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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: **Enterprise Field Services, LLC**	OGRID: **241602**
Contact Name: **Thomas Long**	Contact Telephone: **505-599-2286**
Contact email:**tjlong@eprod.com**	**Incident #** *(assigned by OCD):* **nAPP2123630210**
Contact mailing address: **614 Reilly Ave, Farmington, NM 87401**	

Location of Release Source

Latitude **36.845777** Longitude **-107.872627** *(NAD 83 in decimal degrees to 5 decimal places)*

Site Name **Atlantic BLS #22**	Site Type **Natural Gas Gathering Pipeline**
Date Release Discovered: **08/16/2021**	Serial Number *(if applicable)*: **N/A**

Unit Letter	Section	Township	Range	County
C	**3**	**30N**	**10W**	**San Juan**

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name*: **James Adam Coleman**)

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☒ Condensate	Volume Released (bbls): **5-10 BBLS**	Volume Recovered (bbls): **None**
☒ Natural Gas	Volume Released (Mcf): **2.7 MCF**	Volume Recovered (Mcf): **None**
☐ Other (describe)	Volume/Weight Released (provide units):	Volume/Weight Recovered (provide units)

Cause of Release: On August 16, 2021, Enterprise had a release of natural gas and natural gas liquids from the Atlantic BLS #22 pipeline. The pipeline was isolated, depressurized, locked and tagged out. No liquids were observed on the ground surface. The release was underground. Liquids are present in the subsurface. No washes/waterway were affected. No residences were affected. No emergency services responded. Remediation was completed on August 25, 2021. The final excavation dimensions measured approximately 25 feet long by 23 feet wide by 10 feet deep. Approximately 450 cubic yards of hydrocarbon impacted soil was excavated and transported to a New Mexico Oil Conservation Division (NMOCD) approved land farm. A third party closure report is included with this "Final." C-141.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Thomas Long Title: Senior Environmental Scientist

Signature: Thomas Long Date: 1-20-2022

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

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: Nelson Velez Date: 02/23/2022

Printed Name: Nelson Velez Title: Environmental Specialist – Adv

CLOSURE REPORT

Property:

Atlantic BLS #22 (8/16/21)
Unit Letter C, S3 T30N R10W
San Juan County, New Mexico

New Mexico EMNRD OCD Incident ID No. NAPP2123630210

November 15, 2021
Ensolum Project No. 05A1226151

Prepared for:

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

Prepared by:

Landon Daniell
Staff Geologist

Kyle Summers, CPG
Sr. Project Manager

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LIST OF APPENDICES

ENSOLUM

CLOSURE REPORT

Atlantic BLS #22 (8/16/21)
Unit Letter C, S3 T30N R10W
San Juan County, New Mexico

Ensolum Project No. 05A1226151

1.0 INTRODUCTION

1.1 Site Description & Background

Operator:	Enterprise Field Services, LLC / Enterprise Products Operating LLC (Enterprise)
Site Name:	Atlantic BLS #22 (8/16/21) (Site)
Incident ID	NAPP2123630210
Location:	36.845777° North, 107.872627° West Unit Letter C, Section 3, Township 30 North, Range 10 West San Juan County, New Mexico
Property:	Private
Regulatory:	New Mexico (NM) Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD)

On August 16, 2021, a third party notified Enterprise of a possible leak on the Atlantic BLS #22 pipeline. Enterprise investigated the area and verified two leaks within approximately 50 feet. Enterprise subsequently isolated and locked the pipeline out of service. On August 20, 2021, Enterprise initiated activities to repair the pipeline and remediate the petroleum hydrocarbon impact.

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

1.2 Project Objective

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

2.0 CLOSURE CRITERIA

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

- The OSE tracks the usage and assignment of water rights and water well installations and records this information in the Water Rights Reporting System (WRRS) database. Water wells and other points of diversion (PODs) are each assigned POD numbers in the database (which is searchable and includes an interactive map). Six PODs (SJ-00050, SJ-01048, SJ-01651, SJ-03460, SJ-03230,

SJ-04020-POD1) were identified within a one mile radius of the Site. Of those six, only PODs SJ-00050, SJ-03230, and SJ-03460 have recorded depths to water. As plotted by the OSE on the interactive map, POD SJ-00050 and SJ-03460 are shown in the same location, which is approximately 0.86 miles from the Site, and approximately 93 feet higher in elevation than the Site. The record for this POD indicates depths to water of 306 feet and 500 feet below grade surface (bgs), respectively. As plotted by the OSE on the interactive map, POD SJ-03230 is approximately 0.10 miles from the Site and approximately 24 feet lower in elevation than the Site. The record for this POD indicates the depth to water is 70 feet bgs. The permits for PODs (SJ-01048, SJ-01651, and SJ-04020-POD1) were approved by the OSE, but apparently, the wells have not been installed, as no additional information is available. Thirteen other PODs were identified in adjacent Public Land Survey System (PLSS) sections. The average depth to water for these PODs is approximately 197 feet bgs (**Figure A**, **Appendix B**).

- Two cathodic protection wells (CPWs) were identified in the NM EMNRD OCD imaging database within the same PLSS section as the Site, and 16 CPWs were identified in adjacent PLSS sections. Of the 18 total CPW locations, seven are located within approximately one mile of the Site, and another two are located within approximately 1.1 miles of the Site (**Figure B, Appendix B**). The records for the nearest CPW located near the Atlantic B #8A well location indicate a depth to water of 120 feet bgs. This CPW is approximately 0.02 miles southwest of the site and is estimated to be 11 feet higher in elevation than the Site. The records for the CPW located near the Atlantic B# 9A well location indicate a depth to water of 140 feet bgs. This CPW is approximately 0.54 miles northeast of the site and is estimated to be 7 feet lower in elevation than the Site. The records for the CPW located near the Atlantic B #9 and #26 and Atlantic B Com #220 well locations indicate a depth to water of 40 feet bgs. This CPW is approximately 0.49 miles north of the site and is estimated to be 93 feet lower in elevation than the Site. The records for the CPW located near the Atlantic D Com D #5A well location indicate a depth to water of 145 feet bgs. This CPW is approximately 0.90 miles east of the site. The records for this CPW did not indicate an elevation, but it is estimated to be approximately 82 feet higher in elevation than the Site. The records for the CPW located near the Atlantic B #7A well location indicate a depth to water of 81 feet bgs. This CPW is approximately 0.85 miles north of the site and is estimated to be 42 feet lower in elevation than the Site. The records for the CPW located near the Atlantic C #1, #13, and #201 well locations indicate a depth to water of 140 feet bgs. This CPW is approximately 0.97 miles northeast of the site and is estimated to be 117 feet lower in elevation than the Site. The records for the CPW located near the Koch #1A well location indicate a depth to water of 160 feet bgs. This CPW is approximately 0.75 miles southeast of the site and is estimated to be 179 feet higher in elevation than the Site. The records for the CPW located near the San Juan #10A and #6A well locations indicate a depth to water of 180 feet bgs. This CPW is approximately 1.0 miles south of the site and is estimated to be 181 feet higher in elevation than the Site. The records for the CPW located near the Atlantic D Com D# 5 and Atlantic D Com O#16 well locations indicate a depth to water of 170 feet bgs. This CPW is approximately 1.1 miles southeast of the site and is estimated to be 179 feet higher in elevation than the Site. The depth to water for the remaining CPWs ranges from 30 feet bgs to 220 feet bgs.

- The Site is not located within 300 feet of a NM EMNRD OCD-defined continuously flowing watercourse or significant watercourse. The Site is located approximately 360 feet south of an ephemeral wash (**Figure C**, **Appendix B**).

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

- The Site is located within 300 feet of a permanent residence, school, hospital, institution, or church. Two permanent residences were identified. One residence is located approximately 280 feet to the northwest and the other (which is not visible on **Figure D**) is located approximately 160 feet north of the Site (**Figure D**, **Appendix B**).

- Based on information provided by the OSE WRRS there is a private domestic fresh water well used by less than five households for domestic or stock watering purposes identified within 500 feet of the Site. The nearest well/POD (SJ-03230) is indicated by the OSE WRRS database at approximately 500 northwest of the Site (**Figure E**, **Appendix B**).

- Based on information provided by the OSE WRRS there is a fresh water well identified within 1,000 feet of the Site. Some residences located within the 1,000 feet may also have unregistered water wells (**Figure E**, **Appendix B**).

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

- Based on information identified in the U.S. Fish & Wildlife Service National Wetlands Inventory Wetlands Mapper, the Site is not located within 300 feet of a wetland (**Figure F**, **Appendix B**).

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

- The Site is not located within an unstable area.

- Based on information provided by the Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL) geospatial database the location of the Site is unlikely to be located within a 100-year floodplain (**Figure H**, **Appendix B**).

Based on available information, the applicable closure criteria for soils remaining in place at the Site include:

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

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

3.0 SOIL REMEDIATION ACTIVITIES

On August 20, 2021, Enterprise initiated activities to repair the pipeline and remediate petroleum hydrocarbon impact resulting from the release. During the remediation and corrective action activities, Halo Services Inc., provided heavy equipment and labor support, while Ensolum provided environmental consulting support.

The first excavation (Excavation A) is located approximately 50 feet west of the second excavation (Excavation B). Excavation A (**Figure 3A**, **Appendix A**) measured approximately 25 feet long and 23 feet wide at the maximum extents. The maximum depth of Excavation A measured approximately 16 feet bgs. Excavation B (**Figure 3B**, **Appendix A**) measured approximately 20 feet long and 10 feet wide at the maximum extents. The maximum depth of Excavation B measured approximately 15 feet bgs. The lithology

encountered during the completion of remediation activities consisted primarily of unconsolidated silty sand and sandy silt.

Approximately 450 cubic yards of petroleum hydrocarbon affected soil and approximately 55 barrels (bbls) of hydro-excavation soil cuttings and water were transported to the Envirotech, Inc., (Envirotech) landfarm near Hilltop, NM for disposal/remediation. The executed C-138 solid waste acceptance form, provided in **Appendix C,** includes the combined total from this Site and the nearby Atlantic B LS #22 (9/1/21) site. Unaffected soils resulting from additional excavation to expose more pipeline for wrapping or replacement was also inadvertently transported to the landfarm. The two excavations were backfilled with imported fill and fill provided by the landowner and were subsequently contoured and compacted to provide a suitable driving surface.

Figure 3A and **Figure 3B** are maps that identify approximate soil sample locations and depict the approximate dimensions of the excavations with respect to the pipeline (**Appendix A**). Photographic documentation of the field activities is included in **Appendix D**.

4.0 SOIL SAMPLING PROGRAM

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

Ensolum's soil sampling program included the collection of 18 composite soil samples (S-1 through S-18) from the excavation for laboratory analysis. The composite samples were comprised of five aliquots each and represent an estimated 200 square foot (ft^2) sample area per guidelines outlined in Section D of 19.15.29.12 NMAC. A clean shovel or the excavator bucket was utilized to obtain fresh aliquots from each area of the excavation. Regulatory correspondence is provided in **Appendix E**.

Excavation A First Sampling Event
On August 26, 2021, the first sampling event was performed at the Site. The NM EMNRD OCD was notified of the sampling event although no representative was present during the sampling activities. Composite soil samples S-1 (0'-8'), S-2 (0'-16'), S-3 (0'-16'), S-4 (0-16'), S-5 (0'-16'), S-6 (0'-16'), and S-9 (8'-16') were collected from vertical or near vertical walls of the excavation. Composite soil samples S-7 (0'-16') and S-8 (0'-8') were collected from the sloped end-wall on the western side of the excavation. Composite soil samples S-10 (16') and S-11 (16') were collected from the floors of the excavation.

Excavation B First Sampling Event
On August 28, 2021, sampling was performed at the Site. The NM EMNRD OCD was notified of the sampling event although no representative was present during sampling activities. Composite soil samples S-12 (0'-15'), S-13 (0'-10'), S-14 (0' to 10'), S-15 (0'-10'), S-16 (0'-15'), and S-17 (0'-15') were collected from vertical or near vertical walls of the excavation. Composite soil sample S-18 (10'-15') was collected from the sloped floor of the excavation.

5.0 SOIL LABORATORY ANALYTICAL METHODS

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

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

6.0 DATA EVALUATION

Ensolum compared the BTEX, TPH, and chloride laboratory analytical results associated with the composite soil samples (S-1 through S-18) to the applicable NM EMNRD OCD closure criteria. In the event that the laboratory did not quantify a result for BTEX or chloride, Ensolum compared the laboratory supplied PQLs/RLs to the New Mexico EMNRD OCD closure criteria. Due to the high PQLs/RLs associated with the TPH MRO ranges when using EPA SW-846 Method #8015, Ensolum only compared the quantified results to the New Mexico EMNRD OCD closure criteria.

- The laboratory analytical results for the composite soil samples indicate benzene is not present at concentrations greater than the laboratory PQLs/RLs, which are less than the applicable NM EMNRD OCD closure criteria of 10 mg/kg.

- The laboratory analytical results for composite soil samples S-3, S-16, andS-18 indicate total BTEX concentrations ranging from 0.096 mg/kg (S-3) to 5.2 mg/kg (S-18), which are less than the applicable NM EMNRD OCD closure criteria of 50 mg/kg. The laboratory analytical results for the remaining composite soil samples indicate total BTEX is not present at concentrations greater than the laboratory PQLs/RLs, which are less than the applicable NM EMNRD OCD closure criteria of 50 mg/kg.

- The laboratory analytical results for composite soil samples S-16 and S-18 indicate combined TPH GRO/DRO/MRO concentrations of 36 mg/kg and 95 mg/kg, respectively, which are less than the applicable NM EMNRD OCD closure criteria of 100 mg/kg. The laboratory analytical results for the remaining composite soil samples indicate combined TPH GRO/DRO/MRO is not present at concentrations greater than the laboratory PQLs/RLs, which are less than the applicable NM EMNRD OCD closure criteria of 100 mg/kg.

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

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

7.0 RECLAMATION AND REVEGETATION

The two excavations were backfilled with clean imported fill and fill provided by the landowner. The majority of the excavation areas were located in the road and were backfilled and compacted to provide a suitable driving surface.

8.0 FINDINGS AND RECOMMENDATION

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

- Approximately 450 cubic yards of petroleum hydrocarbon affected soil and approximately 55 bbls of hydro-excavation soil cuttings and water were transported to the Envirotech landfarm for disposal/remediation. The excavation was backfilled and compacted to provide a suitable driving surface.

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

9.0 STANDARDS OF CARE, LIMITATIONS, AND RELIANCE

9.1 Standard of Care

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

9.2 Limitations

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

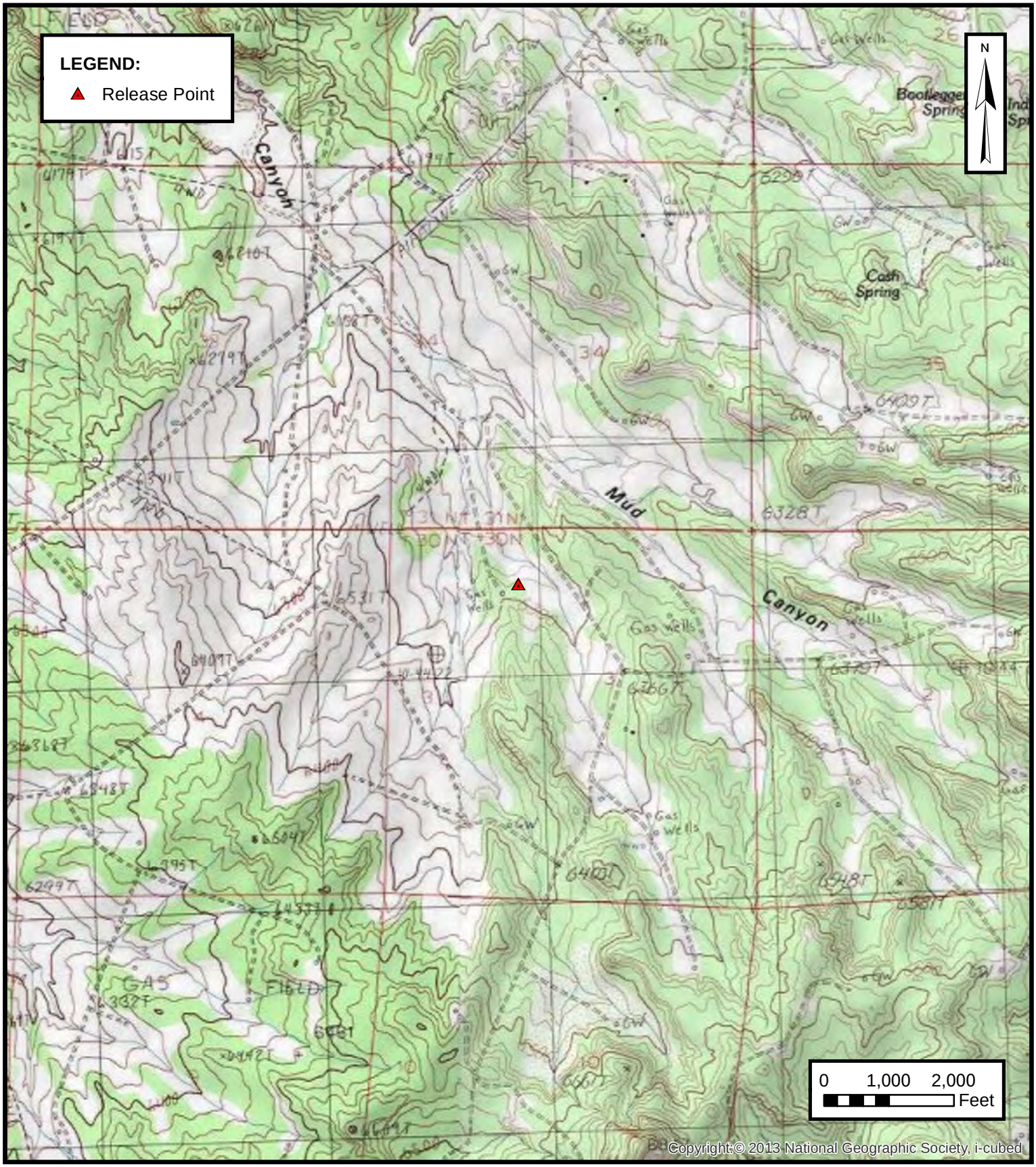
9.3 Reliance

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

ENSOLUM

APPENDIX A

Figures



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Environmental & Hydrogeologic Consultants

TOPOGRAPHIC MAP

ENTERPRISE FIELD SERVICES, LLC
ATLANTIC BLS #22 (8/16/21)
Unit Letter C, S3 T30N R10W, San Juan County, New Mexico
36.845777° N, 107.872627° W

PROJECT NUMBER: 05A1226151

FIGURE
1

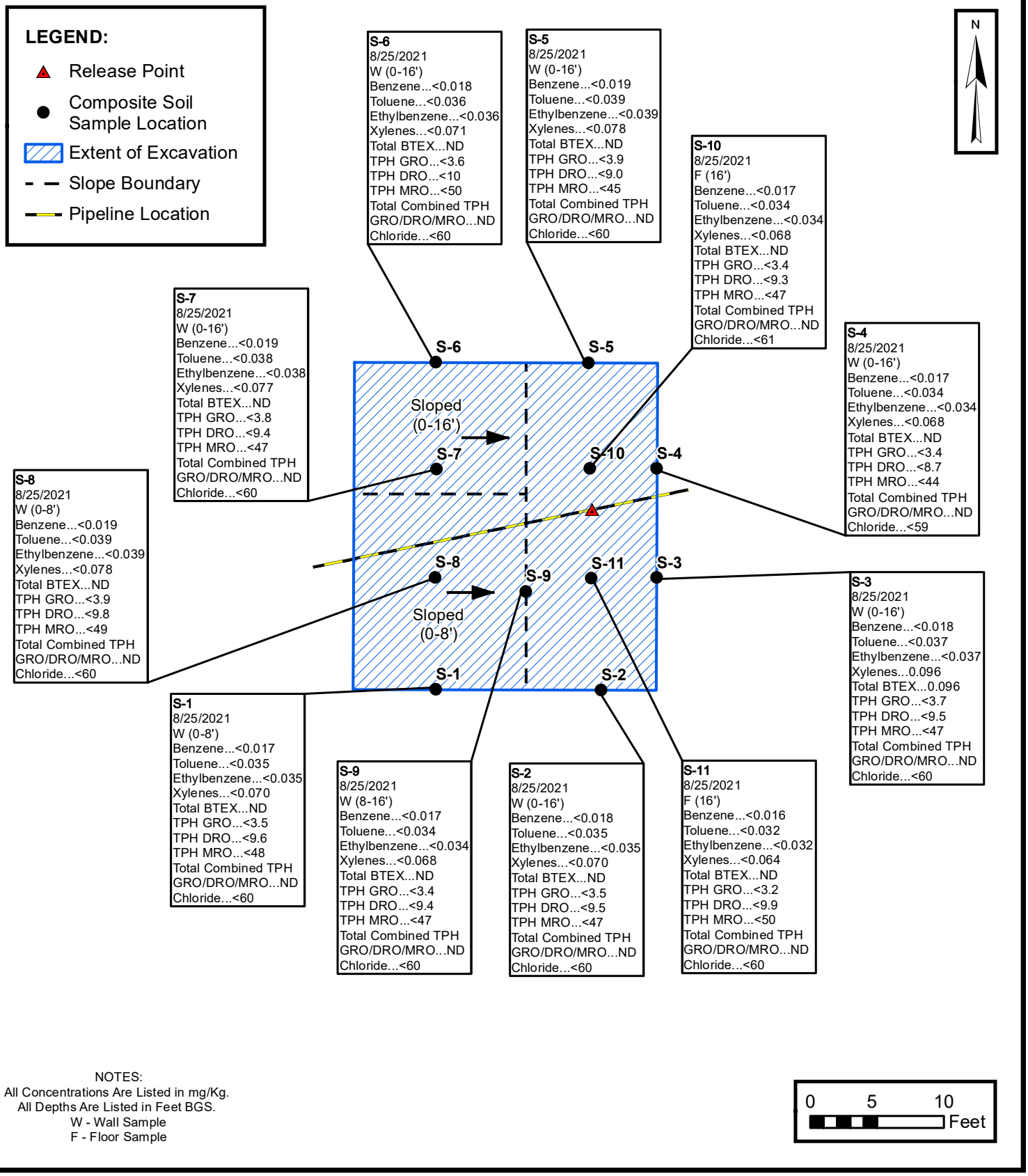
ENSOLUM
Environmental & Hydrogeologic Consultants

SITE VICINITY MAP

ENTERPRISE FIELD SERVICES, LLC
ATLANTIC BLS #22 (8/16/21)
Unit Letter C, S3 T30N R10W, San Juan County, New Mexico
36.845777° N, 107.872627° W

PROJECT NUMBER: 05A1226151

FIGURE
2



NOTES:
All Concentrations Are Listed in mg/Kg.
All Depths Are Listed in Feet BGS.
W - Wall Sample
F - Floor Sample

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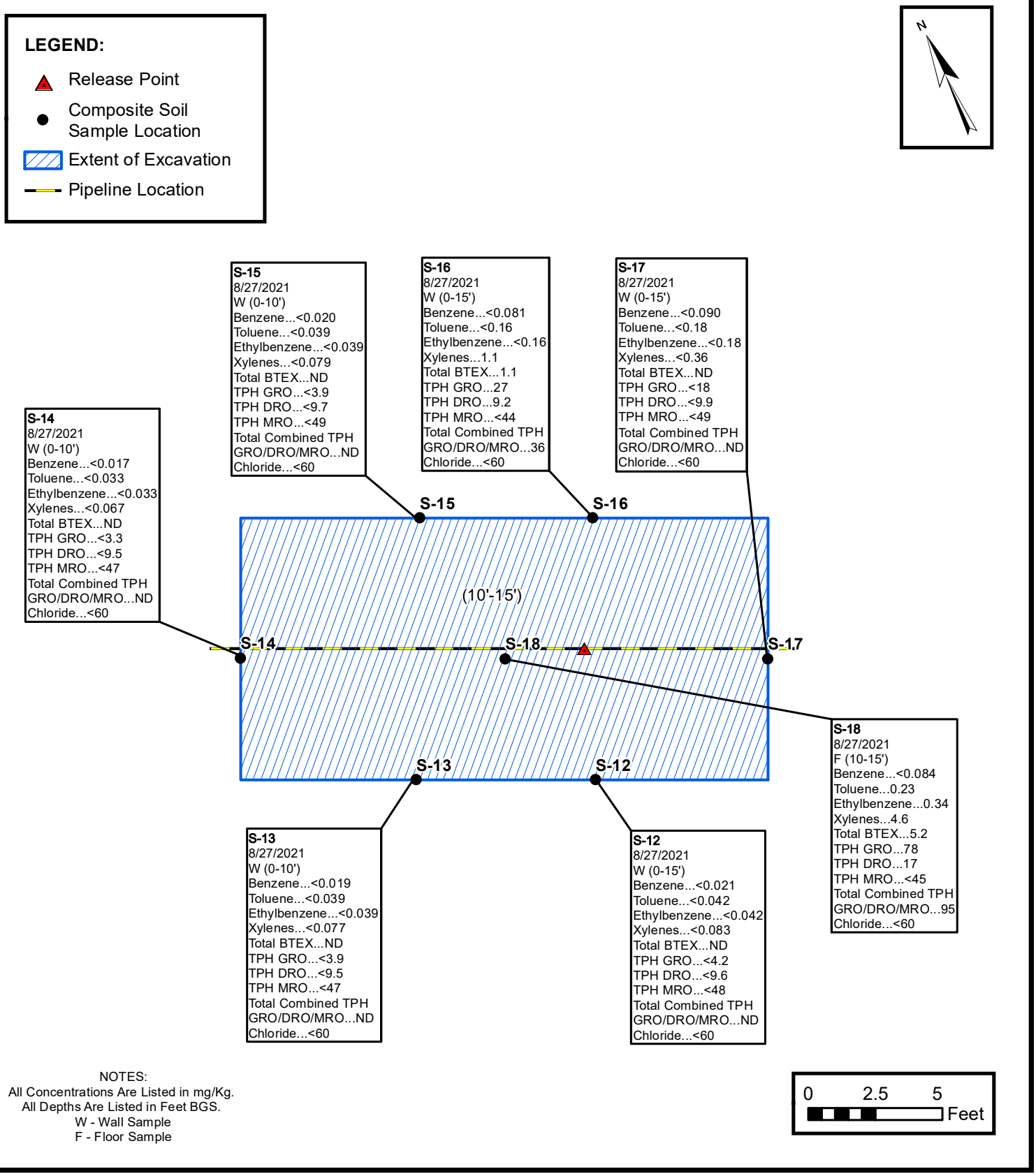
SITE MAP WITH SOIL ANALYTICAL RESULTS (EXCAVATION A)

ENTERPRISE FIELD SERVICES, LLC
ATLANTIC BLS #22 (8/16/2021)
Unit Letter C, S3 T30N R10W, San Juan County, New Mexico
36.845777° N, 107.872627° W

PROJECT NUMBER: 05A1226126

FIGURE
3A



NOTES:
All Concentrations Are Listed in mg/Kg.
All Depths Are Listed in Feet BGS.
W - Wall Sample
F - Floor Sample

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SITE MAP WITH SOIL ANALYTICAL RESULTS (EXCAVATION B)

ENTERPRISE FIELD SERVICES, LLC
ATLANTIC BLS #22 (8/16/21)
Unit Letter C, S3 T30N R10W, San Juan County, New Mexico
36.845777° N, 107.872627° W

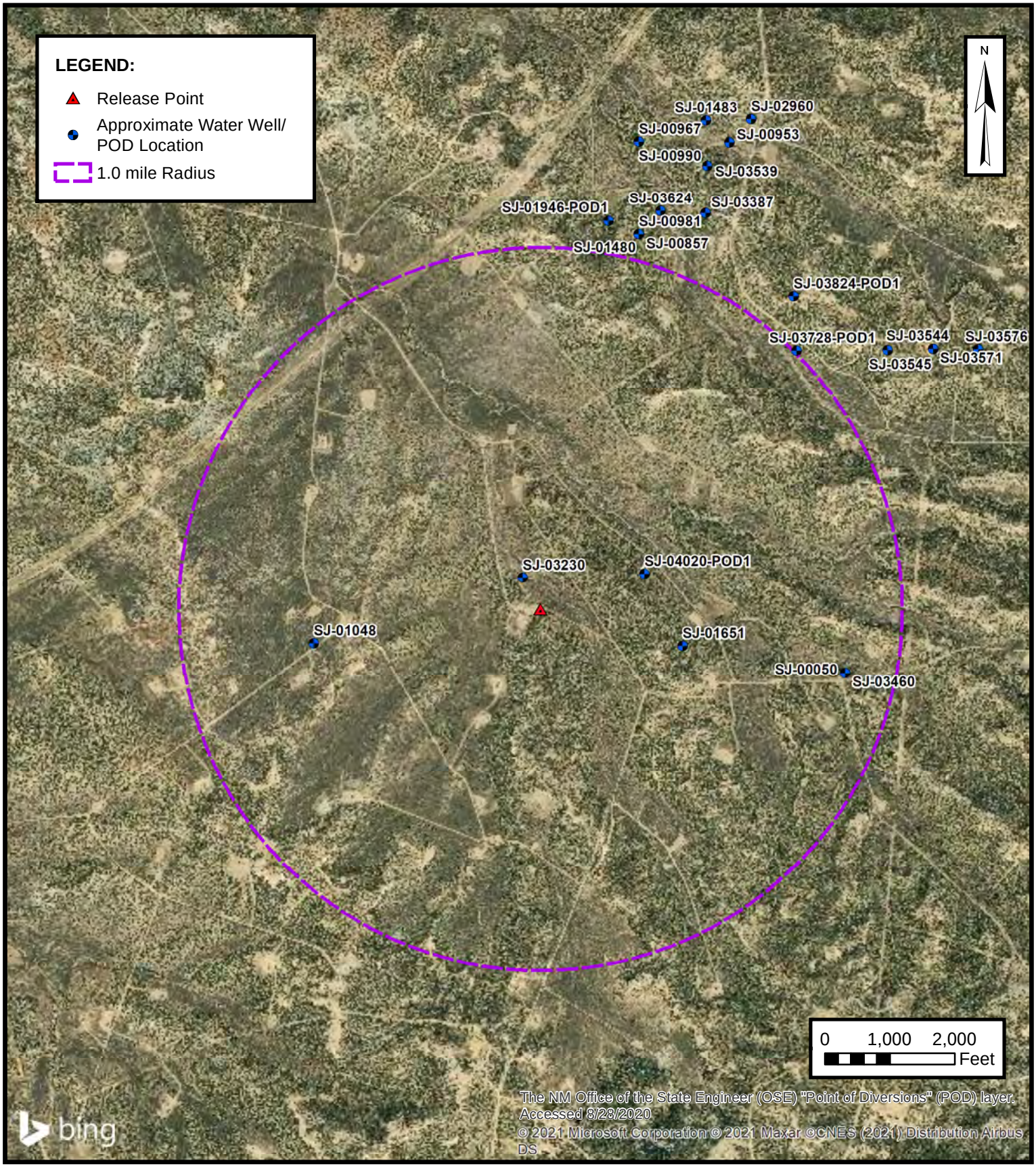
PROJECT NUMBER: 05A1226126

FIGURE
3B

ENSOLUM

APPENDIX B

Siting Figures and Documentation



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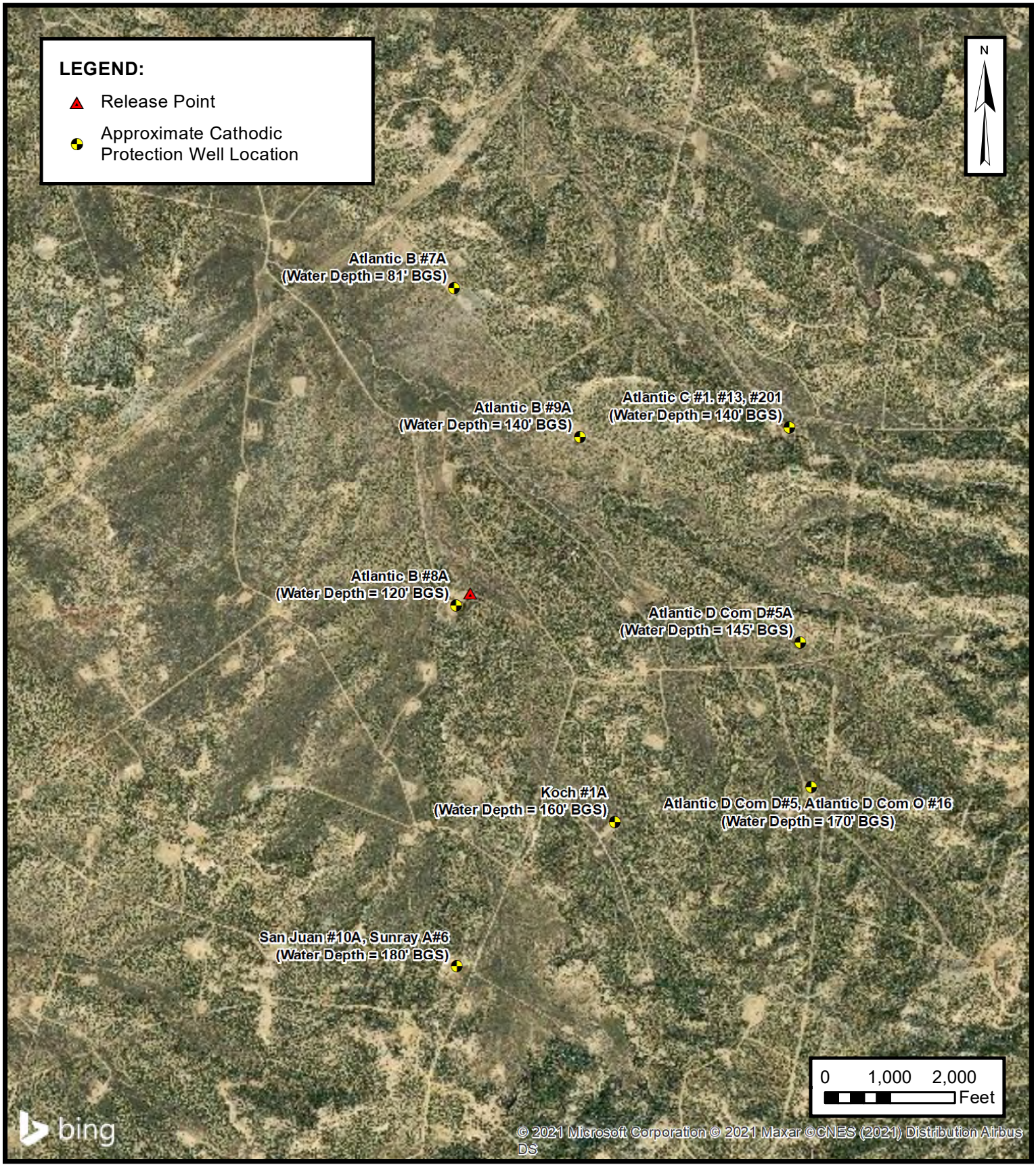
1.0 MILE RADIUS WATER WELL/ POD LOCATION MAP

ENTERPRISE FIELD SERVICES, LLC
ATLANTIC BLS #22 (8/16/21)
Unit Letter C, S3 T30N R10W, San Juan County, New Mexico
36.845777° N, 107.872627° W

PROJECT NUMBER: 05A1226126

FIGURE

A



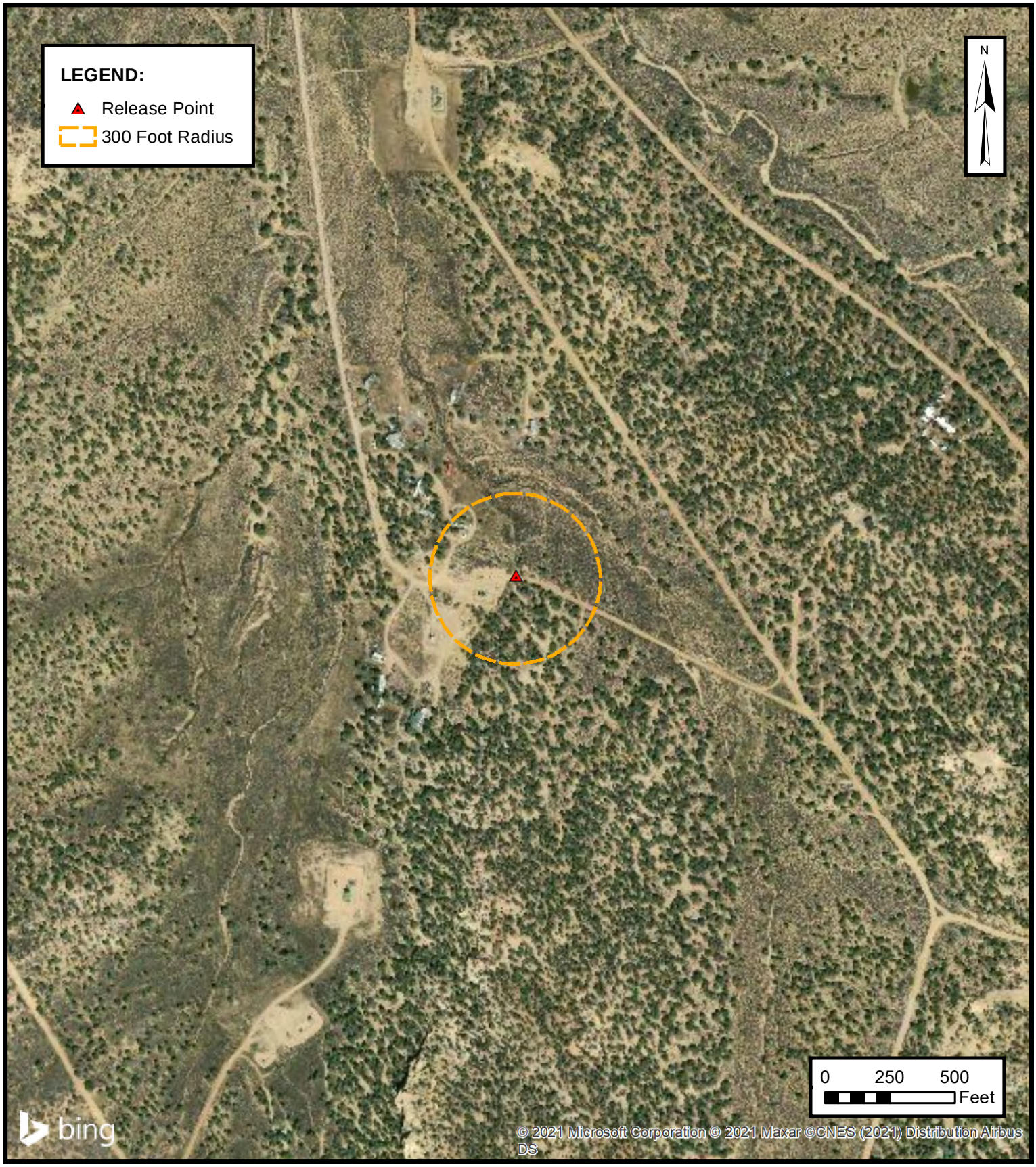
ENSOLUM
Environmental & Hydrogeologic Consultants

CATHODIC PROTECTION WELL RECORDED

ENTERPRISE FIELD SERVICES, LLC
ATLANTIC BLS #22 (8/16/21)
Unit Letter C, S3 T30N R10W, San Juan County, New Mexico
36.845777° N, 107.872627° W

PROJECT NUMBER: 05A1226126

FIGURE
B

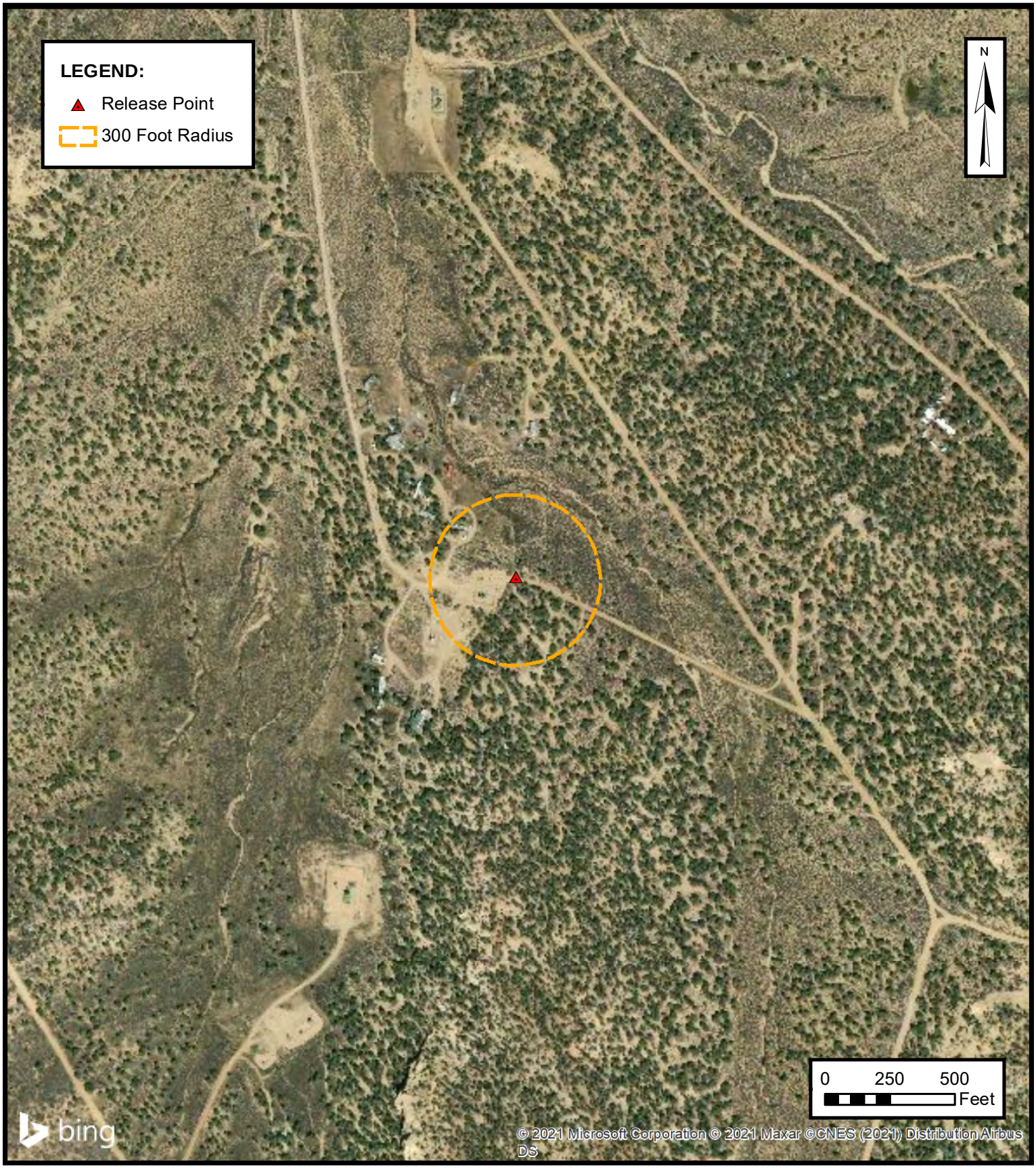


ENSOLUM
Environmental & Hydrogeologic Consultants

300 FOOT RADIUS
WATERCOURSE AND DRAINAGE IDENTIFICATION
ENTERPRISE FIELD SERVICES, LLC
ATLANTIC BLS #22 (8/16/21)
Unit Letter C, S3 T30N R10W, San Juan County, New Mexico
36.845777° N, 107.872627° W

PROJECT NUMBER: 05A1226126

FIGURE
C



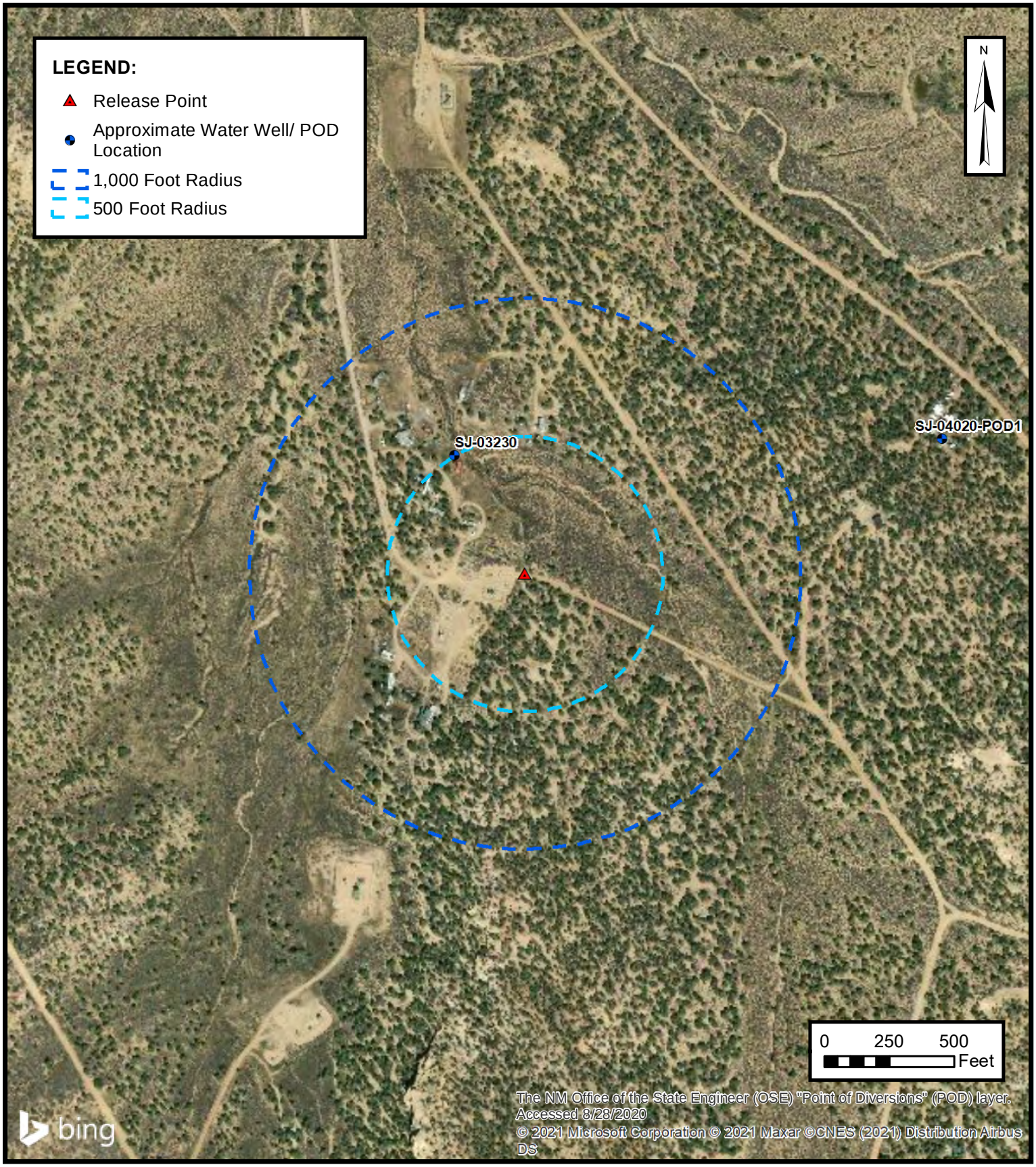
ENSOLUM
Environmental & Hydrogeologic Consultants

300 FOOT RADIUS
OCCUPIED STRUCTURE IDENTIFICATION

ENTERPRISE FIELD SERVICES, LLC
ATLANTIC BLS #22 (8/16/21)
Unit Letter C, S3 T30N R10W, San Juan County, New Mexico
36.845777° N, 107.872627° W

PROJECT NUMBER: 05A1226126

FIGURE
D



ENSOLUM
Environmental & Hydrogeologic Consultants

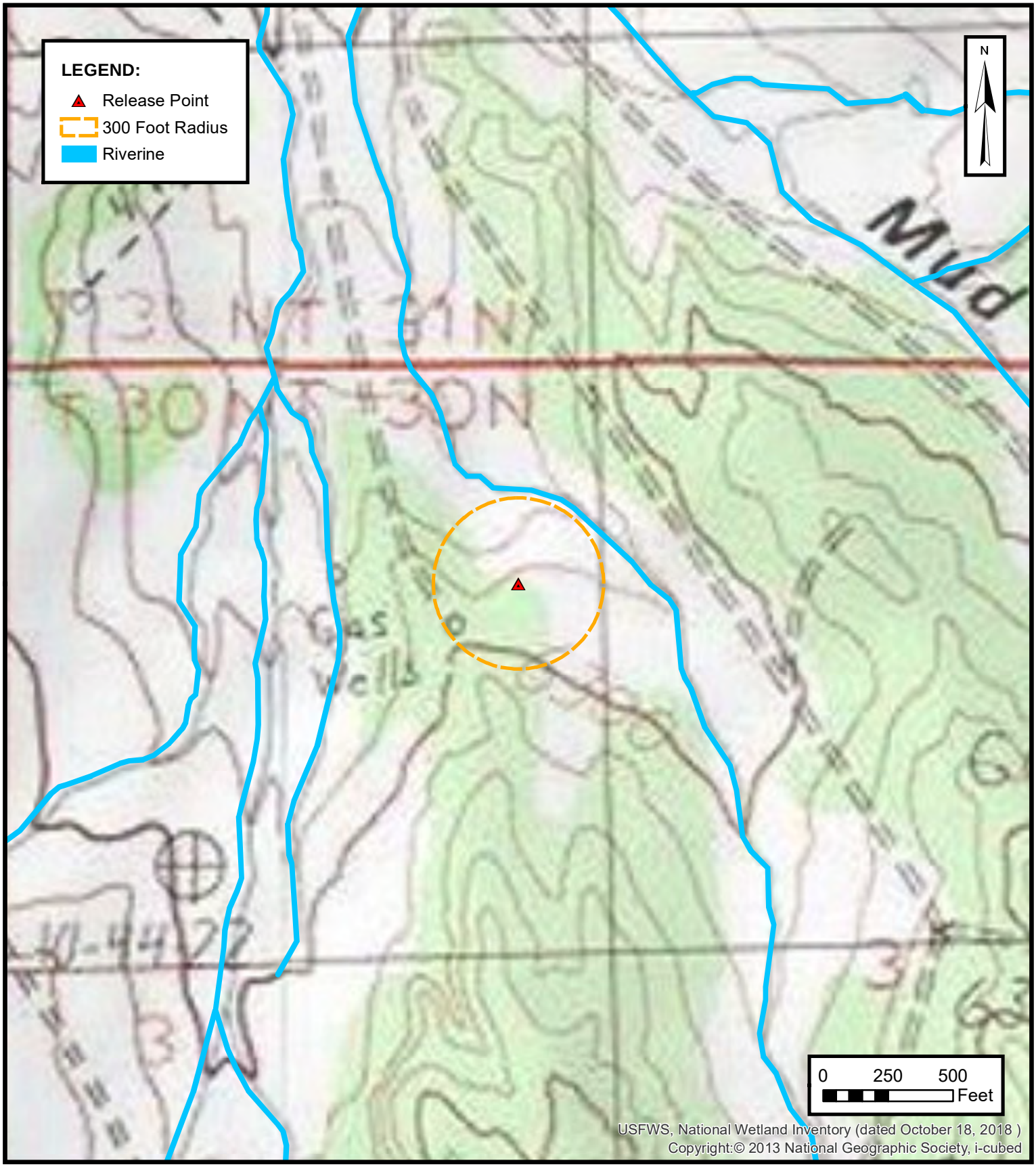
WATER WELL AND NATURAL SPRING LOCATION

ENTERPRISE FIELD SERVICES, LLC
ATLANTIC BLS #22 (8/16/21)
Unit Letter C, S3 T30N R10W, San Juan County, New Mexico
36.845777° N, 107.872627° W

PROJECT NUMBER: 05A1226126

FIGURE

E



ENSOLUM
Environmental & Hydrogeologic Consultants

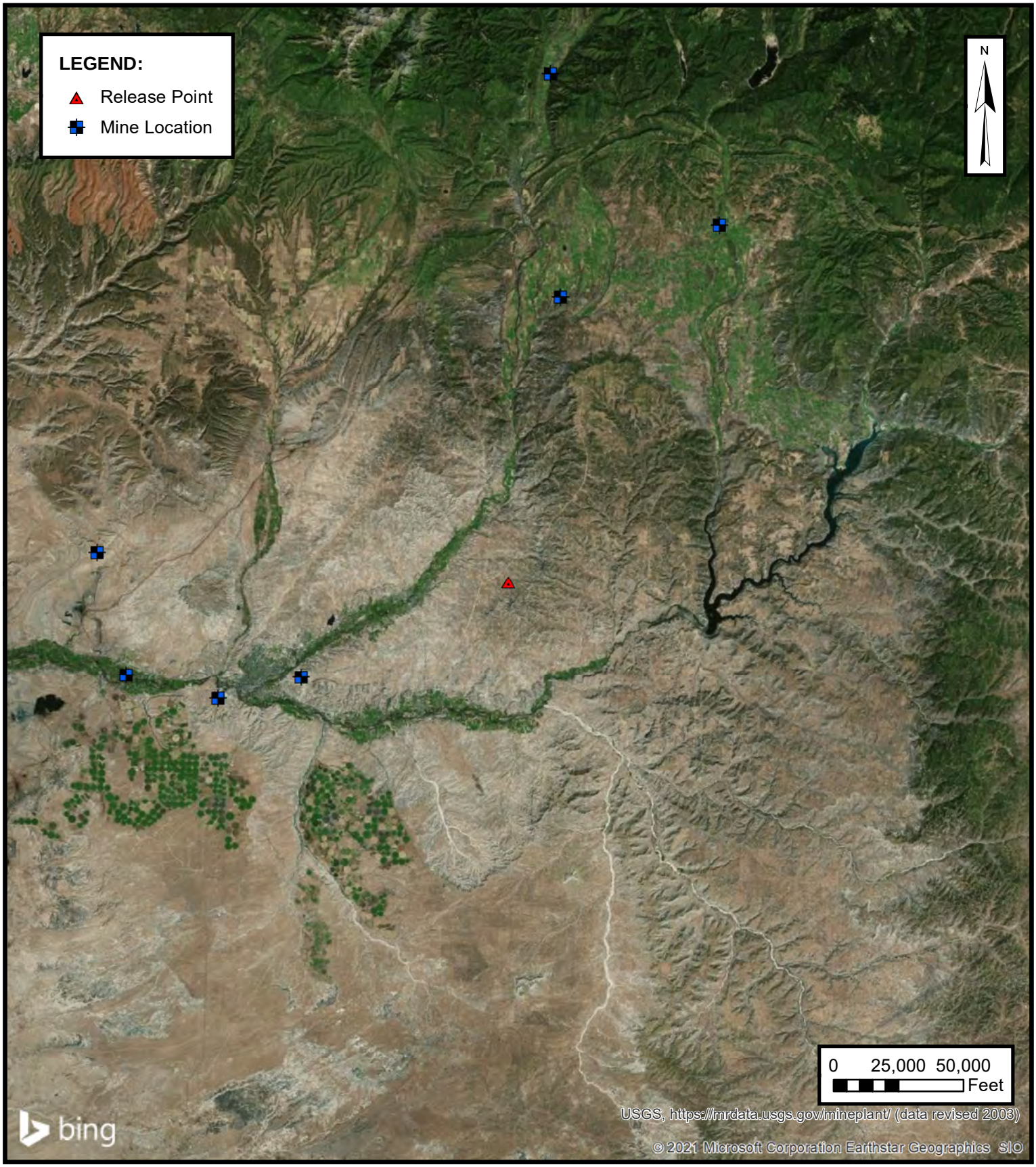
WETLANDS

ENTERPRISE FIELD SERVICES, LLC
ATLANTIC BLS #22 (8/16/21)
Unit Letter C, S3 T30N R10W, San Juan County, New Mexico
36.845777° N, 107.872627° W

PROJECT NUMBER: 05A1226126

FIGURE

F



ENSOLUM
Environmental & Hydrogeologic Consultants

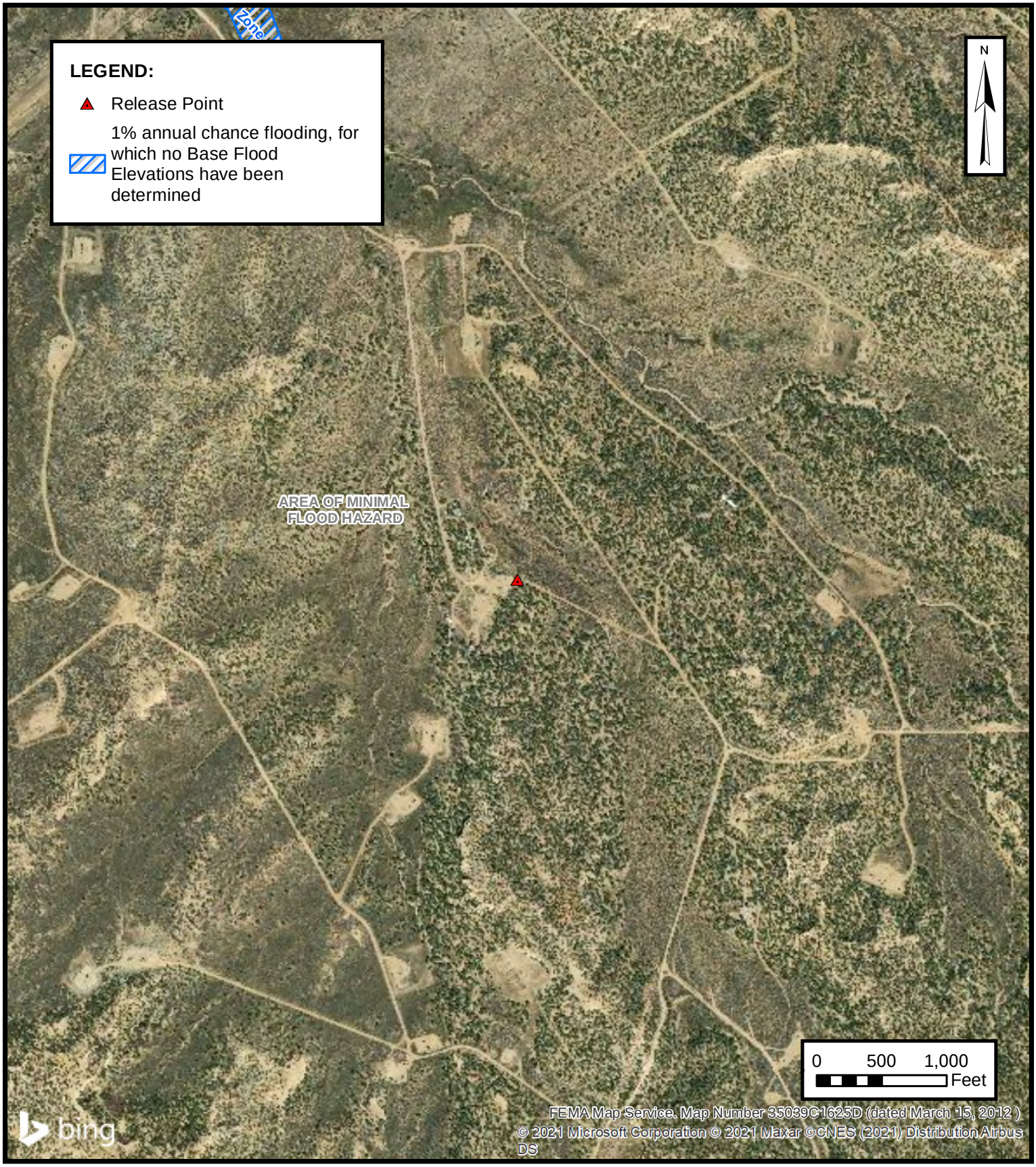
MINES, MILLS AND QUARRIES

ENTERPRISE FIELD SERVICES, LLC
ATLANTIC BLS #22 (8/16/21)
Unit Letter C, S3 T30N R10W, San Juan County, New Mexico
36.845777° N, 107.872627° W

PROJECT NUMBER: 05A1226126

FIGURE

G



ENSOLUM
Environmental & Hydrogeologic Consultants

100-YEAR FLOOD PLAIN MAP

ENTERPRISE FIELD SERVICES, LLC
ATLANTIC BLS #22 (8/16/21)
Unit Letter C, S3 T30N R10W, San Juan County, New Mexico
36.845777° N, 107.872627° W

PROJECT NUMBER: 05A1226126

FIGURE
H

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 Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 00050	SJ	SJ	2	3	1	02	30N	10W	245187	4081290*	520	306	214
SJ 03230	SJ	SJ	1	2	1	03	30N	10W	243782	4081752*	120	70	50
SJ 03460	SJ	SJ	2	3	1	02	30N	10W	245187	4081290*	520	500	20
SJ 04020 POD1	SJ	SJ		1	2	03	30N	10W	244319	4081753	325		

Average Depth to Water: **292 feet**

Minimum Depth: **70 feet**

Maximum Depth: **500 feet**

Record Count: 4

PLSS Search:

Section(s): 3, 2, 4, 9, 10, 11 **Township:** 30N **Range:** 10W

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

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 Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 00981	SJ	SJ		1	2	34	31N	10W	244338	4083246*	164	118	46
SJ 01480	SJ	SJ		1	2	34	31N	10W	244338	4083246*	245	125	120
SJ 01946 POD1	SJ	SJ		1	2	34	31N	10W	244207	4083309	187		
SJ 03387	SJ	SJ	1	2	2	34	31N	10W	244634	4083331*	250	200	50
SJ 03544	SJ	SJ	4	4	1	35	31N	10W	245616	4082705*	325	220	105
SJ 03545	SJ	SJ	3	4	1	35	31N	10W	245416	4082705*	455	317	138
SJ 03554	SJ	SJ	1	2	4	35	31N	10W	246198	4082488*	454	317	137
SJ 03570	SJ	SJ	4	4	2	35	31N	10W	246399	4082687*	250		
SJ 03571	SJ	SJ	4	4	1	35	31N	10W	245616	4082705*	250		
SJ 03576	SJ	SJ	3	3	2	35	31N	10W	245814	4082696*	450	137	313
SJ 03624	SJ	SJ	2	1	2	34	31N	10W	244437	4083345*	165	65	100
SJ 03728 POD1	SJ	SJ	3	3	1	35	31N	10W	245017	4082714*	365	230	135
SJ 03824 POD1	SJ	SJ	1	3	1	35	31N	10W	245011	4082953	385	245	140

Average Depth to Water: **197 feet**
Minimum Depth: **65 feet**
Maximum Depth: **317 feet**

Record Count: 13

PLSS Search:

Section(s): 33, 34, 35 **Township:** 31N **Range:** 10W

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

READ INSTRUCTIONS ON BACK **Revised March 1979**

APPLICATION TO APPROPRIATE UNDERGROUND WATERS IN ACCORDANCE WITH SECTION 72-12-1 NEW MEXICO STATUTES

228062

STATE ENGINEER
SANTA FE, N. M.
'82 NOV 23 AM 11 09

File No. SJ-1651

1. Name and Address of Applicant:
Carl L. Foust
Box 167
Aztec N.M. 87410

2. Describe well location under one of the following subheadings:

a. ____ ¼ ____ ¼ NE ¼ of Sec. 3 Twp. 30N Rge. 10 W N.M.P.M., in San Juan County.

b. Tract No. ____ of Map No. ____ of the ____

c. Lot No. 2 H of Block No. ____ of the ____ Subdivision, recorded in San Juan County.

d. X = ____ feet, Y = ____ feet, N.M. Coordinate System ____ Zone in the ____ Grant.

e. Give street address or route and box No. of property upon which well is to be located, or location by direction and distance from known landmarks 3½ Miles East on Heart Canyon Road Turn Right To Y In Road Then Left To Lot

3. Approximate depth (if known) From 100' To 150' feet; outside diameter of casing 4 7/8 inches.

Name of driller (if known) ____

4. Use of water (check appropriate box or boxes):

- [x] One household, non-commercial trees, lawn and garden not to exceed 1 acre.
- [x] Livestock watering.
- [ ] More than one household, non-commercial trees, lawns and gardens not to exceed a total of 1 acre.
- [ ] Drinking and sanitary purposes and the irrigation of non-commercial trees, shrubs and lawns in conjunction with a commercial operation.
- [ ] Prospecting, mining or drilling operations to discover or develop natural resources.
- [ ] Construction of public works, highways and roads.

If any of the last four were marked, give name and nature of business under Remarks. (Item 5)

5. Remarks: ____

I, Carl L. Foust, affirm that the foregoing statements are true to the best of my knowledge and belief and that development shall not commence until approval of the permit has been obtained.

Carl L. Foust, Applicant

By: ____ Date: 10/22/82

ACTION OF STATE ENGINEER

This application is approved for the use indicated, subject to all general conditions and to the specific conditions numbered 4 on the reverse side hereof. This permit will automatically expire unless this well is drilled or driven and the well record filed on or before November 30, 1983.

S.E. Reynolds, State Engineer

By: E. C. Barry
E.C. Barry, Water Resource Spec. I, Water Rights Division

Date: 11/29/82 File No. SJ-1651

G .NERAL CONDITIONS OF APPROVAL

A. The maximum amount of water that may be appropriated under this permit is 3 acre feet in any calendar year.

B The well shall be drilled only by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated. A licensed driller shall not be required for the construction of a driven well; provided, that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter (Section 72-12-12).

C. Driller's log must be filed with the State Engineer within 10 days after the well is drilled or driven. Failure to file the log within that time shall result in automatic cancellation of the permit. Log forms will be provided by the State Engineer upon request.

D. The casing shall not exceed 7 inches outside diameter except under specific conditions in which reasons satisfactory to the State Engineer are shown.

E. If the well under this permit is used at any time to serve more than one household, livestock in a commercial feed lot operation, or any other commercial purpose, the permittee shall comply with Specific Condition of Approval number 5(b).

F. In the event this well is combined with other wells permitted under Section 72-12-1 New Mexico Statutes Annotated, the total outdoor use shall not exceed the irrigation of one acre of non-commercial trees, lawn, and garden, or the equivalent outside consumptive use, and the total appropriation for household and outdoor use from the entire water distribution system shall not exceed 3 acre feet per annum.

SPECIFIC CONDITIONS OF APPROVAL

(Applicable only when so indicated on the other side of this form.)

1. Depth of the well shall not exceed the thickness of the (a) the valley fill or (b) Ogallala formation.
2. The well shall be constructed to artesian well specifications and the State Engineer shall be notified before casing is landed or cemented.
3. Appropriation and use of water under this permit shall not exceed a period of one year from the date of approval.
4. Use shall be limited to household, non-commercial trees, lawn and garden not to exceed one acre and/or stock use.
5. A totalizing meter shall be installed before the first branch of the discharge line from the well and the installation shall be acceptable to the State Engineer; the Engineer shall be advised of the make, model, serial number, date of installation, and initial reading of the meter prior to appropriation of water and pumping records shall be submitted to the District Supervisor; (a) for each calendar month, on or before the 30th day of the following month (b) on or before the 10th of January, April, July and October of each year for the three preceding calendar months (c) for each calendar year on or before the 30th day of January of the following year.
6. The well shall be plugged upon completion of the permitted use and a plugging report shall be filed with the State Engineer within 10 days.
7. Final approval for the use of the well shall be dependent upon a leakage test made by the State Engineer.
8. Use shall be limited strictly to household and/or drinking and sanitary purposes; water shall be conveyed from the well to the place of use in closed conduit and the effluent returned to the underground so that it will not appear on the surface. No irrigation of lawns, gardens, trees or use in any type of pool or pond is authorized under this permit.

INSTRUCTIONS

The application shall be made in the name of the actual user of the well for the purpose specified in the application.

The application shall be executed in triplicate and forwarded with a $1.00 filing fee to the State Engineer.

A separate application must be filed for each well to be drilled or used.

If well to be used is an existing well, an explanation (and file number, if possible) should be given under Remarks. (Item 5.)

Applications for appropriation, well logs and request for information in the following basins should be addressed to the State Engineer at the location indicated:

Bluewater, Estancia, Rio Grande, Sandia and San Juan Basins
District No. 1, 2340 Menaul NE, Room 206, Albuquerque, New Mexico 87107

Capitan, Carlsbad, Fort Sumner, Hondo, Jal, Lea, Penasco, Portales, Roswell, and Upper Pecos Basins
District No. 2, Box 1717, Roswell, New Mexico 88201

Animas, Gila-San Francisco, Hot Springs, Las Animas Creek, Lordsburg, Mimbres, Nutt-Hockett, Playas, San Simon, and Virden Valley Basins
District No. 3, Box 844, Deming, New Mexico 88030

Canadian River Basin
State Engineer, State Capitol, Bataan Memorial Bldg., Santa Fe, New Mexico 87503

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Tonia Goelz Owner's Well No. SJ-3230
Street or Post Office Address 182 CR 2772
City and State Aztec, N.M. 87410

Well was drilled under Permit No. SJ-3230 and is located in the:

a. NW ¼ NE ¼ NW ¼ ¼ of Section 3 Township 30N Range 10W N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in SAN JAUN County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Bill Hargis Sr. License No. WD-1508

Address 16 CR 3523 Flora Vista N.M. 87410

Drilling Began 7-6-2002 Completed 7-10-2002 Type tools Cable Tool Size of hole 6 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 120 ft.

Completed well is [XX] shallow [ ] artesian. Depth to water upon completion of well 70 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
88	105	17	Course Blue Water Sand, small gravel	3

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
4 1/2	sch 80	plas.	0	120	20		70	120
7	20		0	10	Surface Casing			

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
0	120				Clear Water

'02 JUL 19 PM 4 00
STATE ENGINEER OFFICE
AZTEC, NEW MEXICO

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by:

_____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 7-19-2002 Quad _____ FWL _____ FSL _____

File No. SJ-3230 Use Domestic Location No. 30N.10W.3.121

Section 6 LOG OF HOLE

Depth in Feet		Thickness in Feet	Color and Type of Material Encountered
From	To		
0	20	20	Yellow Sandstone
20	50	30	Fine Gray Sandstone
50	60	10	Fine Hard Pan Sandstone
60	88	28	Blue + Gray Sandstone * Clay
88	105	17	Course Blue Water Sand + Small Gravel
105	120	15	Sandy Shale , Blue

Section 7. REMARKS AND ADDITIONAL INFORMATION

Gravel Pack From 0 to 120' 1/2 in. round gravel
Cement Surface 0 to 10'

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(d Section 5 need be completed.

STATE ENGINEER OFFICE
AZTEC, NEW MEXICO

2012 AUG 16 AM 11:01

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

POD NUMBER (WELL NUMBER)	OSE FILE NUMBER(S)
	SJ-4020 POD1
WELL OWNER NAME(S)	PHONE (OPTIONAL)
James A. Shinn	432-464-0002
WELL OWNER MAILING ADDRESS	CITY / STATE / ZIP
1207 La Paz	Andrews / Texas / 79714

WELL LOCATION (FROM GPS)	DEGREES	MINUTES	SECONDS	
LATITUDE	36	50	49.70	N
LONGITUDE	107	52	3.10	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS
198 Road 2772, Aztec, NM 87410. Well is located uphill side of the trailer, next to the small well house.

2. OPTIONAL

(2.5 ACRE)	(10 ACRE)	(40 ACRE)	(160 ACRE)	SECTION	TOWNSHIP	RANGE
¼	¼	NW ¼	NE ¼	3	30 ☑ NORTH ☐ SOUTH	10 ☐ EAST ☑ WEST

SUBDIVISION NAME	LOT NUMBER	BLOCK NUMBER	UNIT/TRACT

HYDROGRAPHIC SURVEY	MAP NUMBER	TRACT NUMBER

3. DRILLING INFORMATION

LICENSE NUMBER	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
	Terry Hood	Western Water Wells

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
		325		

COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☐ SHALLOW (UNCONFINED) — STATIC WATER LEVEL IN COMPLETED WELL (FT)

DRILLING FLUID: ☐ AIR ☐ MUD ☐ ADDITIVES – SPECIFY:

DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

DEPTH (FT) FROM	DEPTH (FT) TO	BORE HOLE DIA. (IN)	CASING MATERIAL	CONNECTION TYPE (CASING)	INSIDE DIA. CASING (IN)	CASING WALL THICKNESS (IN)	SLOT SIZE (IN)

4. WATER BEARING STRATA

DEPTH (FT) FROM	DEPTH (FT) TO	THICKNESS (FT)	FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	YIELD (GPM)

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA	TOTAL ESTIMATED WELL YIELD (GPM)

FOR OSE INTERNAL USE — WELL RECORD & LOG (Version 6/9/08)

FILE NUMBER	SJ-4020	POD NUMBER	POD1	TRN NUMBER
LOCATION	30N.10W.03.210			PAGE 1 OF 2

5. SEAL AND PUMP

TYPE OF PUMP: ☑ SUBMERSIBLE ☐ JET ☐ NO PUMP – WELL NOT EQUIPPED ☐ TURBINE ☐ CYLINDER ☐ OTHER – SPECIFY:

ANNULAR SEAL AND GRAVEL PACK	DEPTH (FT) FROM	DEPTH (FT) TO	BORE HOLE DIA. (IN)	MATERIAL TYPE AND SIZE	AMOUNT (CUBIC FT)	METHOD OF PLACEMENT

6. GEOLOGIC LOG OF WELL

DEPTH (FT) FROM	DEPTH (FT) TO	THICKNESS (FT)	COLOR AND TYPE OF MATERIAL ENCOUNTERED (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	WATER BEARING?
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO

ATTACH ADDITIONAL PAGES AS NEEDED TO FULLY DESCRIBE THE GEOLOGIC LOG OF THE WELL

7. TEST & ADDITIONAL INFO

WELL TEST — METHOD: ☐ BAILER ☐ PUMP ☐ AIR LIFT ☐ OTHER – SPECIFY:

TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

ADDITIONAL STATEMENTS OR EXPLANATIONS:

The Well Log is being submitted by the owner and filled out to the best of his ability. This well was drilled in 1991 and no permit was ever filed and so an after-the-fact well permit was issued. This Well log is being submitted to satisfy the conditions of approval.

8. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:

James A. Klinn — SIGNATURE OF ~~DRILLER~~ owner

8/16/2012 — DATE

2012 AUG 20 AM 11:01 STATE ENGINEER OFFICE AZTEC, NEW MEXICO

FOR OSE INTERNAL USE — WELL RECORD & LOG (Version 6/9/08)

FILE NUMBER	SJ-4020	POD NUMBER	POD1	TRN NUMBER	
LOCATION	30N.10W.03.210				PAGE 2 OF 2

STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS
STATE ENGINEER

BATAAN MEMORIAL BUILDING
STATE CAPITOL
SANTA FE, NEW MEXICO 87503

SJ- 1651

November 29, 1982

Mr. Carl L. Foust
Box 187
Aztec, New Mexico 87410

Dear Mr. Foust:

Enclosed is your copy of the above-numbered permit which has been approved subject to all the general conditions of the approval stated on the reverse side of the permit and the specific conditions of the approval numbered 4 stated on the reverse side of the permit.

Well may only be drilled by a licensed driller and a well log must be filed within 10 days of completion of the well.

Also enclosed is Receipt No. 102317 covering the $1.00 filing fee.

Very truly yours,

S.E. Reynolds
State Engineer

By: E. C. Barry

E.C. Barry
Water Resources
Spec I
Water Rights Division

dg
encl.
cc - J.T. Smith

 CHC5-C1765 #5

TRN #237725

READ INSTRUCTIONS ON BACK

Revised June 1991

APPLICATION TO APPROPRIATE UNDERGROUND WATERS IN ACCORDANCE WITH SECTION 72-12-1 NEW MEXICO STATUTES

1. Name and mailing address of applicant: File No. SJ-3230

Tonia Goelz
182 CR 2772
Aztec, NM 87410

2. Describe well location under one of the following subheadings:

a. NW ¼ NE ¼ NW ¼ of Sec. 3 Twp. 30N Rge. 10W NMPM, in San Juan County.

b. X = ______ feet, Y = ______ feet, New Mexico Coordinate System ______ Zone in the ______ Grant.

3. Approximate depth (if known) 150 feet; outside diameter of casing 7 inches.

Name of driller (if known) Bill Hargis

4. Use of water (check use applied for):

X One household, non-commercial trees, lawn and garden not to exceed one acre.

___ Livestock watering.

___ More than one household, non-commercial trees, lawns and gardens not to exceed a total of one acre.

___ Drill and test a well intended to be used for domestic, drinking and sanitary or stock water purposes in conjunction with the building or dwelling unit.

___ Drinking and sanitary purposes and the irrigation of non-commercial trees, shrubs and lawns in conjunction with a commercial operation.

___ Prospecting, mining or drilling operations to discover or develop natural resources.

___ Construction of public works, highways and roads.

If any of the last three items were marked, give name and nature of business under Remarks (Item 5).

5. Remarks: ______

'02 JUL 26 PM 3:56

'02 JUL 3 PM 4 00
STATE ENGINEER OFFICE
AZTEC, NEW MEXICO

I, Tonia Goelz, affirm that the foregoing statements are true to the best of my knowledge and belief and that development shall not commence until approval of the permit has been obtained.

Tonia Goelz, Applicant

By: ______ Date: July 3, 2002

ACTION OF STATE ENGINEER

This application is approved for the use indicated, subject to all general conditions and to specific conditions numbered 1a & 4 on the reverse side hereof. This permit will automatically expire unless this well is drilled or driven and the well record filed on or before July 3, 2003.

Thomas C. Turney, State Engineer

By: Bill Enenbach
Bill Enenbach

Date: July 3, 2002 File No. SJ-3230

✓

GENERAL CONDITIONS OF APPROVAL

A. The maximum amount of water that may be appropriated under this permit is 3 acre-feet in any year.

B. The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated. A licensed driller shall not be required for the construction of a driven well; provided, that the casing shall not exceed two and three-eights (2 3/8) inches outside diameter (Section 72-12-12).

C. Driller's well record must be filed with the State Engineer within 10 days after the well is drilled or driven. Failure to file the well record within that time shall result in automatic cancellation of the permit. Well record forms will be provided by the State Engineer upon request.

D. The casing shall not exceed 7 inches outside diameter except under specific conditions in which reasons satisfactory to the State Engineer are shown.

E. If the well under this permit is used at any time to serve more than one household or livestock in a commercial feed lot operation, or for drinking and sanitation purposes in conjunction with a commercial operation, the permittee shall comply with Specific Conditions of Approval number 5(b).

F. In the event this well is combined with other wells permitted under Section 72-12-1 New Mexico Statutes Annotated, the total outdoor use shall not exceed the irrigation of one acre of non-commercial trees, lawn, and garden, or the equivalent outside consumptive use, and the total appropriation for household and outdoor use from the entire water distribution system shall not exceed 3 acre-feet in any year.

G. If artesian water is encountered, all rules and regulations pertaining to the drilling and casing of artesian wells shall be complied with.

H & I See side margins.

SPECIFIC CONDITIONS OF APPROVAL

(Applicable only when so indicated on the other side of this form.)

1. Depth of the well shall not exceed the thickness of the (a) valley fill or (b) Ogallala formation.
2. The well shall be constructed to artesian well specifications and the State Engineer shall be notified before casing is landed or cemented.
3. Appropriation and use of water under this permit shall not exceed a period of one year from the date of approval.
4. Use shall be limited to household, non-commercial trees, lawn and garden not to exceed one acre and/or stock use.
5. A totalizing meter shall be installed before the first branch of the discharge line from the well and the installation shall be acceptable to the State Engineer; the Engineer shall be advised of the make, model, serial number, date of installation, and initial reading of the meter prior to appropriation of water; pumping records shall be submitted to the District Supervisor: (a) for each calendar month, on or before the 10th day of the following month (b) on or before the 10th of January, April, July and October of each year for the three preceding calendar months (c) for each calendar year on or before the 10th day of January of the following year.
6. The well shall be plugged upon completion of the permitted use, and a plugging report shall be filed with the State Engineer within 10 days.
7. Final approval for the use of the well shall be dependent upon a leakage test made by the State Engineer.
8. Use shall be limited strictly to household, drinking and sanitary purposes; water shall be conveyed from the well to the place of use in closed conduit and the effluent returned to the underground so that it will not appear on the surface. No irrigation of lawns, gardens, trees or use in any type of pool or pond is authorized under this permit.
9. No water shall be used from this well unless and until a permit has been issued to an applicant who intends to use the water for any of the purposes described in § 72-12-1.

INSTRUCTIONS

The application shall be made in the name of the actual user of the well for the purpose specified in the application.

The application shall be filed in triplicate and forwarded with a $5.00 filing fee to the State Engineer.

A separate application must be filed for each well to be drilled or used.

If well to be used is an existing well, an explanation (and the file number, if possible) should be given under Remarks (Item 5).

Applications for appropriation, well records and requests for information in the following basins should be addressed to the State Engineer at the location indicated.

Bluewater, Estancia, Rio Grande, Sandia, Gallup and San Juan Basins
District No. 1, Office of the State Engineer, 121 Tijeras, NE., Suite 2000, Albuquerque, NM 87102-3400

Capitan, Carlsbad, Curry County, Fort Sumner, Hondo, Jal, Lea County, Penasco, Portales, Roswell, Tucumcari and Upper Pecos Basins District No. 2, 1900 West Second Street, Roswell, NM 88201

Animas, Gila-San Francisco, Lordsburg, Mimbres, Nutt-Hockett, Playas, San Simon and Virden Valley Basins
District No. 3, P.O. Box 844, Deming, NM 88031

Lower Rio Grande, Tularosa, Hueco, Las Animas Creek and Hot Springs Basins
District No. 4, 133 Wyatt Drive, Suite 3, Las Cruces, NM 88005

Canadian River Basin
State Engineer Office, P.O. Box 25102, Santa Fe, NM 87504-5102

San Juan Basin
State Engineer Office
100 S. Oliver
Aztec, NM 87410

SUPPLEMENTAL INSTRUCTION

If the well under this permit is to be used for livestock watering on state or federal land, **proof** of the following must be provided as part of this application: (1) applicant is legally entitled to place his livestock on the land where the water is to be used ; (2) applicant has been granted access to the drilling site and has permission to occupy the portion of the land as is necessary to drill and operate the well.

H. The amount and uses of water permitted under this application are subject to such limitations as may be imposed by the courts or by lawful municipal and county ordinances which are more restrictive than applicable State Engineer Regulations and the conditions of this permit.

I. The permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.

STATE ENGINEER OFFICE/INTERSTATE STREAM COMMISSION - AZTEC

OFFICIAL RECEIPT NUMBER 5-01765 DATE 7-3-2002 FILE NO. SJ-3230

TOTAL RECEIVED: $ 5.00 RECEIVED: five DOLLARS CHECK NO ____ CASH: ☐

FROM: Tonia Goelz BANK NAME: ____

RECEIVED BY: (Signature) Bill Enerbach (TITLE) ____

INSTRUCTIONS: Indicate the number of actions to the left of the appropriate type of filing. Complete the receipt information. **Original** to payor; **pink** copy to MSD; **yellow** copy to Water Rights - Santa Fe, and **goldenrod** copy for District file. If you make a mistake, void original and all copies and submit to MSD along with valid receipts and the weekly report.

A. Ground Water Rights Filing Fees (411840)

____	1. Declaration of Water Right	$ 1.00
X	2. Application to Appropriate; Domestic, Stock, Other Use	$ 5.00
____	3. Application for Test, Exploratory, or Observation Well	$ 5.00
____	4. Application to Change Location Domestic Well	$ 5.00
____	5. Application to Repair or Deepen	$ 5.00
____	6. Application to Dewater	$ 5.00
____	7. Application to Appropriate Irrig., Mun., Ind., or Com. Use	$25.00
____	8. Application to Combine Wells and/or Use	$25.00
____	9. Application for Supplemental Well	$25.00
____	10. Application to Change Location of Non-72-12-1 Well	$25.00
____	11. Application to Change Place	$25.00
____	12. Application to Change Location of Well and Place and/or Purpose of Use	$50.00
____	13. Application for Extension of Time (Specify: ____)	$25.00
____	14. Certificate and License (for each permit therein) (VAR)	$25.00
____	15. Application for Plan of Replacement	$25.00
____	16. Other (As per Art. 6-2 of Rules and Regulations) Specify: ____ ____	$25.00 (VAR)
____	17. Application to Change Point of Diversion and Place and/or Purpose of Use from Surface to Ground Water	$50.00

B. Surface Water Rights Filing Fees (411840)

____	1. Declaration of Water Right	$ 1.00
____	2. Declaration of Livestock Dam	$ 1.00
____	3. Application to Change Point of Diversion	$25.00
____	4. Application to Change Place and/or Purpose of Use	$50.00
____	5. Application to Change Point of Diversion and Place and/or Purpose of Use	$50.00
____	6. Notice of Intent to Appropriate	$25.00
____	7. Application to Appropriate	$25.00
____	8. Application for Extension of Time	$50.00
____	9. Certificate of Construction	$25.00
____	10. License to Appropriate	$25.00
____	11. Application to Enlarge of Amend	$25.00
____	12. Other (As per 72-2-6.J NMSA 1978) (Specify: ____)	(VAR)
____	13. Application to Change Point of Diversion and Place and/or Purpose of Use from Ground to Surface Water	$50.00

C. Miscellaneous Fees (411840)

____	1. Application to Construct Flood-Control Dam. Same as #6 below	
____	2. Application for Well Driller's License	$50.00
____	3. Application for Renewal of Well Driller's License	$20.00
____	4. Application to Amend Well Driller's License	$ 5.00
____	5. Issue of Certified Letter	$ 5.00
____	6. Review of Plans for Safety of Dams ($10.00 + $2.00/$1,000 of estimated construction cost)	(VAR)

D. Hearing Deposit (411890) $ ____

E. Reproduction of Documents (419740) 20¢/copy, limit 10 copies of each document. $ ____

F. Water Right Determination $ ____

G. Certification $ ____

H. Other (Specify - Not for Filing Fees) $ ____

COMMENTS:

STATE ENGINEER OFFICE ALBUQUERQUE NEW MEXICO
02 JUL 26 PM 3:36

File No. SJ-4020

NEW MEXICO OFFICE OF THE STATE ENGINEER

APPLICATION FOR PERMIT TO USE UNDERGROUND WATERS IN ACCORDANCE WITH SECTIONS 72-12-1.1, 72-12-1.2, OR 72-12-1.3 NEW MEXICO STATUTES

For fees, see State Engineer website: http://www.ose.state.nm.us/

2022 AUG -3 PM 5:01 STATE ENGINEER OFFICE AZTEC, NEW MEXICO

1. APPLICANT(S)

Name: **James A. Shinn**	Name:
Contact or Agent: check here if Agent ☐	Contact or Agent: check here if Agent ☐
Mailing Address: **1207 La Paz**	Mailing Address:
City: **Andrews**	City:
State: **TX** Zip Code: **79714**	State: Zip Code:
Phone: **432-464-0002** ☒ Home ☐ Cell Phone (Work): **575-394-5583**	Phone: ☐ Home ☐ Cell Phone (Work):
E-mail (optional): **jashinn3@msn.com**	E-mail (optional):

2. WELL LOCATION Required: Coordinate location must be New Mexico State Plane (NAD 83), UTM (NAD 83), or Lat/Long (WGS84). District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.

NM State Plane (NAD83) - In feet	NM West Zone ☐ NM Central Zone ☐ NM East Zone ☐	X (in feet): Y (in feet):				
UTM (NAD83) - In meters	UTM Zone 13N ☐ UTM Zone 12N ☐	Easting (in meters): Northing (in meters):				
Lat/Long (WGS84) - To 1/10th of second	Latitude: **36**	deg	**50**	min	**49.7**	sec
	Longitude: **-107**	deg	**52**	min	**3.1**	sec

Other Location Information (complete the below, if applicable):

PLSS Quarters or Halves: N/2 NW/4 NE/4 Section: 03 Township: 30N Range: 10W

County: **San Juan**

Land Grant Name (if applicable):

Lot No: Block No: Unit/Tract: Subdivision:

Hydrographic Survey: Map: Tract:

Other description relating point of diversion to common landmarks, streets, or other: Physical Address is 198 Road 2772, Aztec, NM 87410 UPC: 2-057-179-181-494

Point of Diversion is on Land Owned by (Required): James A. And Irene Shinn Recorded In Book 1193, Page 697

FOR OSE INTERNAL USE Application for Permit, Form wr-01, Rev 3/8/12

File Number:	Trn Number: 613041	
Sub-basin:	POD No.	Log Due Date:

3. PURPOSE OF USE

- ☒ Domestic use for one household
- ☐ Livestock watering
- ☐ Domestic use for more than one household. Number of households _____
- ☐ Drinking and sanitary uses that are incidental to the operations of a governmental, commercial, or non-profit facility
- ☐ Prospecting, mining or drilling operations to discover or develop natural resources
- ☐ Construction of public works, highways and roads
- ☐ Domestic use for one household and livestock watering
- ☐ Domestic use for multiple households and livestock watering
- ☐ Domestic well to accompany a house or other dwelling unit constructed for sale

4. WELL INFORMATION

File Information: (If existing well, provide OSE no. & indicate below if well is to be replacement, repaired or deepened, or supplemental. If new well, leave blank, as OSE must assign no.)

OSE Well No.(If Existing)	New Well No. (provided by OSE) SJ-4020
Driller Name: Terry Hood	**Driller License Number:**
Approximate Depth of Well (feet): **325.00**	Outside Diameter of Well Casing (inches): **6.00**

☐ Replacement well (List all existing wells if more than one):	☐ Repair or Deepen: ☐ Clean out well to original depth ☐ Deepen well from _____ to _____ ft. ☐ Other (Explain):	☐ Supplemental well (List OSE No. for all wells this will supplement):

5. ADDITIONAL STATEMENTS OR EXPLANATIONS

Well was drilled in Summer 1991 by Terry Hood. Current well pump is 1 horsepower pump installed at a depth of 260 or 280 feet.

ACKNOWLEDGEMENT

STATE ENGINEER OFFICE
AZTEC, NEW MEXICO
2012 AUG -3 PM 5:01

I, We (name of applicant(s)), **James A. Shinn**
Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

Applicant Signature

Applicant Signature

ACTION OF THE STATE ENGINEER (FOR OSE USE ONLY)

This application is approved subject to the attached general and specific conditions of approval.

Witness my hand and seal this 3 day of **August** 20 **12**, for the State Engineer,

By: Signature **Savannah Lindsay** Print

FOR OSE INTERNAL USE Application for Permit, Form wr-01, Rev 3/8/12

File Number:		Trn Number:
Sub-basin:	POD No.	Log Due Date:

NEW MEXICO OFFICE OF THE STATE ENGINEER
APPLICATION FOR PERMIT TO USE UNDERGROUND WATERS
IN ACCORDANCE WITH SECTIONS 72-12-1.1, 72-12-1.2, AND 72-12-1.3 NEW MEXICO STATUTES

INSTRUCTIONS

1. The application shall be made in the name of the actual user of the well for the purpose specified in the application (if the agent is submitting the application, check the agent box).
2. The application shall be filed with the appropriate filing fee.
3. A separate application must be filed for each well to be drilled or used.
4. If well to be used is an existing well, an explanation (and the file number, if possible) should be given under Remarks (Item 5).

FEE SCHEDULE FOR APPLICATIONS
72-12-1.1 (domestic) = $125.00
72-12-1.2 (livestock) = $5.00
72-12-1.3 (temporary) = $5.00
Replacement well = $ 75.00
Supplemental well= $125.00
Repair or Deepen = $ 75.00
Amend Domestic Use = $ 75.00

5. If well is to be used for livestock watering on state or federal land, proof of the following must be included as part of the application; (a) applicant is legally entitled to place his or her livestock on the land where the water is to be used, (b) applicant has been granted access to the drilling site and has permission to occupy the portion of the land as is necessary to drill and operate the well.
6. An application to drill a well on land owned by another person, the state of New Mexico, the federal government, or another entity shall be accompanied by written consent of the landowner.
7. For an application for drinking and sanitary uses that are incidental to the operations of a governmental, commercial, or non-profit facility, the applicant shall demonstrate that no alternative water supply is reasonably accessible or available.
8. An application for a 72-12-1.1 domestic well to serve multiple households shall be filed with documentation listing the number of households to be served by the well, the owner's contact information for each household to be served, and a description of the legal lot of record for each household to be served. A copy of a well share agreement may be filed to support the claim that the 72-12-1.1 domestic well will serve more than one household.
9. The Office of the State Engineer may require an application to be filed with a deed or purchase contract and plat of survey on file with the appropriate county.
10. See General Conditions of Approval for more information.

Application for permit, well records and requests for information in the following basins should be addressed to the Office of the State Engineer at:

Bluewater, Estancia, Gallup, Middle Rio Grande, Northern Tularosa, and Sandia Basins
District No. 1. 5550 San Antonio Dr. NE , Albuquerque, NM 87109 Phone # 505-383-4000

Capitan, Carlsbad, Casey Lingo, Curry County, Fort Sumner, Hagerman Canal, Hondo, Jal, Lea County, Peñasco, Roswell-Artesian, and Portales Basins
District No. 2. 1900 West Second St., Roswell, NM 88201 Phone # 575-622-6521

Animas, Cloverdale, Gila-San Francisco, Hachita, Lordsburg Valley, Mimbres, Mount Riley, Nutt-Hockett, Playas, San Simon, Virden Valley, and Yaqui Basins
District No. 3. P.O. Box 844, Deming, NM 88031 Phone # 575-546-2851

Lower Rio Grande, Southern Tularosa, Hueco, Las Animas Creek, Salt, and Hot Springs Basins
District No. 4. 1680 Hickory Loop, Suite J, Las Cruces, NM 88005. Phone # 575-524-6161

San Juan Basin
District No. 5. 100 Gossett Drive, Suite A, Aztec, NM 87410 Phone # 505-334-4571

Northern Rio Grande and Upper Pecos Basins
District No. 6. P.O. Box 25102, Santa Fe, NM 87504-5102 Phone # 505-827-6120

Canadian River, Clayton, and Tucumcari Basins
District No. 7. P.O. Box 481, 301 East 9th Street, Cimarron, NM 87714 Phone # 575-376-2918

2012 AUG -3 PM 5:01
STATE ENGINEER OFFICE
AZTEC, NEW MEXICO

NEW MEXICO OFFICE OF THE STATE ENGINEER
APPLICATION FOR PERMIT TO USE UNDERGROUND WATERS
IN ACCORDANCE WITH SECTIONS 72-12-1.1, 72-12-1.2, or 72-12-1.3 NEW MEXICO STATUTES

GENERAL CONDITIONS OF APPROVAL

06A The maximum amount of water that may be appropriated under this permit is 1.0 acre-feet in any year.

06B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated. A licensed driller shall not be required for the construction of a driven well; provided, that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter (Section 72-12-12).

06C Driller's well record must be filed with the State Engineer within 20 days after the well is drilled or driven. Well record forms will be provided by the State Engineer upon request, or may be printed from the OSE website at www.ose.state.nm.us, under applications & forms.

06D The casing shall not exceed 7 inches outside diameter except under specific conditions in which reasons satisfactory to the State Engineer are shown.

06E To request a change to the use of water authorized under this permit, the permittee shall file an application with the State Engineer.

06F An application for a new 72-12-1.1 domestic well permit where the proposed point of diversion is to be located on the same legal lot of record as an operational 72-12-1.1 domestic well shall be treated as an application for a supplemental well.

06G If artesian water is encountered, all rules and regulations pertaining to the drilling and casing of artesian wells shall be complied with.

06H The drilling of the well and amount and uses of water permitted are subject to such limitations as may be imposed by a court or by lawful municipal or county ordinance which are more restrictive than the conditions of this permit and applicable State Engineer regulations.

06I The permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.

06J The well shall be set back a minimum of 50 feet from an existing well of other ownership unless a variance has been granted by the State Engineer. The State Engineer may grant a variance for a replacement well or to allow for maximum spacing of the well from a source of groundwater contamination. The well shall be set back from potential sources of contamination in accordance with rules and regulations of the New Mexico Environment Department.

06K Pursuant to Section 72-8-1 NMSA, the permittee shall allow the State Engineer and his representatives entry upon private property for the performance of their respective duties, including access to the well for meter reading and water level measurement.

06L The permit is subject to cancellation for non-compliance with the conditions of approval or if otherwise not exercised in accordance with the terms of the permit.

06M The right to divert water under this permit is subject to curtailment by priority administration as implemented by the State Engineer or a court.

06N In the event of any change of ownership to this permit the new owner shall file a change of ownership form with the State Engineer in accordance with Section 72-1-2.1 NMSA.

06O This well permit shall automatically expire unless the well is completed and the well record is filed with the State Engineer within one year of the date of issuance of the permit. It is the responsibility of the permit holder to ensure that the well record has been properly filed with the State Engineer.

2012 AUG -3 PM 5:01
STATE ENGINEER OFFICE
AZTEC, NEW MEXICO

NEW MEXICO OFFICE OF THE STATE ENGINEER
APPLICATION FOR PERMIT TO USE UNDERGROUND WATERS
IN ACCORDANCE WITH SECTIONS 72-12-1.1, 72-12-1.2, or 72-12-1.3 NEW MEXICO STATUTES
CONDITIONS OF APPROVAL
(Domestic One Household)

FILE NUMBER: **SJ-4020**
PERMITTEE: **James A. Shinn**

1. If applicable, the well being replaced shall be plugged upon completion of the replacement well. A plugging report shall be filed with the State Engineer within 20 days of the well being plugged. (Condition 06-6b)

2. The total diversion from all wells under this permit shall not exceed **1.0** acre-foot per annum. (Condition 06-10)

3. This permit authorizes the diversion of water for domestic use to serve a single household. The total diversion of water under this permit shall not exceed **1.0** acre-foot per year. The diversion of water for domestic use may include the watering of non-commercial trees, lawn and garden not to exceed one acre. (Condition 06-11)

4. Any diversion of water made in excess of the authorized maximum diversion amount in any calendar year shall be repaid with twice the amount of the over-diversion during the following calendar year. Repayment shall be made by either: (a) reducing the diversion during the following calendar year from the well that is the source of the over-diversion; or (b) acquiring or leasing a valid, existing consumptive use water right in an amount equal to the repayment amount and submitting to the state engineer for his approval a plan for the proposed repayment during the following calendar year. The plan for the proposed repayment shall be on a form prescribed by the state engineer. (Condition 06-18)

5. **Well Record shall be due on or before August 3, 2013.**

Witness my hand and seal this 3rd day of August, A.D., 2012.

Scott A. Verhines, P.E.
New Mexico State Engineer

By: S Lindsay
Savannah Lindsay
Water Rights Division
District 5

STATE ENGINEER OFFICE
AZTEC, NEW MEXICO
2012 AUG -3 PM 5: 02

Trn Desc.: _____ File Number: SJ-4020
Log Due Date: August 3, 2013 Trn Number: _____

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER
AZTEC

Scott A. Verhines, P.E.
State Engineer

100 Gossett Drive, Suite A
Aztec, New Mexico 87410
(505) 334-4571

August 15, 2012

James A. Shinn
1207 La Paz
Andrews, TX 79714

Permit File No. SJ-4020

Dear Mr. Shinn:

Your application for an after the fact Permit to Use Underground Waters in Accordance with Section 72-12-1 New Mexico Statutes submitted has been approved. Enclosed you will find an original of the permit for your records, along with a receipt for the $125 filing fee. The number of your Permit to Appropriate Underground Waters is **SJ-4020.**

Our office must receive a driller's Well Record for your water well permit by the expiration date of August 3, 2013. If the Well Record is not submitted to this office by the expiration date, you will need to reapply for a new permit. This form was sent to you via electronic mail with further instructions. Please include your permit file number, **SJ-4020**, in all communications.

If you have any questions, feel free to contact me.

Sincerely,

Savannah Lindsay
Water Rights Division

Enclosure

cc: Aztec File
WATERS
Aztec Reading

OFFICE OF THE STATE ENGINEER/INTERSTATE STREAM COMMISSION – AZTEC OFFICE

OFFICIAL RECEIPT NUMBER: 5-4635 DATE: _____ FILE NO.: _____

TOTAL: _____ RECEIVED: _____ DOLLARS CHECK NO.: _____ CASH: _____

PAYOR: _____ ADDRESS: _____ CITY: _____ STATE: _____

ZIP: _____ RECEIVED BY: _____

INSTRUCTIONS: Indicate the number of actions to the left of the appropriate type of filing. Complete the receipt information. **Original** to payor; **pink** copy to Program Support/ASD; **yellow** copy remains in district office, and **goldenrod** copy to accompany application being filed. If you make an error, void original and all copies and submit to Program Support/ASD along with other valid receipts.

A. Ground Water Rights Filing Fees

___ 1.	Declaration of Water Right	$ 1.00
___ 2.	Application to Appropriate or Supplement Domestic 72-12-1 Well	$125.00
___ 3.	Application for Stock Well	$ 5.00
___ 4.	Application to Repair or Deepen 72-12-1 Well	$ 75.00
___ 5.	Application for Replacement 72-12-1 Well	$ 75.00
___ 6.	Application to Change Purpose of Use 72-12-1 Well	$ 75.00
___ 7.	Application to Appropriate Irrig., Mun., or Comm. Use	$ 25.00
___ 8.	Application for Supplemental Non 72-12-1 Well	$ 25.00
___ 9.	Application to Change Point of Diversion of Non 72-12-1 Well	$ 25.00
___10.	Application to Change Place or Purpose of Use Non 72-12-1 Well	$ 25.00
___11.	Application to Change Point of Diversion and Place and/or Purpose of Use	$ 50.00
___12.	Application for Extension of Time	$ 25.00
___13.	Proof of Application to Beneficial Use	$ 25.00
___14.	Application to Change Point of Diversion and Place and/or Purpose of Use from Surface Water to Ground Water	$ 50.00
___15.	Application to Change Point of Diversion and Place and/or Purpose of Use from Ground Water to Ground Water	$ 50.00
___16.	Application for Test, Expl. Observ. Well	$ 5.00
___17.	Change of Ownership of Water Right	$ 2.00
___18.	Application to Repair or Deepen Non 72-12-1 Well	$ 5.00
___19.	Application for Replacement Well Non 72-12-1 Well	$ 5.00

B. Surface Water Rights Filing Fees

___ 1.	Declaration of Water Right	$ 10.00
___ 2.	Amended Declaration	$ 25.00
___ 3.	Declaration of Livestock Water Impoundment	$ 10.00
___ 4.	Application for Livestock Water Impoundment	$ 10.00
___ 5.	Application to Appropriate	$ 25.00
___ 6.	Notice of Intent to Appropriate	$ 25.00
___ 7.	Application to Change Point of Diversion	$100.00
___ 8.	Application to Change Place and/or Purpose of Use	$100.00
___ 9.	Application to Change Point of Diversion and Place and/or Purpose of Use	$200.00
___10.	Application to Change Point of Diversion and Place and/or Purpose of Use from Ground Water to Surface Water	$200.00
___11.	Application for Extension of Time	$ 50.00
___12.	Supplemental Well to a Surface Right	$100.00
___13.	Return Flow Credit	$100.00
___14.	Proof of Completion of Works	$ 25.00
___15.	Proof of Application of Water to Beneficial Use	$ 25.00
___16.	Water Development Plan	$100.00
___17.	Change of Ownership of Water Right	$ 5.00

C. Miscellaneous Fees

___ 1.	Application for Well Driller's License	$50.00
___ 2.	Application for Renewal of Well Driller's License	$50.00
___ 3.	Application to Amend Well Driller's License	$50.00

D. Reproduction of Documents

_____ @ 0.20¢/copy $_____

_____ Map(s) $_____

E. Certification $_____

F. Other $_____

G. Comments:

_____

_____

_____

_____

_____

WATERCHECK / NATIONAL TESTING LABORATORIES INC.

Dear Customer:

Enclosed is your Watercheck report and suggestions as to what you can do to correct any problems which may have been found. On your report the Date Analyzed is the date when all tests were completed. Coliform bacteria and many of the other tests were started on the Date Received.

Your results are presented in four columns, as follows:

1) Analysis performed: shows the material analyzed.

2) Maximum Contaminant Level (MCL): acceptable levels as recommended by the U.S. Environmental protection Agency or by one of the agencies listed in the footnotes.

3) Detection Levels: the level at which our instruments and procedures are able to produce results within normally acceptable limits of accuracy. However, we are constantly striving to reduce our detection limits in order to provide our customers with the most meaningful analysis possible. Therefore, when we find a contaminant present in concentrations below our detection level we will report it for "information purposes" only. (see 4c below)

4) Level Detected: what we found in your water expressed in "parts per million". This is also sometimes written as "milligrams per liter" or "ppm" or "mg/l".

   a) "nd" indicates that analytical procedures did not find this material in your water.

   b) "*" indicates that the level detected exceeded the recommended safe level or MCL.

   c) When we are able to identify the presence of a contaminant below our detection level we report these findings. However, it must be understood that the level reported is too low to have been measured within our normal limits of accuracy.

We have analyzed your water for two types of contamination... 1) unhealthy chemicals and bacteria and 2) unpleasant but not unhealthy compounds.

6151 Wilson Mills Rd. • Cleveland, Ohio 44143 • (216) 449-2525 • Fax (216) 449-8585

The sample contained some elements which may be troublesome to your family's lifestyle. The water is hard and contains manganese at a level which may be staining laundry and causing objectionable mineral build-up on your tubs and showers. Hard water shortens the life of your water heaters and probably causes you to use more soaps, shampoos and cleaning products than you would use with soft water. A water softener with sufficient capacity will cure these problems and is readily available from a reputable water conditioning dealer in your area.

The level of total dissolved solids and sulfates may be lending an unpleasant taste or odor to your drinking water. If this is the case you can obtain clean, good tasting water for drinking, cooking and ice making through the use of a "third faucet" drinking water reverse osmosis filter or a distillation device.

Your water is turbid which may be contributing an unpleasant taste and odor to your drinking water. Filtration devices or filtration plus oxidation using ozone or chlorine as the oxidation agent should cure the problem.

Now only you can determine when the next checkup should be made, but remember that ground water is always moving...like a very slow river, and as it moves it dissolves or absorbs metals and chemicals from the soil through which it passes.

Stay alert to the possibility of change caused by leaking buried chemical and gasoline storage tanks, fertilizers and pesticides if you live in a farming community, brine intrusion from oil and gas drilling, and even a drop in pH (acidity) caused by acid rain.

If you live near a landfill it is probably a good idea to have an analysis run every year or two to insure that no toxic substances are being leached out of the fill by rainfall and have found their way into your well.

Best of all, do what you can to remain informed about the water you may be drinking, and if you have any doubts at all as to its quality have it analyzed again...hopefully by National Testing Laboratories. In addition we stand ready to answer whatever questions you may have...if we know the answers. We will do what we can to help.

Sincerely,

F. Jerome Tone

F. Jerome Tone
President

FJT/sh

6151 Wilson Mills Rd. • Cleveland, Ohio 44143 • (216) 449-2525 • Fax (216) 449-8585

DATE COLLECTED	DATE RECEIVED	DATE COMPLETED	SAMPLE CODE
09/16/91	09/20/91	09/30/91	9330677

WATERCHECK / NATIONAL TESTING LABORATORIES INC.
6151 Wilson Mills Road
Cleveland, OH 44143
(216) 449-2525

CUSTOMER ADDRESS

JAMES A. SHINA
198 ROAD 2772
AZTEC, NM 87410-

DEALER ADDRESS

CULLIGAN OF FARMINGTON
209 W. BROADWAY
FARMINGTON, NM 87401-

DRINKING WATER ANALYSIS RESULTS

NOTE: "*" indicates that the MCL (Maximum Contaminant Level) has been exceeded, or in the case of pH is either too high OR too low.
"ND" indicates that none of this contaminant has been detected at or above our detection level.
"**" Result may be invalid due to lack of "Time Collected" or because the sample has exceeded the 30-hour time frame.
"BD" Bacteria destroyed due to lack of collection information or because the sample has exceeded the 48-hour time frame.
TNTC-Too Numerous To Count NBS-No Bacteria Submitted

Analysis performed	MCL (mg/l)	Detection Level	Level Detected
Microbiological:			
Total coliform (organism/100ml)	0	0.0	BD
Inorganic chemicals - metals:			
Arsenic	0.05	0.002	ND
Barium	1.0	0.30	ND
Cadmium	0.01	0.002	ND
Chromium	0.05	0.004	ND
Copper	1.0	0.004	ND
→ Iron	0.3	0.020	0.081
Lead	0.05	0.002	ND
! → Manganese	0.05	0.004	0.59*
Mercury	0.002	0.0002	ND
Nickel	0.15	0.02	ND
Selenium	0.01	0.002	ND
Silver	0.05	0.002	ND
! → Sodium	---	1.0	233
→ Zinc	5.0	0.004	0.25
Inorganic chemicals - other, and physical factors:			
→ Alkalinity (Total as CaCO3)	---	10.0	165
Chloride	250	10.0	ND
Fluoride	4.0	0.50	0.6
Nitrate as N	10	0.5	ND
Nitrite as N	---	0.5	ND
→ Sulfate	250	10.0	1745*
→ Hardness (suggested limit = 100)		10.0	1400*
pH (Standard Units)	6.5-8.5	---	7.7
Total Dissolved Solids	500	20.0	3477*
Turbidity (Turbidity Units)	1.0	0.1	1.4*
Organic chemicals - trihalomethanes:			
Bromoform	---	0.004	ND
Bromodichloromethane	---	0.002	ND
Chloroform	---	0.002	ND
Dibromochloromethane	---	0.004	ND
Total THMs (sum of four above)	0.1	0.002	ND
Organic chemicals - volatiles:			
Benzene	0.005	0.001	ND
Vinyl Chloride	0.002	0.001	ND
Carbon Tetrachloride	0.005	0.001	ND
1,2-Dichloroethane	0.005	0.001	ND

Analysis performed	MCL (mg/l)	Detection Level	Level Detected
Trichloroethylene	0.005	0.001	ND
1,4-Dichlorobenzene	0.075	0.001	ND
1,1-Dichloroethylene	0.007	0.001	ND
1,1,1,-Trichloroethane	0.20	0.001	ND
Bromobenzene	---	0.002	ND
Bromomethane	---	0.002	ND
Chlorobenzene	---	0.001	ND
Chloroethane	---	0.002	ND
Chloroethylvinyl ether	---	0.002	ND
Chloromethane	---	0.002	ND
2-Chlorotoluene	---	0.001	ND
4-Chlorotoluene	---	0.001	ND
Dibromochloropropane (DBCP)	---	0.001	ND
Dibromomethane	---	0.002	ND
1,2-Dichlorobenzene	---	0.001	ND
1,3-Dichlorobenzene	---	0.001	ND
Dichlorodifluoromethane	---	0.002	ND
1,1-Dichloroethane	---	0.002	ND
Trans-1,2-Dichloroethylene	---	0.002	ND
cis-1,2-Dichloroethylene	---	0.002	ND
Dichloromethane	---	0.002	ND
1,2-Dichloropropane	---	0.002	ND
trans-1,3-Dichloropropene	---	0.002	ND
cis-1,3-Dichloropropene	---	0.002	ND
2,2-Dichloropropane	---	0.002	ND
1,1-Dichloropropene	---	0.002	ND
1,3-Dichloropropane	---	0.002	ND
Ethylbenzene	---	0.001	ND
Ethylenedibromide (EDB)	---	0.001	ND
Styrene	---	0.001	ND
1,1,1,2-Tetrachloroethane	---	0.002	ND
1,1,2,2-Tetrachloroethane	---	0.002	ND
Tetrachloroethylene (PCE)	---	0.002	ND
Trichlorobenzene(s)	---	0.002	ND
1,1,2-Trichloroethane	---	0.002	ND
Trichlorofluoromethane	---	0.002	ND
1,2,3-Trichloropropane	---	0.002	ND
Toluene	---	0.001	ND
Xylene	---	0.001	ND
Organic chemicals - pesticides, herbicides & PCBs			
Alachlor	---	0.005	ND
Atrazine	---	0.050	ND
Chlordane	0.02	0.01	ND
Aldrin	---	0.005	ND
Dichloran	---	0.005	ND
Dieldren	---	0.002	ND
Endrin	0.0002	0.0002	ND
Heptachlor	0.01	0.002	ND
Heptachlor Epoxide	---	0.002	ND
Hexachlorobenzene	0.02	0.005	ND
Hexachloropentadiene	---	0.005	ND
Lindane	0.004	0.004	ND
Methoxychlor	0.1	0.05	ND
PCBs	0.008	0.004	ND
Pentachloronitrobenzene	---	0.005	ND
Silvex 2,4,5-TP	0.01	0.005	ND
Simazine	---	0.050	ND
Toxaphene	0.005	0.005	ND
Trifluralin	---	0.005	ND
2,4-D	0.1	0.010	ND

I certify that the analyses performed for this report are accurate, and that the laboratory tests were conducted by methods approved by the U.S. Environmental Protection Agency or variations of these EPA methods. These test results are intended to be used for informational purposes only and may not be used for regulatory compliance.

PRESIDENT, NATIONAL TESTING LABORATORIES, INC.

REV. 2-91

4A = 30-045-22523
8 = 30-045-20886

5056

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

Operator MERIDIAN OIL Location: Unit J Sec. 2 Twp 30 Rng 10

Name of Well/Wells or Pipeline Serviced ATLANTIC D COM C #4A

ATLANTIC D COM G #8 cps 1313w

Elevation 6516' Completion Date 11/2/88 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. 220'

Depths gas encountered: N/A

Type & amount of coke breeze used: N/A

Depths anodes placed: 410', 395', 385', 356', 344', 3[illegible], 2[illegible], 280', 270'

Depths vent pipes placed: 438'

Vent pipe perforations: 240'

Remarks: gb #2

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

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

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

FM-07-0238 (Rev 10-82)

Redrill

WELL CASING

CATHODIC PROTECTION CONSTRUCTION REPORT

DAILY LOG

Drilling Log (Attach Hereto) ☐

Completion Date 11/2/88

CP#	Well Name, Line or Plant:	Work Order #	State:	Ins. Union Check
1313W	ATLANTIC D COM C-4A	48992A		☐ Good ☐ Bad

Location:	Anode Size:	Anode Type:	Size Bit:
J-2-30-10	2"x60"	Durion	6 3/4"

Depth Drilled	Depth Logged	Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
460'	448'				

Anode Depth	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
	410	395	385	356	350	344	336	328	280	270
Anode Output (Amps)	2.6	2.3	2.8	3.2	3.9	3.8	3.6	3.1	3.9	3.2
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 12.4	Amps 14.8	Ohms .84		

Remarks: WATER AT 220', DID NOT GET WATER SAMPLE, HAD TO START MUD AT 180'. INSTALLED 438' of 1" vent pipe, (PVC) PERFORATED 240'.

1026867

555-E041-001-00-7

G.B 4170.00

Rectifier Size: — V — A

Addn'l Depth 0

Depth Credit: -52 -182.00

Extra Cable: 10' ~~2.50~~ -2.40

Ditch & 1 Cable: 70' ~~52.50~~ 49.00

~~Ditch & 2 Cable~~:

25' Meter Pole: 0

20' Meter Pole: 0

10' Stub Pole: 0

Junction Box: 1 249.00

~~4292.00~~ 4288.40

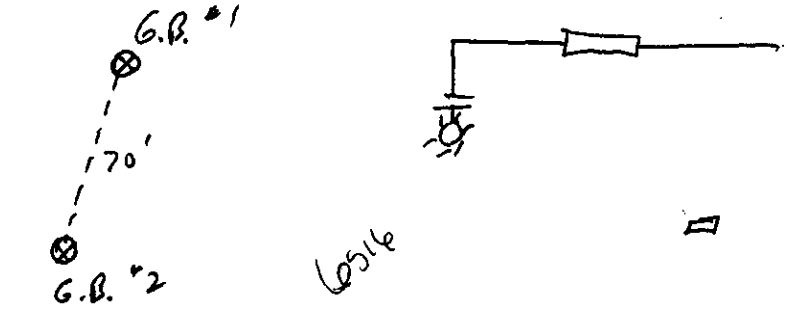
TAX 214.60 214.42

TOTAL 4506.60 4502.820KGS

All Construction Completed

J E Mabb

(Signature)



D. Crass DRILLING CO.

Drill No. 3

DRILLER'S WELL LOG

S. P. No. Atlantic Com C #4A Date 11-2-88

Client Meridian Oil Co. Prospect

County San Juan State New Mex.

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

FROM	TO	FORMATION — COLOR — HARDNESS
0	260	Sandstone
260	305	Shale
305	325	Sandstone
325	360	Shale
360	380	Sandstone
380	420	Shale
420	460	Sandstone

Mud Bran Lime

Rock Bit Number Make

Remarks: Water @ 220'

Driller Connie Brown

Form 7.1 (Rev. 9.77)

El Paso Natural Gas Company
ENGINEERING CALCULATION

Sheet ___ of ___
Date:
By:
File:

Atlantic D Com C #4-A SE 2-30-10 1313W 57220-21
CONTRACT #2

STATIC 600 W = 0.85
2" x 2" x 48" GRAPHITE ANODES

DRILLER SAID MAKING WATER @ 200'. DRILLED TO 220'. NEXT A.M. BLEW WATER. MAKING MORE WATER @ 260'. 5 GALS PER MIN. PERFORATED 220' OF 1" PVC VENT PIPE. INSTALLED 420' OF 1" PVC VENT PIPE SLURRYED SACKS OF COKE.

200	.4		80	.6	
	.4			.6	
10	.4		90	1.2	②
	.7			1.2	
20	.4		400	.9	①
	.3			.6	
30	.4		10	1.1	
	.4			.8	
40	.3		20		TD & DRILLED
	.4				
50	.4				
	.5				
60	.7				
	.7				
70	1.1				
	1.1	⑩			
80	1.6				
	1.5	⑨			
90	1.5				
	1.3	⑧			
300	1.3				
	1.1	⑦			
10	.4				
	.2				
20	.2				
	.9				
30	1.6	⑥			
	1.5				
40	1.4	⑤			
	1.5				
50	1.4	④			
	1.3				
60	.9	③			
	.7				
70	.6				
	.4				

40 V 16 A Rectifier
Stub Pole
Hole Depth = -86
Ditch/Cable = 232'
Extra Cable = 178'

①	400	1.2	2.7
②	390	1.4	2.8
③	360	1.2	2.1
④	350	1.6	2.8
⑤	340	1.5	2.6
⑥	330	1.8	3.0
⑦	305	1.4	2.4
⑧	295	1.4	3.0
⑨	285	1.9	3.5
⑩	275	1.2	2.8

VOLTS 12.0
AMPS 12.5
OHMS 0.96

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

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

Analysis No. 1-9412 Date 12-12-78

Operator _____ Well Name ATLANTIC D COM C #4A 1313W

Location S# 2-30-10 County _____ State _____

Field _____ Formation _____

Sampled From 1313 W

Date Sampled _____ By _____

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

	ppm	epm		ppm	epm
Sodium	129	6	Chloride	20	.6
Calcium	420	21	Bicarbonate	288	5
Magnesium	65	5	Sulfate	1250	26
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

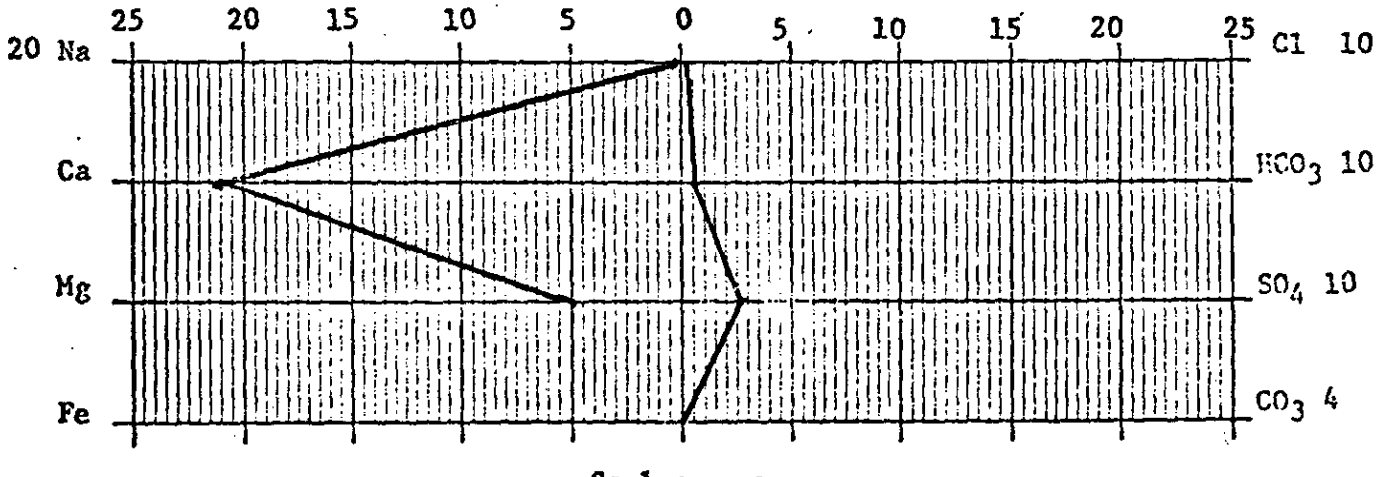
Total Solids Dissolved 2474

pH 7.3

Sp. Gr. 1.0033 at _____ 60°F

Resistivity 420 ohm-cm at 75 °F

Barnett Ellsbury
Chemist



Scale: epm

30-045 09919

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. 2 Twp 30 Rng 10

Name of Well/Wells or Pipeline Serviced ATLANTIC D COM C #4

cps 366w

Elevation 6489' Completion Date 11/5/76 Total Depth 337' 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. 110' - 130'

Depths gas encountered: N/A

Type & amount of coke breeze used: 5200 lbs.

Depths anodes placed: 320', 310', 290', 280', 245'

Depths vent pipes placed: N/A

Vent pipe perforations: 225'

Remarks: gb #2

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. 1-69)

WELL CASING
CATHODIC PROTECTION CONSTRUCTION REPORT
DAILY LOG

Drilling Log (Attach Hereto). ☐

Logged

Completion Date 11-5-76

Well Name	Location	CPS No.
ATLANTIC "D" COM #4 #1	NE 2-30-10	366W
Type & Size Bit Used: 6 3/4		Work Order No. 52472 ~~52432~~

Anode Hole Depth	Total Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
Log 337		52 SACKS		

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Anode Depth	320	310	290	280	245					
Anode Output (Amps)	3.0	3.0	2.5	2.7	3.5					

	#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 11.8	Amps 10.5	Ohms 1.12		

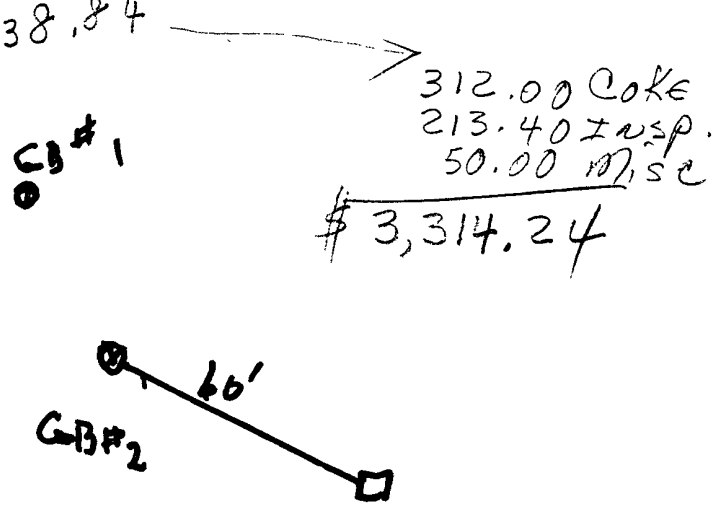
Remarks: DRILLER SAID WATER @ ~~105'~~ 110'-130'
VENT PERF 225'
52 SACKS SLURRY

$2,648.00
-39.00 Depth Credit
24.50 Surf. Cable
2,633.50
105.34
2,738.84

All Construction Completed

C. Williams
(Signature)

GROUND BED LAYOUT SKETCH



Original & 1 Copy All Reports

Form 7-1 (Rev 8-75)

El Paso Natural Gas Company
ENGINEERING CALCULATION

Sheet: ____ of ____
Date:
By: 11-5-76
File:

ATLANTIC "D" COM #4 ~~#1~~ NE 2-30-10 366W
52472 ~~[illegible]~~

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

100			2.0			
		230	2.0			
10						
20				337 T.D.		
30						
40						
50						
60						
70						
80						
90						
200	.3					
	.4					
10	.4					
	.2					
20	.4					
	.4					
30	.5					
	.5					
40	.8					
	1.4 –					
50	1.3			1. 320	2.5	30
	1.3			2. 310	2.3	30
60	1.3			3. 290	1.8	25
	.8			4. 280	1.7	27
70	.6			5. 245	1.7	35
	1.0					
80	1.4 –					
	1.4					
90	1.4 –					
	1.0					
300	.4					
	1.0 –					
10	1.1 –					
	2.0					
20	2.0 –					

VENT PERF 225'
10.5 A
11.8 V
1.12

Form 22-2 (Rev. 1-61)

EL PASO NATURAL GAS COMPANY

DRILLING DEPARTMENT

DAILY DRILLING REPORT

LEASE WELL NO. 366W CONTRACTOR RIG NO. REPORT NO. DATE 11-5-76 19

MORNING		DAYLIGHT		EVENING	
Driller	Total Men In Crew	Driller Posey	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.

MORNING		DAYLIGHT		EVENING	
	NO. DC SIZE LENG.		NO. DC SIZE LENG.		NO. DC SIZE LENG.
BIT NO.	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	7	Surface	290	320	Shale			
7	105	Sand Dry	320	340	Sandy ~~Shale~~ Shale			
105	110	Shale						
110	130	Sand wet						
130	137	Shale						
137	170	Sand wet						

REMARKS –

170-178	Shale
178-183	Sand wet
183-186	Shale
186-205	Sand wet
205-215	Shale
215-245	Sand wet
245-270	Shale
270-290	Sand wet

REMARKS –

REMARKS – First Water at 110' & 120

SIGNED: Toolpusher ______ Company Supervisor ______

1= 30-045-10075
13= 30-045-21269
201= 30-045-26965

3513

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

Operator MERIDIAN OIL INC. Location: Unit L Sec. 35 Twp 31 Rng 10

Name of Well/Wells or Pipeline Serviced ATLANTIC C #1, #13, #201

cps 2082w

Elevation 6390' Completion Date 1/23/89 Total Depth 300' 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' NO SAMPLE

Depths gas encountered: N/A

Type & amount of coke breeze used: N/A

Depths anodes placed: 285', 277', 269', 261', 250', 230', 165', 155'

Depths vent pipes placed: N/A

Vent pipe perforations: N/A

Remarks: gb #4

RECEIVED
MAY 31 1991
OIL CON. DIV

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

comp 1-27-89

Drilling Log (Attach Hereto) ☒ #1 #13

Completion Date 1-23-89

CPS #	Well Name, Line or Plant:	Work Order #	Static:	Ins. Union Check
2082W	Atlantic C 201	3188A	.78 NW	☑ Good ☐ Bad

Location:	Anode Size:	Anode Type:	Size Bit:
L 35-31-10	2" x 60"	Duriron	6 3/4"

Depth Drilled	Depth Logged	Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
300'	300'	Long time			

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Anode Depth	180	170	285'	277'	269'	261'	250'	230'	165'	155
Anode Output (Amps)	5.2	4.6	4.5	4.8	4.8	3.4	4.1	2.8	3.9	4.7

	#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 12.2	Amps 19.2	Ohms .635			

Remarks: Driller said water was at 140', no water sample was taken. Drilled to 380' on first hole and only logged to 240'. loaded #1 & 2 anodes with 140' of perforated vent pipe. Moved over 25' and drilled second hole with mud to 300', logged to 300'

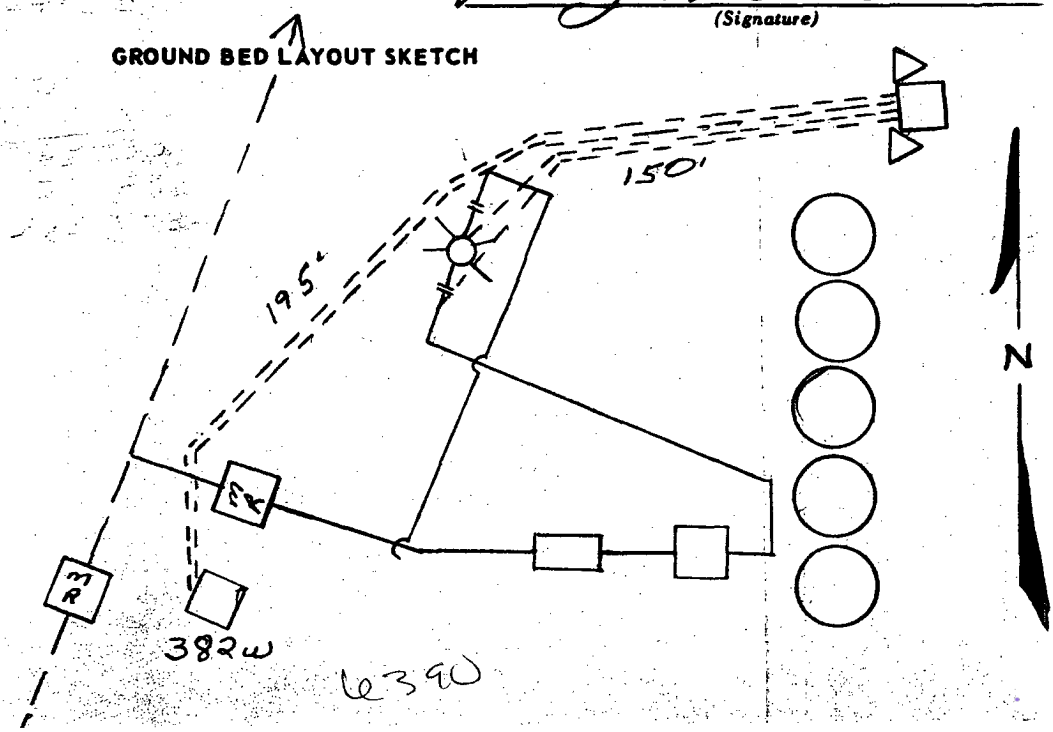
Rectifier Size: 40 V 16 A
Addn'l Depth
Depth Credit: 200 . 3.50
Extra Cable: 340' 24
Ditch & 1 Cable: 345' 70
25' Meter Pole:
20' Meter Pole:
10' Stub Pole: 158.50
Junction Box: 225.00

4074.00
669.00
-700.00 ✓
81.60 ✓
241.50 ✓
158.50 ✓
225.00 ✓
4749.60 ✓
237.48 ✓
4987.08

All Construction Completed

Randy Smith
(Signature)

GROUND BED LAYOUT SKETCH



_____ DRILLING CO.

Drill No. 10

DRILLER'S WELL LOG

Atlantic C Date 1-24-89

S. P. No. 201

Client _____ Prospect _____

County Eddy State _____

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

FROM	TO	FORMATION — COLOR — HARDNESS
0	40	Sand Gravel
40	60	Sandy Clay
60	190	Shale
190	200	Sandy
200	300	Shale

Mud _____ Bran _____ Lime _____

Rock Bit Number _____ Make _____

Remarks: Water 140' to 180'

Driller _____

_____ DRILLING CO.

Drill No. 10

DRILLER'S WELL LOG

Atlantic C (A) Date 1-23-89

S. P. No. 201

Client _____ Prospect _____

County Eddy State _____

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

FROM	TO	FORMATION — COLOR — HARDNESS
0	40	Sand & Gravel
40	40	Sandy Clay
40	60	Sandy
60	80	Shale
80	160	Sandy
160	210	Rebely
210	260	Sandy
260	280	Shale
200	300	Sand

Mud _____ Bran _____ Lime _____

Rock Bit Number _____ Make _____

Remarks: Water 160'

Driller _____

968

30-045- 22977

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

Operator MERIDIAN OIL Location: Unit SE Sec. 34 Twp 31 Rng 10

Name of Well/Wells or Pipeline Serviced ATLANTIC B #9A

cps 1449w

Elevation 6278' Completion Date 7/9/79 Total Depth 370' 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' SAMPLE TAKEN

Depths gas encountered: N/A

Type & amount of coke breeze used: 48 SACKS

Depths anodes placed: 340', 330', 320', 310', 295', 280', 240', 230', 220', 210'

Depths vent pipes placed: 370'

Vent pipe perforations: 260'

Remarks: gb #1

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OIL CON. DIV.
DIST. 3

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

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

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

WELL CASING
CATHODIC PROTECTION CONSTRUCTION REPORT
DAILY LOG

Drilling Log (Attach Hereto). ☐ Contract #2 Completion Date 7-9-79

Well Name	Location	CPS No.
Atlantic B #9-A	SE 34-31-10	1449w

Type & Size Bit Used	Work Order No.
6 3/4 10-2"X60" DuRiRon	57327-21

Anode Hole Depth	Total Drilling Rig Time	~~Petrolite~~ Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
370'		48 SACKS	0	0

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Anode Depth	340	330	320	310	295	280	240	230	220	210
Anode Output (Amps)	3.0	3.3	4.2	3.4	1.7	2.0	1.9	2.6	2.6	3.3
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

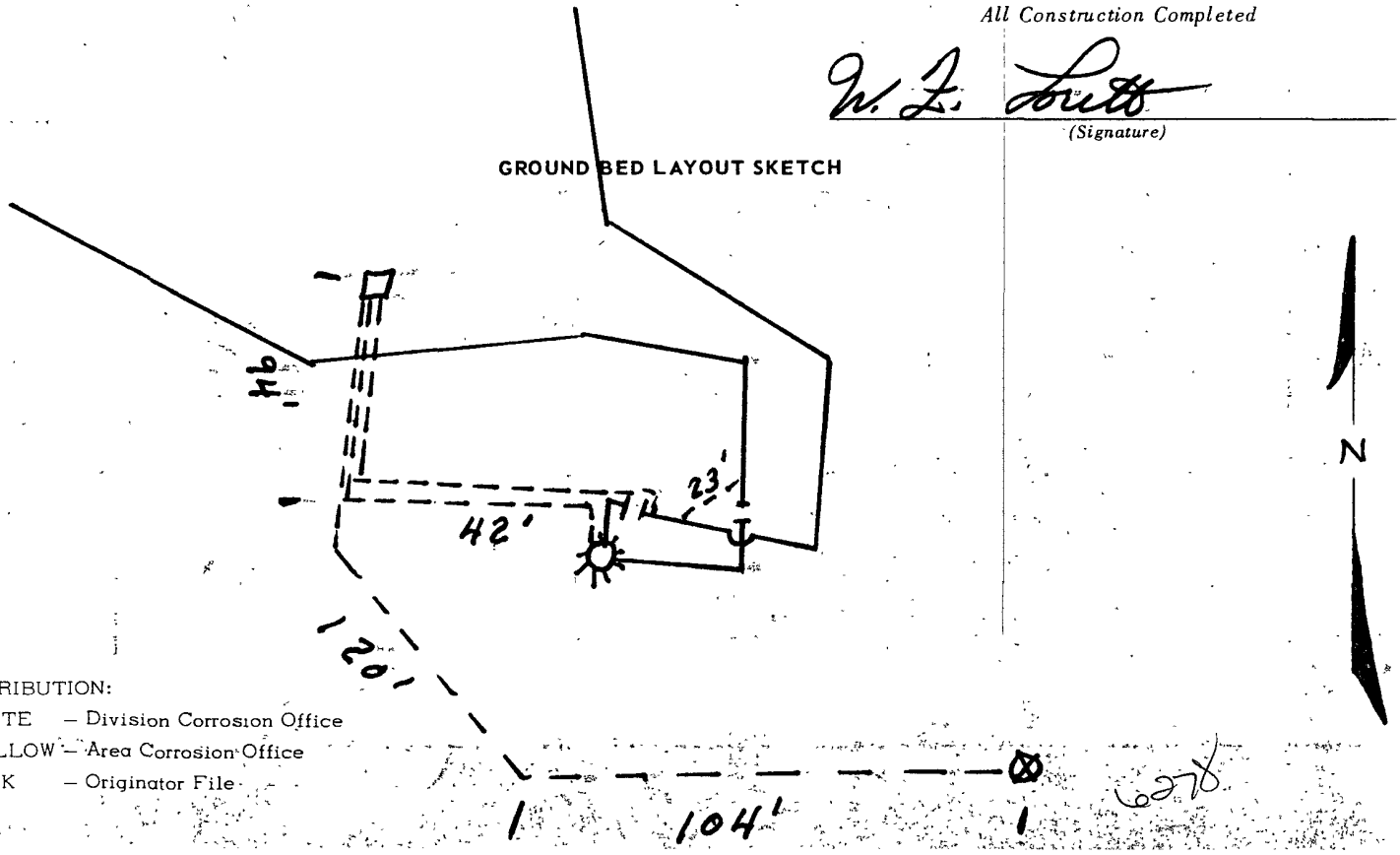
Total Circuit Resistance			No. 8 C.P. Cable Used	No. 2 C.P. Cable Used
Volts 12.0	Amps 13.3	Ohms 0.90		

Remarks: Static 600'NW=0.82. Driller said water @140'. 4 GALS PER MIN. Installed 370' of 1" PVC Vent Pipe. Perforated 260' of 1" PVC vent Pip slurryed 48 SACKS of coke.
40-16 Rectifier. EXTRA CABLE=250'
Stub Pole Ditch & 1 CABLE=383'
Hole Credit = -130'

All Construction Completed

W. L. Lutts
(Signature)

GROUND BED LAYOUT SKETCH



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

EL PASO NATURAL GAS COMPANY

DRILLING DEPARTMENT

DAILY DRILLING REPORT

LEASE 1HH9 W WELL NO. Contract # 2 CONTRACTOR O'Brient RIG NO. 1 REPORT NO. DATE 7-9-79 19

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	35	Sand
35	41	Shale
41	170	Sand water
170	178	Shale
178	210	Sand - Bentonite
210	235	Shale Sandy

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
235	275	Sand
275	370	Shale w/small sand streaks

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 –

6¾ – 370 ft
Logged 370
Water overnite @ 170
estimate 4 gpm water
Jerry Langley

SIGNED: Toolpusher O'Brient Company Supervisor

El Paso Natural Gas Company
ENGINEERING CALCULATION

Sheet: ___ of ___
Date: ___
By: ___
File: ___

Atlantic B #9-A 1449W SE 34-31-10 57327-21
Contract #2

STATIC 600' NW = 0.82
40V 16A Rectifier
Stub Pole
10 - 2" x 60" Durion
Hole Credit = -130

DRILLER SAID water @ 140' 4 GALS PER MIN

Installed 370' of 1" PVC vent Pipe
Perforated 266 of 1" PVC vent Pipe
Slurried SACKS of coke

Extra Cable = 250'
Ditch'd Cable = 383'

7-9-79 11 HRS

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

140	.7	(5)	90	1.1			
	.7			1.2			
50	1.4		300	1.2			
	1.2			.9			
60	.7	(4)	10	1.1			
	.6			2.3			
70	.6	(3)	20	2.5			
	.9			2.4			
80	.8	(2)	30	2.1			
	.6			1.8			
90	1.3	(1)	40	1.7			
	2.2			1.7			
200	2.4		50	1.4			
	2.3			1.3			
(10)	10 2.1		60	.7			
	1.7			.7			
(9)	20 1.7		70	.7	Logged & Drilled		
	1.7						
(8)	30 1.5						
	1.4						
(7)	40 1.3						
	1.1						
50	.9						
	.7						
60	.7						
	.7						
70	.7						
	.8						
(6) (2)	80 1.4						
	1.4						

(1)	340	2.1	3.0
(2)	330	2.3	3.3
(3)	320	3.5	4.2
(4)	310	2.8	3.4
(5)	295	1.4	1.7
(6)	280	1.7	2.0
(7)	240	1.5	1.9
(8)	230	1.8	2.6
(9)	220	2.1	2.6
(10)	210	2.6	3.3

Volts 12.0
Amps 13.3
Ohms 0.90

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

Analysis No. 1-9622 Date 7-11-79

Operator EPNG Well Name ATLANTIC B #9A

Location SE 34-31-10 County SAN JUAN State NM

Field _____ Formation _____

Sampled From CPS 1449 W 140'

Date Sampled _____ By _____

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

	ppm	epm		ppm	epm
Sodium	161	7	Chloride	28	1
Calcium	616	31	Bicarbonate	161	3
Magnesium	47	4	Sulfate	1850	38
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
C. B. O'Nan

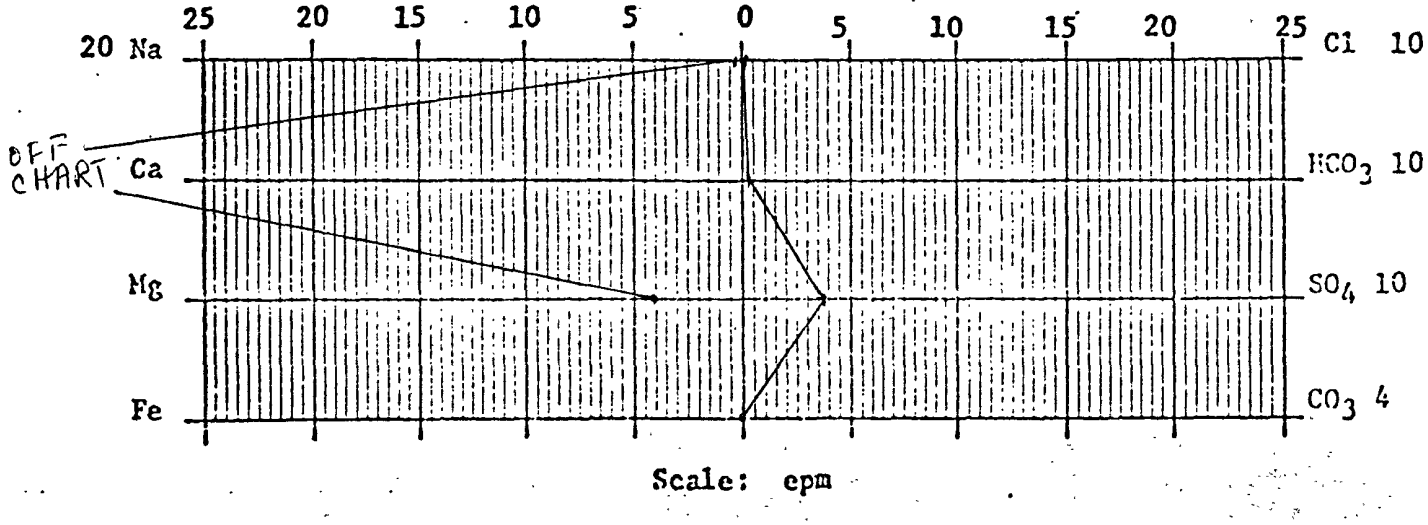
Total Solids Dissolved 3308

pH 8.4

Sp. Gr. 1.0039 at _____ 60°F

Resistivity 300 ohm-cm at 74 °F

Cheryl Tessmer
Chemist



9= 30-045-10072

26= 30-045-23044

220- 30-045-27148

4299

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. 34 Twp 31 Rng 10

Name of Well/Wells or Pipeline Serviced ATLANTIC B #9, #26,

ATLANTIC B COM #220 cps 372w

Elevation 6192' Completion Date 10/17/74 Total Depth 260' 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. N/A 40' FIRST HOLE

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MAY 31 1991
OIL CON. DIV.
DIST. 3

Depths gas encountered: N/A

Type & amount of coke breeze used: 4800 lbs.

Depths anodes placed: 245', 235', 220', 210', 200', 190', 180', 130', 120', 110'

Depths vent pipes placed: N/A

Vent pipe perforations: 210'

Remarks: gb #2: FIRST HOLE (240') HIT GAS POCKET. RIG BURNED DOWN.

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. 1-69)

WELL CASING
CATHODIC PROTECTION CONSTRUCTION REPORT
DAILY LOG

LOGGED

Drilling Log (Attach Hereto). ☐ Completion Date 10/17/64

Well Name	Location	CPS No.
ATLANTIC B #9	SW 34-31N-10W	372 W

Type & Size Bit Used	Work Order No.
6 3/4"	52395

Anode Hole Depth	Total Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
260'		4,800		

Anode Depth	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
	245	235	220	210	200	190	180	130	120	110
Anode Output (Amps)	2.0	1.9	1.8	2.4	3.0	4.2	2.7	2.1	5.0	3.0

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 12.0	Amps 12.8	Ohms 0.93	210'	

Remarks: Hole #1 Drilled with Air To 240' Hit Gas Pocket Rig Burned Down Driller said water @ 40' To 60' on Hole #1 Drilled Hole No. 2 With Mud. Vent Hose Perforated 210'

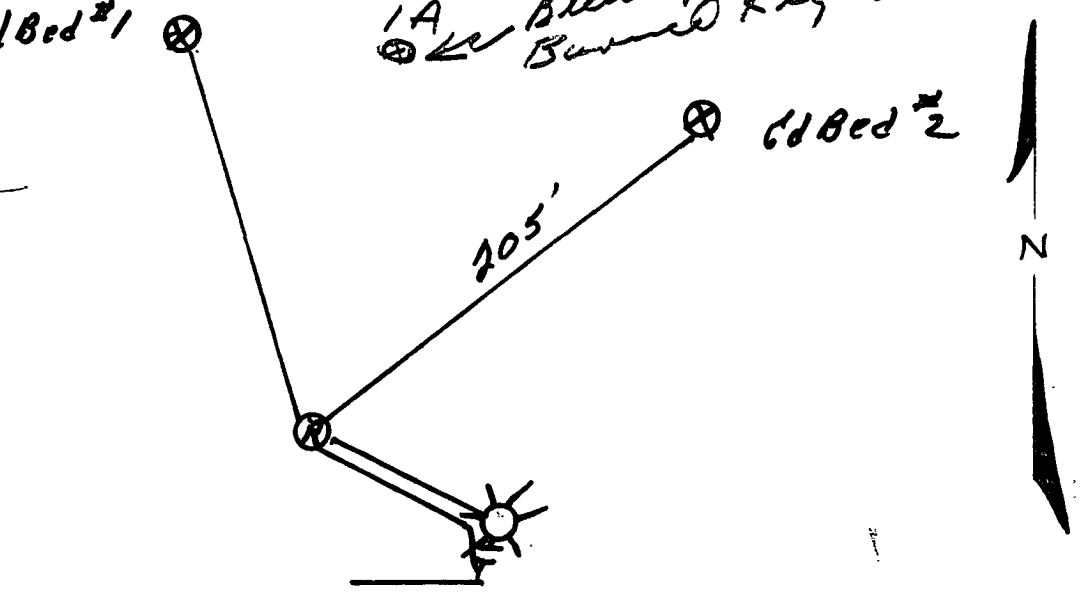
- One Bulk 1A Blew gas - Burned Rig up

All Construction Completed

Edward R. Pauldk
(Signature)

$3,409.00
84.00 Cable
$3,493.00
-480.00 Depth Credit
$3,013.00
120.52 TAX
$3,133.52

GROUND BED LAYOUT SKETCH



EL PASO NATURAL GAS COMPANY

ENGINEERING DEPARTMENT

Date:

By:

372 W   X = 4.0

50	2.2	30	.9	Driller said water
	2.2		1.3	on Hole #1 40' To
60	2.7	40	1.1	60' Hit gas Barut
	2.2		1.4	up rig
70	2.3	50	2.3	Drill Hole #2 with
	2.6		2.0	Mud
80	2.2	60	Bottom	Vent Hose Perforated 210'
	1.5			
90	1.0	70		
	1.6			
100	1.3			
	1.0			
10	1.8			
	1.9			
20	2.6			
	1.0			
30	1.4			
	.8			
40	.5			
	.8			
50	1.0			
	.9			
60	.9			
	.9			
70	.8			
	.6			
80	1.4			
	2.2			
90	2.3			
	2.0			
200	1.8			
	1.4			
10	1.5			
	1.0			
20	1.1			
	1.2			

		Water	Coke
1	245	1.4	2.0
2	235	1.3	1.9
3	220	1.2	1.8
4	210	1.7	2.4
5	200	2.0	3.0
6	190	2.7	4.2
7	180	1.7	2.7
8	130	1.7	2.1
9	120	3.1	5.0
10	110	2.0	3.0

12.0V   12.8A   0.93

STORM WATER WELL DRILLING INC.

DIAMOND CORE DRILLING
DIAMOND DRILLING EQUIPMENT
GROUTING
FOUNDATION TESTING
MINING
QUARRYING
SHAFT SINKING
WATER WELL DRILLING

CONTRACTORS
14991 W. 44TH AVENUE
GOLDEN, COLORADO 80401
PHONE (303) 278-9505

GENERAL OFFICE
14991 W. 44TH AVENUE
BAILEY OFFICE
CALL 1-838-4821

HOLE # 372W

Drill 655 C.P. Date 10-17-74

Owner CPA

Location
City Aztec State NW County

From	To	Formation	Color	Hardness
0	40	Sand.	Brn + White TAN	Soft
40	60	Shale.	Blue	Med,
60	80	Shale + Sand Stringers	Blue	Med
80	100	SAND + Clay,	Blue.	Med
100	120	SAND	White	Hard,
120	180	SAND + CLAY	Blue	Hard.
180	200	SHALE & SAND	Blue	Med
200	220	Sand.	White	Med. Hard
220	260	Shale.	Blue.	Med.

40 TO 60'
WATER

Total Hours 13 1/2
Equipment Down Time 4
Hours Drilling 9 1/2
Driller FRANCIS
Helper RAY
Helper ART

C.P.S. Time
S.W.W.D.I. Time
Total Footage

Approval of
C.P.S. Engineer

961 30-045-22975

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

Operator TENNECO Location: Unit NW Sec. 3 Twp 30 Rng 10

Name of Well/Wells or Pipeline Serviced ATLANTIC B #8A

cps 1448w

Elevation 6296' Completion Date 7/6/79 Total Depth 360' 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. 120' SAMPLE TAKEN

Depths gas encountered: N/A

Type & amount of coke breeze used: 44 SACKS

Depths anodes placed: 320', 310', 300', 290', 280', 270', 260', 250', 240', 230'

Depths vent pipes placed: 350'

Vent pipe perforations: 260'

Remarks: gb #1 NOT A MERIDIAN WELL.

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

#22

Drilling Log (Attach Hereto): ☐ CONTRACT II 2 2X60 ANODES Completion Date 7-6-79

Well Name	Location	CPS No.
ATLANTIC B II 8A	NW 3-30-10	1448W

Type & Size Bit Used	Work Order No.
6 3/4	57305-21

Anode Hole Depth	Total Drilling Rig Time	Total Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
360' logged 350		44 Sacks		

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Anode Depth	320	310	300	290	280	270	260	250	240	230
Anode Output (Amps)	2.9	3.5	4.0	4.3	3.5	2.3	2.9	4.8	4.3	4.0

	#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 11.6	Amps 15.5	Ohms .78		

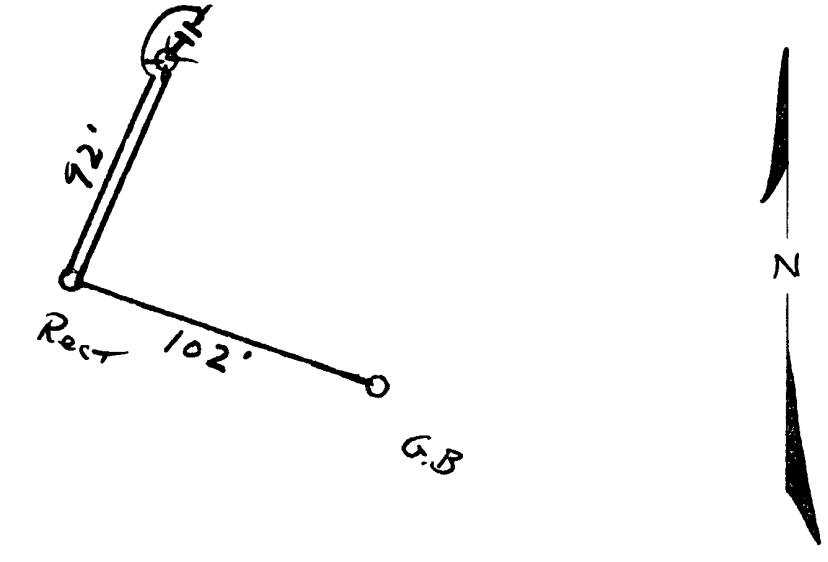
Remarks: DRILLER SAID HIT WATER AT 120'
INSTALLED 350' OF 1" VENT PIPE, PERFORATED 260' OF VENT PIPE
SLURRYED 44 SACK OF COKE
STATIC 600' E .85

1 40V16A RECT
1 STUB POLE
DITCH + 1 CABLE 194'
EXTRA CABLE 112'
HOLE - 150

All Construction Completed

Willis Dwight Jr.
(Signature)

GROUND BED LAYOUT SKETCH



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

El Paso Natural Gas Company
ENGINEERING CALCULATION

Sheet: of
Date: 7-6-79
By: WK
File:

ATLANTIC B # 8A
NW 3-30-10
W/O 57305-21
CPS 1448W

CONTRACT # 2 2X60 ANODES
STATIC - 600 E = .85

1 40V 16A RECT
1 STUB POLE
DITCH + 1 CABLE
EXTRA CABLE
HOLE - 150'

DRILLER SAID HIT WATER AT 120'
INSTALLED 350' OF 1" VENT PIPE
PERFORATED 260' OF VENT PIPE
SLURRIED 44 SACKS OF COKE

7-6-79 10 HRS

120		20	1.3	(6)	
			1.5		
30	1.8	80	1.8	(5)	
	1.7		2.1		
40	1.9	90	2.1	(4)	
	1.9		2.4		
50	1.7	300	2.3	(3)	
	1.3		2.2		
60	1.1	10	2.1	(2)	
	.8		1.7		
70	.8	20	1.5	(1)	
	1.2		2.1		
80	2.0	30	2.3		
	2.0		2.3		
90	1.6	40	2.3		
	1.2		2.0		
200	1.3	50	2.0	TD	
	1.3				
10	1.7	30			
	1.7				
20	1.4				
	1.7				
30	2.1	(10)			
	2.1				
40	2.3	(9)			
	2.1				
50	2.4	(8)			
	2.1				
60	1.8	(7)			
	1.4				

(1)	320	1.9	2.9
(2)	310	2.7	3.5
(3)	300	3.4	4.0
(4)	290	3.2	4.3
(5)	280	2.5	3.5
(6)	270	1.7	2.3
(7)	260	2.2	2.9
(8)	250	3.8	4.8
(9)	240	3.3	4.3
(10)	230	3.2	4.0

V 11.6 A 155 42 .78

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

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

Analysis No. 1-9621 Date 7-11-79

Operator EPNG Well Name ATLANTIC B #8A

Location NW 3-30-10 County SAN JUAN State NM

Field _____ Formation _____

Sampled From CPS [redacted]

Date Sampled _____ By _____

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

	ppm	epm		ppm	epm
Sodium	46	2	Chloride	20	1
Calcium	608	30	Bicarbonate	78	1
Magnesium	29	2	Sulfate	1550	32
Iron	PRESENT		Carbonate	0	0
H_2S	ABSENT		Hydroxide	0	0

Total Solids Dissolved 2726

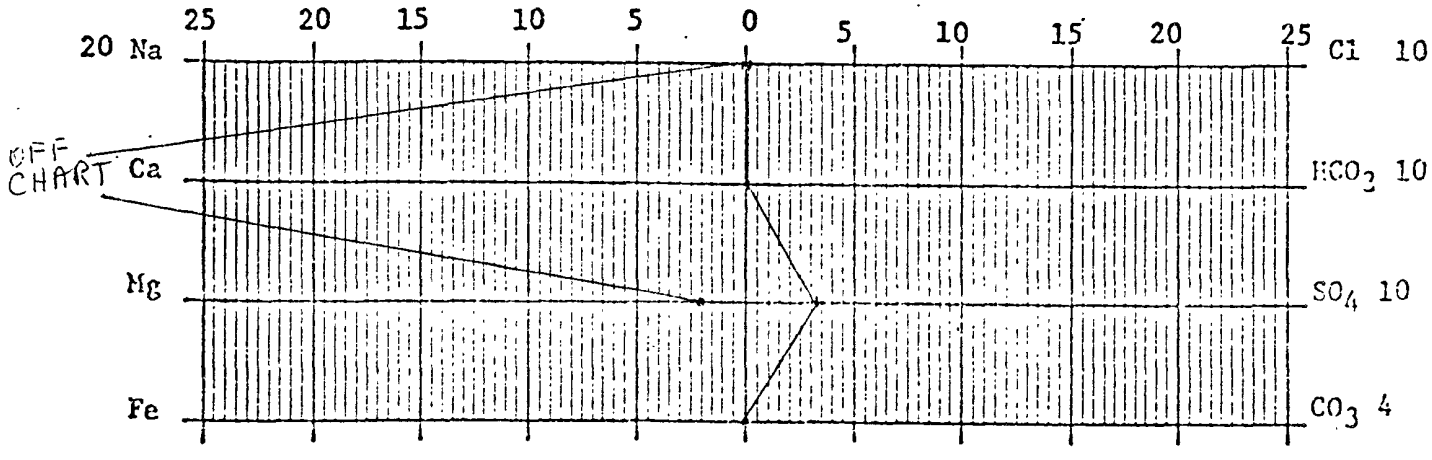
pH 8.5

Sp. Gr. 1.0034 at 60°F

Resistivity 340 ohm-cm at 74 °F

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

Chemist



Scale: epm

Form 22-2 (Rev. 1-61)

EL PASO NATURAL GAS COMPANY

DRILLING DEPARTMENT

DAILY DRILLING REPORT

LEASE WELL NO. 1448 W CONTRACTOR Posey RIG NO. REPORT NO. DATE 7-6- 19 74

MORNING

Driller Total Men In Crew

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

NO. DC ____ SIZE ____ LENG. ____

BIT NO. ____ NO. DC ____ SIZE ____ LENG. ____

SER NO. ____ STANDS

SIZE ____ SINGLES

TYPE ____ DOWN ON KELLY

MAKE ____ TOTAL DEPTH

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

FROM	TO	TIME BREAKDOWN
0	10	SAND SURFACE
10	30	SAND
30	50	SAND STONE
50	90	SHALE
90	95	SAND STONE
95	135	SAND WET

REMARKS –

DAYLIGHT

Driller Total Men In Crew

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

NO. DC ____ SIZE ____ LENG. ____

BIT NO. ____ NO. DC ____ SIZE ____ LENG. ____

SERIAL NO. 3111 STANDS

SIZE 6 3/4 11 SINGLES

TYPE ____ DOWN ON KELLY

MAKE ____ TOTAL DEPTH

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

FROM	TO	TIME BREAKDOWN
135	160	SHALE
160	175	SANDY SHALE
175	200	SHALE
200	205	SANDY SHALE
205	215	SHALE
215	230	SANDY SHALE

REMARKS –

EVENING

Driller Total Men In Crew

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

T.D. 360' 350'

NO. DC ____ SIZE ____ LENG. ____

BIT NO. Left NO. DC ____ SIZE ____ LENG. ____

SERIAL NO. ____ STANDS

SIZE ____ SINGLES

TYPE ____ DOWN ON KELLY

MAKE ____ TOTAL DEPTH

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

FROM	TO	TIME BREAKDOWN
230	270	SHALE
270	295	SHALE / SAND
295	310	SHALE
310	330	SANDY SHALE
330	360	SHALE

REMARKS –

Water Sample @ 120'

SIGNED: Toolpusher Posey Company Supervisor

966

30-045-22996

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

Operator TENNECO Location: Unit NW Sec. 34 Twp 31 Rng 10

Name of Well/Wells or Pipeline Serviced ATLANTIC B #7A

cps 1447w

Elevation 6243' Completion Date 7/6/79 Total Depth 400' Land Type* N/A

Casing, Sizes, Types & Depths N/A

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

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

N/A

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

Fresh, Clear, Salty, Sulphur, Etc. 81' - 155' SAMPLE TAKEN

Depths gas encountered: N/A

Type & amount of coke breeze used: 51 SACKS

Depths anodes placed: 385', 375', 365', 355', 345', 335', 325', 315', 305', 275'

Depths vent pipes placed: 400'

Vent pipe perforations: 280'

Remarks: gb #1 NOT A MERIDIAN WELL.

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) ☐ Contract # 2 Completion Date 7-6-79

Well Name	Location	CPS No.
Atlantic B # 7-A	NW 34-31-10	1447W

Type & Size Bit Used	Work Order No.
6 3/4" 10-2"x60" Duriron	57326-21

Anode Hole Depth	Total Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
Logged 400' – 400'		51 SACKS	0	0

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Anode Depth	385	375	365	355	345	335	325	315	305	275
Anode Output (Amps)	4.8	5.6	5.0	5.1	5.0	4.5	4.7	4.6	3.6	3.2

	#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. 12 C.P. Cable Used
Volts 11.9 Amps 18.9 Ohms 0.63		

Remarks: Static 600'w = 0.83. Driller said water @ 81' to 155'. Drilled to 140' Next A.M. water standing @ 105'. 3 GALS per. Min. Installed 400' of 1" PVC Vent Pipe: Perforated 280' of 1" PVC vent Pipe. Slurryed 51 SACKS of Coke

40 V 16A Rectifier — Hole credit = -100'

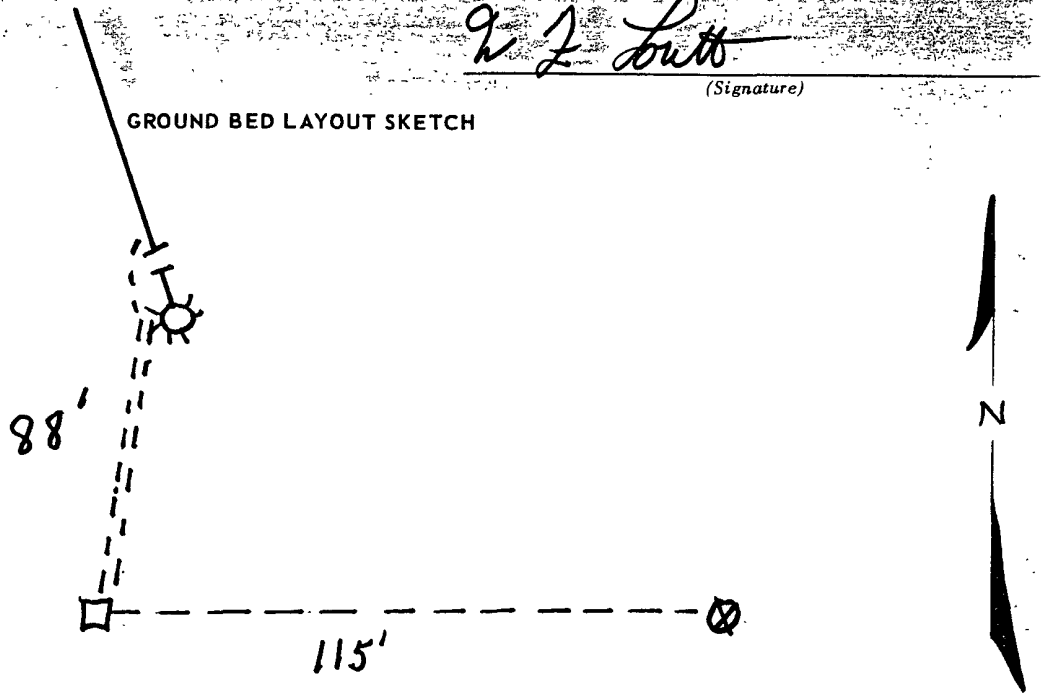
20' Meter Pole — Extra Cable = 108'

10' stub Pole — Ditch & 1 Cable = 203'

All Construction Completed

W. L. Lutt
(Signature)

GROUND BED LAYOUT SKETCH



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

6243

El Paso Natural Gas Company
ENGINEERING CALCULATION

Sheet:
Date: 7-6-79
By: NFG
File: 1-36

Atlantic B #7A 1447W NW 34-31-10 57326-21
Static 600'w = 0.83 Contract #2

10-2'x60" Duriron
20' meter Pole
10' Stub Pole
40 v 16 A Rectifier
Hole Credit = -100
Extra Cable = 108'
Ditch & Cable = 203'

Driller said water @ 81' to 155'. Drilled to 140' next AM water standing @ 105'. 3 Gals Per min. Installed 400' of 1" PVC vent Pipe. Perforated 280' of 1" PVC vent Pipe. Slurryed 57 sacks of Coke

7-6-79 10 HRS

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

1.00	.4		60	.5
	.4			.3
10	.5		70	1.1
	.6	(10)		1.7
20	.6		80	1.4
	.6			1.3
30	1.0		90	1.4
	1.0			1.4
40	.9		300	.92
	.8	(9)		1.3
50	.4		10	2.0
	.9	(8)		1.8
60	1.2		20	2.3
	1.2	(7)		2.4
70	1.2		30	2.4
	.9	(6)		2.4
80	1.0		40	2.3
	.6	(5)		2.3
90	.7		50	2.4
	.7	(4)		2.4
200	.7		60	2.2
	.6	(3)		2.1
	.5		70	2.2
	.7	(2)		2.4
	.5			2.1
	.6	(1)		2.1
	.7		90	2.1
	.8			2.1
	.9		400	
	.9			
	.9			

TD'S Drilled

(1)	385	2.9	4.8
(2)	375	3.3	5.6
(3)	365	2.8	5.0
(4)	355	3.1	5.1
(5)	345	3.2	5.0
(6)	335	3.1	4.5
(7)	325	3.4	4.7
(8)	315	3.1	4.6
(9)	305	2.4	3.6
(10)	295	2.1	3.2

Volts 11.9
Amps 18.9
Ohms 0.63

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

Analysis No. 1=9620 Date 7-11-79

Operator EPNG Well Name ATLANTIC B #7A

Location NW 34-31-10 County SAN JUAN State NM

Field _____ Formation _____

Sampled From CPS ~~1447-W~~

Date Sampled _____ By _____

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

	ppm	epm		ppm	epm
Sodium	184	8	Chloride	16	1
Calcium	564	28	Bicarbonate	117	2
Magnesium	22	2	Sulfate	1700	35
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
C. B. O'Nan

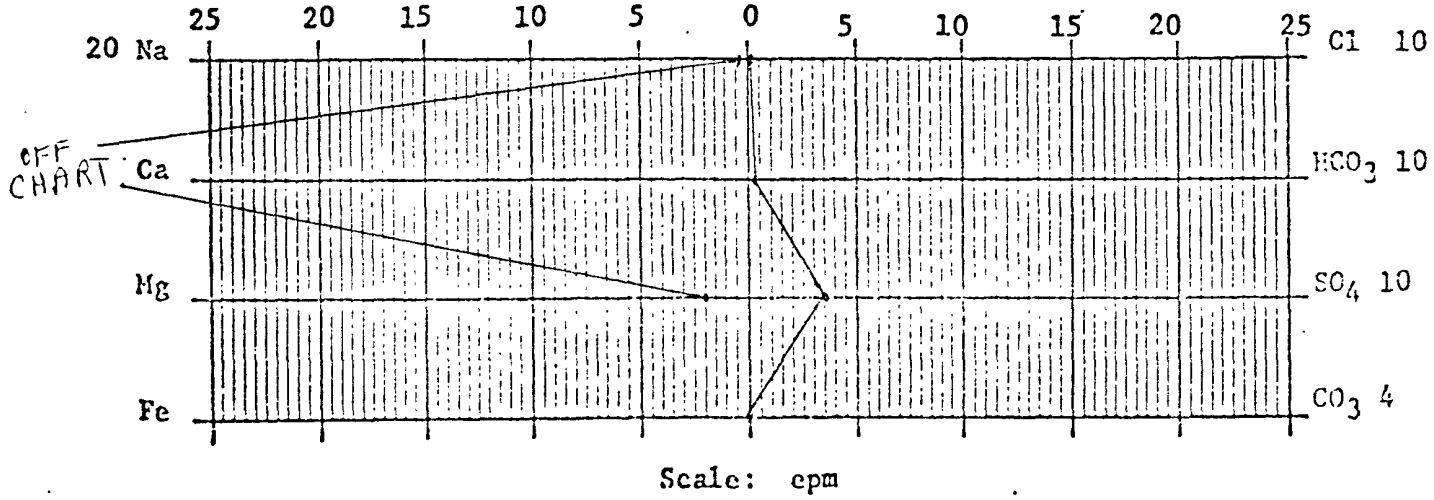
Total Solids Dissolved 2952

pH 8.3

Sp. Gr. 1.0034 at _____ 60°F

Resistivity 320 ohm-cm at 74 °F

Cheryl Trivelpiece
Chemist



Form 22-2 (Rev. 1-61)

EL PASO NATURAL GAS COMPANY

DRILLING DEPARTMENT

DAILY DRILLING REPORT

14470 LEASE | WELL NO. | Contract #2 CONTRACTOR | O'Brian RIG NO. 1 | REPORT NO. | DATE July 6 19 79

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	35	Sand
35	81	Shale
81	155	Sandstone - "water"
155	185	Shale
185	200	Sandstone
200	205	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
205	235	Sandstone
235	240	Sandy Shale
240	310	Sand
310	400	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

Time	Wt.	Vis.

MUD, ADDITIVES USED AND RECEIVED

FROM	TO	TIME BREAKDOWN

REMARKS –

400 ft w/ 6¾
Logged to 400
estimate water - 3 gpm -
water @ 105 over-nite.

SIGNED: Toolpusher O'Brian Company Supervisor

#1 = 30-045-10190

#18 = 30-045-22780

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

Operator TENNECO Location: Unit NE Sec 34 Twp 31 Rng 10

Name of Well/Wells or Pipeline Serviced ATLANTIC B #7, #18

cps 336w

Elevation 6298' Completion Date 5/16/72 Total Depth 300' 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. 120'

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

Depths gas encountered: N/A

Type & amount of coke breeze used: 5900 lbs.

Depths anodes placed: 260', 250', 225', 215', 205', 175', 155', 140', 130', 120'

Depths vent pipes placed: N/A

Vent pipe perforations: 260'

Remarks: Cgb #2 **not a MERIDIAN well.**

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. 1-69)

WELL CASING
CATHODIC PROTECTION CONSTRUCTION REPORT
DAILY LOG

Logged

Drilling Log (Attach Hereto). ☑

Completion Date 5-16-72

Well Name	Location	CPS No.
Atlantic #73	N 24-31-10	336 W

Type & Size Bit Used	Work Order No.
6 3/4	184-5285-50-20

Anode Hole Depth	Total Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
300		5900	No	No (Air Drill)

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Anode Depth	260	250	225	215	205	175	155	140	130	120
Anode Output (Amps)	3.2	2.1	3.2	3.3	2.8	2.9	4.5	5.7	5.8	5.3

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

Total Circuit Resistance			No. 8 C.P. Cable Used	No. 2 C.P. Cable Used
Volts 10.5	Amps 13.0	Ohms 0.80		

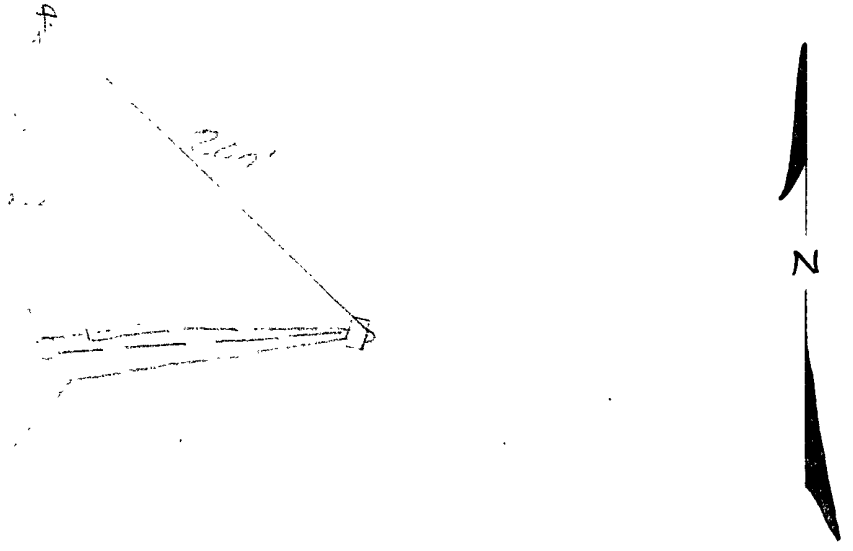
Remarks: Driller Said water at 220'; Drill with air - Stopped Drilling at 1:00 P.M. - Said logging at 2:00 P.M. Water Level at 170' - Fill with water 3 hrs From 220' To 170', After Holes were in Place. Water level was Below 140'

Hose Perforated 2.50' - Pump 363 shovels Est 5900 lbs

All Construction Completed

Dennis Dulcb
(Signature)

GROUND BED LAYOUT SKETCH



Original & 1 Copy All Reports

MW		gals/mol
16	C_1	6.4
30	C_2	9.56
44	C_3	10.42
58	IC_4	12.38
"	NC_4	11.93
72	IC_5	13.85
"	NC_5	13.71
86	IC_6	15.50
"	C_6	15.57
100	IC_7	17.2
"	C_7	17.46
114	C_8	19.38
28	$C_2^=$	9.64
42	$C_3^=$	9.67

MISC

MW		gals/mol
44	CO_2	6.38
34	H_2S	5.17
28	N_2	4.16
2	H_2	3.38

233 W Atlantic #7B

.6 — 2.8 — Drill with air
.6 — .9 — Driller said water at 120
1.20 — 1.0 — Stop drilling at 1:00 AM
1.05 — Log at 9:00 AM
2.3 — Water at 120
2.4 — Fill with water & log from
2.25 — 100 To 175'
2.35
2.50
2.35

		Log	Wde.	Coke
1	260	27	2.2	3.8
2	250	25	.95	2.1
3	225	19	1.10	3.2
4	215	215	1.5	3.2
5	205	235	1.3	2.8
6	175	155	1.3	2.9
7	155	22	1.2	4.5
8	1.40	2.5	None	5.7
9	130	225	None	5.8
10	120	23	None	5.3

Left column readings (continued): 2.25, 2.2, 1.6, 1.0, 1.70, 1.0, 1.5, 1.55, 1.3, 1.0, 1.3, 1.2, 1.2, 2.25, 2.15, 2.1, 2.16, 1.7, 1.35, 1.25, 1.3, 1.7, 2.5, 2.7, 2.7, 1.0, 1.0, 2.7

[illegible] Logs

10.5 V 13.2 H

Released to Imaging: 2/23/2022 9:54:54 AM

336''

DRILLING DEPARTMENT

336

DAILY DRILLING REPORT

LEASE Atlantic WELL NO. 7-B CONTRACTOR Morrow RIG NO. REPORT NO. DATE 5-16 1972

MORNING

Driller Morrow Total Men In Crew

FROM	TO	FORMATION	WT-BIT	R.P.M.
0	15	loose sand		
15	100	dry sand & shale		
100	110	caving loose sand		
110	120	sand & fresh water		

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

REMARKS –

DAYLIGHT

Driller Total Men In Crew

FROM	TO	FORMATION	WT-BIT	R.P.M.
120	160	sandy shale		
160	260	sandy shale streaks		
260	300	sand		

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

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

REMARKS –

SIGNED: Toolpusher Joe Morrow Company Supervisor ______

6 - 30-045-10047 4297

20 - 30-045-23496

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

Operator TENNECO Location: Unit SW Sec 33 Twp 31 Rng 10

Name of Well/Wells or Pipeline Serviced ATLANTIC B #6, #20

cps 371w

Elevation 6294' Completion Date 11/5/76 Total Depth 292' 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. 90'

RECEIVED
MAY 31 1991
OIL CON. DIV
DIST. 3

Depths gas encountered: N/A

Type & amount of coke breeze used: 48 SACKS

Depths anodes placed: 275', 265', 255', 185', 175'

Depths vent pipes placed: N/A

Vent pipe perforations: 185'

Remarks: gb #2 not a MERIDIAN well.

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. 1-69)

WELL CASING
CATHODIC PROTECTION CONSTRUCTION REPORT
DAILY LOG

Logged

Drilling Log (Attach Hereto). ☐ Completion Date 11-5-76

Well Name	Location	CPS No.
ATLANTIC B #6	SW 33-31-10	371W
Type & Size Bit Used: 6 3/4		Work Order No.: 52104

Anode Hole Depth	Total Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
Log 292		48 Sacks		

	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10
Anode Depth	275	265	255	185	175					
Anode Output (Amps)	2.2	3.7	3.9	3.4	3.9					

	# 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 12.0	Amps 10.7	Ohms 1.12		

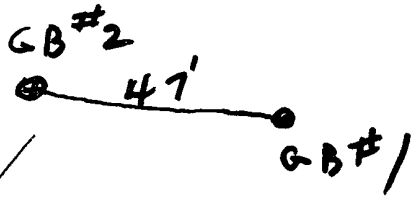
Remarks: DRILLER SAID WATER @ 105'
Vent Perf. 185'
SLURRY 48 SACKS

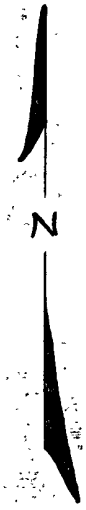
$2,648.00
-174.00 Depth Credit
19.95
$2,493.95
99.75 TAX
2,593.70
288.00 Coke
213.40 Insp.
50.00 Misc.
$3,145.10 TOTAL

All Construction Completed

C. W. Hines
(Signature)

GROUND BED LAYOUT SKETCH





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Original & 1 Copy All Reports

Form 7 - (Rev. 8-75)

El Paso Natural Gas Company
ENGINEERING CALCULATION

Sheet: ____ of ____
Date: 11-5-76
By:
File:

ATLANTIC B #6 371

371W SW 33-31-10 S2 104

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

100 .4 .5
10 .9 1.0
20 1.0
1.0
30 1.0 1.1
40 1.0 .9
50 .6 .5
60 .6 .4
70 .4
11 X
80 1.6
1.3 X
90 .6 .8 .8
200 .8 .7
10 .7 .7
20 .7
.8
30 .8 1.0
40 1.1 1.1
50 1.4
2.2 X
60 2.4
2.2 X
70 1.4
1.4 X
80 1.1 1.0
90 292 T.D.
300

1	275	1.5 - 2.2
2	265	2.6 - 3.7
3	255	2.5 - 3.9
4	1.85	1.3 - 3.4
5	175	1.2 - 3.9

VENT PERF. 185'

10.7 A
12.0 U

= 1.12 Ω CR

Form 22-2 (Rev. 1-61)

EL PASO NATURAL GAS COMPANY
DRILLING DEPARTMENT

DAILY DRILLING REPORT

LEASE WELL NO. 27-W CONTRACTOR RIG NO. REPORT NO. DATE 11-5-78 19

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	10	Surface Sand Damp
10	75	Shale
75	85	Sand Stone Dry
85	90	Shale
90	105	Sand wet
105	110	Sand ~~wet~~ Stone

REMARKS –
110-150 Shale
150-175 Sand wet
175-178 Sand Stone
178-195 Shale
195-220 Sand wet
220-245 Shale
245-300 Sandy Shale

DAYLIGHT

Driller Posey 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 –

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 – Water at 90' to 105

SIGNED: Toolpusher _____ Company Supervisor _____

965

B

30-045-22944

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

Operator TENNECO Location: Unit NW Sec. 33 Twp 31 Rng 10

Name of Well/Wells or Pipeline Serviced ATLANTIC B #6A

cps 1446w

Elevation 6167' Completion Date 7/12/79 Total Depth 300' 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. 100' SAMPLE TAKEN

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

Depths gas encountered: N/A

Type & amount of coke breeze used: 39 SACKS

Depths anodes placed: 270', 260', 245', 230', 220', 210', 200', 190', 145', 135'

Depths vent pipes placed: 300'

Vent pipe perforations: 200'

Remarks: gb #1 NOT A MERIDIAN WELL. FIRST HOLE(300') CAVED. LOST 2 ANODES AND 300' OF VENT PIPE.

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. 1-69)

WELL CASING
CATHODIC PROTECTION CONSTRUCTION REPORT
DAILY LOG

Drilling Log (Attach Hereto). ☐ CONTRACT #2 2"X60" DURION. Completion Date 7/12/79

Well Name	Location	CPS No.
ATLANTIC B #6A	NW 33-31-10	1446 W

Type & Size Bit Used	Work Order No.
6 3/4"	57325-21

Anode Hole Depth	Total Drilling Rig Time	Total lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
300' T.D. 300'		39 SACKS		

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Anode Depth	270'	260'	245'	230'	220'	210'	200'	190'	145'	135'
Anode Output (Amps)	2.3	2.9	1.4	1.9	2.5	4.0	4.2	3.2	3.5	3.9
Anode Depth	120'	[redacted]								
Anode Output (Amps)	2.6									

Total Circuit Resistance			No. 8 C.P. Cable Used	No. 2 C.P. Cable Used
Volts 11.8 V	Amps 13.7 A	Ohms .86		

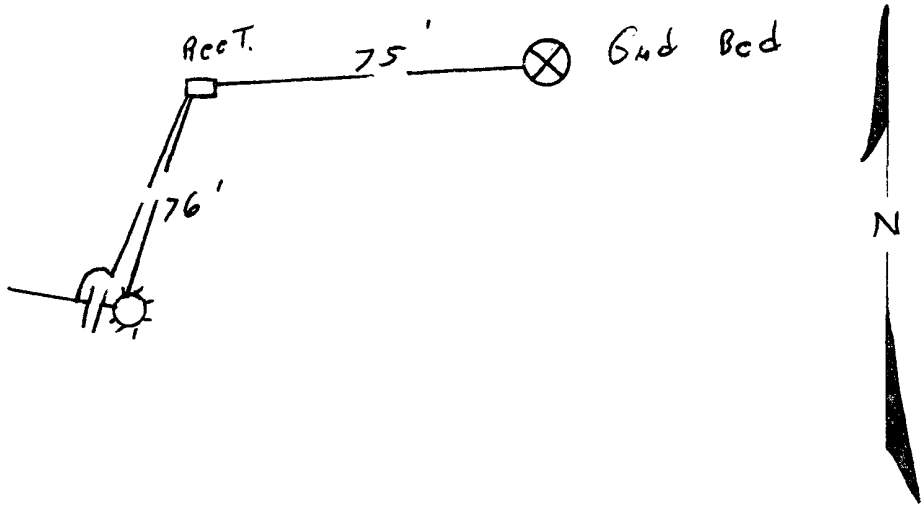
Remarks: STATIC 600' N = .96 V Driller said water at 100' Approx. 10-15 gal/min. Drilled to 300'. Logged 300'. Installed 200' of 1" P.V.C. vent pipe, perforated 200'. Had a Bridge above #3 Anode. Installed #11 Anode to Replace it.

Pitch #1 cable = 151'
extra cable = 96'
Hole Depth -200'
Stub Pole & 40V 16A Rect

All Construction Completed

(Signature)

GROUND BED LAYOUT SKETCH



Original & 1 Copy All Reports

6167

El Paso Natural Gas Company
ENGINEERING CALCULATION

Sheet: ____ of ____
Date:
By:
File:

ATLANTIC B # 6A

CPS - 446W — NW 33-31-10 — W.O. 57325-21

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

100 —
10 —
2.0
20 — 2.0 —
1.9
30 — 1.1
2.1 — ⑩
40 — 2.3
2.2 — ⑨
50 — 1.7
1.5
60 — 1.3
1.0
70 — 1.0
1.0
80 — .9
1.0
90 — 2.0 — ⑧
2.8
200 — 2.8 — ⑦
2.7
10 — 2.5 — ⑥
2.1
20 — 1.7 — ⑤
1.7
30 — 1.6 — ④
1.3
40 — 1.4
1.4 — ③
50 — 1.3
2.0
60 — 2.0 — ②
2.0
70 — 1.8 — ①
1.8
80 — 1.8
1.5
90 — 1.0
.9
300 — T.D.

Driller said water at 100'. Aprox. 10-15 gal/min. Drilled to 300'. Logged 300'. Installed 300' of 1" P.V.C. vent pipe, perforated 200'. Had a bridge above #3 anode. Installed #11 anode to replace it.

7/12/79
JA [initials]
20 Hrs total

1 — 270 — 1.9 — 2.3
2 — 260 — 2.4 — 2.9
3 — 245 — 1.5 — 1.4
4 — 230 — 1.6 — 1.9
5 — 220 — 2.2 — 2.5
6 — 210 — 3.4 — 4.0
7 — 200 — 4.0 — 4.2
8 — 190 — 2.5 — 3.2
9 — 145 — 2.4 — 3.5
10 — 135 — 3.0 — 3.9
11 = 120 — 2.5 — 2.6

El Paso Natural Gas Company
ENGINEERING CALCULATION

Sheet: ____ of ____
Date:
By:
File:

ATLANTIC B 6A

CPS- 1446 W NW 33-31-10 W.O. 57325-21

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

100 — .7
.8
10 — .6
.7
20 — .8
.8
30 — 1.0
1.3
40 — 2.1
2.0 —
50 — 1.7
1.3
60 — 1.2
1.3
70 — 1.4 —
1.3
80 — 1.1
1.1
90 — 1.7
2.6 —
200 — 2.8
2.6 —
10 — 2.6
2.5 —
20 — 1.8
1.7 —
30 — 1.6
1.7 —
40 — 1.6
1.4
50 — 1.1
1.0
60 — 1.9 —
2.0
70 — 1.9 —
1.9
80 — 1.9 —
1.7
90 — 1.2
.6
200 — — T.D.

Driller said water at 100'. Drilled to 280' and twisted off. Drilled to 300'. Logged 300'
Hole making 15-20 gal/min
Installed 300' of 1" P.V.C. vent pipe, perforated 200'
Ran 4 anodes in hole
Started coking. Hole caved in. Retrieved 2 anodes. Lost 2 anodes & vent pipe in hole.
Moved Rig & started new hole

7/11/79
JL

1 — 280 — 2.1
2 — 270 —
3 — 260 —
4 — 235 —
5 — 225 —
6 — 215 —
7 — 205 —
8 — 195 —
9 — 170 —
10 — 145 —

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

Analysis No. 1-9660 Date 8-3-79

Operator EPNG Well Name ATLANTIC B6A

Location NW 33-31-10 County SAN JUAN State NM

Field Formation

Sampled From CPS 1446-W

Date Sampled By

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

	ppm	epm		ppm	epm
Sodium	138	6	Chloride	28	1
Calcium	568	28	Bicarbonate	73	1
Magnesium	12	1	Sulfate	1600	33
Iron	PRESENT		Carbonate	0	0
H_2S	ABSENT		Hydroxide	0	0

Total Solids Dissolved 2898

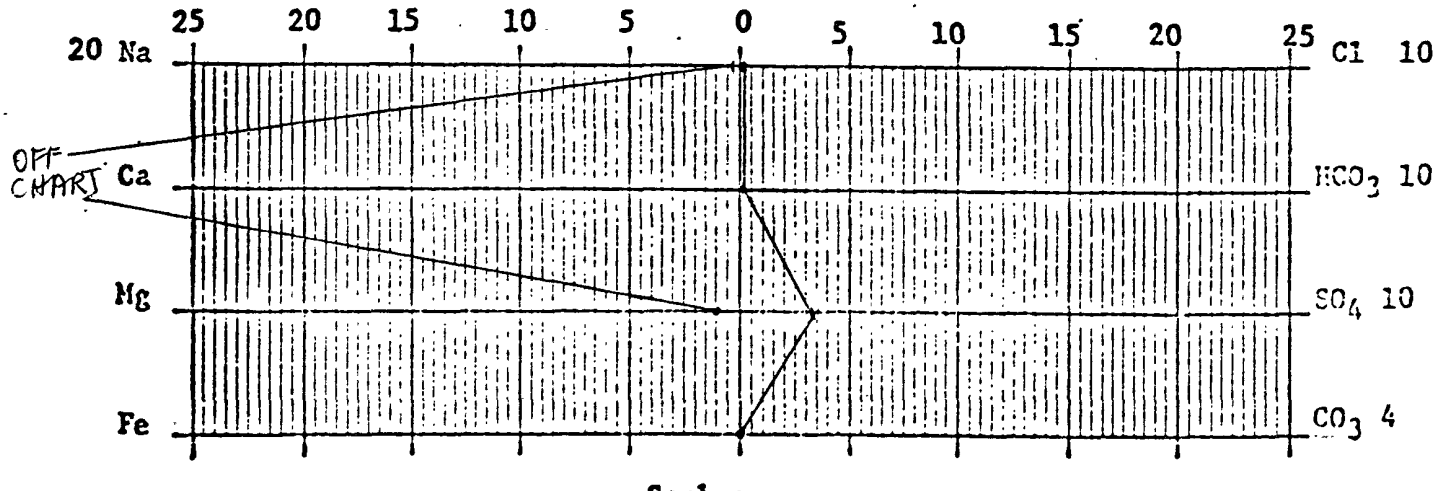
pH 7.2

Sp. Gr. 1.0035 at 60°F

Resistivity 330 ohm-cm at 75 °F

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

Cheryl Tenwilleger
Chemist



Scale: epm

Form 22-2 (Rev. 1-61)

EL PASO NATURAL GAS COMPANY

DRILLING DEPARTMENT

DAILY DRILLING REPORT

LEASE WELL NO. #1446W Redrill CONTRACTOR Posey RIG NO. REPORT NO. DATE 7-12- 1979

MORNING

Driller Total Men In Crew

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

NO. DC SIZE LENG.

BIT NO.

NO. DC SIZE LENG.

SE. 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
0	10	Sandstone Surface
10	30	Sandstone
30	35	Sand Damp
35	65	Sandstone
65	70	Shale
70	78	Sand (wet)

REMARKS –

DAYLIGHT

Driller Total Men In Crew

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

T.D. 300' Logged 300'

NO. DC SIZE LENG.

BIT NO.

NO. DC SIZE LENG.

SERIAL NO.

STANDS

SIZE 6 3/4"

SINGLES

TYPE

DOWN ON KELLY

MAKE

TOTAL DEPTH

MUD RECORD

Time	Wt.	Vis.

MUD, ADDITIVES USED AND RECEIVED

FROM	TO	TIME BREAKDOWN
78	82	Sandstone
82	100	Sand (wet)
100	110	Shale
110	140	Sandy Shale
140	165	Shale
165	172	Sandy Shale

REMARKS –

EVENING

Driller Total Men In Crew

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

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
172	217	Shale
217	250	Sandy Shale
250	300	Shale

REMARKS –

Approximately 15 gal per min @ 100'

SIGNED: Toolpusher Posey Company Supervisor Jeff Murphy

456

30-045-22522

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

Operator MERIDIAN OIL Location: Unit NW Sec. 2 Twp 30 Rng 10

Name of Well/Wells or Pipeline Serviced ATLANTIC D COM D #5A

cps 1209w

Elevation N/A Completion Date 6/22/78 Total Depth 420' Land Type* N/A

Casing, Sizes, Types & Depths N/A

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

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

N/A

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

Fresh, Clear, Salty, Sulphur, Etc. DAMP AT 120' WATER AT 145'

Depths gas encountered: N/A

Type & amount of coke breeze used: N/A

Depths anodes placed: 385', 375', 360', 350', 340', 315', 250', 240', 230', 210'

Depths vent pipes placed: N/A

Vent pipe perforations: N/A

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 6-22-78

Well Name	Location	CPS No.
ATLANTIC Com D #5A	NW 2-30-10	1209 W
Type & Size Bit Used: 6 3/4"		Work Order No.: 57191-21

Anode Hole Depth	Total Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
420 - 405TD				

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Anode Depth	385	375	360	350	340	315	250	240	230	210
Anode Output (Amps)	3.7	4.2	4.8	4.6	3.6	3.0	2.6	2.5	2.7	3.4
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 9.5	Amps 10.2	Ohms .93		

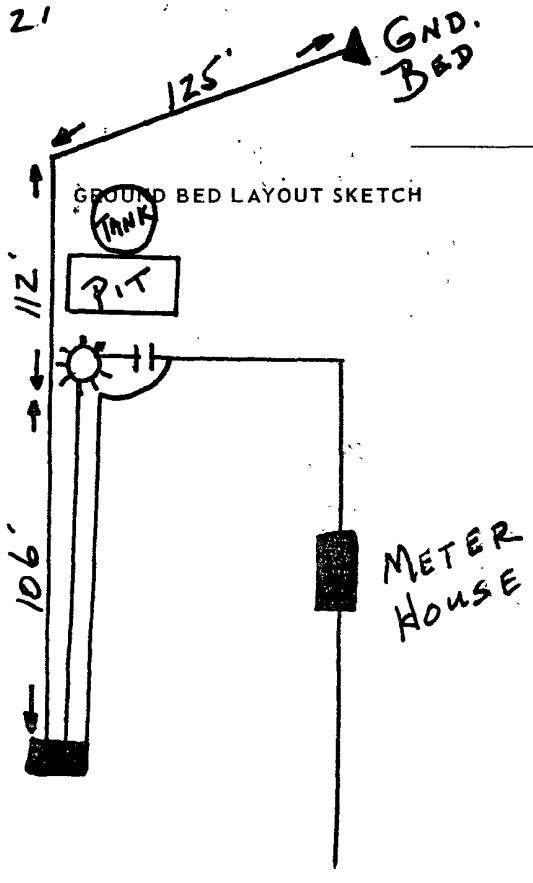
Remarks: STATIC = 600' SE .90
DRILLED TO 420' LOGED TO 405' TD = 405 HOLE -95'
DAMP AT 120' GOOD WATER AT 145' TO 160' ESTIMATE
2-3 GAL PER MIN. FILLED HOLE TO 170' TO LOG

DITCH T I WIRE = 343'
EXTRA WIRE = 212'
40/16 + STUB POLE
HOLE = -95'

All Construction Completed

B. T.
(Signature)

GROUND BED LAYOUT SKETCH



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

Form 7-1 (Rev 9-77)

El Paso Natural Gas Company
ENGINEERING CALCULATION

Sheet: 6 of —
Date:
By:
File: BT

57191-21

1209 W

STATIC = .9C

ATLANTIC D COM D #5A

NW 2-30-10

DRILLED TO 420' LOGED TO 405' TD = 405'
DAMP AT 120' GOOD WATER AT 145' TO 160' ESTIMATE 2-3 GAL PER MIN. FILLED HOLE TO 170' TO L.OG.
HOLE = 1-95'

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

				1.4			
100			60	1.0		20	
		.9					
10		.6	70	.6		30	
		.6					
20			80	1.1		40	
		.8					
30			90	1.0		50	
				1.0			
40			300	.4		60	
				.8			
50			10	1.8	(6)	70	
				1.8			
60			20	1.6		80	
				1.4			
70	.9		30	1.3		90	
	.8			1.6			
80	.8		40	1.6	(5)	500	
	1.0			2.0			
90	1.4		50	2.2	(4)	9.5V 10.2A = .93Ω	
	1.8			2.2			
200	1.8		60	2.4	(3)	1 = 385 - 2.6 = 3.7	
	1.8			2.6			
10	2.2	(10)	70	2.4	(2)	2 = 375 - 2.7 = 4.2	
	2.0			2.1			
20	1.6		80	2.2	(1)	3 = 360 - 3.0 = 4.8	
	1.4			2.2			
30	1.6	(9)	90	1.8		4 = 350 - 2.8 = 4.6	
	1.6			1.8			
40	1.4	(8)	400	1.4		5 = 340 - 2.1 = 3.6	
	1.4			1.0			
50	1.4	(7)	10			6 = 315 - 2.4 = 3.0	
						7 = 250 - 1.8 = 2.6	
						8 = 240 - 1.8 = 2.5	
						9 = 230 - 2.0 = 2.7	
						10 = 210 - 2.7 = 3.4	

Form 2A-2 (Rev. 1-61)

EL PASO NATURAL GAS COMPANY

DRILLING DEPARTMENT

DAILY DRILLING REPORT

LEASE Atlantic #5A WELL NO. 1209W CONTRACTOR Posey RIG NO. REPORT NO. DATE 6-22 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.
											Drilled 420'			
BIT NO.		NO. DC SIZE LENG.			BIT NO.		NO. DC SIZE LENG.			BIT NO.		NO. DC SIZE LENG.		
SERIAL NO.		NO. DC SIZE LENG.			SERIAL NO.		NO. DC SIZE LENG.			SERIAL NO.		NO. DC SIZE LENG.		
SIZE		STANDS			SIZE 6 3/4"		STANDS			SIZE		STANDS		
TYPE		SINGLES			TYPE Rock		SINGLES			TYPE		SINGLES		
MAKE		DOWN ON KELLY			MAKE		DOWN ON KELLY			MAKE		DOWN ON KELLY		
		TOTAL DEPTH					TOTAL DEPTH					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

REMARKS –

0-100 SANDSTONE
100-110 SANDY SHALE
110-120 SAND
120-150 SHALE
150-155 SAND M.W.
155-165 SHALE
165-190 SANDY SHALE
190-220 SHALE

REMARKS –

220-300 SANDY SHALE
300-340 SHALE
340-360 SANDY SHALE
360-410 SHALE
410-420 SANDY SHALE

REMARKS –

MAKING 2-3 GAL. PER MIN. AT 150-155

SIGNED: Toolpusher _____ Company Supervisor _____

[illegible] NATURAL GAS COMPANY

History File

SAN JUAN DIVISION LABORATORY

ANALYSIS NO. 1-9230 DATE COMPLETED 7-6-78

WELL NAME	LOCATION S T R	DATE SECURED	GAL./ DAY	PPM T.D.S.	pH	PPM CHLORIDES	PPM SULFAT
Jones A #1A MV	10-28-8	6-20	24	7452	7.0	4320	7840
Jones A #1A PC	10-28-8	6-20	1	39	6.8	13	1000
Hughes #4A	20-29-8	6-20	54	6858	7.2	4830	1280
Day A #5A	18-29-8	6-20	38	7632	7.1	6320	2500
Day #1A	17-29-8	6-20	80	6670	7.4	6390	500
Day A #1A	17-29-8	6-20	106	7527	7.4	7170	1000
Day #3A	18-29-8	6-20	42	6913	6.7	7170	1000
Day A #2A	7-29-8	6-20	96	5887	7.6	6320	64
El Paso #1A	20-29-9	6-17	8	9493	6.8	6745	7080
Mansfield #2A 1241-W	19-30-9	6-19		1019	7.3	24	1520
Quigley #1A 1275W	6-30-9	6-19		430	7.1	20	600
Florance #2A 1220W	21-30-9	6-19		1373	7.3	16	2520
San Juan #11A 1252W	11-30-10	6-19		636	6.4	24	800
Sun Ray A #1A 1263W	15-30-10	6-19		210	6.2	8	600
Atlantic D Com #5A 1209W	12-30-10	6-19		1493	6.6	16	3000
Bernaghan #4A 1237W	30-31-8	6-19		432	7.3	12	600
Bernaghan #2A 1235W	28-31-8	6-19		190	7.2	16	680
Bernaghan #1A 1234W	33-31-8	6-19		571	6.9	32	800
Walker 1A 1271W	31-31-9	6-19		1664	7.0	32	3520
Atlantic A #8A 1199W	29-31-10	6-19		2637	7.1	152	5560
Atlantic "C" 4A 1200W	31-31-10	6-19		6720	7.7	504	9800
Scott #4A 1258W	17-31-10	6-19		4506	7.0	186	7760
Brookhaven Com A-1 1212W	16-31-10	6-19		3979	6.7	270	6920

5= 30-045-09857

16= 30-045-21333

1/920

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. 2 Twp 30 Rng 10

Name of Well/Wells or Pipeline Serviced ATLANTIC D COM D #5, ATLANTIC D COM O #16 cps 326w

Elevation 6464' Completion Date 11/7/73 Total Depth 360' 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. WATER STANDING AT 170' AFTER 12 HRS.

Depths gas encountered: N/A

Type & amount of coke breeze used: 6200 lbs.

Depths anodes placed: 340', 310', 265', 255', 245', 235', 225', 215', 205', 190'

Depths vent pipes placed: N/A

Vent pipe perforations: 230'

Remarks: gb #2

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. 1-69)

WELL CASING
CATHODIC PROTECTION CONSTRUCTION REPORT
DAILY LOG

Logged

Drilling Log (Attach Hereto). ☐

Completion Date 11/7/73

Well Name	Location	CPS No.
Atlantic D Com D #5	SW 2 -30N -10W	326W

Type & Size Bit Used	Work Order No.
6 3/4	52473

Anode Hole Depth	Total Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
360'		6200		

Anode Depth	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
	340	310	265	255	245	235	225	215	205	190
Anode Output (Amps)	2.6	1.8	2.3	3.0	3.0	3.1	3.5	2.9	2.5	2.9
Anode Depth	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20
Anode Output (Amps)	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20

Total Circuit Resistance				No. 8 C.P. Cable Used	No. 2 C.P. Cable Used
Volts 11.8	Amps 11.0	Ohms 1.07Ω		138'	

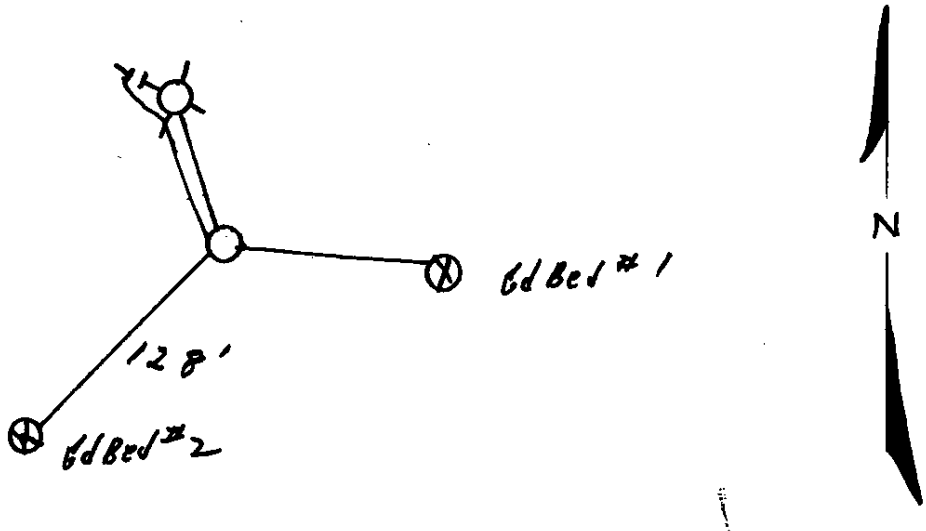
Remarks: Unable To Drill With Air Blow sand on surface water standing @ 170' After 12 hrs Vent Hose Perforated 230'. Pumped 60 sacks. Slurry 2 sacks

$2,230.00
471.20 Coke
26.60 Cable
$2,727.80
210.00 Depth Credit
$2,517.80
100.71 TAX
$2,618.51 TOTAL

All Construction Completed

Edward R. Pawlik
(Signature)

GROUND BED LAYOUT SKETCH



Original & 1 Copy All Reports

EL PASO NATURAL GAS COMPANY
ENGINEERING DEPARTMENT

Sheet:
Date:
By:

326 W

MW		gals/mol
16	C_1	6.4
30	C_2	9.56
44	C_3	10.42
58	IC_4	12.38
"	NC_4	11.93
72	IC_5	13.85
"	NC_5	13.71
86	IC_6	15.50
"	C_6	15.57
100	IC_7	17.2
"	C_7	17.46
114	C_8	19.38
28	$C_2^=$	9.64
42	$C_3^=$	9.67

MISC.

MW		gals/mol
44	CO_2	6.38
34	H_2S	5.17
28	N_2	4.16
2	H_2	3.38

170	1.6
	2.1
80	2.1
	1.8
90	1.3
	1.0
200	1.0
	1.2
10	1.6
	1.8
20	1.9
	2.2
30	1.8
	1.8
40	1.7
	1.7
50	1.5
	1.8
60	1.8
	1.3
70	1.0
	1.0
80	1.0
	1.0
90	1.0
	1.1
300	1.1
	1.1
10	1.3
	1.2
20	1.0
	.8
30	.8
	.8
40	1.8
	2.2

350	1.2
	2.2
360	Bottom

Unable To Drill
With Air Blow
Sand on Surface
Water Stand @ 170'
After 12 hrs
Vent Hose Perforated 230'

		Water	Coke
1	340	1.9	2.6
2	310	1.9	1.8
3	265	1.8	2.3
4	255	2.1	3.0
5	245	1.9	3.0
6	235	2.2	3.1
7	225	2.6	3.5
8	215	2.2	2.9
9	205	1.5	2.5
10	190	2.0	2.9

11.8V 11.0A 1.07Ω

Pumped 60 Sacks
Slurry 2 Sacks

Form 22-2 (Rev. 1-61)

EL PASO NATURAL GAS COMPANY

DRILLING DEPARTMENT

C.P.S # 326-W

DAILY DRILLING REPORT

LEASE | WELL NO. | CONTRACTOR Mesa | RIG NO. | REPORT NO. | DATE 11-7 1973

MORNING

Driller | Total Men In Crew

FROM	TO	FORMATION	WT-BIT	R.P.M.
0	60	Loose Sand		
60	130	Sandstone		
130	140	Sand (Water)		
140	190	Sand		

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 –

DAYLIGHT

Driller | Total Men In Crew

FROM	TO	FORMATION	WT-BIT	R.P.M.
190	265	Shale		
265	300	Sand		
300	310	Shale		
310	340	Sand		

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 –

EVENING

Driller | Total Men In Crew

FROM	TO	FORMATION	WT-BIT	R.P.M.
340	350	Shale		
350	360	Sand		

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 –

SIGNED: Toolpusher Red Nixon Company Supervisor

1838

30-045-23377

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 SE Sec. 3 Twp 30 Rng 10

Name of Well/Wells or Pipeline Serviced KOCK #1A

cps 1498w

Elevation 6464' Completion Date 9/18/80 Total Depth 420' Land Type* N/A

Casing, Sizes, Types & Depths N/A

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

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

N/A

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

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

Depths gas encountered: N/A

Type & amount of coke breeze used: 4000 lbs.

Depths anodes placed: 375', 365', 355', 345', 335', 325', 315', 305', 295'

Depths vent pipes placed: 400'

Vent pipe perforations: 280'

Remarks: gb #1, 95 #2

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.

1249

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

Operator MERIDIAN OIL Location: Unit SE Sec. 3 Twp 30 Rng 10

Name of Well/Wells or Pipeline Serviced KOCH #1A

cps 1498w

Elevation 6464' Completion Date 9/18/80 Total Depth 180' 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. 150'

Depths gas encountered: N/A

Type & amount of coke breeze used: 17 SACKS

Depths anodes placed: 160'

Depths vent pipes placed: 180'

Vent pipe perforations: 80'

Remarks: gb #2

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). ☐ 2" x 60" Duriron Completion Date 9-18-80

Well Name	Location	CPS No.
Koch #1A	SE 3-30-10	1498W

Type & Size Bit Used	Work Order No.
6 3/4" Rock	57738.21

Anode Hole Depth	Total Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
420-406403		4000		

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Anode Depth	375	365	355	345	335	325	315	305	295	160
Anode Output (Amps)	2.8	2.9	2.6	3.1	5.2	3.4	5.7	5.0	4.6	2.7
Anode Depth	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20
Anode Output (Amps)	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20

Total Circuit Resistance			No. 8 C P Cable Used	No. 2 C.P. Cable Used
Volts 11.8	Amps 18.1	Ohms .65		

Remarks: STATIC c/s 600' E = .77 UNION-good (ST c/s CLOSE OFFSET-ATLANTIC B #23 = .85)
Driller said WATER AT 160' brought WATER to SURFACE NEXT A.M. Drilled to 200' WAITED 15 MIN & CAUGHT WATER SAMPLE ~~INST~~ DRILLED 420 Log 403 INST 400' VENT 280' PERF. Hole CAVED while LOADING AFTER #9 Responded #10 would NOT go in hole PAST 130'. DRILLED 2nd hole 180' Hit gravel 120-130 BLEW DRY Logged WATER AT 150' IN 45 MIN. 176' TD - 180' VENT Pipe 80' PERF. SLURRIED 17 SACK:

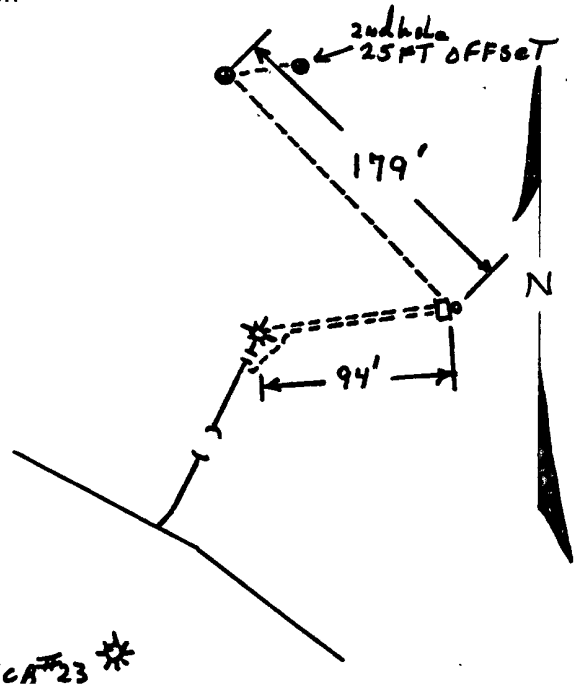
STUB POLE ✓
40V 16A RECT ✓
HOLE DEPTH = -97 ✓
DITCH & CABLE = 273 ✓
EXTRA CABLE = 124 ✓

Time	Rec	OT
9-9-80	8	2
9-18-80	6	

All Construction Completed

Robert J Balnick
(Signature)

GROUND BED LAYOUT SKETCH



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

6404

Form 7-1 (Rev 9-77)

El Paso Natural Gas Company
ENGINEERING CALCULATION

Sheet 1 of 1
Date: 9-9 & 9-18
By: RJ JB
File: 1498W

1498W Koch #1A Se 3-30-10-57738-21 ST%E=.77 good 9-9=10h
(close offset PC well draining made spring 1980) 9-18=6h
ATLANTIC B #23 ST% SE=.85 No union not yet Tied in

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

Blew hole dry at 180 came out hole made water to here 45 min

Depth			Depth	
140	.4	—	340	2.2
	.3	.1		1.8 − 4
50	.5	.6	50	1.5
	.7	.8		1.5 − 3
60	1.6	1.6 — 10	60	1.7
	1.1	1.5		1.7 − 2
70	.6	.7	70	1.7
	.6	.6		1.7 − 1
80	.6		80	1.0
	.5			.9
90	.7		90	1.1
	.9			.9
200	1.0		400	.5 — 403 TD
	.9			
10	.9		10	
	.8			
20	.9		20	
	.9			
30	.8			
	.6			
40	.9			
	1.4			
50	1.8 — ~~10~~			
	1.4			
60	1.2			
	.9			
70	.9			
	.9			
80	.5			
	.2			
90	1.5			
	2.1 − 9			
300	2.0			
	2.3 − 8			
10	2.6			
	1.9 − 7			
20	1.8			
	1.8 − 6			
30	1.9			
	2.4 − 5			

DRILLER SAID WATER AT 160' caught water sample Drilled to 420' Logged 403' INST 400 FT OF CASING WITH 280' PERF. Hole caved AT 133 FT AFTER #9 ANODE Responded could not get #10 PAST 133 FT 23 sacks coke #1 DRILLED second hole 25 FT OFFSET WATER ZONE 120 to 130' IN gravel Believe this is where first hole caved DRILLED 180' Logged 176' INST 180' vent Pipe with 80' PERF Slurried 17 sacks coke total coke 40 sacks (Let second hole make its own water after DRILLING TD ANODE HIT WATER AT 150')

1. 375 − 1.9 − 2.8
2. 365 − 1.9 − 2.9
3. 355 − 1.7 − 2.6
4. 345 − 1.9 − 3.1
5. 335 − 2.9 − 5.2
6. 325 − 2.1 − 3.4
7. 315 − 2.9 − 5.7
8. 305 − 2.7 − 5.0
9. 295 − 2.4 − 4.6
10. ~~285~~ − 160 − 1.7 − 2.7

11.8v / 18.1A = .65 ohms

EL PASO NATURAL GAS COMPANY

DRILLING DEPARTMENT

Koch # 1A Three C Drilling 2 CBS 1498-W DAILY DRILLING REPORT

LEASE SF 3-30-10 WELL NO. CONTRACTOR RIG NO. REPORT NO 57738-21 DATE Sept 9 1980

MORNING

Driller Total Men In Crew

FROM	TO	FORMATION	WT-BIT	R.P.M.
0	140	sandstone		
140	160	Water sand shale		
160	290	shale sandstone		
290	420	shale		

BIT NO. NO. DC SIZE LENG.

SER NO. NO. DC SIZE LENG.

SIZE 6¾ STANDS

TYPE SINGLES

MAKE DOWN ON KELLY

TOTAL DEPTH

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

FROM	TO	TIME BREAKDOWN

REMARKS – Water at 160 & 180 3gpm
Logged 403

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

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 –

SIGNED: Toolpusher Kevin Burge Company Supervisor

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

Analysis No. 1-10061 Date 12-2-80

Operator El Paso Natural Gas Well Name Kock #1A

Location SE 3-30-10 County San Juan State New Mexico

Field Kutz Formation

Sampled From CPS 1498 W @ 160'

Date Sampled 9-9-80 By Robert Babnick

Tbg. Press. Csg. Surface Csg. Press.

	ppm	epm		ppm	epm
Sodium	57	2.5	Chloride	28	0.8
Calcium	408	20.4	Bicarbonate	137	2.3
Magnesium	56	4.6	Sulfate	1175	24.4
Iron			Carbonate	0	0
H_2S			Hydroxide	0	0

Total Solids Dissolved 2204

pH 8.0

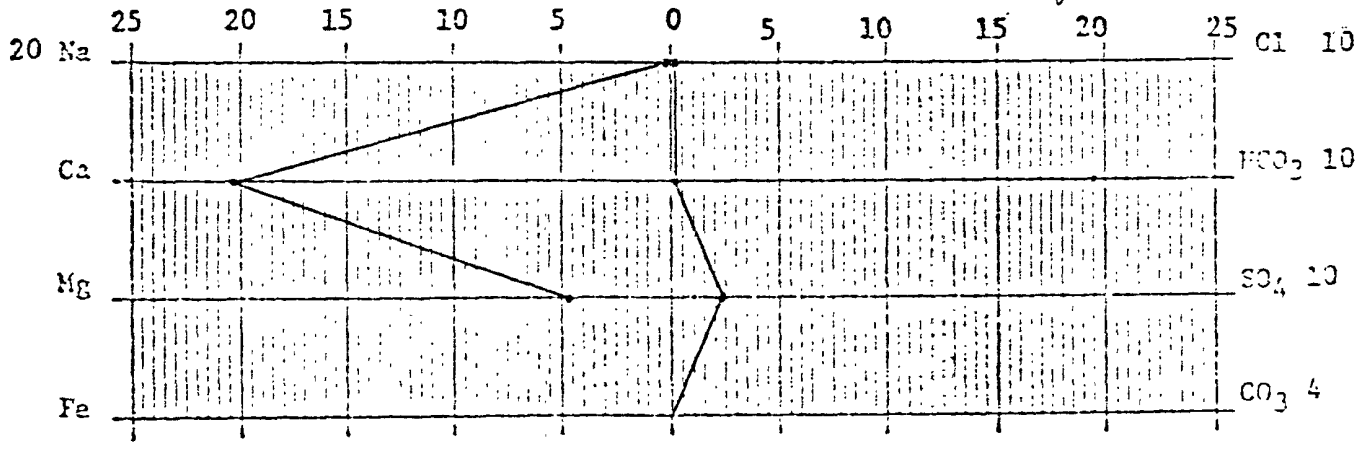
Sp. Gr. .9964 At 60°F

Resistivity 400 ohm-cm at 77 °F

Dennis Brock
Chemist

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

JAB



Scale: epm

1204 #1A 30-045-23165

#3 30-045-20782

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

Operator MERIDIAN OIL Location: Unit E Sec. 9 Twp 30 Rng 10

Name of Well/Wells or Pipeline Serviced SUNRAY E #1A, #3

cps 1470w

Elevation 6502 Completion Date 9/10/80 Total Depth 380' 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. 30' SAMPLE TAKEN

Depths gas encountered: N/A

Type & amount of coke breeze used: N/A

Depths anodes placed: 320', 310', 300', 290', 280', 270', 240', 230', 220', 210'

Depths vent pipes placed: 375'

Vent pipe perforations: 360'

Remarks: gb #1

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

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

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

El Paso Natural Gas Company
Form 7-238 (Rev. 1-69)

WELL CASING
CATHODIC PROTECTION CONSTRUCTION REPORT
DAILY LOG

Drilling Log (Attach Hereto). ☐ (2"X60" Durion) Completion Date 9/10/80

Well Name	Location	CPS No.
SUNRAY E #1-A SUNRAY E #3	SE 9-30-10	1470 W

Type & Size Bit Used	Work Order No.
6 3/4"	57471-21 54843-19

Anode Hole Depth	Total Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
380' T.D. 375'				

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Anode Depth	320'	310'	300'	290'	280'	270'	240'	230'	220'	210'
Anode Output (Amps)	2.4	2.4	3.0	3.1	3.3	2.4	3.4	3.4	2.7	2.4
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 12.2	Amps 13.7	Ohms .89		

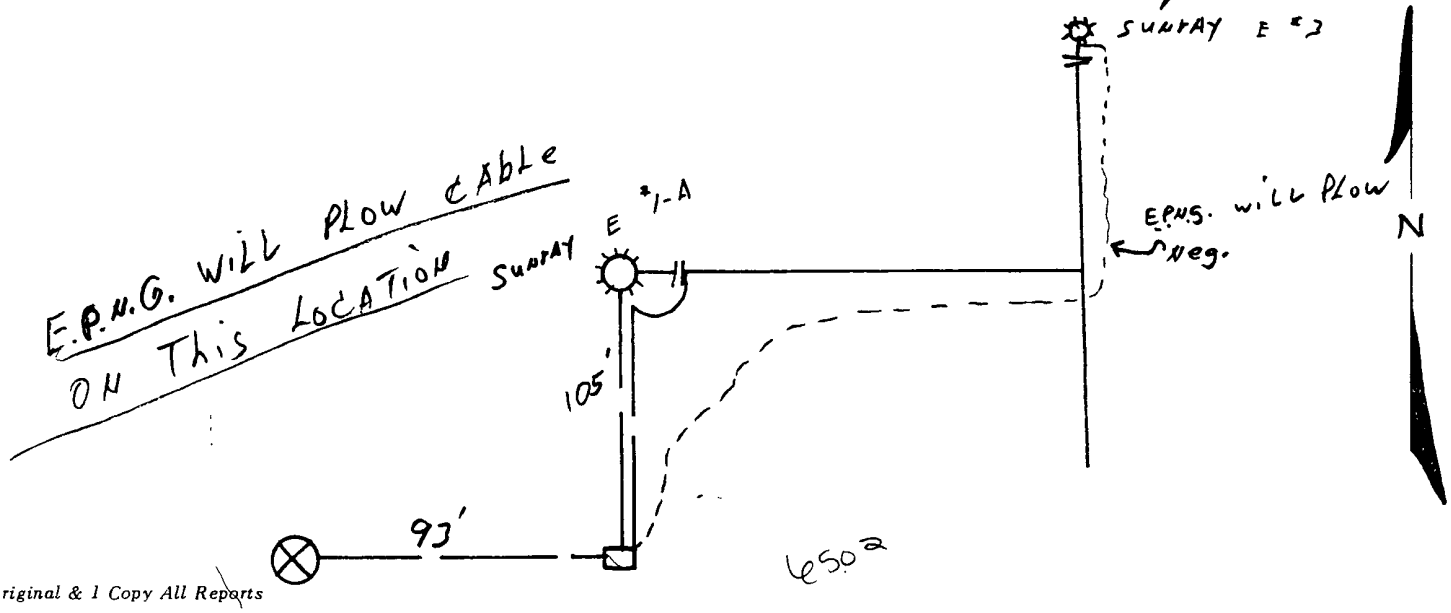
Remarks: STATIC ON SUNRAY E #1-A 600' W = .78V INSULATED UNIONS OK
SUNRAY E #3 HAS BOND BOX #40-B INSULATED UNION OK
DRILLER SAID WATER AT 30'. APPROX. 3GAL/MIN. TOOK WATER SAMPLE. DRILLED
TO 380'. LOGGED 375'. INSTALLED 375' OF 1" P.V.C. VENT PIPE, PERFERATED
360'.

20' METER LOOP POLE
10' STUB POLE
60V 30A RECT.
HOLE DEPTH -125'

All Construction Completed

J E Slatt
(Signature)

GROUND BED LAYOUT SKETCH



Original & 1 Copy All Reports

EL PASO NATURAL GAS COMPANY

DRILLING DEPARTMENT

CPS# 1478 W Sunray E #1-A & A #3 W.O.# 57471-21 & 54843-19 DAILY DRILLING REPORT

LEASE WELL NO. CONTRACTOR 3-C Drilling RIG NO. # 1 REPORT NO. DATE SEPT. 10 1980

MORNING

Driller Brian Total Men In Crew 3

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

BIT NO. NO. DC ____ SIZE ____ LENG. ____

SER. NO. NO. DC ____ SIZE 4½ LENG. 20'

SIZE 6 3/4 STANDS

TYPE rock SINGLES 19

MAKE DOWN ON KELLY

TOTAL DEPTH 380' T.D. 375'

MUD RECORD

Time	Wt.	Vis.

MUD, ADDITIVES USED AND RECEIVED

FROM	TO	TIME BREAKDOWN
0	40	sandstone - water 30' 3gpm
40	120	sandstone
120	200	bentonite & shale
200	220	sand & shale
220	260	shale
260	280	bentonite & 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
280	320	shale
320	380	sand & shale

REMARKS – drilled to 40' on the 9th had water standing next A.M. at approx 30', hole producing approx 3 gallons per minute Good water sample.

Total hole depth 380'
Total log depth 375'

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 –

SIGNED: Toolpusher Brian Bruce Company Supervisor

Form 7-1 (Rev 9-77)

El Paso Natural Gas Company

ENGINEERING CALCULATION

Sheet: _____ of _____
Date: _____
By: _____
File: _____

SUNRAY E # 1-A C.P.S. 1470 W W.O. 57471-21
SUNRAY E # 3 SE 9-30-10 54843-19

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

40 –		210 – 1.5 – (10)	
		1.6	
50 –		220 – 1.8 – (9)	
		2.1	
60 –		230 – 2.1 – (8)	
	.6	2.1	
70 –	.9	240 – 2.2 – (7)	
	.8	1.8	
80 –	.6	250 – 1.2	
	.5	1.2	
90 –	.6	260 – 1.2	
	.6	1.4	
100 –	.6	270 – 1.8 – (6)	
	.6	1.9	
10 –	.7	280 – 2.2 – (5)	
	1.7	2.0	
20 –	.9	290 – 1.9 – (4)	
	.6	1.9	
30 –	.6	300 – 1.9 – (3)	
	.6	1.5	
40 –	.5	310 – 1.3 – (2)	
	.5	1.5	
50 –	.5	320 – 1.5 – (1)	
	.6	.8	
60 –	.6	330 – .4	
	.6	.5	
70 –	.8	340 – .7	
	1.0	.6	
80 –	1.1	350 – .6	
	1.1	.4	
90 –	.9	360 – 2.0	
	.8	2.3	
200 –	.8	370 – 2.0	
	1.0	375' T.D.	
		380 – Drilled To	

Driller said water at 30' Approx. 3 gal./min. Took water sample. Drilled to 380, Logged 375'. Installed 375' of 1" P.V.C. vent pipe. Perforated 360'.

12.2 V. 13.7 A. = .89 Ω

9/10/80

JS

1 – 320' –	1.8	– 2.4
2 – 310' –	1.8	– 2.4
3 – 300' –	2.3	– 3.0
4 – 290' –	2.5	– 3.1
5 – 280' –	2.4	– 3.3
6 – 270' –	1.9	– 2.4
7 – 240' –	2.5	– 3.4
8 – 230' –	2.5	– 3.4
9 – 220' –	2.0	– 2.7
10 – 210' –	1.7	– 2.4

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

Analysis No. 1-10039 Date 11-12-80

Operator El Paso Natural Gas Well Name Sun Ray E #1A

Location SE 9-30-10 County San Juan State New Mexico

Field Kutz Formation

Sampled From [redacted]

Date Sampled 9-10-80 By

Tbg. Press. Csg. Surface Csg. Press.

	ppm	epm		ppm	epm
Sodium	35	1.5	Chloride	34	1.0
Calcium	41	2.1	Bicarbonate	76	1.2
Magnesium	16	1.3	Sulfate	130	2.7
Iron	No test		Carbonate	0	0
H_2S	No test		Hydroxide	0	0

Total Solids Dissolved 658

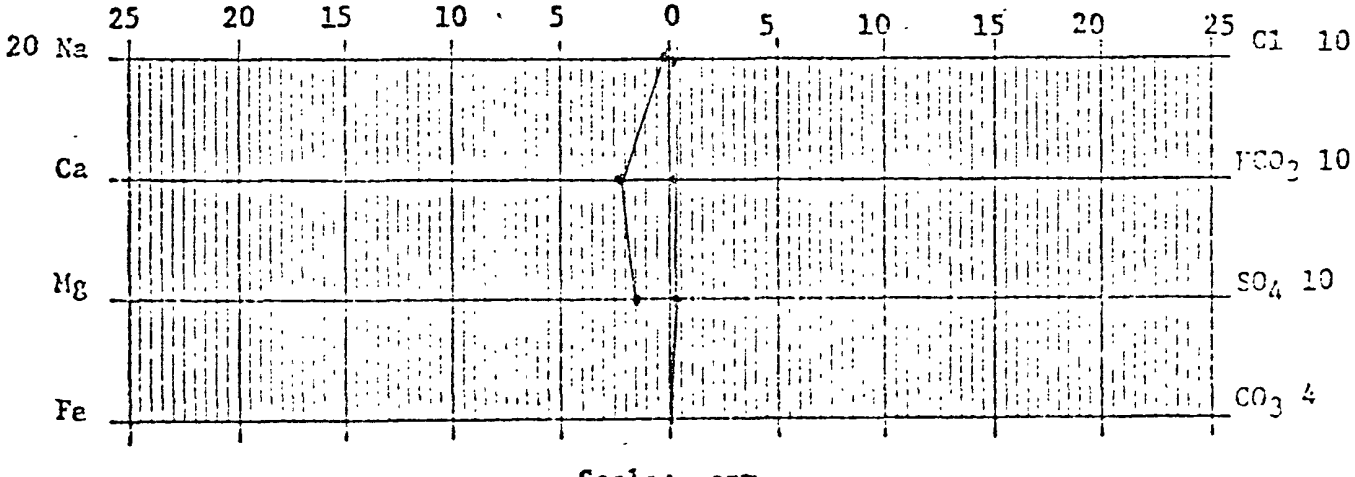
pH 7.1

Sp. Gr. 1.0013 At 60°F

Resistivity 1961 ohm-cm at 77 °F

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

Joe Barnett
Chemist



Scale: epm

CPS #1190C

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

Analysis No. 1-10097 Date 1-19-81

Operator El Paso Natural Gas Well Name Sunray E #1-A

Location SE 9-30-10 County San Juan State New Mexico

Field Kutz Formation Mesa Verde

Sampled From Separator

Date Sampled 12-11-80 By Noel Rogers

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

	ppm	epm		ppm	epm
Sodium			Chloride		
Calcium			Bicarbonate		
Magnesium			Sulfate		
Iron	150	5.4	Carbonate		
H_2S			Hydroxide		

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

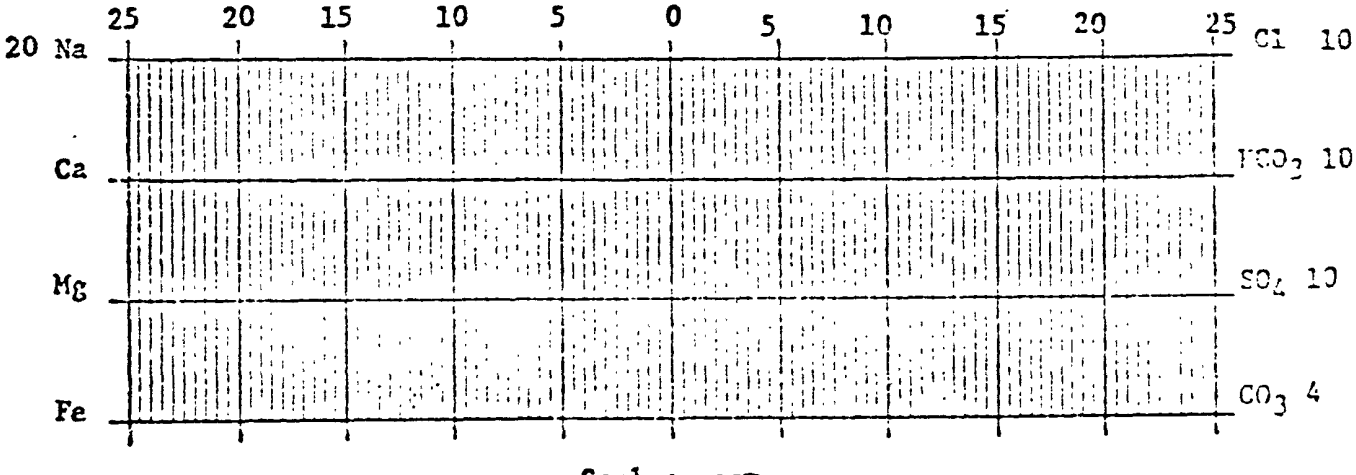
Total Solids Dissolved _____

pH _____

Sp. Gr. _____ At 60°F

Resistivity _____ ohm-cm at _____ °F

Dennis P. Bird
Chemist



Scale: epm

1205 #2A 30-045-23164
#5 30-045-20852

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

Operator MERIDIAN OIL Location: Unit NW Sec. 9 Twp 30 Rng 10

Name of Well/Wells or Pipeline Serviced SUNRAY E #2A, #5

cps 1471w

Elevation 6346' Completion Date 9/9/80 Total Depth 340' 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. 90'

Depths gas encountered: N/A

Type & amount of coke breeze used: N/A

Depths anodes placed: 300', 260', 250', 240', 230', 220', 210', 200', 190'

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. 1-69)

WELL CASING
CATHODIC PROTECTION CONSTRUCTION REPORT
DAILY LOG

Drilling Log (Attach Hereto). ☐ (2" x 60" Durion) Completion Date 9/9/

Well Name	Location	CPS No.
SUNRAY E #2A SUNRAY E #5	NW 9-30-10	1471 W
Type & Size Bit Used: 6 3/4"		Work Order No. 57472 54943

Anode Hole Depth	Total Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
340' T.D. 340'				

Anode Depth	#1 300'	#2 260'	#3 250'	#4 240'	#5 230'	#6 220'	#7 210'	#8 200'	#9 190'
Anode Output (Amps)	#1 5.4	#2 5.2	#3 6.0	#4 5.8	#5 5.7	#6 5.2	#7 5.9	#8 5.4	#9 5.0
Anode Depth	#11	#12	#13	#14	#15	#16	#17	#18	#19
Anode Output (Amps)	#11	#12	#13	#14	#15	#16	#17	#18	#19

Total Circuit Resistance			No. 8 C.P. Cable Used	No. 2 C.P. Cable
Volts 11.9	Amps 23.6	Ohms .5		

Remarks: STATIC ON SUNRAY E #2A 600' E = .82 V INSULATED UNION C SUNRAY E #5 HAS A BOND BOX #38-B ON I.T. UNION CHECKED Driller SAID WATER AT 90'. Approx. 1 GAL/MIN. TOOK WAT. SAMPLE. Drilled To 340'. Logged 340'. INSTALLED 340' of P.V.C. VENT pipe, PERFORATED 260'. WATER SAMPLE Did SETTLE ON T. used 3 JOINTS 8" CASING. (NO Rig T.

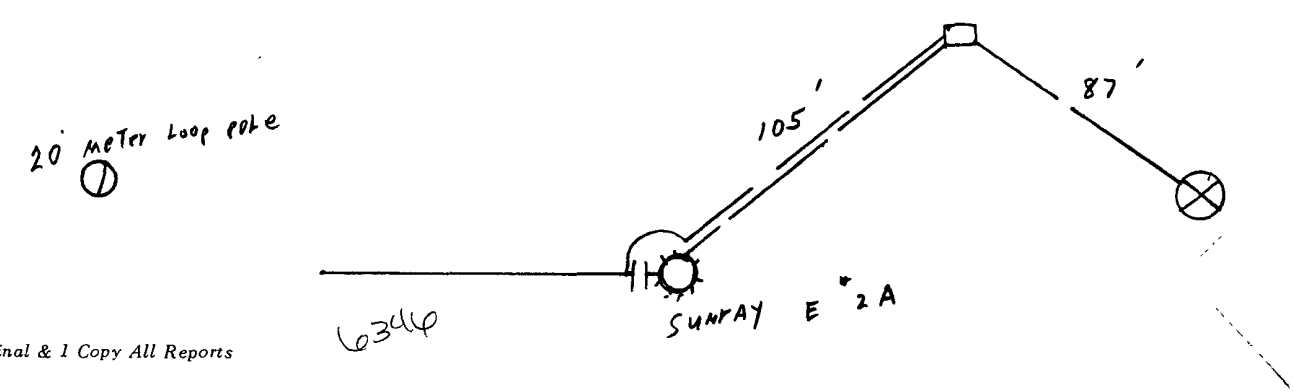
DITCH + CABLE = 192' ✓
EXTRA CABLE = 135' ✓
20' METER LOOP POLE ✓
10 STUB POLE ✓
60V 30A RECT. ✓
HOLE DEPTH - 160' ✓

All Construction Completed

J E Loth
(Signature)

GROUND BED LAYOUT SKETCH

E-2A 4 Mn. Rg. 1 Str.
E #5 4 Mn. Rg. 1 Str. O



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Form 9-329 (Rev. 1-60)

EL PASO NATURAL GAS COMPANY

DRILLING DEPARTMENT

DAILY DRILLING REPORT

CPS# 1471W | Sunray #E2A & E#5 | W.O.#'s 57472-21 & 54943-19

LEASE | WELL NO. | CONTRACTOR 3C Drilling | RIG NO. # 1 | REPORT NO. | DATE SEPT. 9 1980

MORNING

Driller Brian | Total Men In Crew 3

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

BIT # | NO. DC ___ SIZE ___ LENG. ___
NO. DC ___ SIZE 4½ LENG. 20'
SERIAL NO. | STANDS
SIZE 6 3/4 | SINGLES 17
TYPE | DOWN ON KELLY
MAKE | TOTAL DEPTH 340' TD. 340'

MUD RECORD

Time	Wt.	Vis.

MUD, ADDITIVES USED AND RECEIVED

FROM	TO	TIME BREAKDOWN
0	60	sand
60	80	shale
80	100	watersand - 1 gall per min.
100	130	bentonite
130	180	shale
180	200	shaley bentonite

REMARKS -

DAYLIGHT

Driller | Total Men In Crew

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

BIT NO. | NO. DC ___ SIZE ___ LENG. ___
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
200	280	shale
280	300	shale & sand
300	320	shale
320	340	sand & bentonite

REMARKS - drilled to 40' on the 8th had trouble with sand had to wait on water. hit water sand at 90' approx hole producing approx 1 gallon per minute Got a muddy water sample, total depths 340'

EVENING

Driller | Total Men In Crew

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

BIT NO. | NO. DC ___ SIZE ___ LENG. ___
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 Brian Burge | Company Supervisor

Form 7-1 (Rev 9-77)

El Paso Natural Gas Company

ENGINEERING CALCULATION

Sheet: _____ of _____
Date: _____
By: _____
File: _____

SUNRAY E #2A C.P.S. # 1471 W W.O. 57472-21
SUNRAY E #5 NW 9-30-10 W.O. 54943-19

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

90 — 1.4
1.3
100 — 1.1
1.3
10 — 1.6
1.4
20 — 1.4
1.8
30 — 2.3
2.3
40 — 2.6 — (10)
2.5
50 — 2.3
2.2
60 — 2.4
2.3
70 — 2.1
1.0
80 — .7
1.2
90 — 2.7 — (9)
3.1
200 — 3.1 — (8)
3.3
10 — 3.2 — (7)
2.8
20 — 3.0 — (6)
3.1
30 — 3.1 — (5)
3.1
40 — 3.1 — (4)
3.1
50 — 3.2 — (3)
2.9
60 — 2.7 — (2)
2.5
70 — 2.0
1.6
80 — 2.0
2.1

290 — 2.0
2.5
300 — 2.6 — (1)
2.4
10 — 2.3
2.1
20 — 2.2
2.3
30 — 2.1
2.0
40 — DRILLED TO T.P.

DRILLER SAID WATER AT 90'. APPROX 1 GAL./MIN. TOOK WATER SAMPLE. DRILLED TO 340, LOGGED 340', INSTALLED 340' OF 1" P.V.C. VENT PIPE PERFERATED 260'. WATER SAMPLE WOULD NOT SETTLE OUT.

11.9 V 23.6 A = .5 Ω
9/9/80
JL

1 — 300 — 4.1 — 5.4
2 — 260 — 4.3 — 5.2
3 — 250 — 5.0 — 6.0
4 — 240 — 4.8 — 5.8
5 — 230 — 4.8 — 5.7
6 — 220 — 4.3 — 5.2
7 — 210 — 5.3 — 5.9
8 — 200 — 4.8 — 5.4
9 — 190 — 4.2 — 5.0
10 — 140 — 3.6 — 4.4

30-045-09662

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. 9 Twp 30 Rng 10

Name of Well/Wells or Pipeline Serviced SUNRAY E #2

cps 256w

Elevation 6395' Completion Date 11/18/74 Total Depth 500' 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. N/A

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: 345', 335', 325', 315', 280', 270', 260', 250', 240', 210'

Depths vent pipes placed: N/A

Vent pipe perforations: 340'

Remarks: gb #2 DRILLED TO 400' ON 8/13/74, WATER AT 130'. HOLE CAVED. MOVED BACK OVER SAME HOLE 11/18. NO WATER. ONE ANODE AT 375' HOLE CAVED OR BRIDGE AT 360'. CONDEM ANODE.

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. 1-69)

WELL CASING
CATHODIC PROTECTION CONSTRUCTION REPORT
DAILY LOG

b5560

Drilling Log (Attach Hereto). ☐ Completion Date 11-18-74

Well Name	Location	CPS No.
Sunray E #2	SW 9-30-10	256W
Type & Size Bit Used 6 3/4		Work Order No. 53130

Anode Hole Depth	Total Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
500				

	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10
Anode Depth	345	335	325	315	280	270	260	250	240	210
Anode Output (Amps)	4.2	4.4	4.0	4.2	5.0	5.2	5.2	5.8	5.2	4.3
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

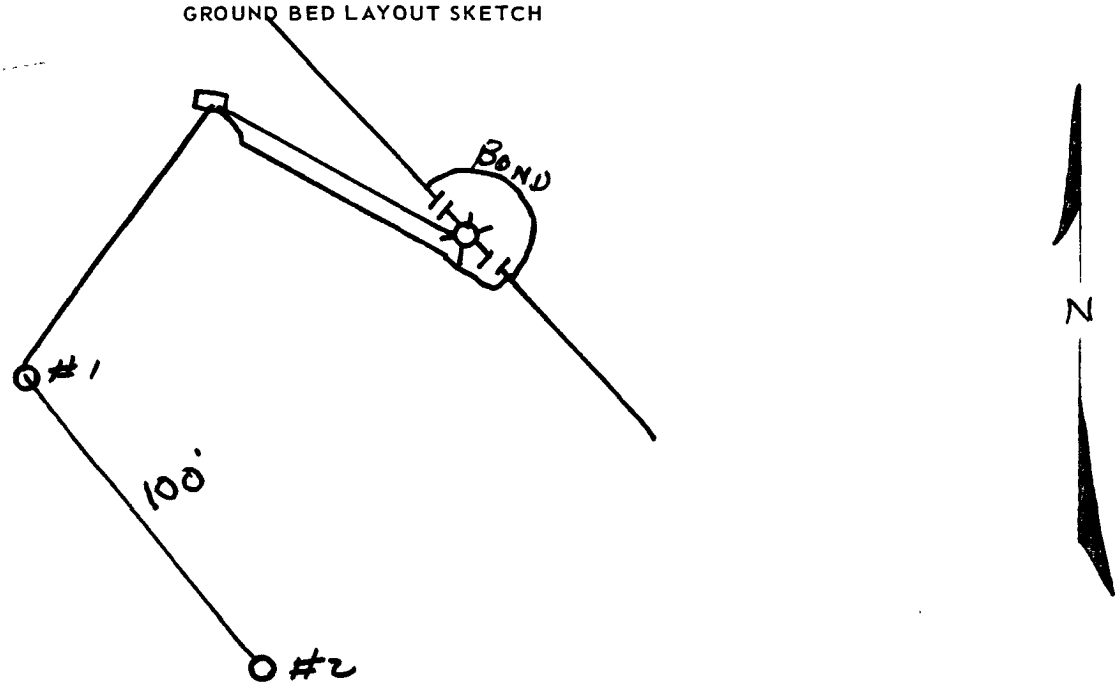
Total Circuit Resistance			No. 8 C P. Cable Used	No. 2 C.P. Cable Used
Volts 12.3	Amps 16.0	Ohms 0.77	95'	

Remarks: Drilled to 400 on 8-13-74, Driller said water at 130-150 - Hole Caved, Rig on Next location, Moved Back over Some hole 11-18-74, Bridge at 175' No water - Drilled With Mud to 500 - Thin Down Mud with Pump Hose, one Anode at 375', Hole Caved or Bridge at 360, Could Not Get Anode Back or Pump Hose Down - Condem this Anode Vent Perforated 340 to Condemed Anode - Pump to 5' of Surface

All Construction Completed

Darrels
(Signature)

GROUND BED LAYOUT SKETCH



Original & 1 Copy All Reports

STORM WATER WELL DRILLING INC.

DIAMOND CORE DRILLING
DIAMOND DRILLING EQUIPMENT
GROUTING
FOUNDATION TESTING
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CONTRACTORS
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GOLDEN, COLORADO 80401
PHONE (303) 278-9505

GENERAL OFFICE
14991 W. 44TH AVENUE
BAILEY OFFICE
CALL 1-838-4821

Drill CP 650 Date 11-18-74

Owner CPS # ~~205~~ 256 W

Location

City _____ State _____ County _____

From	To	Formation	Color	Hardness
0	400	Refer to old Log.		
		Wash Hole Down from 175 to 4		
400	420	Shale w/sand stringer		med
420	440	Shale	Blue + Gry	med
440	450	Shale	Blue + Red	med
450	460	Shale + Sand	Blue	med
460	500	Sandy Shale	Blue + Brown	med
		Stand by WIAT on Log 7AM to		
		To Displace mud 9 AM to		
				10:3

Total Hours _____

Equipment Down Time _____

Hours Drilling _____

Driller T. Rupp

Helper _____

Helper _____

C.P.S. Time _____

S.W.W.D.I. Time _____

Total Footage _____

Approval of
C.P.S. Engineer _____

ENGINEERING DEPARTMENT

Date:

By: _____

2560W X=4.2

200	.7	380	.8	This Hole Drilled to 400
	19		.9	on 8-13-74 Driller Said
10	25	90	.9	Water at 130 to 150' - Hole
	21	95	1.4	Bridged Could Not Get
20	19			Anodes Down - Rig already
	17	400	1.9	on Next Location -
30	16		1.6	11-18-74 -
	22	10	1.4	Moved Back & Dug Pits
40	24		1.0	Bridge at 175 No water
	29	20	1.2	Drilled to 500 With Mud.
50	30		1.8	This Hole Logged With Mud
	31	30	1.9	
60	31		1.4	
	30	40	1.5	
70	32		1.9	
	31	50	2.2	
80	31		2.1	
	25	60	2.5	
90	22		2.2	
	20	70	2.3	
300	20		2.2	
	21	80	2.6	
10	20		2.3	
	28	90		
20	25	93	TD	
	24	500		
30	27			
	27			
40	24			
	23			
50	18			
	18			
60	16			
	19			
70	9			
	10			

400	12.3	16.0	A =	7.6
1120				
1980				
140				

	4 60	2.3			
	4 50	2.2			
1	3 45	2.3	2.3	4.2	
2	3 35	2.7	2.3	4.4	
3	3 25	2.4	2.3	4.0	
4	3 15	2.8	2.3	4.2	
5	2 90	3.1	2.9	5.0	
6	2 70	3.2	3.0	5.2	
7	2 60	3.1	3.0	5.2	
8	2 50	3.0	2.7	5.8	
9	2 40	2.4	2.3	5.2	
10	2 30	2.5	2.3	4.8	

MW		gals/mol
16	C_1	6.4
30	C_2	9.56
44	C_3	10.42
58	IC_4	12.38
"	NC_4	11.93
72	IC_5	13.85
"	NC_5	13.77
86	IC_6	15.50
"	C_6	15.57
100	IC_7	17.2
"	C_7	17.46
114	C_8	19.38
28	CO	8.64
42	$C_3^=$	9.67

MISC		
MW		gals/mol
44	CO_2	6.36
34	H_2S	5.17
28	N_2	4.16
2	H_2	3.38

#3 30-045-20782
#221 30-045-27051

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

Operator MERIDIAN OIL INC. Location: Unit SE Sec. 9 Twp 30 Rng 10

Name of Well/Wells or Pipeline Serviced SUNRAY E #3, #221

cps 2070w

Elevation 6470' Completion Date 9/10/80 Total Depth 380' 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. 30'

Depths gas encountered: N/A

Type & amount of coke breeze used: N/A

Depths anodes placed: 320', 310', 300', 290', 280', 270', 240', 230', 220', 210'

Depths vent pipes placed: 375'

Vent pipe perforations: 360'

Remarks: gb #1, gb #2, gb #3

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 7-288 (Rev. 1-69)

WELL CASING
CATHODIC PROTECTION CONSTRUCTION REPORT
DAILY LOG

Drilling Log (Attach Hereto). ☐ #221 (2"X60" Durion) Completion Date 9/10/80

Well Name	Location	CPS No.
SUNRAY E #3	SE 9-30-10	1470 W 2070
Type & Size Bit Used		**Work Order No.**
6 3/4"		57471-21 54843-19

Anode Hole Depth	Total Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
380' T.D. 375'				

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Anode Depth	320'	310'	300'	290'	280'	270'	240'	230'	220'	21
Anode Output (Amps)	2.4	2.4	3.0	3.1	3.3	2.4	3.4	3.4	2.7	2.

	#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 12.2	Amps 13.7	Ohms .89		

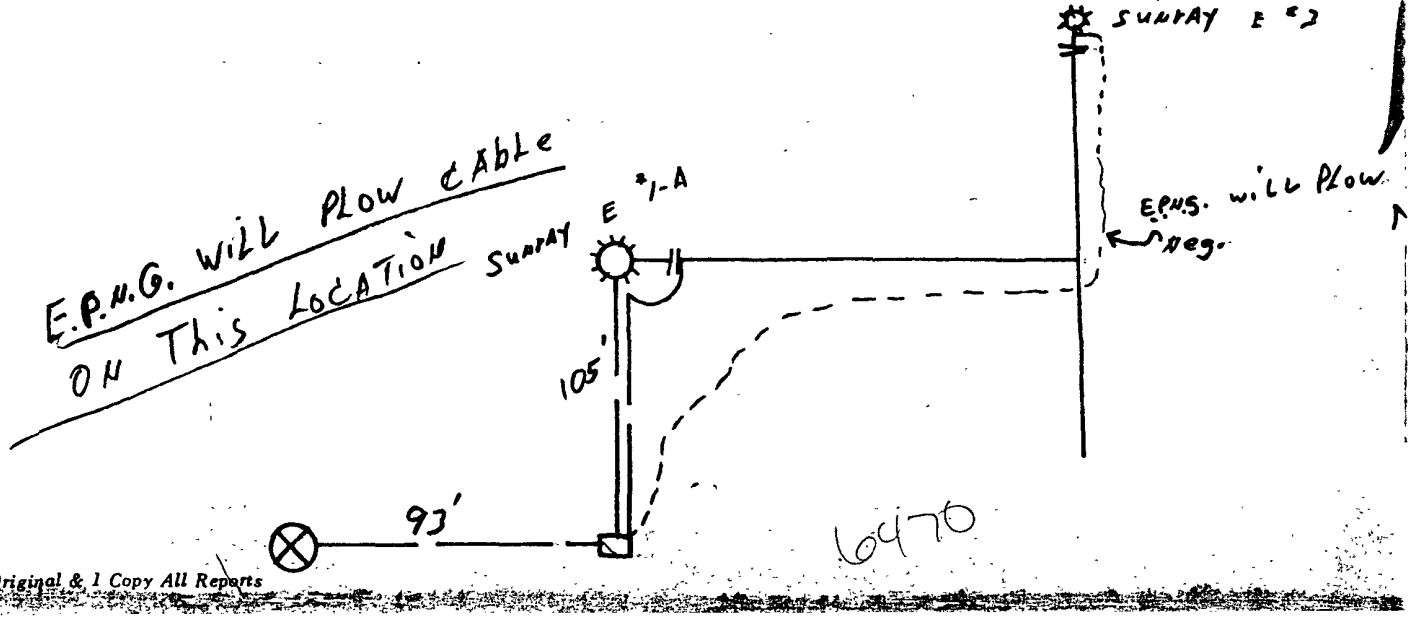
Remarks: STATIC ON SUNRAY E #1-A 600' W = .78V INSULATED UNIONS (
SUNRAY E #3 HAS BOND BOX #40-B INSULATED UNION OK
DRILLER SAID WATER AT 30' APPROX. 3GAL/MIN. TOOK WATER SAMPLE. DRILLE
TO 380'. LOGGED 375'. INSTALLED 375' of 1" P.V.C. VENT PIPE, PERFERAI
360'.

20' METER LOOP POLE
10' STUB POLE
60V 30A RECT.
HOLE DEPTH -125'

All Construction Completed

J E Stobbs
(Signature)

GROUND BED LAYOUT SKETCH



Original & 1 Copy All Reports

Form 7-1 (Rev 9-77)

El Paso Natural Gas Company
ENGINEERING CALCULATION

Sheet: ____ of ____
Date:
By:
File:

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

SUNRAY E #1-A CPS 1470 W W.O. 57471-21
SUNRAY E #3 SE 9-30-10 54843-19

40 –
50 –
60 –
.6
70 – .9
.8
80 – .6
.5
90 – .6
.6
100 – .6
.6
10 – .7
1.7
20 – .9
.6
30 – .6
.6
40 – .5
.5
50 – .5
.6
60 – .6
.6
70 – .8
1.0
80 – 1.1
1.1
90 – .9
.8
200 – .8
1.0

210 – 1.5 – (10)
1.6
20 – 1.8 – (9)
2.1
30 – 2.1 – (8)
2.1
40 – 2.2 – (7)
1.8
50 – 1.2
1.2
60 – 1.2
1.4
70 – 1.8 – (6)
1.9
80 – 2.2 – (5)
2.0
90 – 1.9 – (4)
1.9
300 – 1.9 – (3)
1.5
10 – 1.3 – (2)
1.5
20 – 1.5 – (1)
.8
30 – .4
.5
40 – .7
.6
50 – .6
.4
60 – 2.0
2.3
70 – 2.0
375' T.D.
80 – Drilled To

Driller said water at 30'. Approx. 3 gal./min. Took water sample. Drilled to 380', Logged 375'. Installed 375' of 1" P.V.C. vent pipe. Perforated 360'.

12.2 V. 13.7 A. = .89 Ω
9/10/80
JS

1 – 320' – 1.8 – 2.4
2 – 310' – 1.8 – 2.4
3 – 300' – 2.3 – 3.0
4 – 290' – 2.5 – 3.1
5 – 280' – 2.4 – 3.3
6 – 270' – 1.9 – 2.4
7 – 240' – 2.5 – 3.4
8 – 230' – 2.5 – 3.4
9 – 220' – 2.0 – 2.7
10 – 210' – 1.7 – 2.4

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

Operator MERIDIAN OIL INC. Location: Unit I Sec. 9 Twp 30 Rng 10

Name of Well/Wells or Pipeline Serviced SUNRAY E #3, #221

cps 2070w

Elevation 6470' Completion Date 1/11/89 Total Depth 420' Land Type* N/A

Casing, Sizes, Types & Depths N/A

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

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

N/A

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

Fresh, Clear, Salty, Sulphur, Etc. 110' NO SAMPLE

Depths gas encountered: N/A

Type & amount of coke breeze used: N/A

Depths anodes placed: 325', 315', 235', 180', 170'

Depths vent pipes placed: N/A

Vent pipe perforations: 250'

Remarks: gb #2 HOLE BRIDGED LOST #6 & #7 ANODES.

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.

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

Operator MERIDIAN OIL INC. Location: Unit I Sec. 9 Twp 30 Rng 10

Name of Well/Wells or Pipeline Serviced SUNRAY E #3, #221

cps 2070w

Elevation 6470' Completion Date 1/11/89 Total Depth 280' 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. N/A

Depths gas encountered: N/A

Type & amount of coke breeze used: N/A

Depths anodes placed: 260', 250', 240', 230', 220'

Depths vent pipes placed: N/A

Vent pipe perforations: 200'

Remarks: gb #3

RECEIVED
MAY 31 1991
OIL CON. DIV.
DIST.

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.

EM-07-5238 (Rev. 10-82)

WELL CASING
CATHODIC PROTECTION CONSTRUCTION REPORT
DAILY LOG

comp 1-13-89

Drilling Log (Attach Hereto) ☒ Completion Date 1-11-89

CPS #	Well Name, Line or Plant: #3	Work Order #	Static:	Ins. Union Check
2070-W	SUNRAY "E" #221	3417A	600' NE = .70	☒ Good ☐ Bad

Location:	Anode Size:	Anode Type:	Size Bit:
I 9-30-10	2" x 60"	Duriron	6 3/4"

Depth Drilled	Depth Logged	Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No. Sacks Mud Used
420'	360'				

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Anode Depth	325'	315	235'	180'	170'	260	250'	240'	230'	220'
Anode Output (Amps)	2.3	2.8	3.5	4.1	4.0	4.0	4.2	3.6	3.8	3.0
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 11.97	Amps 18.9	Ohms = .633		

Remarks: DRILLED 1ST HOLE TO 420'; LOGGED 360'. DRILLER SAID WATER AT 110' NO SAMPLE. SET 7 ANODES IN 1ST HOLE; COKED 5 ANODES, LOST 2 ANODES WHEN HOLE BRIDGED. DRILLED 2ND HO 280' + SET REMAINING 5 ANODES. INSTALLED 1" PVC VENT PIPE I BOTH HOLES, PERFORATED BOTTOM 250' 1ST HOLE + 200' 2ND HOLE *CAN TIE IN AC EST. 900' AFTER EPNG TIES IN WELL

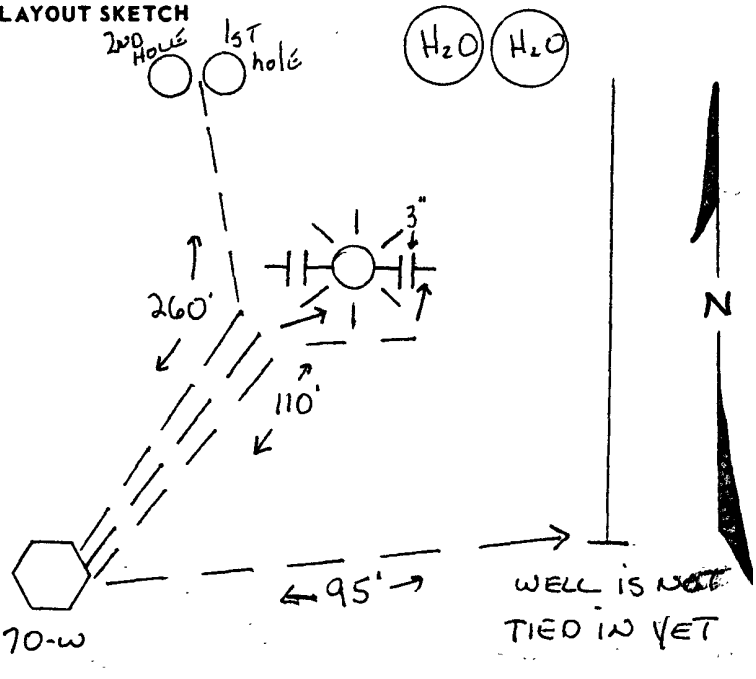
Rectifier Size: 40 V 16 A
Addn'l Depth
Depth Credit: 140' 3.50
Extra Cable: 260' .24
Ditch & 1 Cable: 355' .70
25' Meter Pole:
20' Meter Pole:
10' Stub Pole: 1
Junction Box: 1

All Construction Completed

M. Williams
(Signature)

4074.00
-490.00 CREDIT ✓
62.40 EX. CABLE ✓
248.50 DITCH + 1 ✓
158.50 STUB ✓
225.00 J. BOX ✓
669.00 RECT ✓
4947.40 ✓
247.37 TAX
5194.77 OK 92 6470

GROUND BED LAYOUT SKETCH



D. CRASS DRILLING CO.

Drill No. 3

DRILLER'S WELL LOG

S. P. No. SUNRAY E #221 Date 1-10-89

Client Meridian Oil Co. Prospect

County SAN JUAN State New Mex.

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

FROM	TO	FORMATION — COLOR — HARDNESS
0	110	SAND
110	120	Shale
120	135	SAndstone
135	145	Sandy Shale
145	165	SAndstone
165	190	Shale
190	210	SAndstone
210	380	Shale
380	300	SAndstone
300	345	Shale
345	380	SAndstone
380	390	Shale
390	420	SAndstone

Mud Bran Lime

Rock Bit Number Make

Remarks: Water @ 110'

Driller Lonnie Brown

EL PASO NATURAL GAS COMPANY

DRILLING DEPARTMENT

CPS# 1470 W Sunray E #1-A & A#3 W.O.# 57471-21 & 54843-19 DAILY DRILLING REPORT

LEASE WELL NO. CONTRACTOR 3-C Drilling RIG NO. # 1 REPORT NO. DATE SEPT. 10 1980

MORNING

Driller Brian Total Men In Crew 3

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

NO. DC ____ SIZE ____ LENG. ____

BIT NO.

NO. DC ____ SIZE 4½ LENG. 20'

SER. NO.

STANDS

SIZE 6 3/4

SINGLES 19

TYPE rock

DOWN ON KELLY

MAKE

TOTAL DEPTH 380' T.D. 375'

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

FROM	TO	TIME BREAKDOWN
0	40	sandstone - water 30' 3g.p.m.
40	120	sandstone
120	200	bentonite & shale
200	220	sand & shale
220	260	shale
260	280	bentonite & shale

REMARKS –

DAYLIGHT

Driller Total Men In Crew

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

NO. DC ____ SIZE ____ LENG. ____

BIT NO.

NO. DC ____ SIZE ____ LENG. ____

SERIAL NO.

STANDS

SIZE

SINGLES

TYPE

DOWN ON KELLY

MAKE

TOTAL DEPTH

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

FROM	TO	TIME BREAKDOWN
280	320	shale
320	380	sand & shale

REMARKS – drilled to 40' on the 9th had water standing next A.M. at approx 30'. Hole producing approx 3 gallons per minute Good water sample

Total hole depth 380'
Total log depth 375'

EVENING

Driller Total Men In Crew

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

NO. DC ____ SIZE ____ LENG. ____

BIT NO.

NO. DC ____ SIZE ____ LENG. ____

SERIAL NO.

STANDS

SIZE

SINGLES

TYPE

DOWN ON KELLY

MAKE

TOTAL DEPTH

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

FROM	TO	TIME BREAKDOWN

REMARKS –

SIGNED: Toolpusher Brian Bruce Company Supervisor

SJ #10A 30-045-22753
SRA# 6 30-045-21046

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

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

Name of Well/Wells or Pipeline Serviced SAN JUAN #10A, SUNRAY A #6

cps 1362w

Elevation 6466' Completion Date 4/2/79 Total Depth 480' 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 160'. WET AT 180'

Depths gas encountered: N/A

Type & amount of coke breeze used: 50 SACKS

Depths anodes placed: 435', 425', 415', 405', 355', 340', 295', 285', 260', 245'

Depths vent pipes placed: 435' OF 1" PVC VENT PIPE

Vent pipe perforations: 255'

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 4-2-79

Well Name: SAN JUAN #10A / SUN RAY A #6	Location: NW 10-30-10			CPS No.: 1362 W
Type & Size Bit Used: 6 3/4				Work Order No.: 57259-21 / 55254-21
Anode Hole Depth: 480' logged 470'	Total Drilling Rig Time:	Total Lbs. Coke Used: 50 sacks	Lost Circulation Mat'l Used:	No. Sacks Mud Used:

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Anode Depth	435	425	415	405	355	340	295	285	260	245
Anode Output (Amps)	3.5	3.7	3.4	3.9	4.5	3.5	3.3	3.4	3.5	4.7
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	Amps 18.4	Ohms .65		

Remarks: DRILLER SAID DAMP AT 160' WAITED 15 MIN. NO WATER, WET AT 180' WAITED 20 MIN MADE APPROX 5 GAL. RAN 435' 1" VENT PIPE, PERF. 255 OF VENT PIPE. SLURRYED 50 SACK COKE BREEZE. WATER STANDING AT 160'

STATIC #10A - .77

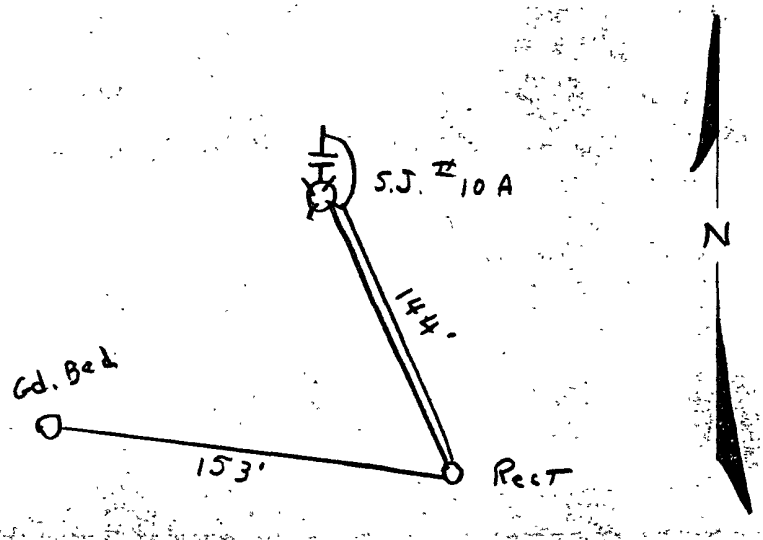
STATIC A #6 - .76

DITCH & 1 CABLE 297'
EXTRA CABLE 144'
1 20' METER POLE
1 40V 16A RECT.
NO INSTALLED

All Construction Completed

Willis Langford Jr
(Signature)

GROUND BED LAYOUT SKETCH



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

EL PASO NATURAL GAS COMPANY

DRILLING DEPARTMENT

DAILY DRILLING REPORT

LEASE 1362-W WELL NO. San Juan #10-A Gilkray A #6 CONTRACTOR Corrosion Control RIG NO. W-2 REPORT NO. DATE April 1 1979

MORNING

Driller Pinson LC Total Men In Crew 3

FROM	TO	FORMATION	WT-BIT	R.P.M.
0	180	Sandstone		
180	250	Shale		
250	325	Bentonite		
325	480 TD	Sand - shale		

NO. DC ____ SIZE ____ LENG. ____

BIT NO. ____ NO. DC ____ SIZE ____ LENG. ____

SERIAL NO. ____ STANDS ____

SIZE 5⅞ - 6¾ SINGLES ____

TYPE ____ DOWN ON KELLY ____

MAKE ____ TOTAL DEPTH ____

MUD RECORD Time	Wt.	Vis.	MUD, ADDITIVES USED AND RECEIVED
			2-100# mud

FROM	TO	TIME BREAKDOWN
		None

REMARKS –

Water 180' appx 3 gpm

Total wait time for H²O 55 min

DAYLIGHT

Driller ____ Total Men In Crew ____

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

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 –

EVENING

Driller ____ Total Men In Crew ____

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

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 L C Pinson Company Supervisor ____

El Paso Natural Gas Company
ENGINEERING CALCULATION

Sheet ___ of ___
Date: 4-2-79
By: ___
File: ___

SAN JUAN # 10A
NW 10-30-10
W/O 57259-21
STATIC - 600'W .77

SUNRAY A # 6
NW 10-30-10
W/O 55254-21
STATIC - .76

CPS 1362-W
T.D. 480'
logged 470'
Hole # 2

DRILLER said damp at 160'
waited 15 min. NO WATER
WET AT 180' waited 20 min Max
APPROX 5 gal. water. started
INJECTING 180'

WATER STANDING AT
160' 4-2-79

10 1½" DURIRON
435' 1" VENT PIPE. PERFORATE
255' of VENT PIPE
SLURRYed 50 SACKS COKE

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

180	2.5	330	1.2		
185	2.4	335	2.5		
190	1.9	340	2.7	(6)	
195	1.6	345	2.7		
200	1.4	350	2.7		
205	1.4	355	3.2	(5)	
210	1.4	360	4.1		
215	1.9	365	4.1		
220	2.4	370	3.9		
225	2.0	375	3.8		
230	1.8	380	3.6		
235	1.8	385	3.7		
240	2.0	390	3.6		
245	2.9	395	3.5	(10)	
250	3.3	400	3.4		
255	2.7	405	3.2	(4)	
260	2.7	410	3.0	(9)	
265	2.7	415	3.0	(3)	
270	3.0	420	3.0		
275	2.7	425	3.1	(8) (2)	
280	2.7	430	3.2		
285	2.7	435	2.7	(1)	
290	2.7	440	2.2		
295	2.3	445	2.2	(7)	
300	1.9	450	2.2		
305	1.8	455	2.1		
310	1.8	460	1.9		
315	1.8	465	1.9		
320	1.8	470	1.8	logged	
325	1.7	475			
		480	T.D		

① 435	2.7	3.5
② 425	3.1	3.7
③ 415	3.0	3.4
④ 405	3.2	3.9
⑤ 355	3.2	4.5
⑥ 340	2.7	3.5
⑦ 295	2.3	3.3
⑧ 275	2.7	3.4
⑨ 260	2.7	3.5
⑩ 245	2.9	4.7

12V
18.4A
.65Ω

HOURS	WORKED
3-27	9 HRS
3-28	10 "
3-30	4 "
4-2	10 "

S.T. 75,60
1½ 14,17

89.77
103.95
37.80
103.95

ENSOLUM

APPENDIX C

Executed C-138 Solid Waste Acceptance Form

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-138
Revised 08/01/11

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

97057-1125

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

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

PayKey: RB21200
PM: Maron O'Brien
AFE: N54736

2. Originating Site:
Atlantic BL S#22

3. Location of Material (Street Address, City, State or ULSTR):
UL C Section 3 T30N R10W; 36.845735, -107.872680

Aug/Sep 2021

4. Source and Description of Waste:
Source: Remediation activities associated with a natural gas pipeline leak.
Description: Hydrocarbon/Condensate impacted soil associated natural gas pipeline release.
Estimated Volume 50 (yd³) / bbls Known Volume (to be entered by the operator at the end of the haul) 1622/55 yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long (Thomas Long) , representative or authorized agent for Enterprise Products Operating do hereby
Generator Signature
certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

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

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

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

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long (Thomas Long) 8-18-2021, representative for Enterprise Products Operating authorizes Envirotech, Inc. to complete
Generator Signature
the required testing/sign the Generator Waste Testing Certification.

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

5. Transporter: Halo and Subcontractors

OCD Permitted Surface Waste Management Facility

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

Waste Acceptance Status:

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

PRINT NAME: Greg Crabtree TITLE: Enviro Manager DATE: 8/19/21
SIGNATURE: _____ TELEPHONE NO.: 505-632-0615
Surface Waste Management Facility Authorized Agent

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APPENDIX D

Photographic Documentation

SITE PHOTOGRAPHS

Closure Report
Enterprise Field Services, LLC
Atlantic BLS #22 (8/16/21)
Ensolum Project No. 05A1226151

ENSOLUM

Photograph 1 Photograph Description: View of in-process excavation activities (Excavation A).	
Photograph 2 Photograph Description: View of in-process activities (Excavation A).	
Photograph 3 Photograph Description: Final view of Excavation A.	

SITE PHOTOGRAPHS

Closure Report
Enterprise Field Services, LLC
Atlantic BLS #22 (8/16/21)
Ensolum Project No. 05A1226151

ENSOLUM

Photograph 4 Photograph Description: Final view of Excavation A.	
Photograph 5 Photograph Description: Final view of Excavation B.	
Photograph 6 Photograph Description: View of Excavation A after initial restoration.	

SITE PHOTOGRAPHS

Closure Report
Enterprise Field Services, LLC
Atlantic BLS #22 (8/16/21)
Ensolum Project No. 05A1226151

ENSOLUM

Photograph 7 Photograph Description: View of Excavation B after initial restoration.	

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APPENDIX E

Regulatory Correspondence

From: Long, Thomas
To: "Smith, Cory, EMNRD (Cory.Smith@state.nm.us)"
Cc: Stone, Brian
Subject: FW: Atlantic BLS #22 - UL C Section 3 T30N R 10W; 36.845777, -107.872627 - Incident # nAPP2123630210
Date: Tuesday, August 31, 2021 7:27:00 AM
Attachments: processed-77519947-ad04-4cdf-9f2b-9be54fc6385a_CYvmqLSK.jpeg
output-682bdadc-ee26-4e2a-b95c-eaced657d41a_VpBEE5F9.jpeg
Rpt_2108E58_Atlantic_BLS-22_Final_v1.pdf
Atlantic B LS 22.pdf

Cory,

Please find the attaches site sketches and lab reports for the Atlantic BLS #22 release site. All sample results are below the NMOCD Tier I remediation standard. Entperise will backfill the excavations with clean imported fill material. If you have any questions, please call or email.

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

Enterprise Products

From: Long, Thomas
Sent: Thursday, August 26, 2021 12:21 PM
To: 'Smith, Cory, EMNRD (Cory.Smith@state.nm.us)' <Cory.Smith@state.nm.us>
Cc: Stone, Brian <bmstone@eprod.com>
Subject: FW: Atlantic BLS #22 - UL C Section 3 T30N R 10W; 36.845777, -107.872627 - Incident # nAPP2123630210

Cory,

This email is a notification that Entperise will be collecting soil samples for laboratory analysis at the Atlantic BLS #22 excavation tomorrow August, 27, 2021 at 10:00 a.m. If you have any questions, please call or email.

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

From: Long, Thomas
Sent: Tuesday, August 24, 2021 2:16 PM
To: 'Smith, Cory, EMNRD (Cory.Smith@state.nm.us)' <Cory.Smith@state.nm.us>
Cc: Stone, Brian <bmstone@eprod.com>
Subject: Atlantic BLS #22 - UL C Section 3 T30N R 10W; 36.845777, -107.872627 - Incident # nAPP2123630210

Cory,

This email is a notification that Entperise will be collecting soil samples for laboratory analysis at the Atlantic BLS #22 excavation tomorrow August 25, 2021 at 2:00 p.m. If you have any questions, please call or email.

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

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APPENDIX F

Table 1 – Soil Analytical Summary

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TABLE 1
Atlantic BLS #22 (8/16/21)
SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Type C- Composite G - Grab	Sample Depth (Feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX[1] (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)	Total Combined TPH (GRO/DRO/MRO)[1] (mg/kg)	Chloride (mg/kg)
New Mexico Energy, Mineral & Natural Resources Department Oil Conservation Division Closure Criteria (Tier I)				**10**	**NE**	**NE**	**NE**	**50**				**100**	**600**
Excavation A Composite Soil Samples													
S-1	8.25.21	C	0 to 8	<0.017	<0.035	<0.035	<0.070	ND	<3.5	<9.6	<48	ND	<60
S-2	8.25.21	C	0 to 16	<0.018	<0.035	<0.035	<0.070	ND	<3.5	<9.5	<47	ND	<60
S-3	8.25.21	C	0 to 16	<0.018	<0.037	<0.037	0.096	0.096	<3.7	<9.5	<47	ND	<60
S-4	8.25.21	C	0 to 16	<0.017	<0.034	<0.034	<0.068	ND	<3.4	<8.7	<44	ND	<59
S-5	8.25.21	C	0 to 16	<0.019	<0.039	<0.039	<0.078	ND	<3.9	<9.0	<45	ND	<60
S-6	8.25.21	C	0 to 16	<0.018	<0.036	<0.036	<0.071	ND	<3.6	<10	<50	ND	<60
S-7	8.25.21	C	0 to 16	<0.019	<0.038	<0.038	<0.077	ND	<3.8	<9.4	<47	ND	<60
S-8	8.25.21	C	0 to 8	<0.019	<0.039	<0.039	<0.078	ND	<3.9	<9.8	<49	ND	<60
S-9	8.25.21	C	8 to 16	<0.017	<0.034	<0.034	<0.068	ND	<3.4	<9.4	<47	ND	<60
S-10	8.25.21	C	16	<0.017	<0.034	<0.034	<0.068	ND	<3.4	<9.3	<47	ND	<61
S-11	8.25.21	C	16	<0.016	<0.032	<0.032	<0.064	ND	<3.2	<9.9	<50	ND	<60
Excavation B Composite Soil Samples													
S-12	8.27.21	C	0 to 15	<0.021	<0.042	<0.042	<0.083	ND	<4.2	<9.6	<48	ND	<60
S-13	8.27.21	C	0 to 10	<0.019	<0.039	<0.039	<0.077	ND	<3.9	<9.5	<47	ND	<60
S-14	8.27.21	C	0 to 10	<0.017	<0.033	<0.033	<0.067	ND	<3.3	<9.5	<47	ND	<60
S-15	8.27.21	C	0 to 10	<0.020	<0.039	<0.039	<0.079	ND	<3.9	<9.7	<49	ND	<60
S-16	8.27.21	C	0 to 15	<0.081	<0.16	<0.16	1.1	1.1	27	9.2	<44	36	<60
S-17	8.27.21	C	0 to 15	<0.090	<0.18	<0.18	<0.36	ND	<18	<9.9	<49	ND	<60
S-18	8.27.21	C	10 to 15	<0.084	0.23	0.34	4.6	5.2	78	17	<45	95	<60

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

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

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

NE = Not established

mg/kg = milligram per kilogram

BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes

TPH = Total Petroleum Hydrocarbon

GRO = Gasoline Range Organics

DRO = Diesel Range Organics

MRO = Motor Oil/Lube Oil Range Organics

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APPENDIX G

Laboratory Data Sheets & Chain of Custody Documentation

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

August 30, 2021

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

RE: Atlantic BLS-22 OrderNo.: 2108E58

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 11 sample(s) on 8/26/2021 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2108E58**
Date Reported: **8/30/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-1
Project: Atlantic BLS-22 **Collection Date:** 8/25/2021 2:00:00 PM
Lab ID: 2108E58-001 **Matrix:** MEOH (SOIL) **Received Date:** 8/26/2021 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	8/26/2021 10:00:08 AM	62207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/26/2021 12:58:51 PM	62204
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/26/2021 12:58:51 PM	62204
Surr: DNOP	151	70-130	S	%Rec	1	8/26/2021 12:58:51 PM	62204
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	8/26/2021 9:48:45 AM	G80829
Surr: BFB	104	70-130		%Rec	1	8/26/2021 9:48:45 AM	G80829
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.017		mg/Kg	1	8/26/2021 9:48:45 AM	B80829
Toluene	ND	0.035		mg/Kg	1	8/26/2021 9:48:45 AM	B80829
Ethylbenzene	ND	0.035		mg/Kg	1	8/26/2021 9:48:45 AM	B80829
Xylenes, Total	ND	0.070		mg/Kg	1	8/26/2021 9:48:45 AM	B80829
Surr: 4-Bromofluorobenzene	97.9	70-130		%Rec	1	8/26/2021 9:48:45 AM	B80829

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

Qualifiers:

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

Analytical Report
Lab Order **2108E58**
Date Reported: **8/30/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-2
Project: Atlantic BLS-22 **Collection Date:** 8/25/2021 2:05:00 PM
Lab ID: 2108E58-002 **Matrix:** MEOH (SOIL) **Received Date:** 8/26/2021 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	8/26/2021 10:12:33 AM	62207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/26/2021 1:08:50 PM	62204
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/26/2021 1:08:50 PM	62204
Surr: DNOP	139	70-130	S	%Rec	1	8/26/2021 1:08:50 PM	62204
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	8/26/2021 10:12:16 AM	G80829
Surr: BFB	105	70-130		%Rec	1	8/26/2021 10:12:16 AM	G80829
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.018		mg/Kg	1	8/26/2021 10:12:16 AM	B80829
Toluene	ND	0.035		mg/Kg	1	8/26/2021 10:12:16 AM	B80829
Ethylbenzene	ND	0.035		mg/Kg	1	8/26/2021 10:12:16 AM	B80829
Xylenes, Total	ND	0.070		mg/Kg	1	8/26/2021 10:12:16 AM	B80829
Surr: 4-Bromofluorobenzene	97.9	70-130		%Rec	1	8/26/2021 10:12:16 AM	B80829

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

Qualifiers:

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

Analytical Report
Lab Order **2108E58**
Date Reported: **8/30/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-3
Project: Atlantic BLS-22 **Collection Date:** 8/25/2021 2:10:00 PM
Lab ID: 2108E58-003 **Matrix:** MEOH (SOIL) **Received Date:** 8/26/2021 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	8/26/2021 10:24:58 AM	62207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/26/2021 1:18:49 PM	62204
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/26/2021 1:18:49 PM	62204
Surr: DNOP	148	70-130	S	%Rec	1	8/26/2021 1:18:49 PM	62204
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	8/26/2021 10:35:53 AM	G80829
Surr: BFB	106	70-130		%Rec	1	8/26/2021 10:35:53 AM	G80829
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.018		mg/Kg	1	8/26/2021 10:35:53 AM	B80829
Toluene	ND	0.037		mg/Kg	1	8/26/2021 10:35:53 AM	B80829
Ethylbenzene	ND	0.037		mg/Kg	1	8/26/2021 10:35:53 AM	B80829
Xylenes, Total	0.096	0.073		mg/Kg	1	8/26/2021 10:35:53 AM	B80829
Surr: 4-Bromofluorobenzene	99.6	70-130		%Rec	1	8/26/2021 10:35:53 AM	B80829

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

Qualifiers:

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

Analytical Report
Lab Order **2108E58**
Date Reported: **8/30/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-4
Project: Atlantic BLS-22 **Collection Date:** 8/25/2021 2:15:00 PM
Lab ID: 2108E58-004 **Matrix:** MEOH (SOIL) **Received Date:** 8/26/2021 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	59		mg/Kg	20	8/26/2021 10:37:22 AM	62207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	8/26/2021 1:28:48 PM	62204
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	8/26/2021 1:28:48 PM	62204
Surr: DNOP	146	70-130	S	%Rec	1	8/26/2021 1:28:48 PM	62204
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	8/26/2021 10:59:33 AM	G80829
Surr: BFB	105	70-130		%Rec	1	8/26/2021 10:59:33 AM	G80829
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.017		mg/Kg	1	8/26/2021 10:59:33 AM	B80829
Toluene	ND	0.034		mg/Kg	1	8/26/2021 10:59:33 AM	B80829
Ethylbenzene	ND	0.034		mg/Kg	1	8/26/2021 10:59:33 AM	B80829
Xylenes, Total	ND	0.068		mg/Kg	1	8/26/2021 10:59:33 AM	B80829
Surr: 4-Bromofluorobenzene	98.7	70-130		%Rec	1	8/26/2021 10:59:33 AM	B80829

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

Qualifiers:

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

Analytical Report
Lab Order **2108E58**
Date Reported: **8/30/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-5
Project: Atlantic BLS-22 **Collection Date:** 8/25/2021 2:20:00 PM
Lab ID: 2108E58-005 **Matrix:** MEOH (SOIL) **Received Date:** 8/26/2021 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	8/26/2021 10:49:47 AM	62207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/26/2021 1:38:47 PM	62204
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/26/2021 1:38:47 PM	62204
Surr: DNOP	137	70-130	S	%Rec	1	8/26/2021 1:38:47 PM	62204
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	8/26/2021 11:23:11 AM	G80829
Surr: BFB	107	70-130		%Rec	1	8/26/2021 11:23:11 AM	G80829
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.019		mg/Kg	1	8/26/2021 11:23:11 AM	B80829
Toluene	ND	0.039		mg/Kg	1	8/26/2021 11:23:11 AM	B80829
Ethylbenzene	ND	0.039		mg/Kg	1	8/26/2021 11:23:11 AM	B80829
Xylenes, Total	ND	0.078		mg/Kg	1	8/26/2021 11:23:11 AM	B80829
Surr: 4-Bromofluorobenzene	99.4	70-130		%Rec	1	8/26/2021 11:23:11 AM	B80829

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

Qualifiers:

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

Analytical Report
Lab Order **2108E58**
Date Reported: **8/30/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-6
Project: Atlantic BLS-22 **Collection Date:** 8/25/2021 2:25:00 PM
Lab ID: 2108E58-006 **Matrix:** MEOH (SOIL) **Received Date:** 8/26/2021 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	8/26/2021 11:27:00 AM	62207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/26/2021 1:48:47 PM	62204
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/26/2021 1:48:47 PM	62204
Surr: DNOP	131	70-130	S	%Rec	1	8/26/2021 1:48:47 PM	62204
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	8/26/2021 11:46:50 AM	G80829
Surr: BFB	108	70-130		%Rec	1	8/26/2021 11:46:50 AM	G80829
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.018		mg/Kg	1	8/26/2021 11:46:50 AM	B80829
Toluene	ND	0.036		mg/Kg	1	8/26/2021 11:46:50 AM	B80829
Ethylbenzene	ND	0.036		mg/Kg	1	8/26/2021 11:46:50 AM	B80829
Xylenes, Total	ND	0.071		mg/Kg	1	8/26/2021 11:46:50 AM	B80829
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	8/26/2021 11:46:50 AM	B80829

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

Qualifiers:

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

Analytical Report
Lab Order **2108E58**
Date Reported: **8/30/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-7
Project: Atlantic BLS-22 **Collection Date:** 8/25/2021 2:30:00 PM
Lab ID: 2108E58-007 **Matrix:** MEOH (SOIL) **Received Date:** 8/26/2021 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	8/26/2021 11:39:25 AM	62207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/27/2021 2:28:44 PM	62204
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/27/2021 2:28:44 PM	62204
Surr: DNOP	118	70-130		%Rec	1	8/27/2021 2:28:44 PM	62204
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	8/26/2021 12:10:29 PM	G80829
Surr: BFB	107	70-130		%Rec	1	8/26/2021 12:10:29 PM	G80829
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.019		mg/Kg	1	8/26/2021 12:10:29 PM	B80829
Toluene	ND	0.038		mg/Kg	1	8/26/2021 12:10:29 PM	B80829
Ethylbenzene	ND	0.038		mg/Kg	1	8/26/2021 12:10:29 PM	B80829
Xylenes, Total	ND	0.077		mg/Kg	1	8/26/2021 12:10:29 PM	B80829
Surr: 4-Bromofluorobenzene	98.7	70-130		%Rec	1	8/26/2021 12:10:29 PM	B80829

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

Qualifiers:

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

Analytical Report
Lab Order **2108E58**
Date Reported: **8/30/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-8
Project: Atlantic BLS-22 **Collection Date:** 8/25/2021 2:35:00 PM
Lab ID: 2108E58-008 **Matrix:** MEOH (SOIL) **Received Date:** 8/26/2021 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	8/26/2021 11:51:49 AM	62207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/26/2021 2:10:32 PM	62204
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/26/2021 2:10:32 PM	62204
Surr: DNOP	135	70-130	S	%Rec	1	8/26/2021 2:10:32 PM	62204
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	8/26/2021 12:34:19 PM	G80829
Surr: BFB	109	70-130		%Rec	1	8/26/2021 12:34:19 PM	G80829
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.019		mg/Kg	1	8/26/2021 12:34:19 PM	B80829
Toluene	ND	0.039		mg/Kg	1	8/26/2021 12:34:19 PM	B80829
Ethylbenzene	ND	0.039		mg/Kg	1	8/26/2021 12:34:19 PM	B80829
Xylenes, Total	ND	0.078		mg/Kg	1	8/26/2021 12:34:19 PM	B80829
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	8/26/2021 12:34:19 PM	B80829

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

Qualifiers:

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

Analytical Report
Lab Order **2108E58**
Date Reported: **8/30/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-9
Project: Atlantic BLS-22 **Collection Date:** 8/25/2021 2:40:00 PM
Lab ID: 2108E58-009 **Matrix:** MEOH (SOIL) **Received Date:** 8/26/2021 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	8/26/2021 12:04:14 PM	62207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/26/2021 2:20:30 PM	62204
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/26/2021 2:20:30 PM	62204
Surr: DNOP	132	70-130	S	%Rec	1	8/26/2021 2:20:30 PM	62204
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	8/26/2021 1:22:00 PM	G80829
Surr: BFB	111	70-130		%Rec	1	8/26/2021 1:22:00 PM	G80829
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.017		mg/Kg	1	8/26/2021 1:22:00 PM	B80829
Toluene	ND	0.034		mg/Kg	1	8/26/2021 1:22:00 PM	B80829
Ethylbenzene	ND	0.034		mg/Kg	1	8/26/2021 1:22:00 PM	B80829
Xylenes, Total	ND	0.068		mg/Kg	1	8/26/2021 1:22:00 PM	B80829
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	8/26/2021 1:22:00 PM	B80829

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

Qualifiers:

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

Analytical Report
Lab Order **2108E58**
Date Reported: **8/30/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-10
Project: Atlantic BLS-22 **Collection Date:** 8/25/2021 2:45:00 PM
Lab ID: 2108E58-010 **Matrix:** MEOH (SOIL) **Received Date:** 8/26/2021 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	61		mg/Kg	20	8/26/2021 12:16:39 PM	62207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/26/2021 2:30:28 PM	62204
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/26/2021 2:30:28 PM	62204
Surr: DNOP	132	70-130	S	%Rec	1	8/26/2021 2:30:28 PM	62204
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	8/26/2021 1:45:50 PM	G80829
Surr: BFB	110	70-130		%Rec	1	8/26/2021 1:45:50 PM	G80829
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.017		mg/Kg	1	8/26/2021 1:45:50 PM	B80829
Toluene	ND	0.034		mg/Kg	1	8/26/2021 1:45:50 PM	B80829
Ethylbenzene	ND	0.034		mg/Kg	1	8/26/2021 1:45:50 PM	B80829
Xylenes, Total	ND	0.068		mg/Kg	1	8/26/2021 1:45:50 PM	B80829
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	8/26/2021 1:45:50 PM	B80829

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

Qualifiers:

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

Analytical Report
Lab Order **2108E58**
Date Reported: **8/30/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-11
Project: Atlantic BLS-22 **Collection Date:** 8/25/2021 2:50:00 PM
Lab ID: 2108E58-011 **Matrix:** MEOH (SOIL) **Received Date:** 8/26/2021 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	8/26/2021 12:29:04 PM	62207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/26/2021 2:40:27 PM	62204
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/26/2021 2:40:27 PM	62204
Surr: DNOP	136	70-130	S	%Rec	1	8/26/2021 2:40:27 PM	62204
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	8/26/2021 2:09:46 PM	G80829
Surr: BFB	114	70-130		%Rec	1	8/26/2021 2:09:46 PM	G80829
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.016		mg/Kg	1	8/26/2021 2:09:46 PM	B80829
Toluene	ND	0.032		mg/Kg	1	8/26/2021 2:09:46 PM	B80829
Ethylbenzene	ND	0.032		mg/Kg	1	8/26/2021 2:09:46 PM	B80829
Xylenes, Total	ND	0.064		mg/Kg	1	8/26/2021 2:09:46 PM	B80829
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	8/26/2021 2:09:46 PM	B80829

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2108E58**

30-Aug-21

Client: ENSOLUM

Project: Atlantic BLS-22

Sample ID: **MB-62207** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **62207** RunNo: **80822**

Prep Date: **8/26/2021** Analysis Date: **8/26/2021** SeqNo: **2852485** Units: **mg/Kg**

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

Sample ID: **LCS-62207** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **62207** RunNo: **80822**

Prep Date: **8/26/2021** Analysis Date: **8/26/2021** SeqNo: **2852486** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.2	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2108E58**

30-Aug-21

Client: ENSOLUM

Project: Atlantic BLS-22

Sample ID: **MB-62203** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **62203** RunNo: **80815**

Prep Date: **8/26/2021** Analysis Date: **8/26/2021** SeqNo: **2851609** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	15		10.00		148	70	130			S

Sample ID: **MB-62204** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **62204** RunNo: **80814**

Prep Date: **8/26/2021** Analysis Date: **8/26/2021** SeqNo: **2853083** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		109	70	130			

Sample ID: **LCS-62204** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **62204** RunNo: **80814**

Prep Date: **8/26/2021** Analysis Date: **8/26/2021** SeqNo: **2853084** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	89.4	68.9	141			
Surr: DNOP	4.8		5.000		97.0	70	130			

Sample ID: **LCS-62203** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **62203** RunNo: **80848**

Prep Date: **8/26/2021** Analysis Date: **8/27/2021** SeqNo: **2853731** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.1		5.000		101	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2108E58**

30-Aug-21

Client: ENSOLUM

Project: Atlantic BLS-22

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **G80829**	RunNo: **80829**
Prep Date:	Analysis Date: **8/26/2021**	SeqNo: **2852239** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		107	70	130			

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G80829**	RunNo: **80829**
Prep Date:	Analysis Date: **8/26/2021**	SeqNo: **2852245** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	106	78.6	131			
Surr: BFB	1200		1000		116	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2108E58**

30-Aug-21

Client: ENSOLUM

Project: Atlantic BLS-22

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **B80829**	RunNo: **80829**
Prep Date:	Analysis Date: **8/26/2021**	SeqNo: **2852319** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.99		1.000		99.1	70	130			

Sample ID: **100ng btex lcs**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **B80829**	RunNo: **80829**
Prep Date:	Analysis Date: **8/26/2021**	SeqNo: **2852326** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	89.9	80	120			
Toluene	0.92	0.050	1.000	0	91.9	80	120			
Ethylbenzene	0.92	0.050	1.000	0	91.9	80	120			
Xylenes, Total	2.7	0.10	3.000	0	90.9	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		99.6	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **ENSOLUM** Work Order Number: **2108E58** RcptNo: 1

Received By: **Cheyenne Cason** **8/26/2021 6:45:00 AM** CC

Completed By: **Cheyenne Cason** **8/26/2021 7:00:38 AM** CC

Reviewed By: JO 8.26.21

Chain of Custody

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

Log In

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

# of preserved bottles checked for pH: (<2 or >12 unless noted)
Adjusted?
Checked by: CC 8/26/21

Special Handling (if applicable)

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

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

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.0	Good	Yes			
2	1.1	Good	Yes			

Chain-of-Custody Record

Client: Ensolum, LLC

Mailing Address: 606 S. Rio Grande, Suite A
Aztec, NM 87410

Phone #:

email or Fax#: KSummers@ensolum.com

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

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

Project Name: Atlantic B LS-22

Project #: 05A1226

Project Manager:

Sampler:

On Ice: ☒ Yes ☐ No

# of Coolers: 2 2.1-0.1=2.0

Cooler Temp(including CF): 1.2-0.1=1.1 (°C)

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2108E58	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	$Cl, F, Br, NO_3, NO_2, PO_4, SO_4$	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
8/25/21	14:00	S	S-1	14oz jar	Cool	001	X	X					X			
8/25/21	14:05	S	S-2			002	X	X					X			
8/25/21	14:10	S	S-3			003	X	X					X			
8/25/21	14:15	S	S-4			004	X	X					X			
8/25/21	14:20	S	S-5			005	X	X					X			
8/25/21	14:25	S	S-6			006	X	X					X			
8/25/21	14:30	S	S-7			007	X	X					X			
8/25/21	14:35	S	S-8			008	X	X					X			
8/25/21	14:40	S	S-9			009	X	X					X			
8/25/21	14:45	S	S-10			010	X	X					X			
8/25/21	14:50	S	S-11			011	X	X					X			

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8/25/21	1540				8/25/21	1540
8/25/21	1803			Courier	8/26/21	0645

Remarks: PM Tom Long
Non AFE: N54736
Pay Kes: RB21200
Same Day

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

September 01, 2021

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

RE: Atlantic B LS 22 OrderNo.: 2108G24

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 7 sample(s) on 8/28/2021 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2108G24**
Date Reported: **9/1/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-12
Project: Atlantic B LS 22 **Collection Date:** 8/27/2021 9:00:00 AM
Lab ID: 2108G24-001 **Matrix:** MEOH (SOIL) **Received Date:** 8/28/2021 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	8/30/2021 7:25:21 AM	62258
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/29/2021 4:53:11 AM	62255
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/29/2021 4:53:11 AM	62255
Surr: DNOP	111	70-130		%Rec	1	8/29/2021 4:53:11 AM	62255
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	8/30/2021 10:39:25 AM	62241
Surr: BFB	110	70-130		%Rec	1	8/30/2021 10:39:25 AM	62241
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.021		mg/Kg	1	8/30/2021 10:39:25 AM	62241
Toluene	ND	0.042		mg/Kg	1	8/30/2021 10:39:25 AM	62241
Ethylbenzene	ND	0.042		mg/Kg	1	8/30/2021 10:39:25 AM	62241
Xylenes, Total	ND	0.083		mg/Kg	1	8/30/2021 10:39:25 AM	62241
Surr: 4-Bromofluorobenzene	99.4	70-130		%Rec	1	8/30/2021 10:39:25 AM	62241

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

Qualifiers:

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

Analytical Report
Lab Order **2108G24**
Date Reported: **9/1/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-13
Project: Atlantic B LS 22 **Collection Date:** 8/27/2021 9:05:00 AM
Lab ID: 2108G24-002 **Matrix:** MEOH (SOIL) **Received Date:** 8/28/2021 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	8/30/2021 7:37:46 AM	62258
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/29/2021 5:16:58 AM	62255
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/29/2021 5:16:58 AM	62255
Surr: DNOP	108	70-130		%Rec	1	8/29/2021 5:16:58 AM	62255
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	8/30/2021 11:03:01 AM	62241
Surr: BFB	104	70-130		%Rec	1	8/30/2021 11:03:01 AM	62241
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.019		mg/Kg	1	8/30/2021 11:03:01 AM	62241
Toluene	ND	0.039		mg/Kg	1	8/30/2021 11:03:01 AM	62241
Ethylbenzene	ND	0.039		mg/Kg	1	8/30/2021 11:03:01 AM	62241
Xylenes, Total	ND	0.077		mg/Kg	1	8/30/2021 11:03:01 AM	62241
Surr: 4-Bromofluorobenzene	97.1	70-130		%Rec	1	8/30/2021 11:03:01 AM	62241

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

Qualifiers:

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

Analytical Report
Lab Order **2108G24**
Date Reported: **9/1/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-14
Project: Atlantic B LS 22 **Collection Date:** 8/27/2021 9:10:00 AM
Lab ID: 2108G24-003 **Matrix:** MEOH (SOIL) **Received Date:** 8/28/2021 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	8/30/2021 7:50:10 AM	62258
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/29/2021 5:40:45 AM	62255
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/29/2021 5:40:45 AM	62255
Surr: DNOP	109	70-130		%Rec	1	8/29/2021 5:40:45 AM	62255
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	8/30/2021 11:26:41 AM	62241
Surr: BFB	107	70-130		%Rec	1	8/30/2021 11:26:41 AM	62241
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.017		mg/Kg	1	8/30/2021 11:26:41 AM	62241
Toluene	ND	0.033		mg/Kg	1	8/30/2021 11:26:41 AM	62241
Ethylbenzene	ND	0.033		mg/Kg	1	8/30/2021 11:26:41 AM	62241
Xylenes, Total	ND	0.067		mg/Kg	1	8/30/2021 11:26:41 AM	62241
Surr: 4-Bromofluorobenzene	99.6	70-130		%Rec	1	8/30/2021 11:26:41 AM	62241

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

Qualifiers:

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

Analytical Report
Lab Order **2108G24**
Date Reported: **9/1/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-15
Project: Atlantic B LS 22 **Collection Date:** 8/27/2021 9:15:00 AM
Lab ID: 2108G24-004 **Matrix:** MEOH (SOIL) **Received Date:** 8/28/2021 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	8/30/2021 8:02:35 AM	62258
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/29/2021 6:04:29 AM	62255
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/29/2021 6:04:29 AM	62255
Surr: DNOP	119	70-130		%Rec	1	8/29/2021 6:04:29 AM	62255
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	8/30/2021 11:50:15 AM	62241
Surr: BFB	105	70-130		%Rec	1	8/30/2021 11:50:15 AM	62241
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.020		mg/Kg	1	8/30/2021 11:50:15 AM	62241
Toluene	ND	0.039		mg/Kg	1	8/30/2021 11:50:15 AM	62241
Ethylbenzene	ND	0.039		mg/Kg	1	8/30/2021 11:50:15 AM	62241
Xylenes, Total	ND	0.079		mg/Kg	1	8/30/2021 11:50:15 AM	62241
Surr: 4-Bromofluorobenzene	97.1	70-130		%Rec	1	8/30/2021 11:50:15 AM	62241

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

Qualifiers:

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

Analytical Report
Lab Order **2108G24**
Date Reported: **9/1/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-16
Project: Atlantic B LS 22 **Collection Date:** 8/27/2021 9:20:00 AM
Lab ID: 2108G24-005 **Matrix:** MEOH (SOIL) **Received Date:** 8/28/2021 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	8/30/2021 8:14:59 AM	62258
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	9.2	8.7		mg/Kg	1	8/29/2021 6:28:09 AM	62255
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	8/29/2021 6:28:09 AM	62255
Surr: DNOP	108	70-130		%Rec	1	8/29/2021 6:28:09 AM	62255
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	27	16		mg/Kg	5	8/30/2021 12:13:48 PM	62241
Surr: BFB	145	70-130	S	%Rec	5	8/30/2021 12:13:48 PM	62241
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.081		mg/Kg	5	8/30/2021 12:13:48 PM	62241
Toluene	ND	0.16		mg/Kg	5	8/30/2021 12:13:48 PM	62241
Ethylbenzene	ND	0.16		mg/Kg	5	8/30/2021 12:13:48 PM	62241
Xylenes, Total	1.1	0.33		mg/Kg	5	8/30/2021 12:13:48 PM	62241
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	5	8/30/2021 12:13:48 PM	62241

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

Qualifiers:

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

Analytical Report
Lab Order **2108G24**
Date Reported: **9/1/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-17
Project: Atlantic B LS 22 **Collection Date:** 8/27/2021 9:25:00 AM
Lab ID: 2108G24-006 **Matrix:** MEOH (SOIL) **Received Date:** 8/28/2021 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	8/30/2021 8:27:23 AM	62258
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/29/2021 6:51:49 AM	62255
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/29/2021 6:51:49 AM	62255
Surr: DNOP	104	70-130		%Rec	1	8/29/2021 6:51:49 AM	62255
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	18		mg/Kg	5	8/30/2021 12:37:25 PM	62241
Surr: BFB	109	70-130		%Rec	5	8/30/2021 12:37:25 PM	62241
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.090		mg/Kg	5	8/30/2021 12:37:25 PM	62241
Toluene	ND	0.18		mg/Kg	5	8/30/2021 12:37:25 PM	62241
Ethylbenzene	ND	0.18		mg/Kg	5	8/30/2021 12:37:25 PM	62241
Xylenes, Total	ND	0.36		mg/Kg	5	8/30/2021 12:37:25 PM	62241
Surr: 4-Bromofluorobenzene	99.8	70-130		%Rec	5	8/30/2021 12:37:25 PM	62241

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

Qualifiers:

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

Analytical Report
Lab Order **2108G24**
Date Reported: **9/1/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-18
Project: Atlantic B LS 22 **Collection Date:** 8/27/2021 9:30:00 AM
Lab ID: 2108G24-007 **Matrix:** MEOH (SOIL) **Received Date:** 8/28/2021 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**VP**
Chloride	ND	60		mg/Kg	20	8/30/2021 8:39:47 AM	62258
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**SB**
Diesel Range Organics (DRO)	17	9.0		mg/Kg	1	8/29/2021 7:15:29 AM	62255
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/29/2021 7:15:29 AM	62255
Surr: DNOP	109	70-130		%Rec	1	8/29/2021 7:15:29 AM	62255
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	78	17		mg/Kg	5	8/30/2021 1:24:43 PM	62241
Surr: BFB	217	70-130	S	%Rec	5	8/30/2021 1:24:43 PM	62241
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.084		mg/Kg	5	8/30/2021 1:24:43 PM	62241
Toluene	0.23	0.17		mg/Kg	5	8/30/2021 1:24:43 PM	62241
Ethylbenzene	0.34	0.17		mg/Kg	5	8/30/2021 1:24:43 PM	62241
Xylenes, Total	4.6	0.34		mg/Kg	5	8/30/2021 1:24:43 PM	62241
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	5	8/30/2021 1:24:43 PM	62241

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

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108G24**
01-Sep-21

Client: ENSOLUM
Project: Atlantic B LS 22

Sample ID: **MB-62258**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **62258**	RunNo: **80882**							
Prep Date: **8/30/2021**	Analysis Date: **8/30/2021**	SeqNo: **2855226**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-62258**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **62258**	RunNo: **80882**							
Prep Date: **8/30/2021**	Analysis Date: **8/30/2021**	SeqNo: **2855227**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.3	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2108G24**

01-Sep-21

Client: ENSOLUM

Project: Atlantic B LS 22

Sample ID: **MB-62255**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **62255**	RunNo: **80889**
Prep Date: **8/28/2021**	Analysis Date: **8/29/2021**	SeqNo: **2854722** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		107	70	130			

Sample ID: **LCS-62255**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **62255**	RunNo: **80889**
Prep Date: **8/28/2021**	Analysis Date: **8/29/2021**	SeqNo: **2854723** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.0	68.9	141			
Surr: DNOP	4.8		5.000		96.5	70	130			

Sample ID: **2108G24-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **S-12**	Batch ID: **62255**	RunNo: **80889**
Prep Date: **8/28/2021**	Analysis Date: **8/29/2021**	SeqNo: **2854727** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.8	49.07	0	91.4	15	184			
Surr: DNOP	4.6		4.907		94.6	70	130			

Sample ID: **2108G24-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **S-12**	Batch ID: **62255**	RunNo: **80889**
Prep Date: **8/28/2021**	Analysis Date: **8/29/2021**	SeqNo: **2854728** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.9	49.50	0	91.1	15	184	0.532	23.9	
Surr: DNOP	4.6		4.950		93.7	70	130	0	0	

Sample ID: **MB-62246**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **62246**	RunNo: **80889**
Prep Date: **8/27/2021**	Analysis Date: **8/28/2021**	SeqNo: **2854737** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	13		10.00		128	70	130			

Sample ID: **LCS-62246**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **62246**	RunNo: **80889**
Prep Date: **8/27/2021**	Analysis Date: **8/28/2021**	SeqNo: **2854738** Units: **%Rec**

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

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108G24**
01-Sep-21

Client: ENSOLUM
Project: Atlantic B LS 22

Sample ID: **LCS-62246** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **62246** RunNo: **80889**
Prep Date: **8/27/2021** Analysis Date: **8/28/2021** SeqNo: **2854738** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.0		5.000		101	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108G24**
01-Sep-21

Client: ENSOLUM
Project: Atlantic B LS 22

Sample ID: **mb-62241**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **62241**	RunNo: **80896**
Prep Date: **8/27/2021**	Analysis Date: **8/30/2021**	SeqNo: **2855133** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		107	70	130			

Sample ID: **lcs-62241**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **62241**	RunNo: **80896**
Prep Date: **8/27/2021**	Analysis Date: **8/30/2021**	SeqNo: **2855134** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	107	78.6	131			
Surr: BFB	1200		1000		116	70	130			

Sample ID: **mb-62243**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **62243**	RunNo: **80896**
Prep Date: **8/27/2021**	Analysis Date: **8/30/2021**	SeqNo: **2855152** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		111	70	130			

Sample ID: **lcs-62243**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **62243**	RunNo: **80896**
Prep Date: **8/27/2021**	Analysis Date: **8/30/2021**	SeqNo: **2855153** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1200		1000		120	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108G24**
01-Sep-21

Client: ENSOLUM
Project: Atlantic B LS 22

Sample ID: **mb-62241** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **62241** RunNo: **80896**
Prep Date: **8/27/2021** Analysis Date: **8/30/2021** SeqNo: **2855181** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		99.8	70	130			

Sample ID: **LCS-62241** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **62241** RunNo: **80896**
Prep Date: **8/27/2021** Analysis Date: **8/30/2021** SeqNo: **2855182** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	97.9	80	120			
Toluene	0.98	0.050	1.000	0	98.5	80	120			
Ethylbenzene	0.98	0.050	1.000	0	98.2	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.6	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	70	130			

Sample ID: **mb-62243** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **62243** RunNo: **80896**
Prep Date: **8/27/2021** Analysis Date: **8/30/2021** SeqNo: **2855200** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		102	70	130			

Sample ID: **LCS-62243** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **62243** RunNo: **80896**
Prep Date: **8/27/2021** Analysis Date: **8/30/2021** SeqNo: **2855201** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		101	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **ENSOLUM** Work Order Number: **2108G24** RcptNo: 1

Received By: **Desiree Dominguez** **8/28/2021 9:30:00 AM** DD

Completed By: **Desiree Dominguez** **8/28/2021 9:40:05 AM** DD

Reviewed By: DAD 8/28/21

Chain of Custody

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

Log In

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

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

Adjusted?

Checked by: CM 8/28/21

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Yes			

Chain-of-Custody Record

Client: Ensolum, LLC

Mailing Address: 606 S. Rio Grande, Suite A, Aztec, NM 87410

Phone #:

email or Fax#: ksummers@ensolum.com

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 100% Day (Same)

Project Name: Atlantic BLS-27

Project #: 05A1226151

Project Manager: K. Summers

Sampler: L. Daniell

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 1.3 - 0.2 = 1.1 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2108G24	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
8/27/21	9:00	S	S-12	1402 jar	Cool	-001	X	X					X			
8/27/21	9:05	S	S-13			-002	X	X					X			
8/27/21	9:10	S	S-14			-003	X	X					X			
8/27/21	9:15	S	S-15			-004	X	X					X			
8/27/21	9:20	S	S-16			-005	X	X					X			
8/27/21	9:25	S	S-17			-006	X	X					X			
8/27/21	9:30	S	S-18			-007	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8/27/21	1347		Christian Walker		8/27/21	1347
8/27/21	1937	Christian Walker		courier	8/28/21	9:30

Remarks: PM Tom Long
NonAFE: N54736
Pay key: RB21200
Same Day

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

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Operator: Enterprise Field Services, LLC PO Box 4324 Houston, TX 77210	OGRID: 241602
	Action Number: 73736
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	None	2/23/2022