pipeline Serviced
San Juan 28-6 #203M

Elevation 6538' Completion Date 5/24/95 Total Depth 485' Land Type F

Casing Strings, Sizes, Types & Depths 3/28 Set 99' of 8" PVC Casing.
No Gas, Water, or Boulders were Encountered During Casing.

If Casing Strings are cemented, show amounts & types used Cemented
With 20 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 135'.

Depths gas encountered: None

Ground bed depth with type & amount of coke breeze used: 485' Depth.
Used 128 Sacks of Asbury 218R (6400#)

Depths anodes placed: 465', 458', 451', 444', 437', 430', 423', 416', 409', 375', 365', 355', 170', 160', +150'.

Depths vent pipes placed: Surface To 485'.

Vent pipe perforations: Bottom 360'.

Remarks:

RECEIVED
JAN 11 1996
OIL CON. DIV.
DIST. 3

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

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

#54 = 30-039-07107

#103 = 30-039-07120

4802

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

Operator MERIDIAN OIL Location: Unit N Sec. 7 Twp 27 Rng 6

Name of Well/Wells or Pipeline Serviced SAN JUAN 28-6 UNIT #54, #103

cps 680w

Elevation 6563' Completion Date 9/9/88 Total Depth 460' 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. 140'

RECEIVED
MAY 31 1991
OIL CON. DIV
DIST. 3

Depths gas encountered: N/A

Type & amount of coke breeze used: N/A

Depths anodes placed: 380', 374', 367', 360', 353', 346', 339', 332', 325', 145'

Depths vent pipes placed: 450' OF 1" PVC VENT PIPE

Vent pipe perforations: BOTTOM 320'

Remarks: gb #2

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

Redrill

Drilling Log (Attach Hereto) ☒

Completion Date 9-9-88

CPS #	Well Name, Line or Plant:	Work Order #	Static:	Ins. Union Check
680W	S.J. 28-6 #54	49604A ✓		☒ Good ☐ Bad
	" " #103	50502A ✓		Both

Location:	Anode Size:	Anode Type:	Size Bit:
N7-27-6	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
460'	450'				

Anode Depth

#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
380	374	367	360	353	346	339	332	325	145

Anode Output (Amps)

#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
3.0	3.1	2.9	3.0	3.3	3.3	3.0	2.6	2.2	2.5

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 12.14	Amps 14.0	Ohms .86		

Remarks: Water was at 140; sample was taken. Installed 450' of 1" PVC vent pipe, bottom 320' perforated. Drilled two holes, lost drill bit cones in hole #1

469446720 20-2

GB 4074.00 275-3-1303800-5

Rectifier Size: ________ V ________ A —0—

Addn'l Depth ________

Depth Credit: 50' @ 3.50 — 175.00 ✓

Extra Cable: 170' @ .24 — 40.80 ✓

Ditch & 1 Cable: 325' @ .70 — 227.50 ✓

25' Meter Pole: —0—

20' Meter Pole: —0—

10' Stub Pole: —0—

Junction Box: 1 @ 225.00 — 225.00

4392.30

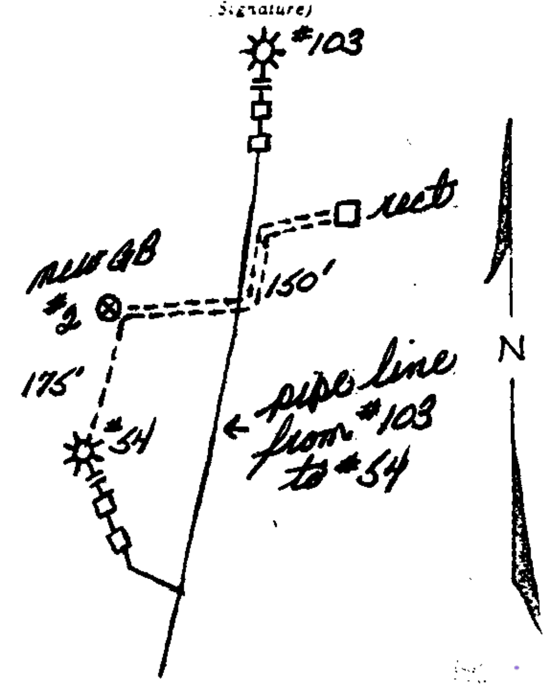
tax 219.62

4611.92 OK JJ

All Construction Completed

Calvin Rodman

(Signature)



CAC 680W

D. CRASS DRILLING C.

Drill No. 3

DRILLER'S WELL LOG

S. P. No. San Juan 28-6 #54 Date 9-9 88

Client Meridian Oil Co. Prospect

County Rio Arriba State New Mex.

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

FROM	TO	FORMATION — COLOR — HARDNESS
0	30	SANDSTONE
30	45	Shale
45	80	SANDSTONE
80	90	Shale
90	130	SANDSTONE
130	140	SAND
140	150	Shale
150	390	SANDSTONE
390	395	Shale
395	460	SANDSTONE

Mud Bran Lime

Rock Bit Number Make

Remarks: Water @ 140

Driller Lonnie Brown

RCVD MAR28'07
OIL CONS. DIV.
DIST. 3

OCD CATHODIC PROTECTION DEEPWELL GROUNDBED REPORT
DATA SHEET: NORTHWESTERN NEW MEXICO

OPERATOR: ConocoPhillips CO.
FARMINGTON, NM 87401
PHONE: 599-3400

SUBMIT 2 COPIES TO O.C.D. AZTEC OFFICE

LOCATION INFORMATION

API Number: 3003927068

WELL NAME OR PIPELINE SERVED: 28-7 124 F
LEGAL LOCATION: 11-27-7
INSTALLATION DATE: 4/27/2006
PPCO. RECTIFIER NO.: FM-1033A
ADDITIONAL WELLS: N/A
TYPE OF LEASE: FEDERAL
LEASE NUMBER: NMSF078496A

GROUND BED INFORMATION

TOTAL DEPTH: 360
CASING DIAMETER: 8-IN
TYPE OF CASING: PVC
CASING DEPTH: 20
CASING CEMENTED: ☐
TOP ANODE DEPTH: 180
BOTTOM ANODE DEPTH: 350
ANODE DEPTHS: 180,190,200,210,220,230,250,260,270,300,310,320,330,340,350
AMOUNT OF COKE: 2900#

WATER INFORMATION

WATER DEPTH [1]: 140
WATER DEPTH [2]:
GAS DEPTH:
CEMENT PLUGS:

OTHER INFORMATION

TOP OF VENT PERFORATIONS: 220'
VENT PIPE DEPTH: 360
REMARKS: START UP ON 5-4-06. STATIC READ -.756

IF ANY OF THE ABOVE DATA IS UNAVAILABLE, PLEASE INDICATE SO. COPIES OF ALL LOGS, INCLUDING DRILLERS LOGS, WATER ANALYSIS, AND WELL BORE SCHEMATICS SHOULD BE SUBMITTED WHEN AVAILABLE. UNPLUGGED UNABANDONED 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.

ENSOLUM

ATTACHMENTS

Design and Construction Specifications

A diagram of the below-grade tank is included as **Figure 4** in the attached report. Full piping diagrams for the out-of-service below-grade tank were not available.

Operation Plan

The Operation Plan is based on the "Operational Requirements" for below-grade tanks provided in Subsection A and Subsection D of 19.15.17.12 NMAC.

1. Enterprise will operate and maintain a below-grade tank to contain liquids and solids and maintain the integrity of the secondary containment system, to prevent contamination of fresh water and protect public health and the environment.

2. Enterprise shall not discharge into or store any hazardous waste in a below-grade tank.

3. If the below-grade tank develops a leak, Enterprise shall remove all liquids above the damage or leak within 48 hours of discovery, notify the appropriate division office pursuant to 19.15.29 NMAC and repair the damage or replace the below-grade tank as applicable.

4. Enterprise shall operate and install the below-grade tank to prevent the collection of surface water run-on.

5. Enterprise shall install, or maintain on site, an oil absorbent boom or other device to contain an unanticipated release.

6. Enterprise shall not allow the below-grade tank to overflow or allow surface water run-on to enter the below-grade tank.

7. Enterprise shall remove any measurable layer of oil from the fluid surface of a below-grade tank.

8. Enterprise shall inspect the below-grade tank for leakage and damage at least monthly. Enterprise shall document the integrity of each tank at least annually and maintain a written record of the integrity for five years.

9. Enterprise shall maintain adequate freeboard to prevent overtopping of the below-grade tank.

10. If the below-grade tank does not demonstrate integrity or that the below-grade tank develops any of the conditions identified in Paragraph (5) of Subsection A of 19.15.17.12 NMAC, Enterprise shall repair the damage or close the existing below-grade tank pursuant to the closure requirements of 19.15.17.13 NMAC.

11. If Enterprise plans to equip or retrofit the existing tank to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC, Enterprise shall visually inspect the area beneath the below-grade tank during the retrofit and document any areas that are wet, discolored or showing other evidence of a release on form C-141. Enterprise shall measure and report to the division the concentration of contaminants in the wet or discolored soil with respect to the standards set forth in Table I of 19.15.17.13 NMAC. If there is no wet or discolored soil or if the concentration of contaminants in the wet or discolored soil is less than the standard set forth in Table I of 19.15.17.13 NMAC, then Enterprise shall proceed with the closure requirement of 19.15.17.13 NMAC prior to initiating the retrofit or replacement.

Closure and Reclamation Plan

The Closure and Reclamation plan is based on the "Closure and Reclamation Requirements" for below-grade tanks provided in Subsection C and Subsection E through Subsection H of 19.15.17.13 NMAC.

1. Enterprise shall not commence closure without first obtaining approval of the closure plan submitted with the permit application or registration pursuant to 19.15.17.9 NMAC.

2. Enterprise shall close the below-grade tank by first removing all contents and, if applicable, synthetic liners and transferring the materials to a division approved facility.

   Disposal Facility Name and Permit Number (for liquids)
   Name: Agua Moss, LLC
   Permit No. NM-01-009

3. Enterprise shall test the soil beneath the below-grade tank as follows:

   a. A minimum of one five-point composite sample to include any obvious stained or wet soils, or other evidence of contamination shall be taken under the below-grade tank and the sample shall be analyzed for the constituents listed in Table I of 19.15.17.13 NMAC (see below).

Applicable for Soils Beneath Below-Grade Tanks		
Constituent	Method*	Limit**
Chloride	EPA 300.0	600 mg/kg
TPH (GRO+DRO+MRO)	EPA SW-846 Method 418.1	100 mg/kg
BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg

*Or other test methods approved by the division
**Numerical limits or natural background level, whichever is greater

   b. If any contaminant concentration is higher than the parameters listed in Table I of 19.15.17.13 NMAC, the division may require additional delineation upon review of the results and Enterprise must receive approval before proceeding with closure.
   c. If all contaminant concentrations are less than or equal to the parameters listed in Table I of 19.15.17.13 NMAC, Enterprise can proceed to backfill pit, pad, or excavation with non-waste containing, uncontaminated, earthen material.

Closure Notice

4. Enterprise shall notify the surface owner by certified mail, return receipt requested that Enterprise plans closure operations at least 72 hours, but not more than one week, prior to any closure operation. Notice shall include well name, API number and location. Evidence of mailing of the notice to the address of the surface owner shown in the county tax records is sufficient to demonstrate compliance with this requirement.

5. Enterprise shall notify the appropriate division district office verbally and in writing at least 72 hours, but not more than one week, prior to any closure operation. The notice shall include Enterprise's name and the location to be closure by unit letter, section, township, and range. If the closure is associated with a particular well, then the notice shall also include the well's name, number and API number.

Closure Report

6. Within 60 days of closure completion, Enterprise shall submit a closure report on form C-144, with necessary attachments to document all closure activities including sampling results; information required by 19.15.17 NMAC; and details on back-filling, capping and covering, where applicable. In the closure report, Enterprise will certify that all the information in the report and attachments is correct and that Enterprise has complied with all applicable closure requirements and conditions specified in the approved closure plan.

Timing Requirements for Closure

7. Within 60 days of cessation of operations, Enterprise shall remove liquids and sludge from a below-grade tank prior to implementing a closure method and shall dispose of the liquids and sludge in a division-approved facility.

8. Within six months of cessation of operation, Enterprise shall remove the below-grade tank and dispose of it in a division-approved facility or recycle, reuse, or reclaim it in a manner that the appropriate division district office approves. If there is any equipment associated with the below-grade tank, then Enterprise shall remove the equipment, unless the equipment is required for some other purpose.

Reclamation -Site Contouring

9. Once Enterprise has closed or is no longer using the below-grade tank or an area associated with the below-grade tank, Enterprise shall reclaim the below-grade tank location and all areas associated with the below-grade tank including associated access roads to a safe and stable condition that blends with the surrounding undisturbed area. Enterprise shall substantially restore the impacted surface area to the condition that existed prior to oil and gas operations by placement of the soil cover as provided in Paragraph (2) of Subsection H of 19.15.17.13 NMAC, recontour the location and associated areas to a contour that approximates original contour and blends with the surrounding topography and re-vegetate according to Paragraph (5) of Subsection H of 19.15.17.13 NMAC.

10. Enterprise may propose an alternative to the re-vegetation or recontouring requirement if Enterprise demonstrates to the appropriate district office that the propose alternative provides equal or better prevention of erosion, and protection of fresh water, public health, and the environment. The proposed alternative shall be agreed upon by the surface owner. Enterprise shall submit the proposed alternative, with written documentation that the surface owner agrees to the alternative, to the division for approval.

11. Areas reasonably needed for production operations or for subsequent drilling operations shall be compacted, covered, paved, or otherwise stabilized and maintained in such a way as to minimize dust and erosion to the extent practicable.

Reclamation – Soil Cover Designs

12. The soil cover for closures after site contouring, where Enterprise has removed the below-grade tank and if necessary, remediated the soil beneath the below-grade tank to chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0, shall consist of the background thickness of topsoil or one foot of suitable material, whichever is greater.

13. Enterprise shall construct the soil cover to the site's existing grade and prevent ponding of water and erosion of the cover material.

Reclamation – Reclamation and Revegetation

14. Reclamation of areas no longer in use. All areas disturbed by the closure of the below-grade tank, except areas reasonably needed for production operations or for subsequent drilling operations, shall be reclaimed as early and as nearly as practicable to their original condition or their final land use and shall be maintained to control dust and minimize erosion to the extent practicable.

15. Enterprise shall replace topsoils and subsoils to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns. The disturbed area then shall be reseeded in the first favorable growing season following closure of the below-grade tank.

16. Reclamation of all disturbed areas no longer in use shall be considered complete when all ground surface disturbing activities at the site have been completed, and a uniform vegetative cover has been established that reflects a life-form ratio of plus or minus fifty percent (50%) of pre-disturbance levels and a total percent plant cover of at least seventy percent (70%) of pre-disturbance levels, excluding noxious weeds.

Other Regulatory Requirements

17. The re-vegetation and reclamation obligations imposed by other applicable federal or tribal agencies on lands managed by those agencies shall supersede these provisions and govern the obligations of Enterprise subject to those provisions, provided that the other requirements provide equal or better protection of fresh water, human health and the environment.

18. Enterprise shall notify the division when reclamation and re-vegetation are complete.

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 19433

CONDITIONS

Operator: Enterprise Field Services, LLC PO Box 4324 Houston, TX 77210	OGRID: 241602
	Action Number: 19433
	Action Type: [C-144] Below Grade Tank Plan (C-144B)

CONDITIONS

Created By	Condition	Condition Date
cwhitehead	Registration approved as Closure Plan Only; tank removal should occur within 90 days and closure report status provided within 60 days after removal.	7/2/2021