

**STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION**

**APPLICATION OF TARGA MIDSTREAM  
SERVICES, LLC FOR AUTHORIZATION  
TO INJECT, LEA COUNTY, NEW MEXICO.**

**CASE NO. \_\_\_\_\_**

**TARGA MIDSTREAM SERVICES, LLC'S  
APPLICATION FOR AUTHORIZATION TO INJECT**

In accordance with 19.15.26 NMAC, Targa Midstream Services, LLC ("Targa") (OGRID No. 24650) seeks authorization to inject treated acid gas ("TAG") from its Copperhead Gas Processing Plant ("Plant") into the proposed Copperhead AGI No. 2 Well ("Well"), to be located in Section 13, Township 24 South, Range 32 East, Lea County, New Mexico. In support of this Application, Targa states the following.

1. The Well is an Underground Injection Control ("UIC") Class II well subject to the requirements of 19.15.26 NMAC.
2. The Well will be drilled as a vertical well with a surface location approximately 1,138 feet from the south line (FSL) and 1,842 feet from the west line (FWL) of Section 13.
3. The Well is a redundant well and will serve the Plant along with the Copperhead AGI No. 1 Well.
4. The Well will inject TAG into the Bell Canyon and Cherry Canyon formations of the Delaware Mountain Group at a depth of approximately 4,990 -7,125 feet.
5. The Well's maximum daily injection rate will be 26 million standard cubic feet per day ("MMSCFD").
6. The Well's maximum surface injection pressure will not exceed 1,004 pounds per square inch gauge ("psig").
7. The surface location of the Well is within the Plant's boundary.

8. The complete C-108 for the Well is attached to this application as Exhibit A.
9. The Well will allow Targa to serve operators in the area and avoid cessation of production.
10. Targa's request for authorization to inject TAG into the Well will prevent waste, protect correlative rights, and protect human health and the environment.

WHEREFORE, Applicant requests that this application be set for hearing before an Examiner of the Oil Conservation Division on December 4, 2025, and, after notice and hearing as required by law, the Division enter an order approving Targa's C-108 application for authorization to inject.

Respectfully submitted,

HARDY MCLEAN LLC

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**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: \_\_\_\_\_ Secondary Recovery \_\_\_\_\_ Pressure Maintenance \_\_\_\_\_  Disposal \_\_\_\_\_ Storage  
Application qualifies for administrative approval? \_\_\_\_\_ Yes \_\_\_\_\_  No
- II. OPERATOR: Targa Midstream Services, LLC  
ADDRESS: 811 Louisiana Street, Houston, TX 77002  
CONTACT PARTY: Jimmy Oxford, VP Operations PHONE: 940-220-2493
- III. WELL DATA: See Narrative and attachments.
- IV. Is this an expansion of an existing project? \_\_\_\_\_ Yes \_\_\_\_\_  No  
If yes, give the Division order number authorizing the project: \_\_\_\_\_
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review. **See Narrative, Section V.**
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail. **See Section VI for well summary. Attachment III Table III-1 for a listing of all wells within a 2-mile radius, and Attachment VII well files for plugged well API 30-025-08164**
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
  2. Whether the system is open or closed;
  3. Proposed average and maximum injection pressure;
  4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
  5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.). **See Narrative Section VII**
- \*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval. **See Narrative Section VIII**
- IX. Describe the proposed stimulation program, if any. **See Narrative Section IX**
- \*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted). **See Narrative Section X**
- \*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken. **See Narrative Section XI**
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water. **See Narrative Section XII**
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- NAME: Jimmy Oxford TITLE: VP of Operations  
SIGNATURE:  DATE: 10/29/25  
E-MAIL ADDRESS: JOxford@targaresources.com
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: \_\_\_\_\_

### III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.  
**See Narrative Section III A 1**
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined. **See Narrative Section III A 2**
- (3) A description of the tubing to be used including its size, lining material, and setting depth. **See Narrative Section III A 3**
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.  
**See Narrative Section III, Parts 2,3, and 4.**

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name. **Bell Canyon and Cherry Canyon Formations**
- (2) The injection interval and whether it is perforated or open-hole. Interval from **4,990-7,125' open-hole completion.**
- (3) State if the well was drilled for injection or, if not, the original purpose of the well. **Well to be drilled for injection of TAG**
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations. **NA**
- (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.  
**No higher oil/gas zone in area. Next lowest zone is Bone Spring, at a depth of approximately 8,922 ft.**

### XIV. PROOF OF NOTICE

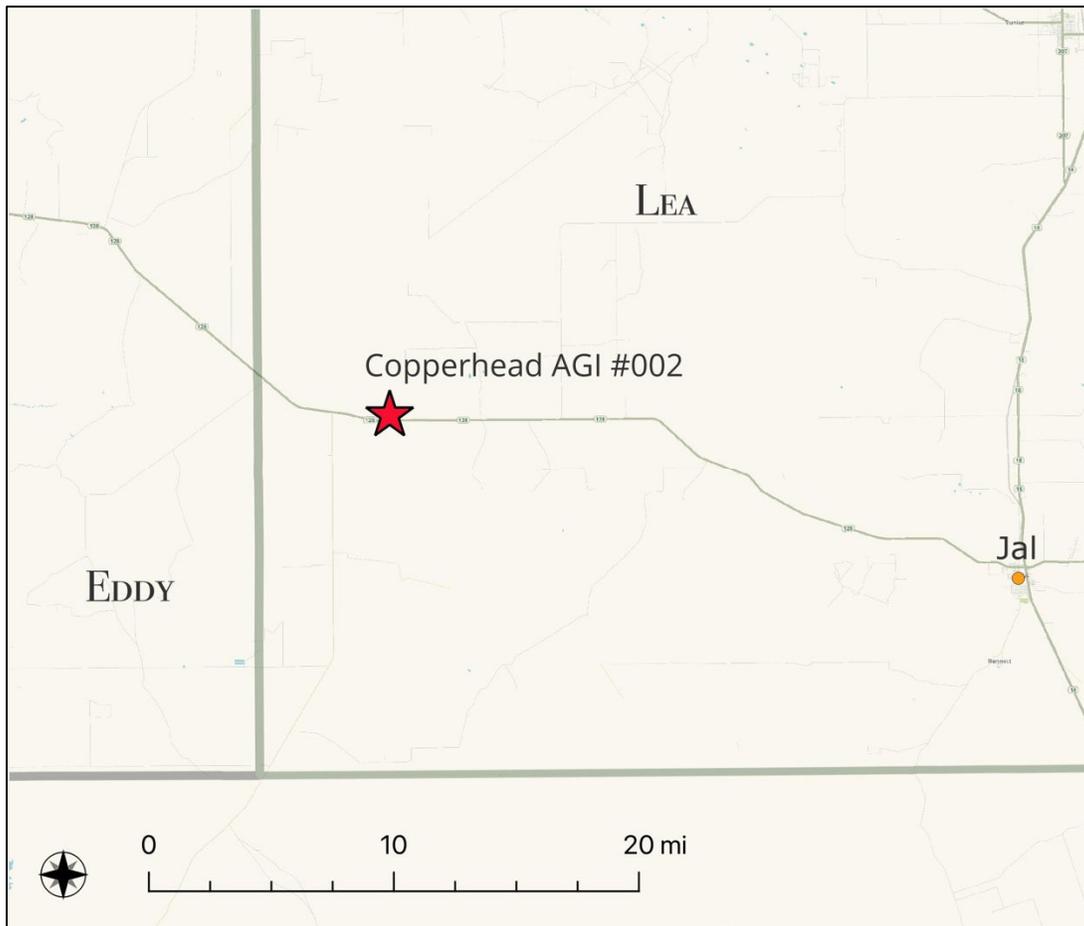
All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

**NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.**

APPLICATION FOR COPPERHEAD ACID GAS INJECTION WELL  
TARGA MIDSTREAM SERVICES LLC  
COPPERHEAD AGI #002  
SECTION 13 T24S, R32E  
LEA COUNTY, NEW MEXICO



Prepared for: Targa Midstream Services LLC, 811 Louisiana St, Houston TX 77002

Prepared by: New Mexico Tech Petroleum Recovery Research Center, 801 Leroy Place, Socorro NM

Oct 22, 2025

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# INTRODUCTION

The following document and attachments support the attached C-108 form for the proposed well Copperhead AGI #002. The narrative sections below align with the structure of the C-108 form.

## I. WELL PURPOSE

The well will be utilized to dispose of treated acid gas (TAG) from the adjacent Copperhead Gas Processing Plant. The Copperhead AGI #002 will be drilled at a location 1,138' from the south line (FSL) and 1,842' from the west line (FWL) of Section 13 T24S, R32E (**Attachment 1**). The Copperhead AGI #002 well will be drilled vertically to an approximate depth of 7,125 as a Class II acid gas injection well. The well will be completed open hole. and will inject into the Bell Canyon and Cherry Canyon formations of the Delaware Mountain Group at a depth of ~4,990-7,125 feet. The well is designed to safely sequester acid gas injectate at a rate of 26.0 million standard cubic feet per day (MMSCFD) at an approximate surface pressure not to exceed 1,004 psig.

## II. OPERATOR INFORMATION

The operator of the well will be Targa Midstream Services LLC, a subsidiary of Targa Resources Corp.

## III. WELL DATA

### *C-108 SECTION A*

#### **1. General Well Information (See Attachment 1 for C-102)**

Lease name and Well Number: Copperhead AGI #002

Legal location and footage: I-13-T24S-R32E, 1,138 FSL, 1,842 FWL

Acreage: 110

Lat/Long: 32.213573°N / 103.630882°W

Geodetic Coords: X = 758585.22, Y = 442,141.76, NAD 83 NME

Elevation: 3598.21'

Proposed Injection Unit and Depth: Bell and Cherry Canyon Formations of Delaware Mountain Group, 4990-7125'

Operator (OGRID): Targa Midstream Services LLC (24650) - a subsidiary of Targa Resources  
County: Lea County, NM

#### **2. Casing/Cement Information (See Attachment 2 for Wellbore Diagram)**

The preliminary casing design is presented in **Table 1**, and casing specifications are provided in **Table 2**. The well will have three strings of the telescoping casing. All three of the casing strings will be cemented to the surface. The injection tubing will include a subsurface safety valve on the production tubing to assure that fluid cannot flow back out of the well in the event of a failure of the injection equipment. The casing setting depth shall be calculated to position the casing seat opposite a competent formation which will contain the maximum pressure to which it will be exposed during normal drilling operations:- The annular space between the production tubing and the well bore will be filled with an inert fluid (corrosion-inhibited diesel fuel) as a further safety measure, which is consistent with injection well

designs that have been previously approved by the New Mexico Oil Conservation Commission (NMOCC) for acid gas injection.

**Table 1. Casing Design**

Casing/ Tubing String	Casing /Tubing Depth, TVD1, ft	Borehole Diameter, in.	Casing / Tubing Outside Diameter, in	Coupling/ Connection	Casing/Tubing Material (Weight /Grade)	String Weight in Air, lb
Conductor	0-100	20	16	Welded	75 lb/ft, J-55	7,500
Surface	0-1,520	17 1/2	13 3/8	BTC	72 lb/ft, L-80	109,440
Intermediate #1	0-4,990	12 1/4	9 5/8	BTC	47 lb/ft, L-80	234,530
Production	0-4750	8 1/2	7	BTC	32 lb/ft, L-80	152,000
Production	4750-5000	8 1/2	7	VAMTOP	32 lb/ft, G3 NICKEL ALLOY	9,600
Production	5000-7600	8 1/2	7	BTC	32 lb/ft, L-80	83200
Tubing	0-4950	3.5	3 1/2	VAMTOP	9.2 lb/ft, G3 CRA VAMTOP	45,540

**Table 2. Casing Specifications**

Casing / Tubing String	Casing / Tubing Material (Weight / Grade / Connectio n)	Casing/ Tubing Diameters (OD/ID/ Drift), in.	Yield, (ksi)	Tensile (ksi)	Internal (Burst) Yield, psi	Collapse (psi)	Body Yield, (1,000 lbs)	Joint Strength, 1,000 lbs
Surface	72 lb/ft, L- 80, BTC	13.375/12.347/12. 191	80	95	5,380	2,670	1,661	1,650
Inter- mediate #1	47 lb/ft, L- 80, BTC	9.625/ 8.681/ 8.525	80	95	6,870	4,760	1,086	1,122

Production 0-4750' 5000-7600'	32 lb/ft, L80	7.000/ 6.094/ 5.969	80	95	8460	8600	745	823
Production Nickel Alloy 4750-5000'	32 lb/ft, Cr13 CRA VAMTOP	7.000/ 6.094/ 5.969	110	125	11,640	10,780	1,025	1,053
CRA Tubing	9.2 lb/ft, VAM TOP/G3	3.500/ 2.992/ 2.867	80	95	10,160	10,540	207	168

**Table 3** summarizes cement design specifications. Top plugs shall be used to reduce contamination of cement by displacement fluid. A bottom plug or other acceptable technique, such as a pre-flush fluid, inner string cement method, etc. shall be utilized to help isolate the cement from contamination by the mud fluid being displaced ahead of the cement slurry.

Actual volumes will be calculated and determined by conditions onsite. All cement slurries will meet or exceed minimum BLM and New Mexico Oil Conservation Division requirements. The slurries listed above or equivalent slurries will be used depending on the service provider selected. Cement yields may change depending on the type of slurries selected.

Cement shall be allowed adequate curing time to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

Nickel Alloy casing will be the bottom 300' of the 7" casing for corrosion resistance and will be cemented with corrosion resistant cement.

**Table 3. Cement Design**

Casing	Depth (ft)	Cement Volume (sacks)	Cement Type & Yield	Designed TOC	Centralizers
Conductor	100	82	Type I Neat 14.8 ppg	Surface cement circulated	None
Surface	1,520	100% open hole excess 1680 sks lead, 200 sks tail. Volume verified with fluid caliper	Lead Class C + 2% CaCl <sub>2</sub> + 0.25lb/sk Cello Flake + 0.2% FL, 12.9 ppg, 1.97 cuft/sk. Tail 200 sk Class C 14.8 ppg, 1.34 cuft/sk	Surface Cement Circulated	1 per joint on bottom 3 joints

			Circulate		
Inter-mediate #1	4,990	75% open hole excess Lead: 1400 sks, Tail: 200 sks CorrasaCem Volume verified with fluid caliper	Lead: Class C Cmt + 3% CaCl + 0.25lb/sk CelloFlake + 5lb/sk LCM, 11.8 ppg 2.453 cuft/sk Tail: CorrosaCem Cmt, 14.5ppg 1.38 cuft/sk	Surface Cement Circulated	1 per joint for bottom 3 joints, 1 on every 3 joints for remaining joints
Production	7,600	75% open hole excess <b>STAGE 1</b> Lead: 150 sks Tail: 100 sks <b>STAGE 2</b> Lead:540 sks Class C, Tail 100 sks Corracem	<b>STG 1</b> Lead: Class H Cmt,14.5 ppg, 1.63 cuft/sk Tail:Class H Cmt 15.6 ppg cuft/sk <b>STG 2:</b> Lead Class C, 12.5 ppg, 1.63 cuft/sk Tail: Class CorrosaCem, 12.0 ppg, 1.75 cuft/sk	Surface Cement Circulated	1 per joint for bottom 3 joints, 1 on every 3 joints for remaining joints

\* Cement program may change based on cement engineer recommendation and caliper log result.

**3. Tubing Information**

The tubing is 3 ½” G3 Nickel Alloy 9.2 lb/ft tubing with Vam Top Gas Tight Threads from the surface to 4,950’ and then connected to the Inconel Permanent Production Packer. G3 Nickel alloy tubing is a highly corrosion resistant material. An Inconel SubSurface Safety Valve will be installed in the tubing at 100’ to 150’. Bottom hole pressure and temperature gauges will be attached to the permanent packer via fiber optic line attached to the outside of the tubing.

**4. Packer Information**

Halliburton 7” Nickel Alloy Permanent Packer set at 4,950’. The casing annulus will be filled with a corrosion resistant packer fluid consisting of diesel and corrosion inhibitors.

**Drilling Fluids Design**

The anticipated bottom hole pressure is ~3,200 psi. No abnormal pressure or temperatures are anticipated; however, there will be sufficient mud on location to control a blowout should one occur.

Managed Pressure Drilling Systems will be installed on the rig and operated to control abnormal pressure events. Mud flow and volume will be monitored both visually and with electronic pit volume totalizers. Mud tests shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH. The mud program may be revised at the recommendation of the field engineer.

A closed-loop system will be used to recover drilling fluid and dry cuttings in both phases of the well and on all hole intervals, including fresh water and oil-based operations. Above-ground tanks will be utilized to hold cuttings and fluids for rig operations. A frac tank will be on location to store fresh water. Waste will be disposed of properly at an EPA-approved hazardous waste facility. Fresh water cuttings will be disposed of by the service from the company.

### *C 108 SECTION III B*

1. Name of injection formation: Bell Canyon & Cherry Canyon Formations
2. Injection interval: Cased hole 4,990' - 7,125'
3. Original well purpose: Drilled for Acid Gas Injection
4. Depths of any other perforated intervals: No other perforated intervals
5. Depths and names of next higher and lower oil/gas zones in well area: Delaware, Bone Spring, Wolfcamp, Atoka/Morrow. See **Table 6** for details.

The proposed Copperhead AGI #002 well will be drilled for the purpose of injecting TAG into the Delaware Mountain Group formations at a measured depth of approximately 4,990-7,125 ft. In the 2 mile radius centered on the Copperhead AGI #002 location, there has been oil and gas production reported from the Delaware Mountain Group, the Bone Spring Formation, and Wolfcamp and Atoka/Morrow sediments. See Section VI, Tabulation of Wells for more discussion. Active, plugged, and permitted undrilled locations are shown in **Figure 1**, and **Table 4** provides a summary of wells.

### IV. EXPANSION OF EXISTING PROJECT

This is NOT an expansion of an existing project.

### V. LEASE AND WELL MAPS (SEE ATTACHMENT 3 ALSO)

The following maps are provided in accordance with NMOCD requirements. See **Table 3-1** in **Attachment 3** for tabular listings of wells, operators, and owners, as well as more details on land and leases.

- 2-mile, 1-mile and ½-mile radius Oil & Gas Well Map (**Figure 1, Figure 3-1**)
- 2-mile radius Mineral Ownership Map (**Figure 2, Figure 2-2**)
- 2-mile radius Surface Ownership map(**Figure 2, Figure 2-2**)

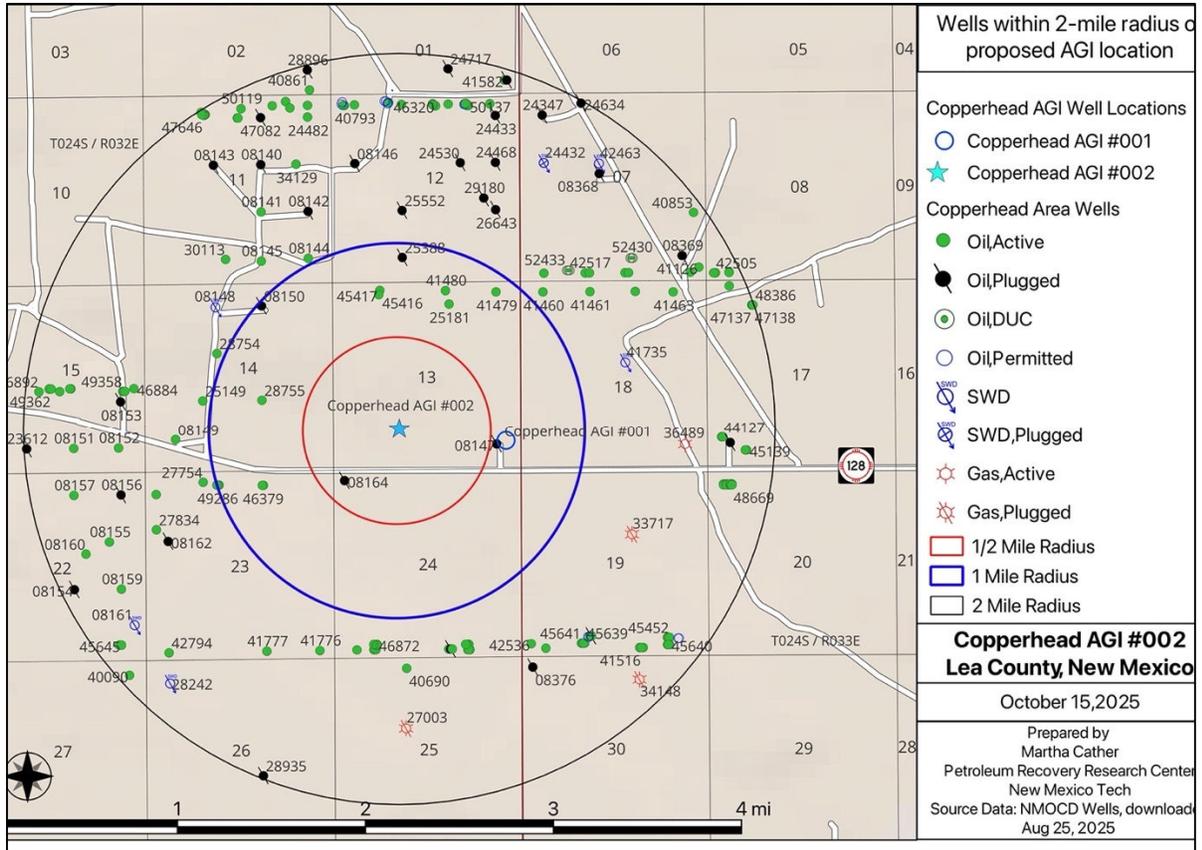


Figure 1. Wells within 1/2-, 1- and 2-mile radius of proposed Copperhead AGI #002

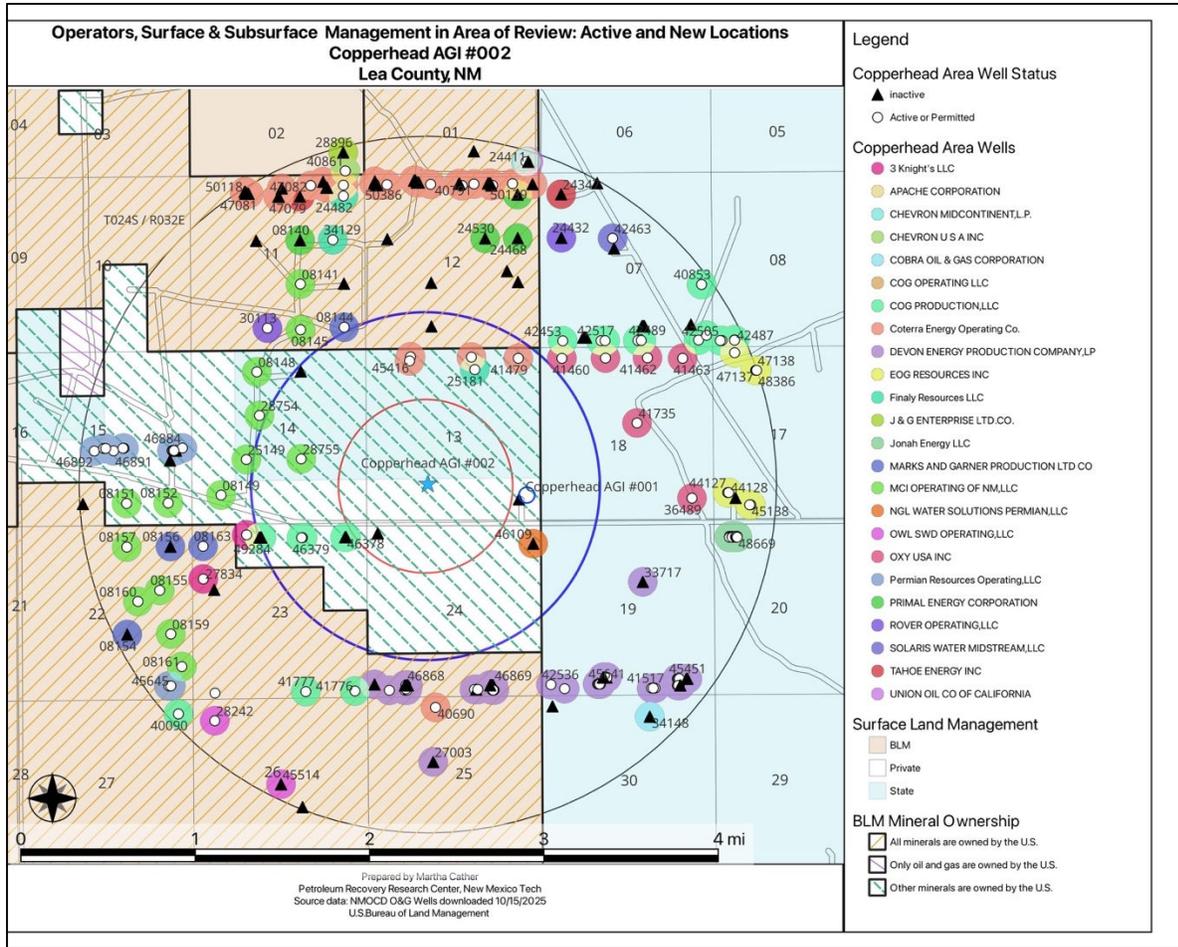


Figure 2. Operators and surface ownership for wells within 1/2-, 1- and 2-mile radius of proposed Copperhead AGI #002

## VI. TABULATION OF WELLS (SEE ATTACHMENT 3 FOR COMPLETE WELL LIST)

Table 4 provides information regarding the single well within a 1/2-mile radius of the proposed location. All available well files for this well are provided in Attachment 3

Table 4. Well locations within 1/2 mile of Copperhead AGI #002

Well API	Well Name	Well Type	Formation	Well Status	Operator	Spud	Plug	Notes
3002508164	FEDERAL BONDURANT #001	Oil	DELAWARE	Plugged (site released)	Osborne	1961	1961	DH 1961,TD Delaware 5,080'

There are 224 well locations (active, plugged, or new) within 2 miles of the proposed well, with 1 well located (Table 4) within a 1/2 mile radius. The Federal Bondurant #001 (API# 30-025-08164) was drilled in 1961 to a depth of 5,080 feet into Delaware Mountain Group sands and plugged that same year. Of the 224 locations within the 2 mile radius 155 are either Bone Spring or Wolfcamp wells. The remainder are Delaware (37) or Atoka/Morrow (1). Delaware wells produce from the Double X Delaware pool located

to the north and west of the proposed Copperhead AGI #002 location. Of these, 20 are still listed as active, but only 5 have reported production within the past 5 years. The Wimberly A #001, API 30-025-25181 is the nearest of these, at approximately 0.7 mi distance. **Tables 5 and 6** provides a general summary of wells in the area, and Attachment 3 provides a complete well listing.

**Table 5. Summary of wells within 2 miles of Copperhead AGI #002**

Radius distance from location (mi)	Active (incl New producers)	New (incl Never Drilled/recent expired/DUC)	Plugged, site released	Total
½-mile	0	0	1	1
1-mile	8	3	3	14
Two	147	30	32	209
Total	155	36	22	224

**Table 6 Producing zones within 2 miles of Copperhead AGI #002**

Unit or Pool	Approximate Depth Range (ft)
Triple X Delaware	4900-6800
Atoka/Morrow	15,100-15,400
Triste Draw Bone Spring	9,200-10,000
Triple X Bone Spring	9,500-11,000
Wolfcamp	12,100 - 12,500

## VII. DATA ON PROPOSED OPERATION

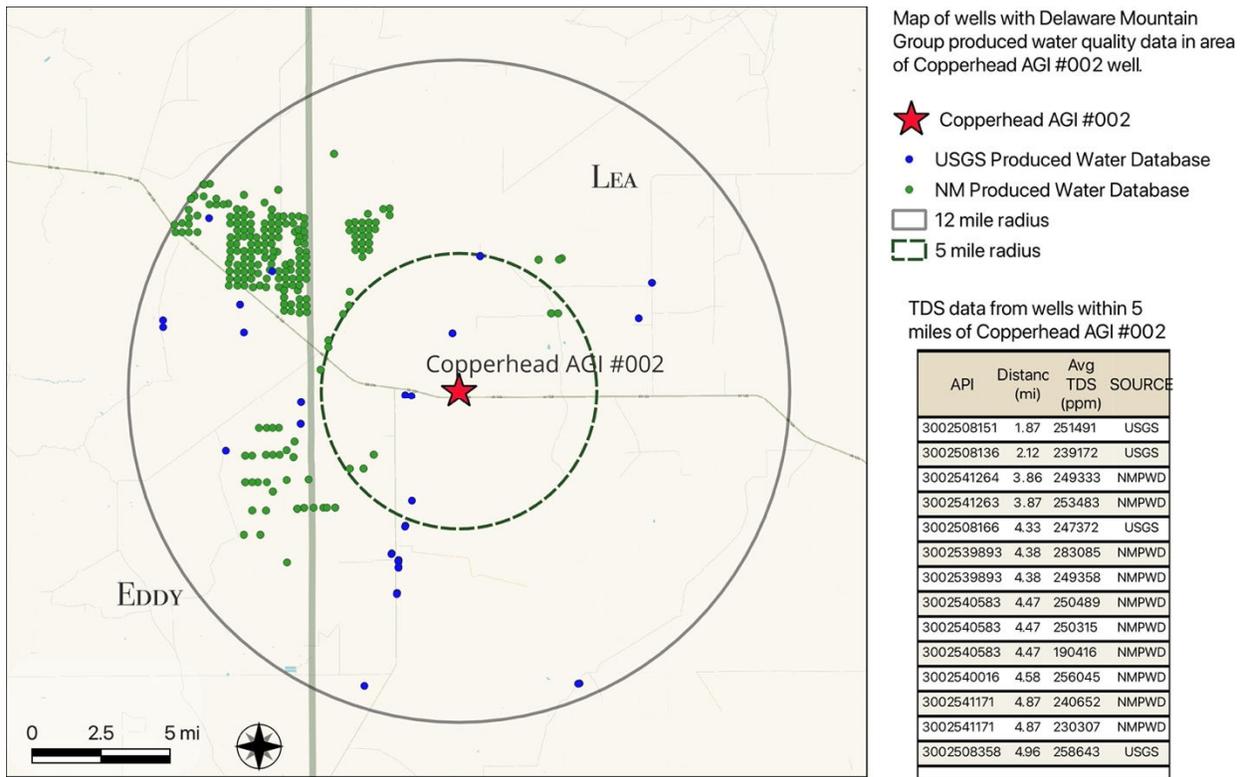
(Items 1-3) A closed system will be used. Average and maximum rates and pressures are shown in **Table 6**. Equations, calculations, and modeling results are provided in **Attachment IV**.

**Table 7. Average and maximum injection rates and pressures**

Injection rate, MMSCFD	Average BHP, psi	Max BHP, psi	Average WHP, psi	Max WHP, psi
26	7,353	9,094	2,476	3,101

(4) Source of injection fluid is TAG from Copperhead facility with a composition of 30% H<sub>2</sub>S, 70% CO<sub>2</sub>

(5) **Injection formation water analysis:** The proposed well will inject TAG into the Bell and Cherry Canyon Formations of the Delaware Mountain Group. Water data was retrieved from the U.S. Geological Survey National Produced Waters Geochemical Database v2.3 (05/22/2019) and the New Mexico Produced Water Quality Database ( ) to determine formation water chemistry for the injection interval of the Copperhead AGI #002 well. Over 380 water quality data points from 157 wells within a 12 mile radius of the proposed injection well were used. Those analyses show that the water contains NaCl and concentrations of total dissolved solids (TDS) range from 37,824 to 485,254 mg/l with an average of 247,970 mg/l (**Figure 3**). High salinity indicates this interval is compatible with injection.



**Figure 3.** Locations of wells with water chemistry data for Delaware Mountain Group formations within 12 miles of the Copperhead AGI #002 well. Data is from the USGS National Produced Waters Geochemical Database (blue) and the New Mexico Produced Water Database (Cather, 2014). Data show these formations are NaCl waters with average TDS of 247,970 mg/L. Data from wells within a 5-mile radius are shown in the accompanying table; some wells have multiple samples so values are averaged.

### VIII. GEOLOGIC DESCRIPTION AND DATA

**Table 8** lists formations, depths and thicknesses. The subsurface geology is composed of a very thick sequence of sedimentary rocks including evaporites, carbonates, sandstones and shales representing a variety of depositional environments, underlain by Precambrian bedrock. Details of injection and confining zones are given below.

The proposed injection zone is within the Bell Canyon and Cherry Canyon Formations of the Delaware Mountain Group (DMG). Together with the underlying Brushy Canyon Formation, the three formations comprise the Delaware Mountain Group (**Table 8**). The Delaware Basin was stable through Permian deposition with the basin sediments being dominated siliciclastic and carbonate deposits, and the surrounding shelves by carbonate deposits. All three formations are dominated by sandstone and siltstone with thin interbedded limestones and mudstones. Sandstones of the DMG are predominately quartz-rich, fine grained to silt sized and poorly cemented. The clastic sediments formed submarine fan complexes associated with submarine canyons with turbidite, debris flows and density currents. The Cherry Canyon and Bell Canyon deposits have channels as well as widespread sand sheets that have little cement within the sandstones.

**Table 8. Formation tops, depths, and thicknesses. Well tops picked from nearby logs.**

	Measured Depth (ft)	Thickness (ft)	Porosity (%)	Permeability (md)	Behavior
Rustler	1,165	336			Seal
Salado	1,501	1,314	2.50%	.02	Seal
Castile	2,815	2,149	0.20%	.001	Seal
Lamar	4,964	37	5.50%	.002	Seal
Bell Canyon	5,001	1,043	19.00%	60	Injection zone
Cherry Canyon	6,044	1,591	23.00%	55	Injection zone
Brushy Canyon	7,635	1,287	12.00%	<10	Seal
Bone Spring	8,922	3,292	2.00%	0.2	Seal
Ground elevation	3,603				

### *INJECTION ZONE*

The injection zone is within the Guadalupian-age Delaware Mountain Group Bell Canyon and Cherry Canyon formations at depths of 4,990–7,125 feet. The total thickness of the injection interval is estimated to be ~ 2,634 feet (**Table 8**). The best porosities and permeabilities are found within channel/splay sandstones of the Bell Canyon Formation. Bell Canyon sandstone porosities range from 11 to 28% and permeabilities from 1 to 385 mD (average 22.8%, 114 mD). The Cherry Canyon sandstone has lower porosities that range from <1 to 25% and <1 to 132 mD (average 15%, 120 mD). While the Brushy Canyon has been used as an injection zone in the Delaware Basin, the well will not penetrate the Brushy Canyon.

### ***UPPER CONFINING ZONE PROPERTIES: PERMIAN OCHOAN/LOPINGIAN SERIES***

The proposed injection interval is located under the approximately 5,000 feet of evaporite and minor carbonate deposits of the Rustler, Salado, and Castile formations and the Lamar Limestone. The Lamar Limestone marks the uppermost part of the DMG and is overlain by up to 2,149 ft of Castile Formation evaporites consisting of alternating layers of anhydrite, gypsum, limestone, salt, and calcite. The deep-water Castile deposits are overlain followed by the Salado Formation (~1,314 ft), a shallower water

evaporite deposit. The Salado Formation consists of halite, sylvite, anhydrite, gypsum, and numerous potash/bittern minerals. Salado deposits fill the basin and lap onto the older Permian shelf deposits. The Rustler Formation (up to 336 ft) consists of gypsum and anhydrite, a few magnesian and dolomitic limestone horizons, siltstones and mudstones. These are mostly shallow marginal marine deposits and represent the last Permian marine deposits in the Delaware Basin. The Castile and Salado evaporitic units are superb seals (usually <1% porosity and <0.01 mD permeability).

#### *LOWER CONFINING ZONE PROPERTIES:*

The injection zone in the Bell Canyon and Cherry Canyon formations is underlain by the Brushy Canyon Formation. Local production of oil and gas and is within the underlying and much deeper Bone Spring, Wolfcamp, Atoka, and Morrow deposits. There are no pay zones within Delaware Mountain Group formations within the area of review.

#### *SEISMIC REVIEW*

A search was conducted for seismic events recorded within a 10- and 20-mile radius (300 and 1,250 mi<sup>2</sup> respectively) surrounding the Copperhead AGI #1 well location. All seismic events of magnitude 2.0 or greater recorded by the New Mexico Tech Seismological Observatory and USGS databases from 1/12/17 to current day, were collected to determine if active seismicity exists near the proposed well location.

The search results from the New Mexico Tech Seismological Observatory database indicate 38 seismic events occurred from the period of January 2017 to present (**Figure 4**). The closest offset seismic event occurred approximately 8.3 miles from the proposed location and was a magnitude 2 event. The largest recorded seismic event within the 10 miles radius was a 4.03 magnitude event, at approximately 9.7 miles from the Copperhead AGI #002 location. Except for this 4.03 event, there are currently no seismic events of greater than 3.0 magnitude recorded within a 10 miles radius. In addition, all seismic activity reported from the period is concentrated to the southwestern edges of the 10 and 20 miles radius buffer zone. This more active area is a locus of oil production and concomitant SWD activity in the region.

There are 3 active monitoring stations located within 10 miles of the Copperhead AGI #001 well location. Among these 3 stations, one is in direct proximity to the well (**Figure 5**). There are 10 other seismic monitoring station within 10 to 20 miles of the well.

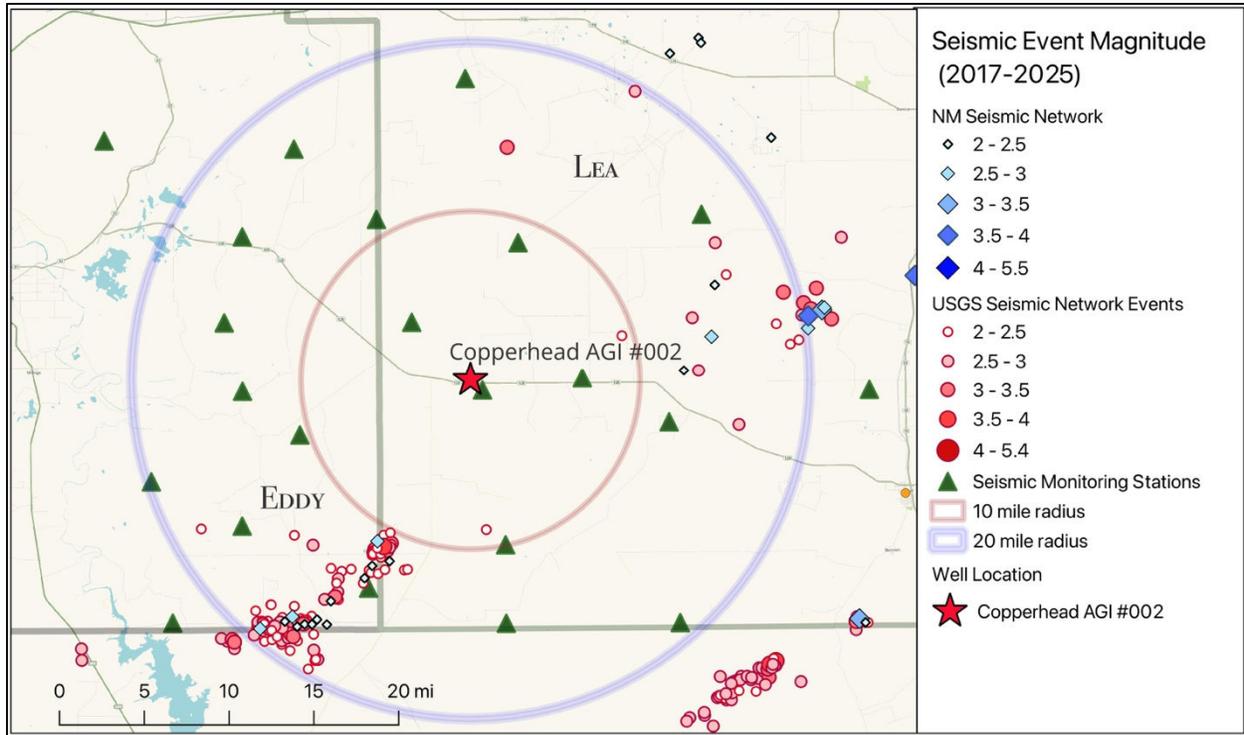


Figure 4. Nearby seismic monitoring stations and surface projections of seismic events, 2017 – 2024.

### Fault Slip Potential

A 3D seismic survey in the general Copperhead AGI area was analyzed for the presence of faults and fractures. No faults penetrate the injection zone in the area. A few faults were noted in shallower formations, terminating in the Castile at estimated depths of approximately 4,000 ft below ground surface, leaving 1,000 ft of intervening seal rock. Deep faults that extend from the Wolfcamp to basement were also noted in the 3D seismic, but there is almost 5,000 ft of rock between these faults and the injection zone. Because no faults penetrate nor terminate close to the injection zone, no fault slip analysis was performed.

### IX. PROPOSED STIMULATION PROGRAM

A cleanup acid job may be used to remove mud and drill cuttings from the formation. No other formation stimulation is currently planned.

### X. LOGGING AND TEST DATA

Logs will be submitted to the Division upon completion of the well.

### XI. GROUND WATER

There are four main sources of underground drinking water in the northern Delaware Basin of New Mexico (Ritchie et al., 1985; Lowry et al., 2018; USBLM, 2020). They include: Cenozoic alluvium, lithologically complex fluvial accumulations of the Pecos River and other streams, windblown sands, playa deposits, gypsite, and others, with TDS ranging from <200 to 15,000 mg/L with an average of 2,319

mg/L; the Santa Rosa member of the Dockum Group, a reddish-brown and gray cross-stratified sandstone with TDS ranging from 205 to 2,990 mg/L which serves as the principal source of groundwater in the eastern part of Eddy County and the western third of Lea County; the Rustler Formation, a brackish to saline (~10,000 to 300,000 mg/L TDS) anhydrite or gypsum formation with two dolomite marker beds and a basal zone of sandstone to shale which is typically utilized for livestock, irrigation, and enhanced oil recovery; and the Capitan Reef, a karst limestone with TDS of <300 to 10,000 mg/L (Ritchie et al., 1985; Lowry et al., 2018; USBLM, 2020).

Based on the New Mexico Water Rights Database from the New Mexico Office of the State Engineer, there are no freshwater wells located within one mile of the Copperhead AGI #002 well. The closest groundwater wells are found at distances of approximately 1.34 miles away ( C-01932) and 1.98 miles away ( C-03528-POD1), completed to depths of 492 ft and 541 ft respectively and collecting water in the Triassic Dockum Group (Santa Rosa), with primary use of livestock watering (Ritchie et al., 1985; NMOSE, 2025; Table 9; Figure 7). The shallow freshwater aquifer is protected by the surface and intermediate casings and cements in the Copperhead AGI #002.

Water chemistry is not available for wells C-01932 or C-03528-POD1. However, image files in the NMOSE water rights database for the expired application of pod C-01896 which is approximately 0.76 miles away include a chemical analysis of groundwater quality in the Santa Rosa of the Dockum Group (Table 10). Targa also implements frequent sampling in two additional shallow Triassic groundwater wells, C-03666 POD1 and C-03917 POD1 located adjacent to the Red Hills Gas Plant at distances of 5.8 and 6.2 miles away from the Copperhead AGI #002 well respectively. Samples collected on 11/21/2024 indicate the water is basic with pH of \_ 8 and calculated TDS of 416 to 1,072 mg/L (Attachment V). Results of these analyses are consistent with groundwater quality in the Triassic formations throughout the region.

**Table 9. Groundwater wells within 2 miles of Copperhead AGI #002**

pod_file	use	status	Well depth	tws	rng	sec	county	easting_13N	northing_13N	own_name
C-01932	STK	ACT	492	24S	32E	12	Eddy	628633	3567188	MCCLOY
C-03528-POD1	STK	ACT	541	24S	32E	15	Lea	626040	3566130	NGL

**Table 10. Geochemistry of Santa Rosa from well C-01896 application.**

Ca	Mg	Na, K	HCO <sub>3</sub>	SO <sub>4</sub>	Cl	TDS	Spec. Cond
32	26	163	287	219	52	635	1030

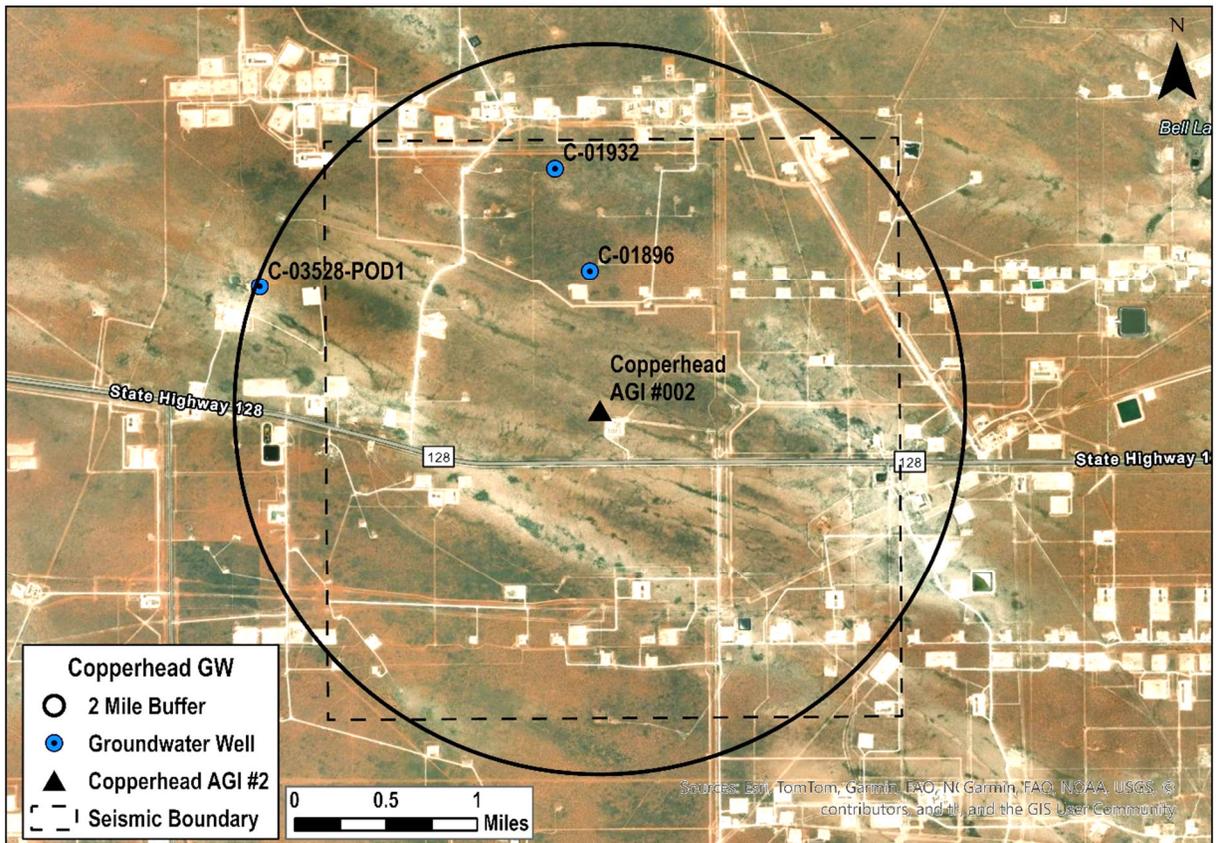


Figure 5. Groundwater wells near Copperhead AGI #002 from the NMOSE database.

#### References

Cather, M.E., 2014. Characterization of Produced Water In New Mexico: the NM WAIDS Database.” 59th Annual NM Water Conference, November 2014. Santa Fe, NM.

Lowry, Thomas S., Michael D. Schuhen, Owen W. Lofton, La Tonya N. Walker, Patricia B. Johnson, Dennis W. Powers, and Dale O. Bowman. 2018. Water Resource Assessment in the New Mexico Permian Basin. Prepared by Sandia National Laboratories. SAND2018-12018. October 2018.

New Mexico Office of the State Engineer, Water Rights Division 2023. New Mexico Water Rights Reporting System, [https://gis.osne.state.nm.us/gisapps/ose\\_pod\\_locations/](https://gis.osne.state.nm.us/gisapps/ose_pod_locations/) (accessed August 2023 to November 2023)

Richey, S.F., Wells, J.G., and Stephens, K.T., 1985, Geohydrology of the Delaware Basin and vicinity, Texas and New Mexico: Water-Resources Investigations Report, doi:[10.3133/wri844077](https://doi.org/10.3133/wri844077)

U.S. Department of the Interior Bureau of Land Management, 2020. BLM Water Support Document for Oil and Gas Development in New Mexico (BLM WSD 2020), 68 p.

## XII. NO HYDROLOGIC CONNECTION STATEMENT

Based on the available geological data we find no evidence of open faults and/or other hydrologic connection between the target injection zone for the Copperhead AGI #002 and underground sources of drinking water.

Dana Ulmer Scholle, Research Scientist

Date: October 22, 2025



George El-Kaseeh, Section Head – Industry Service Outreach

Date: October 22, 2025



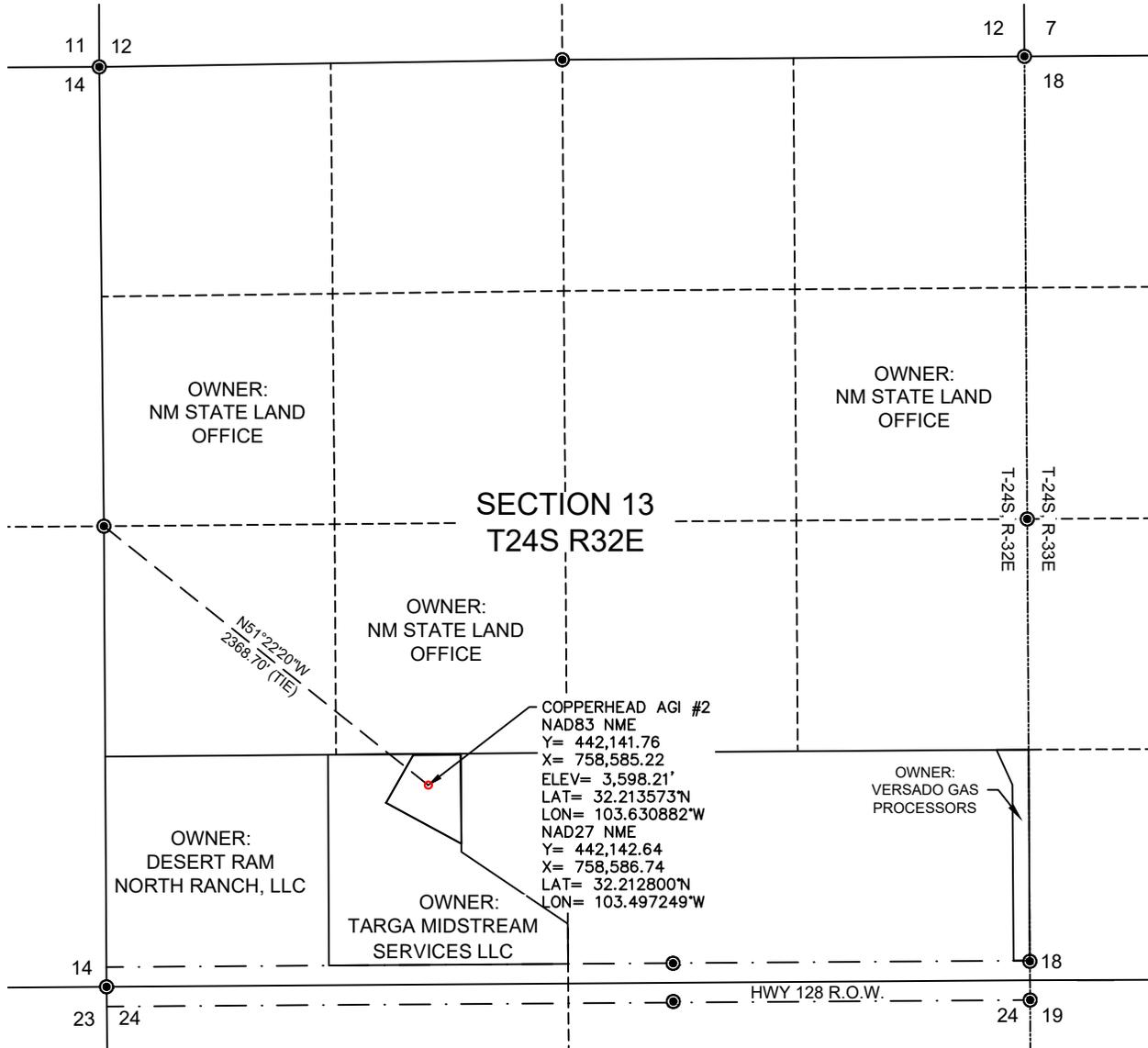
## XIII. PROOF OF NOTICE

Targa researched land records to obtain a listing of all operators, oil, gas and mineral lessees, and surface owners within a one-mile radius of the proposed AGI well. **Attachment III** includes the results of that search.

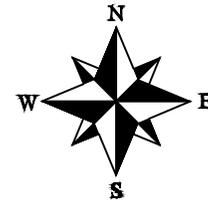
**Attachment VI** contains a draft notice letter that will accompany the application when the individual letters are sent. These notices will be sent out as soon as the NMOCC assigns a case number and sets a date for the hearing. [REDACTED]

## ATTACHMENT I: C-102 WELL LOCATION AND ACREAGE DEDICATION PLAT

# SECTION 13, TOWNSHIP 24 SOUTH, RANGE 32 EAST, N.M.P.M. LEA COUNTY, NEW MEXICO

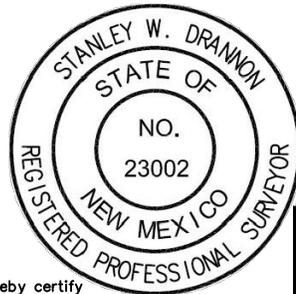


COPPERHEAD AGI #2  
SECTION LINE DISTANCE  
SHL 1,138' FSL & 1,842' FWL



SCALE: 1" = 1000'

- = BEGIN, END OR ANGLE POINT
- = FOUND USGLO BRASS CAP
- ⊗ = CALCULATED CORNER
- = SECTION LINE



I, Stanley W. Drannon, New Mexico PLS No. 23002, hereby certify this survey made on the ground under my supervision. This survey meet the minimum standards for surveying in New Mexico.

*Stanley W. Drannon* 10/21/2025  
 STANLEY W. DRANNON Date  
 NEW MEXICO P.L.S. NO. : 23002

NOTES:  
 1. BEARINGS AND DISTANCES CONFORM TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, NAD83, IN U.S. SURVEY FEET.

DRAWN BY: RAP	SCALE: 1" = 1000'	WELL LOCATION PLAT COPPERHEAD AGI #2
CHECKED: SD	W.O. No.: TAR-204	
DATE: 10/21/2025		
AFE: TBD		
REV: 0		
<b>PROSPECT SURVEYING</b>		<b>TARGA</b>
9231 BOAT CLUB ROAD, FORT WORTH TX 76179 PH: 817-999-7385 FIRM NO. 10194267		

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 Road, Aztec, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico  
Energy, Minerals & Natural Resources Department  
OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-102  
Revised August 1, 2011  
Submit one copy to appropriate  
District Office

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number	<sup>2</sup> Pool Code 98335	<sup>3</sup> Pool Name ACID GAS INJECTION: DELAWARE
<sup>4</sup> Property Code	<sup>5</sup> Property Name COPPERHEAD AGI	<sup>6</sup> Well Number 2
<sup>7</sup> OGRID No. 24650	<sup>8</sup> Operator Name TARGA MIDSTREAM SERVICES LLC	<sup>9</sup> Elevation 3598.21'

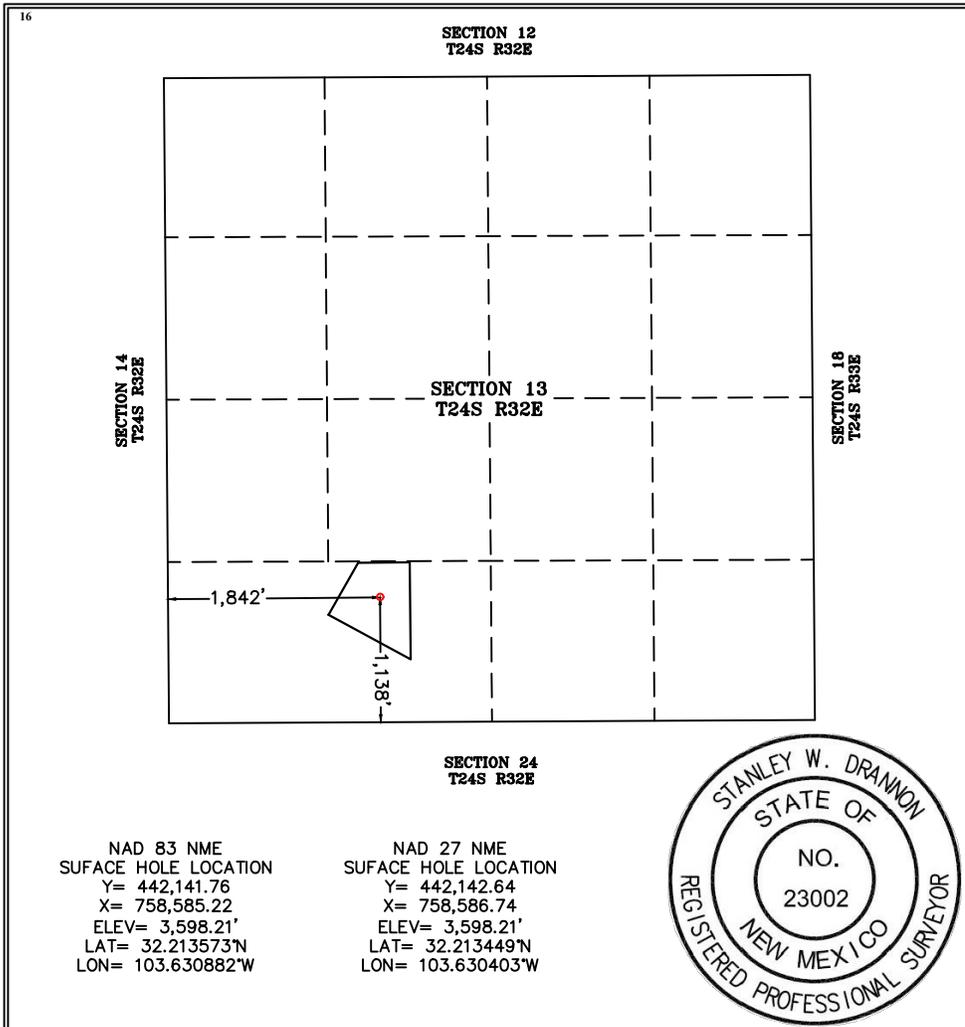
<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	13	24 S	32 E		1,138	SOUTH	1,842	WEST	LEA

<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<sup>12</sup> Dedicated Acres	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.						

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



<sup>17</sup> OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

**Matt Eales** 10/29/25  
Signature Date

**Matt Eales**  
Printed Name  
**meales@targaresources.com**  
E-mail Address

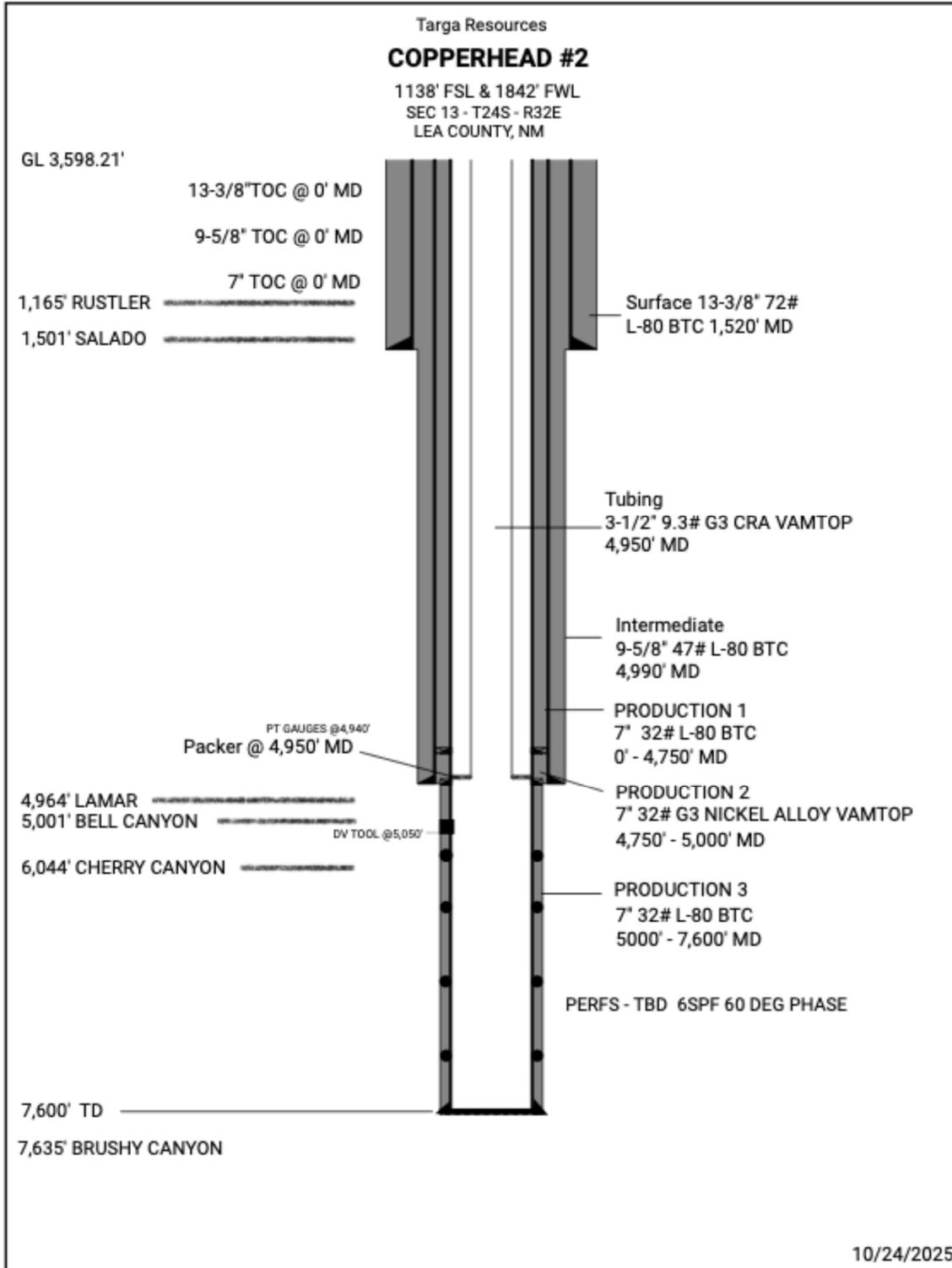
<sup>18</sup> SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

**10/21/2025**  
Date of Survey  
Signature and Seal of  
Professional Surveyor:

**Stanley W. Drannon**  
STANLEY W. DRANNON 23002 10/21/2025  
Certificate Number RAP TAR-204

# ATTACHMENT II: WELLBORE DIAGRAM



# ATTACHMENT III: WELL LIST AND LEASE MAPS

**Table III-1. List of all active, plugged, or new well locations in a 2-mile radius**

API (30-025-)	NAME	OPERATOR	STAT	FM	TVD	DIST (MI)	SPUD YR	PLUG YR	LAT	LONG
08164	FEDERAL BONDURANT #001	PRE-ONGARD WELL OPERATOR	P	DEL	5080	0.4	1961	1961	32.209507	-103.6358109
08147	WOOLLEY #001	PRE-ONGARD WELL OPERATOR	P	DEL	5063	0.53	1900	1957	32.212265	-103.6219711
25181	WIMBERLY A #001	Finaly Resources LLC	A	DEL	5050	0.71	1975	9999	32.2231598	-103.6262131
45417	DOS EQUIS 13 FEDERAL COM #010H	Coterra Energy Operating Co.	A	BSPG	11045	0.72	2019	9999	32.22392	-103.632592
28755	JENNINGS FEDERAL #006	MCI OPERATING OF NM, LLC	A	DEL	4933	0.74	1984	9999	32.2158241	-103.6432648
45416	DOS EQUIS 13 FEDERAL COM #009H	Coterra Energy Operating Co.	A	BSPG/ WOLF	11051	0.74	2019	9999	32.22425	-103.632498
41480	DOS EQUIS 13 FEDERAL COM #002H	Coterra Energy Operating Co.	A	BSPG	10937	0.78	2014	9999	32.2242012	-103.6265335
46381	EIDER 23 FEDERAL #702H	COG PRODUCTION, LLC	A	WOLF	12390	0.78	2019	9999	32.209186	-103.643184
46379	EIDER 23 FEDERAL #602H	COG PRODUCTION, LLC	A	WOLF	12364	0.79	2019	9999	32.209185	-103.643281
41479	DOS EQUIS 13 FEDERAL COM #001H	Coterra Energy Operating Co.	A	BSPG	10988	0.89	2014	9999	32.2240753	-103.6219406
25388	WIMBERLY #007	PRE-ONGARD WELL OPERATOR	P	DEL	5100	0.91	1976	1976	32.2267799	-103.6304321
08150	JENNINGS FEDERAL#003	PRE-ONGARD WELL OPERATOR	P	DEL	5030	0.98	1962	1982	32.2231064	-103.6432495
49284	EIDER 23 FEDERAL COM #703H	COG PRODUCTION, LLC	A	WOLF	0	1	2022	9999	32.209225	-103.647209
49285	EIDER 23 FEDERAL COM #704H	COG PRODUCTION, LLC	A	WOLF	0	1.01	2022	9999	32.209224	-103.647306
49286	EIDER 23 FEDERAL COM #705H	COG PRODUCTION, LLC	A	WOLF	0	1.01	2022	9999	32.209224	-103.647403
08144	GULF HANAGAN FEDERAL #001	MARKS AND GARNER PRODUCTION LTD CO	A	DEL	5065	1.02	1962	9999	32.226757	-103.6389694
28754	JENNINGS FEDERAL #005	MCI OPERATING OF NM, LLC	A	DEL	4950	1.04	9999	9999	32.2194557	-103.6473236
25149	JENNINGS FEDERAL #004	MCI OPERATING OF NM, LLC	A	DEL	5000	1.05	9999	9999	32.2158012	-103.6486359
41460	COPPERHEAD 18 STATE #002H	OXY USA INC	A	BSPG	11060	1.06	2014	9999	32.2240486	-103.6176758
27754	EXXON 23 FEDERAL #001	3 Knight's LLC	A	DEL	4985	1.08	1982	9999	32.2094498	-103.6486511

42453	MACHO NACHO STATE COM #010H	COG PRODUCTION, LLC	A	BSPG	9480	1.13	2015	9999	32.2254962	-103.6175784
08145	GULF HANAGAN FEDERAL #002	MCI OPERATING OF NM, LLC	A	DEL	5046	1.15	1962	9999	32.2265701	-103.6432419
46865	BELL LAKE 24 FEDERAL #008H	DEVON ENERGY PRODUCTION COMPANY, LP	A	BSPG	0	1.16	2021	9999	32.196849	-103.632957
46868	BELL LAKE 24 FEDERAL #012H	DEVON ENERGY PRODUCTION COMPANY, LP	A	BSPG	9311	1.16	2021	9999	32.196849	-103.633151
47545	BELL LAKE 24 FEDERAL #014H	DEVON ENERGY PRODUCTION COMPANY, LP	A	BSPG	9383	1.16	2021	9999	32.196848	-103.633248
46872	BELL LAKE 24 FEDERAL #019H	DEVON ENERGY PRODUCTION COMPANY, LP	A*	BSPG/WOLF	0	1.16	2021	9999	32.196849	-103.633054
25552	WIMBERLY #008	PRE-ONGARD WELL OPERATOR	P	DEL	5070	1.16	1977	1979	32.2304077	-103.6304245
46870	BELL LAKE 24 FEDERAL #016H	DEVON ENERGY PRODUCTION COMPANY, LP	A	WOLF	0	1.18	2020	9999	32.196536	-103.633152
08148	JENNINGS FEDERAL #001	MCI OPERATING OF NM, LLC	A	DEL	5019	1.18	1962	9999	32.2230835	-103.6475525
46871	BELL LAKE 24 FEDERAL #018H	DEVON ENERGY PRODUCTION COMPANY, LP	A	WOLF	0	1.19	2020	9999	32.196436	-103.633055
46835	BELL LAKE 24 FEDERAL #015H	DEVON ENERGY PRODUCTION COMPANY, LP	A	WOLF	0	1.19	2020	9999	32.196436	-103.633249
08149	JENNINGS FEDERAL #002	MCI OPERATING OF NM, LLC	A	DEL	5000	1.19	1962	9999	32.2127724	-103.6511307
41182	BELL LAKE 24 FEDERAL #001H	DEVON ENERGY PRODUCTION COMPANY, LP	A	BSPG	10991	1.2	2013	9999	32.196434	-103.6347809
46869	BELL LAKE 24 FEDERAL #013H	DEVON ENERGY PRODUCTION COMPANY, LP	A	BSPG	0	1.21	2021	9999	32.196809	-103.624617
46867	BELL LAKE 24 FEDERAL #011H	DEVON ENERGY PRODUCTION COMPANY, LP	A	BSPG	9266	1.21	2021	9999	32.196808	-103.624714
46866	BELL LAKE 24 FEDERAL #010H	DEVON ENERGY PRODUCTION COMPANY, LP	A	BSPG	9295	1.21	2021	9999	32.196808	-103.624811
41307	BELL LAKE 24 FEDERAL #003H	DEVON ENERGY PRODUCTION COMPANY, LP	P	BSPG	11064	1.21	2014	2015	32.1964569	-103.6262817
46873	BELL LAKE 24 FEDERAL #021H	DEVON ENERGY PRODUCTION COMPANY, LP	A	BSPG/WOLF	10041	1.21	2021	9999	32.196808	-103.624908
41304	BELL LAKE 24 FEDERAL #004H	DEVON ENERGY PRODUCTION COMPANY, LP	A	BSPG	11056	1.21	2014	9999	32.1964569	-103.6264496
41306	BELL LAKE 24 FEDERAL #002H	DEVON ENERGY PRODUCTION COMPANY, LP	A	BSPG	11082	1.21	2014	9999	32.1964569	-103.6261215
52429	MACHO NACHO STATE COM #607H	COG OPERATING LLC	A*	BSPG	0	1.23	2024	9999	32.22577	-103.615481
52433	MACHO NACHO STATE COM #608H	COG OPERATING LLC	A*	WOLF	0	1.23	2024	9999	32.22577	-103.615578
46874	BELL LAKE 24 FEDERAL #022H	DEVON ENERGY PRODUCTION COMPANY, LP	A	WOLF	0	1.24	2020	9999	32.196396	-103.624714
46875	BELL LAKE 24 FEDERAL #024H	DEVON ENERGY PRODUCTION COMPANY, LP	A	WOLF	0	1.24	2020	9999	32.196396	-103.624617

46876	BELL LAKE 24 FEDERAL #025H	DEVON ENERGY PRODUCTION COMPANY, LP	A	WOLF	0	1.24	2020	9999	32.196396	-103.62452
52428	MACHO NACHO STATE COM #605H	COG OPERATING LLC	A*	BSPG	0	1.24	2024	9999	32.22577	-103.615287
52432	MACHO NACHO STATE COM #606H	COG OPERATING LLC	A*	WOLF	0	1.24	2024	9999	32.22577	-103.615384
41735	COPPERHEAD 18 STATE SWD #001	OXY USA INC	A	DEL	6800	1.25	2014	9999	32.2186279	-103.6103592
08142	HANAGAN D #003	PRE-ONGARD WELL OPERATOR	P	DEL	4986	1.25	1962	1974	32.2303848	-103.6389694
41461	COPPERHEAD 18 STATE #003H	OXY USA INC	A	BSPG	11076	1.25	2014	9999	32.2240448	-103.6134033
41776	TREASURE ISLAND FEDERAL #001H	COG PRODUCTION, LLC	A	BSPG	10722	1.26	2014	9999	32.1963959	-103.6381454
26643	HANAGAN D FEDERAL #002	PRE-ONGARD WELL OPERATOR	P	DEL	5100	1.27	1980	1981	32.230423	-103.6219254
40690	DOUBLE X 25 FEDERAL #004	Coterra Energy Operating Co.	A	BSPG	10832	1.28	2012	9999	32.1949883	-103.6302719
30113	WIMBERLY #006	ROVER OPERATING, LLC	A	DEL	5075	1.29	9999	9999	32.2267189	-103.6464844
42518	MACHO NACHO STATE COM #009H	COG PRODUCTION, LLC	A	BSPG	9533	1.29	2015	9999	32.22549335	-103.613825
42517	MACHO NACHO STATE COM #008H	COG PRODUCTION, LLC	A	BSPG	9496	1.31	2015	9999	32.22549304	-103.613435
29180	GULF FEDERAL #001	PRE-ONGARD WELL OPERATOR	P	DEL	5020	1.31	1985	1985	32.2313309	-103.6229935
08163	ERNEST FEDERAL #001	MARKS AND GARNER PRODUCTION LTD CO	A	DEL	4992	1.34	1962	9999	32.2085228	-103.6529236
33717	STATE 19 #001	DEVON ENERGY PRODUCTION COMPANY, LP	P	AT/MOR	15966	1.35	1997	2016	32.2053223	-103.6099014
42536	BELL LAKE 19 STATE #006H	DEVON ENERGY PRODUCTION COMPANY, LP	A	BSPG	9716	1.35	2015	9999	32.19682317	-103.6189568
08141	HANAGAN D FEDERAL #002	MCI OPERATING OF NM, LLC	A	DEL	4962	1.36	1962	9999	32.2303658	-103.6432343
08162	ERNEST FEDERAL #001	PRE-ONGARD WELL OPERATOR	P	DEL	5020	1.37	1962	1963	32.2048988	-103.6518631
41777	TREASURE ISLAND FEDERAL #002H	COG PRODUCTION, LLC	A	BSPG	10961	1.38	2014	9999	32.196373	-103.6429596
27834	EXXON 23 FEDERAL #002	3 Knight's LLC	A	DEL	5013	1.4	9999	9999	32.2058029	-103.6529236
41024	BELL LAKE 19 STATE #001H	DEVON ENERGY PRODUCTION COMPANY, LP	A	BSPG	11054	1.41	2013	9999	32.1964722	-103.6176224
46884	GHOST RIDER 22 15 FEDERAL COM #101H	Permian Resources Operating, LLC	A	BSPG	9934	1.42	2020	9999	32.2167878	-103.6548865
08146	GULF HANAGAN FEDERAL #003	PRE-ONGARD WELL OPERATOR	P	DEL	5049	1.43	1962	1963	32.2340508	-103.6346893
24530	WIMBERLY #004	PRIMAL ENERGY CORPORATION	P	DEL	5030	1.45	1973	1997	32.234066	-103.6251144
42489	MACHO NACHO STATE COM #007H	COG PRODUCTION, LLC	A	BSPG	9477	1.46	2015	9999	32.22549031	-103.6102144
41462	COPPERHEAD 18 STATE #004H	OXY USA INC	A	BSPG	10980	1.46	2014	9999	32.224041	-103.6092911
08376	CONTINENTAL STATE #001	PRE-ONGARD WELL OPERATOR	P	DEL	5108	1.46	1961	1961	32.195015	-103.6188202

50230	GHOST RIDER 22 15 FEDERAL COM #402H	Permian Resources Operating, LLC	A	BSPG/ WOLF	12138	1.47	2022	9999	32.2165797	-103.6558078
50231	GHOST RIDER 22 15 FEDERAL COM #401H	Permian Resources Operating, LLC	A	BSPG/ WOLF	12312	1.47	2022	9999	32.2165799	-103.6557108
49358	GHOST RIDER 22 15 FEDERAL COM #001H	Permian Resources Operating, LLC	A	BSPG	9318	1.48	2022	9999	32.2165794	-103.6559047
42488	MACHO NACHO STATE COM #006H	COG PRODUCTION, LLC	A	BSPG	9527	1.48	2015	9999	32.22548999	-103.6098894
08152	HANAGAN B FEDERAL #002	MCI OPERATING OF NM, LLC	A	DEL	4990	1.49	1961	9999	32.2121391	-103.656311
08153	HANAGAN B FEDERAL #003	PRE-ONGARD WELL OPERATOR	P	DEL	4970	1.49	1961	1961	32.2157669	-103.656105
54723	BELL LAKE 19 18 STATE COM #301H	DEVON ENERGY PRODUCTION COMPANY, LP	A**	BSPG	0	1.5	9999	9999	32.197392	-103.613871
54724	BELL LAKE 19 18 STATE COM #302H	DEVON ENERGY PRODUCTION COMPANY, LP	A**	BSPG	0	1.5	9999	9999	32.197392	-103.613774
45641	BELL LAKE 19 18 STATE COM #034H	DEVON ENERGY PRODUCTION COMPANY, LP	A	WOLF	12229	1.5	2019	9999	32.196842	-103.614389
34129	WIMBERLY #007	Finaly Resources LLC	A	DEL	5118	1.51	1997	9999	32.2340317	-103.6400299
45455	BELL LAKE 19 18 STATE COM #017H	DEVON ENERGY PRODUCTION COMPANY, LP	A	BSPG	9350	1.51	2019	9999	32.1973915	-103.6136122
45621	BELL LAKE 19 18 STATE COM #013Y	DEVON ENERGY PRODUCTION COMPANY, LP	A	BSPG	9491	1.51	2019	9999	32.197392	-103.613467
45454	BELL LAKE 19 18 STATE COM #013	DEVON ENERGY PRODUCTION COMPANY, LP	P	BSPG	120	1.51	2019	2019	32.1973915	-103.6135152
24468	WIMBERLY #003	PRIMAL ENERGY CORPORATION	P	DEL	5070	1.51	1973	2002	32.2340698	-103.6219177
45642	BELL LAKE 19 18 STATE COM #035H	DEVON ENERGY PRODUCTION COMPANY, LP	A	WOLF	12325	1.51	2019	9999	32.196842	-103.614195
45638	BELL LAKE 19 18 STATE COM #030H	DEVON ENERGY PRODUCTION COMPANY, LP	A	WOLF	12469	1.51	2019	9999	32.196842	-103.614292
08156	BRADLEY FEDERAL #003	MARKS AND GARNER PRODUCTION LTD CO	P	DEL	4980	1.52	1962	2006	32.2085114	-103.6561203
45639	BELL LAKE 19 18 STATE COM #031H	DEVON ENERGY PRODUCTION COMPANY, LP	A	WOLF	12515	1.52	2019	9999	32.196842	-103.614098
36489	COPPERHEAD 18 STATE #001	OXY USA INC	A	WOLF	14627	1.52	2004	9999	32.2122612	-103.6050262
52427	MACHO NACHO STATE COM #603H	COG OPERATING LLC	A*	BSPG	0	1.53	2024	9999	32.226688	-103.609711
52431	MACHO NACHO STATE COM #604H	COG OPERATING LLC	A*	WOLF	0	1.53	2024	9999	32.226688	-103.609808
52426	MACHO NACHO STATE COM #601H	COG OPERATING LLC	A*	BSPG	0	1.54	2024	9999	32.226688	-103.60957
52430	MACHO NACHO STATE COM #602H	COG OPERATING LLC	A*	WOLF	0	1.54	2024	9999	32.226688	-103.609614
08140	WIMBERLY #001	PRIMAL ENERGY CORPORATION	P	DEL	5091	1.58	1962	2000	32.2340164	-103.6432343
27003	FEDERAL BM #001	DEVON ENERGY PRODUCTION COMPANY, LP	P	MORROW	15973	1.59	1980	2007	32.1904526	-103.6305313

24432	INGRAM O STATE #002	ROVER OPERATING, LLC	P	DEL	5204	1.61	1973	2021	32.2340698	-103.6176453
41463	COPPERHEAD 18 STATE #005H	OXY USA INC	A	BSPG	11109	1.63	2014	9999	32.2239838	-103.6058502
08155	BRADLEY FEDERAL #002	MCI OPERATING OF NM, LLC	A	DEL	4976	1.65	1962	9999	32.2048798	-103.657196
08159	U S SMELTING FEDERAL #003	MCI OPERATING OF NM, LLC	A	DEL	5005	1.71	1962	9999	32.2012367	-103.6561356
42794	CHARRO FEDERAL COM #001H	COG OPERATING LLC	A	BSPG	10972	1.71	2015	9999	32.196302	-103.651845
08143	HANAGAN D #004	PRE-ONGARD WELL OPERATOR	P	DEL	5107	1.71	1962	1974	32.2339935	-103.6475372
40792	DOS EQUIS 12 FEDERAL COM #003H	Coterra Energy Operating Co.	A	BSPG	11003	1.72	2013	9999	32.2385941	-103.6304169
44127	HEARTTHROB 17 STATE #701H	EOG RESOURCES INC	A	WOLF	12447	1.72	2018	9999	32.2127039	-103.6015362
08151	HANAGAN B FEDERAL #001	MCI OPERATING OF NM, LLC	A	DEL	4955	1.73	1961	9999	32.2121239	-103.6603851
24482	WIMBERLY #005	Finaly Resources LLC	A	DEL	5050	1.73	9999	9999	32.2376671	-103.6389618
46323	DOS EQUIS 12 13 FEDERAL COM #073H	Coterra Energy Operating Co.	A	WOLF	12396	1.73	2020	9999	32.238468	-103.627386
46320	DOS EQUIS 12 13 FEDERAL COM #005H	Coterra Energy Operating Co.	A	BSPG/WOLF	12418	1.73	2020	9999	32.238468	-103.627322
44128	HEARTTHROB 17 STATE #702H	EOG RESOURCES INC	A	WOLF	12422	1.73	2018	9999	32.2127038	-103.6014294
08368	GULF 7 STATE #002	PRE-ONGARD WELL OPERATOR	P	DEL	5076	1.73	1900	1962	32.2331581	-103.6124878
50125	DOS EQUIS 12 13 FEDERAL COM #075H	Coterra Energy Operating Co.	A	BSPG	0	1.74	2024	9999	32.238633	-103.62758
46319	DOS EQUIS 12 13 FEDERAL COM #003H	Coterra Energy Operating Co.	A	BSPG/WOLF	0	1.74	2023	9999	32.238754	-103.631578
46318	DOS EQUIS 12 13 FEDERAL COM #001H	Coterra Energy Operating Co.	A	BSPG/WOLF	0	1.74	2023	9999	32.238545	-103.635619
46322	DOS EQUIS 12 13 FEDERAL COM #047H	Coterra Energy Operating Co.	A	WOLF	0	1.74	2023	9999	32.238754	-103.631642
46321	DOS EQUIS 12 13 FEDERAL COM #008H	Coterra Energy Operating Co.	A	WOLF	0	1.74	2023	9999	32.238543	-103.635684
50135	DOS EQUIS 12 13 FEDERAL COM #009H	Coterra Energy Operating Co.	A	WOLF	0	1.74	2023	9999	32.238545	-103.635749
50126	DOS EQUIS 12 13 FEDERAL COM #076H	Coterra Energy Operating Co.	A*	BSPG	0	1.74	2024	9999	32.238633	-103.627645
50120	DOS EQUIS 12 13 FEDERAL COM #048H	Coterra Energy Operating Co.	A**	BSPG/WOLF	0	1.74	9999	9999	32.238754	-103.631707
40793	DOS EQUIS 12 FEDERAL COM #004H	Coterra Energy Operating Co.	A	BSPG	10933	1.74	2013	9999	32.2385864	-103.6346893
24433	WIMBERLY #002	PRIMAL ENERGY CORPORATION	P	DEL	5038	1.74	1973	1962	32.2376976	-103.6219025
41515	BELL LAKE 19 STATE #002H	DEVON ENERGY PRODUCTION COMPANY, LP	A	BSPG	11105	1.74	2014	9999	32.1964722	-103.609108
41516	BELL LAKE 19 STATE #003H	DEVON ENERGY PRODUCTION COMPANY, LP	A	BSPG	11114	1.74	2014	9999	32.1964722	-103.6089478

50121	DOS EQUIS 12 13 FEDERAL COM #049H	Coterra Energy Operating Co.	A**	WOLF	0	1.74	9999	9999	32.238754	-103.631772
50124	DOS EQUIS 12 13 FEDERAL COM #052H	Coterra Energy Operating Co.	A**	BSPG	0	1.75	9999	9999	32.238918	-103.632031
50122	DOS EQUIS 12 13 FEDERAL COM #050H	Coterra Energy Operating Co.	A**	BSPG/ WOLF	0	1.75	9999	9999	32.238919	-103.631901
40791	DOS EQUIS 12 FEDERAL COM #002H	Coterra Energy Operating Co.	A	BSPG	11027	1.75	2013	9999	32.2385979	-103.6261749
41517	BELL LAKE 19 STATE #004H	DEVON ENERGY PRODUCTION COMPANY, LP	A	BSPG	11088	1.75	2014	9999	32.1964722	-103.6087875
50138	DOS EQUIS 12 13 FEDERAL COM #089H	Coterra Energy Operating Co.	A	BSPG	0	1.76	2024	9999	32.238635	-103.62467
50137	DOS EQUIS 12 13 FEDERAL COM #087H	Coterra Energy Operating Co.	A	WOLF	0	1.76	2024	9999	32.23847	-103.624476
08161	U S SMELTING FEDERAL SWD #005	MCI OPERATING OF NM, LLC	A	DEL	4995	1.76	1962	9999	32.1985168	-103.6550751
08157	U S SMELTING FEDERAL #001	MCI OPERATING OF NM, LLC	A	DEL	5014	1.76	1960	9999	32.2084961	-103.6603928
49333	GHOST RIDER 22 15 FEDERAL COM #002H	Permian Resources Operating, LLC	A	BSPG	9336	1.76	2022	9999	32.2168035	-103.6607067
50181	DOS EQUIS 11 14 FEDERAL COM #091H	Coterra Energy Operating Co.	A**	BSPG	0	1.76	9999	9999	32.238635	-103.6248
50139	DOS EQUIS 12 13 FEDERAL COM #090H	Coterra Energy Operating Co.	A**	BSPG	0	1.76	9999	9999	32.238635	-103.624735
41958	MACHO NACHO STATE COM #005H	COG PRODUCTION, LLC	A	BSPG	9512	1.76	2014	9999	32.2254944	-103.6042786
46126	HYPERION STATE #141H	Jonah Energy LLC	A	BSPG	10493	1.76	2019	9999	32.2090552	-103.6013907
49344	GHOST RIDER 22 15 FEDERAL COM #403H	Permian Resources Operating, LLC	A	BSPG/ WOLF	12299	1.76	2022	9999	32.2168038	-103.6606097
50386	DOS EQUIS 12 13 FEDERAL COM #011H	Coterra Energy Operating Co.	A**	WOLF	0	1.76	9999	9999	32.23871	-103.635943
46324	DOS EQUIS 12 13 FEDERAL COM #086H	Coterra Energy Operating Co.	A	WOLF	12419	1.76	2019	9999	32.23847	-103.624411
45842	HYPERION STATE #221H	Jonah Energy LLC	A	WOLF	12915	1.76	2019	9999	32.2089864	-103.6013906
46481	DOS EQUIS 12 13 FEDERAL COM #006H	Coterra Energy Operating Co.	A	BSPG/ WOLF	12951	1.76	2019	9999	32.23847	-103.624347
50206	DOS EQUIS 12 13 FEDERAL COM #088H	Coterra Energy Operating Co.	A	BSPG	0	1.77	2024	9999	32.238635	-103.624606
50136	DOS EQUIS 12 13 FEDERAL COM #077H	Coterra Energy Operating Co.	A	BSPG/ WOLF	0	1.77	2024	9999	32.238635	-103.624541
42463	MACHO NACHO 7 STATE SWD #001	SOLARIS WATER MIDSTREAM, LLC	A	DEL	7385	1.77	2015	9999	32.23400115	-103.6126319
46659	HYPERION STATE #131H	Jonah Energy LLC	A	WOLF	12248	1.77	2020	9999	32.2090532	-103.6011329
50385	DOS EQUIS 12 13 FEDERAL COM #010H	Coterra Energy Operating Co.	A**	WOLF	0	1.77	9999	9999	32.238871	-103.635878

46658	HYPERION STATE #201H	Jonah Energy LLC	A	WOLF	12486	1.77	2020	9999	32.2089845	-103.601133
46661	HYPERION STATE #215H	Jonah Energy LLC	A	WOLF	12572	1.77	2020	9999	32.2090535	-103.6010521
20400	LOWE STATE #001	PRE-ONGARD WELL OPERATOR	P	DEL	5230	1.77	1963	1963	32.2122574	-103.6007614
08369	STATE 7 #001	PRE-ONGARD WELL OPERATOR	P	DEL	5165	1.77	1958	1958	32.2267876	-103.6050186
46660	HYPERION STATE #205H	Jonah Energy LLC	A	WOLF	12945	1.78	2020	9999	32.2089848	-103.6010521
48662	HYPERION STATE #101H	Jonah Energy LLC	A	BSPG	0	1.79	2022	9999	32.2089847	-103.6007935
08160	U S SMELTING FEDERAL #004	MCI OPERATING OF NM, LLC	A	DEL	4985	1.79	1962	9999	32.2039642	-103.6593323
48667	HYPERION STATE #171H	Jonah Energy LLC	A	BSPG	9549	1.79	2022	9999	32.2090534	-103.6007126
41469	DOS EQUIS 11 FEDERAL COM #001H	Coterra Energy Operating Co.	A	BSPG	10925	1.79	2014	9999	32.2385712	-103.6389542
48665	HYPERION STATE #151H	Jonah Energy LLC	A	BSPG	11480	1.79	2022	9999	32.2090534	-103.6007935
47083	DOS EQUIS 11 14 FEDERAL COM #062H	Coterra Energy Operating Co.	A	WOLF	0	1.8	2023	9999	32.238377	-103.640554
48668	HYPERION STATE #172H	Jonah Energy LLC	A	BSPG	9561	1.8	2022	9999	32.2090533	-103.6006318
48669	HYPERION STATE #181H	Jonah Energy LLC	A	BSPG	9967	1.8	2022	9999	32.2089847	-103.6007127
50355	HYPERION STATE #125H	Jonah Energy LLC	A	BSPG	10872	1.8	2022	9999	32.2089846	-103.6006318
40700	DOS EQUIS 12 FEDERAL COM #001	Coterra Energy Operating Co.	A	BSPG	11085	1.8	2012	9999	32.2386055	-103.6223907
45453	BELL LAKE 19 18 STATE COM #010H	DEVON ENERGY PRODUCTION COMPANY, LP	A	BSPG	9339	1.81	2019	9999	32.1972387	-103.6065847
46891	GHOST RIDER 22 15 FEDERAL COM #102H	Permian Resources Operating, LLC	A	BSPG	10000	1.81	2020	9999	32.2165947	-103.6616272
41126	MACHO NACHO STATE #004H	COG PRODUCTION, LLC	A	BSPG	10826	1.81	2013	9999	32.2258797	-103.6035004
25368	WIMBERLY #006	TAHOE ENERGY INC	P	DEL	5100	1.81	1976	1976	32.2376442	-103.6432266
45452	BELL LAKE 19 18 STATE COM #009H	DEVON ENERGY PRODUCTION COMPANY, LP	A	BSPG	9336	1.82	2019	9999	32.1972389	-103.6063907
45451	BELL LAKE 19 18 STATE COM #007H	DEVON ENERGY PRODUCTION COMPANY, LP	A	BSPG	9509	1.82	2019	9999	32.1972388	-103.6064877
28242	JACKSON FEDERAL SWD #001	OWL SWD OPERATING, LLC	A	DEL	9350	1.83	1983	9999	32.1939964	-103.651886
24347	STATE O #001	TAHOE ENERGY INC	P	DEL	5204	1.83	1973	2002	32.2376976	-103.6176376
47080	DOS EQUIS 11 14 FEDERAL COM #008H	Coterra Energy Operating Co.	A	WOLF	0	1.84	2023	9999	32.23887	-103.640945
41470	DOS EQUIS 11 FEDERAL COM #002H	Coterra Energy Operating Co.	A	BSPG	10893	1.84	2014	9999	32.2385559	-103.6421585
34148	STATE 30 #001	COBRA OIL & GAS CORPORATION	P	NA	15585	1.84	1997	1999	32.1941071	-103.6093063
45643	BELL LAKE 19 18 STATE COM #036H	DEVON ENERGY PRODUCTION COMPANY, LP	A	WOLF	12289	1.84	2019	9999	32.196689	-103.606584

45640	BELL LAKE 19 18 STATE COM #032H	DEVON ENERGY PRODUCTION COMPANY, LP	A	WOLF	12467	1.84	2019	9999	32.196689	-103.606487
45644	BELL LAKE 19 18 STATE COM #037H	DEVON ENERGY PRODUCTION COMPANY, LP	A	WOLF	12332	1.85	2019	9999	32.196689	-103.60639
45138	HEARTTHROB 17 STATE #703H	EOG RESOURCES INC	A	WOLF	12473	1.85	2019	9999	32.2116745	-103.5993872
47082	DOS EQUIS 11 14 FEDERAL COM #049H	Coterra Energy Operating Co.	A	WOLF	0	1.86	2023	9999	32.23763	-103.645279
47079	DOS EQUIS 11 14 FEDERAL COM #007H	Coterra Energy Operating Co.	A	WOLF	0	1.86	2023	9999	32.237629	-103.645343
54725	BELL LAKE 19 18 STATE COM #303H	DEVON ENERGY PRODUCTION COMPANY, LP	A**	BSPG	0	1.86	9999	9999	32.197235	-103.605693
54726	BELL LAKE 19 18 STATE COM #304H	DEVON ENERGY PRODUCTION COMPANY, LP	A**	BSPG	0	1.86	9999	9999	32.197234	-103.605596
40861	MCCLOY RANCH 2 24 32 STATE COM #004H	CHEVRON U S A INC	A	BSPG	9573	1.86	2012	9999	32.2397575	-103.6387634
49362	GHOST RIDER 22 15 FEDERAL COM #404H	Permian Resources Operating, LLC	A	BSPG/ WOLF	12129	1.86	2022	9999	32.2167985	-103.6624006
45139	HEARTTHROB 17 STATE #704H	EOG RESOURCES INC	A	WOLF	12510	1.86	2019	9999	32.2116743	-103.5992805
49357	GHOST RIDER 22 15 FEDERAL COM #003H	Permian Resources Operating, LLC	A	BSPG	9339	1.87	2022	9999	32.2167982	-103.6624976
42505	EATA FAJITA STATE #011H	COG PRODUCTION, LLC	A	BSPG	9606	1.87	2015	9999	32.2254379	-103.6021552
45645	GHOST RIDER 22 15 FEDERAL COM #201H	Permian Resources Operating, LLC	A	BSPG	10572	1.87	2019	9999	32.1969185	-103.6561629
49361	GHOST RIDER 22 15 FEDERAL COM #405H	Permian Resources Operating, LLC	A	BSPG/ WOLF	12274	1.87	2022	9999	32.216798	-103.6625946
42506	EATA FAJITA STATE #012H	COG PRODUCTION, LLC	A	BSPG	9520	1.88	2015	9999	32.22543767	-103.6019927
45769	GHOST RIDER 22 15 FEDERAL COM #202H	Permian Resources Operating, LLC	A	BSPG	10934	1.88	2019	9999	32.196918	-103.6563568
50119	DOS EQUIS 11 14 FEDERAL COM #050H	Coterra Energy Operating Co.	A	WOLF	0	1.9	2023	9999	32.23834	-103.644997
46892	GHOST RIDER 22 15 FEDERAL COM #103H	Permian Resources Operating, LLC	A	BSPG	9935	1.92	2020	9999	32.2165891	-103.6635151
41056	HEARTTHROB BSX STATE #001H	EOG RESOURCES INC	A	BSPG	11116	1.92	2014	9999	32.2244186	-103.6007538
08154	BRADLEY FEDERAL #001	MARKS AND GARNER PRODUCTION LTD CO	P	DEL	4966	1.93	9999	2006	32.2012215	-103.6604004
24717	UNION 1 FEDERAL #001	PRE-ONGARD WELL OPERATOR	P	DEL	5117	1.93	1974	1979	32.2413216	-103.6261673
40090	DOS XX 27 FEDERAL COM #001H	COG PRODUCTION, LLC	A	BSPG	9595	1.94	2013	9999	32.1945839	-103.6554413
24411	NEWMAN FEDERAL #001	UNION OIL CO OF CALIFORNIA	P	DEL	5025	1.94	1973	1995	32.2404213	-103.6208344

41582	J KEATS 1 24 32 #040H	CHEVRON MIDCONTINENT, L.P.	A	BSPG	11035	1.94	2014	9999	32.2404213	-103.6210556
42487	EATA FAJITA STATE #013H	COG PRODUCTION, LLC	A	BSPG	9570	1.95	2015	9999	32.22545754	-103.600758
40853	MACHO NACHO STATE #003H	COG PRODUCTION, LLC	A	BSPG	10891	1.95	2013	9999	32.2301102	-103.6039505
40582	EATA FAJITA STATE #001H	COG PRODUCTION, LLC	A	BSPG	11002	1.95	2013	9999	32.2254906	-103.6007538
45414	DOS EQUIS 11 14 FEDERAL COM #005H	Coterra Energy Operating Co.	A	BSPG	0	1.96	2022	9999	32.237909	-103.648246
47081	DOS EQUIS 11 14 FEDERAL COM #023H	Coterra Energy Operating Co.	A	BSPG/WOLF	0	1.96	2022	9999	32.237909	-103.64831
50259	DOS EQUIS 11 14 FEDERAL COM #025H	Coterra Energy Operating Co.	A	BSPG	0	1.97	2022	9999	32.237909	-103.648569
47645	DOS EQUIS 11 14 FEDERAL COM #024H	Coterra Energy Operating Co.	A	BSPG/WOLF	0	1.97	2022	9999	32.237909	-103.648375
47646	DOS EQUIS 11 14 FEDERAL COM #025Y	Coterra Energy Operating Co.	A*	BSPG/WOLF	0	1.97	2022	9999	32.237909	-103.64844
28896	NEW MEXICO EH STATE #001	J & G ENTERPRISE LTD. CO.	P	DEL	5233	1.97	1985	1997	32.2412949	-103.6389542
50117	DOS EQUIS 11 14 FEDERAL COM #026H	Coterra Energy Operating Co.	A	WOLF	0	1.98	2023	9999	32.238073	-103.648569
50118	DOS EQUIS 11 14 FEDERAL COM #027H	Coterra Energy Operating Co.	A	WOLF	0	1.98	2023	9999	32.238073	-103.648634
23612	HICKS FEDERAL #001	PRE-ONGARD WELL OPERATOR	P	DEL	5023	1.98	1970	1971	32.2121086	-103.6646652
24634	STATE P #001	PRE-ONGARD WELL OPERATOR	P	DEL	5121	1.98	1973	1974	32.2386017	-103.6141052
47137	HEARTTHROB 17 STATE #201H	EOG RESOURCES INC	A	BSPG	9536	1.99	2021	9999	32.2229403	-103.5987142
47138	HEARTTHROB 17 STATE #202H	EOG RESOURCES INC	A	BSPG	9788	1.99	2021	9999	32.2229403	-103.5986625
28935	JACKSON FEDERAL #002	PRE-ONGARD WELL OPERATOR	P	DEL	5100	1.99	1984	1985	32.1867638	-103.6433487
48386	HEARTTHROB 17 STATE #101H	EOG RESOURCES INC	A	BSPG	9449	2	2021	9999	32.2229403	-103.5986107

A = Active

A\* = Spud or Drilled, not completed

A\*\*= Permit Active, Drill status not known

P = Plugged

Undrilled wells locations with expired or cancelled permits are not included in this listing

Data from NMOCD database and scanned well files downloaded 8/25/25/ - 9/29/35

## **AFFECTED PARTIES WITHIN ONE MILE OF PROPOSED WELL**

### **Surface Owners**

#### **Versado Gas Processors, L.L.C.**

KE Andrews & CO  
2424 Ridge Road  
Rockwall, TX 75087

- Owner ID #206138
- Property Code. – 4000051757005
- 80.00 acres, being S2 S2, situated in Sec. 13, T24S, R32E

#### **Desert Ram North Ranch, LLC (fka NGL North Ranch LLC)**

6120 S Yale Avenue, Suite 805  
Tulsa, OK 74136

- Owner ID #206181
- Property Code - 4980808100234
- 65.35 acres, being S2 S2 situated in Sec. 13, T24S, R32E
- Less 15.65 acres dedicated to NMDOT for NM State Hwy 128
- Property Code - 4000051757004
- 258.15 acres, being W2 W2, S2 SE4 and SE4 SW4 situated in Sec. 14, T24S, R32E
- Less 21.85 acres dedicated to NMDOT for NM State Hwy 128
- Property Code - 4000051757002
- 155.54 acres, being NE4 NW4, N2 NE4 and SE4 NE4 situated in Sec. 23, T24S, R32E
- Less 4.46 acres, dedicated to NMDOT for NM State Hwy 128
- Property Code - 4000051757001
- 468.06 acres, being N2 and N2 S2 situated in Sec 24, T24S, R32E
- Less 11.94 acres dedicated to NMDOT for NM State Hwy 128

#### **New Mexico Department of Transportation**

1120 Cerrillos Road  
P.O. Box 1149  
Santa Fe, NM 87504-1149  
Phone (505) 795-1401

- Lands in T24S, R32E with Sec 13 - 15.65 acres; Sec 14 - 21.85 acres; Sec 23 - 4.46 acres and Sec 24 - 11.94 acres.
- Lands in T24S, R33E with Sec 18 - 5.93 acres and Sec 19 - 4.56 acres.

**State of New Mexico**

State Land Office  
310 Old Santa Fe Trail, Santa Fe NM 87501  
Mailing Address:  
P.O. Box 1148, Santa Fe, NM 87504  
505-827-5760  
505-827-5766 (Fax)

- Lands in T24S, R32E Sections 13 and 14
- Lands in T24S, R33E, Sections 7, 18 and 19

**United States Bureau of Land Management**

New Mexico State Office  
301 Dinosaur Trail  
Santa Fe, NM 87508  
United States  
Phone: 505-954-2222

- Lands in T24S, R32E Sections 11 and 12

**Operators**

**Coterra Energy Operating Company**

6001 Deauville Boulevard, 300N  
Midland, TX 79706  
Main Phone: 432-571-7800

- Operations in Sections 11, 12, 13 and 14, T24S, R32E

**Finaly Resources LLC**

16585 PCH  
Suite 324  
Sunset Beach, CA 90742  
Main Phone: 562-881-0975

- Operations in Section 13, T24S, R32E

**COG Production, LLC**

One Concho Center  
600 W. Illinois Ave  
Midland, TX 79701  
Main Phone: 432-683-7443

- Operations in Section 23, T24S, 32S

- Section 7, T24S, R33E

**Devon Energy Production Co, LP**

333 W. Sheridan Ave  
Oklahoma City, OK 73102  
Phone Main: (405)235-3611  
Phone: (405) 228-4800

- Operations in Section 24, T24S, R32E
- Section 19, T24S, R33E

**Marks and Garner Production Ltd Company**

P O Box 70  
Lovington, NM 88260  
Main Phone: 575-393-9358

- Operations in Section 11, T24S, R32E

**Oxy USA, Inc.**

Oil & Gas Royalty Interest Owners  
Attn: Land Administration  
P.O. Box 27570  
Houston, TX 77227-7757  
Phone: (713) 215-7231

- Operations in Section 18, T24S, R33E

**MCI Operating of New Mexico, LLC**

107 Main Street  
Sealy, TX 77474  
Main Phone: 979-885-0809

- Operations in Sections 11 and 14, T24S, R32E

**3 Knight's LLC**

4023 Harmon Lane  
Carlsbad, NM 88220  
Main Phone: 630-670-6280

- Operations in Section 23, T24S, R32E

**3XT Holding, LLC**

5326 County Road 7560  
Lubbock, TX 79424

- Operations in Section 23, T24S, R32E

## **Working Interest Owners**

### **Cimarex Energy Co.**

6001 Deauville Blvd., Suite 300N  
Midland, Texas 79706  
Phone: (432) 571-7800

### **Magnum Hunter Production Inc.**

840 Gessner Rd, Suite 1400  
Houston, TX 77024

### **Chevron USA Inc.**

6001 Bollinger Canyon Road  
San Ramon, CA 94583, USA  
Phone: (925) 842-1000

### **Chevron Midcontinent LP**

6301 Deauville Blvd  
Midland, Tx 79706  
Phone: (432) 687-7723

### **Devon Energy Production Co. LP**

333 W. Sheridan Ave  
Oklahoma City, OK 73102  
Phone Main: (405)235-3611  
Phone: (405) 228-4800

### **Conoco Phillips Company**

P.O. Box 2197  
Houston, Texas 77252-2197

### **Conoco Phillips Company**

315 S Johnstone  
Bartlesville, OK 74005-7500

### **Canaan Resources Drilling Company, LLC**

1101 N Broadway, Suite #300  
Oklahoma, City 73103

### **Oxy USA, Inc.**

Attn: Land Administration  
P.O. Box 27570  
Houston, TX 77227-7757  
Phone: (713) 215-7231

**Finaly Resources LLC**

16585 PCH, Suite 324  
Sunset Beach, CA 90742  
Main Phone: 562-881-0975

**Coterra Energy Operating Company**

6001 Deauville Boulevard, 300N  
Midland, TX 79706  
Main Phone: 432-571-7800

**Marks and Garner Production Ltd Company**

P O Box 70  
Lovington, NM 88260  
Main Phone: 575-393-9358

**XTO Holdings, LLC**

22777 Springwoods Village Pkwy  
Spring, Texas 77389  
Phone (817) 870-2800  
Fax: (817) 870-1671

**3XT Holding, LLC**

5326 County Road 7560  
Lubbock, TX 79424

**3 Knight's LLC**

4023 Harmon Lane  
Carlsbad, NM 88220  
Main Phone: 630-670-6280

**COG Production, LLC**

One Concho Center  
600 W. Illinois Ave  
Midland, TX 79701  
Main Phone: 432-683-7443  
Main Fax: 432-687-8013

**COG Operating LLC**

600 W. Illinois Avenue  
Midland, Texas 79701

**Concho Oil & Gas LLC**  
600 W. Illinois Avenue  
Midland, Texas 79701

**MCI Operating of New Mexico, LLC**  
107 Main Street  
Sealy, TX 77474  
Main Phone: 979-885-0809

**Mineral Interest Owner(s) for unleased tracts**

Based on United States Bureau of Land Management maps, New Mexico Land Status Maps, Lea County Records, BLM Records and The State of New Mexico Land Office records, the State of New Mexico and the United States Bureau of Land Management, the following lists the mineral ownership of the subject tracts within a 1-mile radius:

All of Section 11-T24S-R32E – USA - appears HBP

All of Section 12-T24S-R32E – USA - appears HBP

All of Section 13-T24S-R32E – USA - appears HBP

All of Section 14-T24S-R32E – USA - appears HBP

All of Section 23-T24S-R32E – USA - appears HBP

All of Section 24-T24S-R32E – USA - appears HBP

All of Section 7-T24S-R33E – State of NM - appears HBP

All of Section 18-T24S-R33E – State of NM - appears HBP

All of Section 19-T24S-R33E – State of NM - appears HBP





the hydrodynamic modeling performed in CMG-GEM®. The treated acid gas (TAG) involved in the injections was modeled with the potential to exist in both dissolved and supercritical states within the aqueous and gaseous phases, respectively.

The construction of the static model was based on well logs and formation tops, aiming to accurately characterize and map the structural layers of the caprock. The geological model covers an area of approximately 3.2 by 3.1 miles, represented in a gridded format comprising 172 x 173 x 18 cells, totaling 535,608 cells. The grid size in the actively injected areas averages 100 by 100 square feet. **Figures IV-1** through **IV-3** provide detailed visualizations of the model, including a map view (**Figure IV-1**), a 3D representation of the simulation model (**Figure IV-2**), and estimates of porosity and permeability based on available data from well logs (**Figure IV-3**). In the model, the range of porosity is between 0 and 21%. The permeability is interpolated between 0.1553 to 82.33 millidarcy (mD), and the vertical permeability anisotropy is 0.1 (**Figure IV-3**).

For initialization of the reservoir simulations, several parameters and assumptions were considered. The connate water saturation of the storage reservoir was conservatively set at 100 %, with a residual water saturation of 55 % as per established sources (Jenkins, 1961; Bennion and Bachu, 2005). The initial salinity was assumed at 247,970 ppm, an average derived from measurements in three nearby wells (Blondes et al., 2023). This salinity is in good agreement with a larger set of produced water sample TDS values from a large data set of 362 wells in the area within a 12-mile radius. Averaging 362 TDS values from samples labeled as Delaware Mountain Group or one of the member formations gave a salinity value of 239,101 ppm (Blondes et al, 2023, Cather, 2016). Following industry standards and data from drill stem tests in the Delaware Basin, a pore pressure of 0.45 psi/ft was estimated, establishing a reservoir pressure of 3,206 psi at the initiation phase.

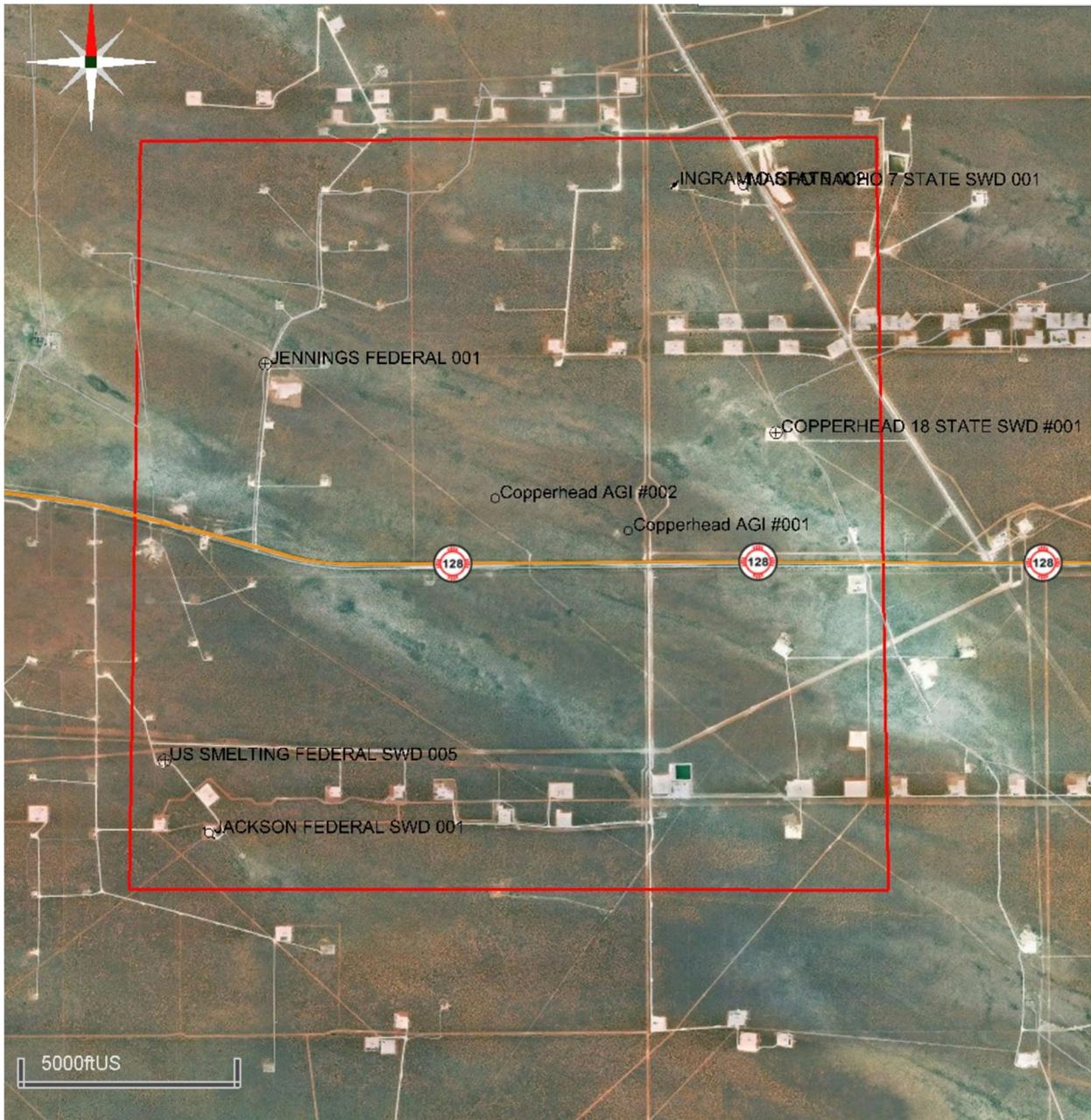


Figure IV-1. Map view showing boundaries (red box) of the simulation model of Copperhead AGI #002

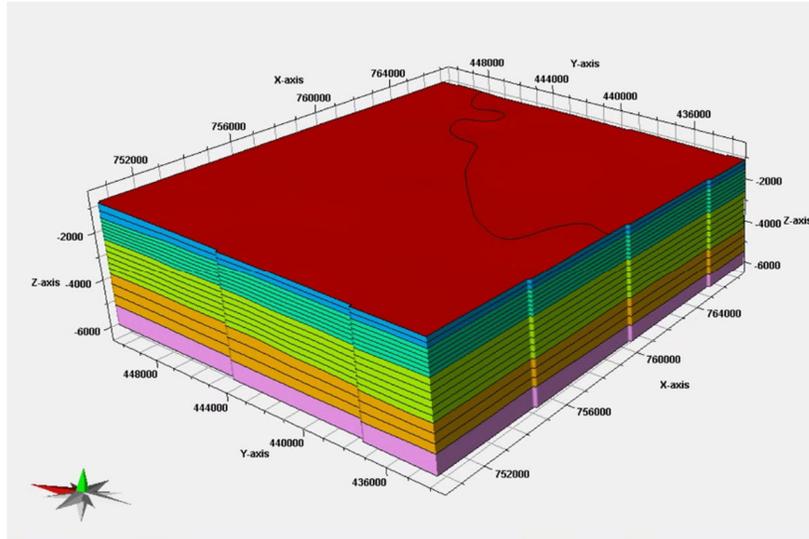


Figure IV-2. 3D view of the simulation model of the Copperhead AGI #002 containing Castile, Lamar, Bell Canyon, Cherry Canyon, Brushy Canyon, and Bone Spring formations.

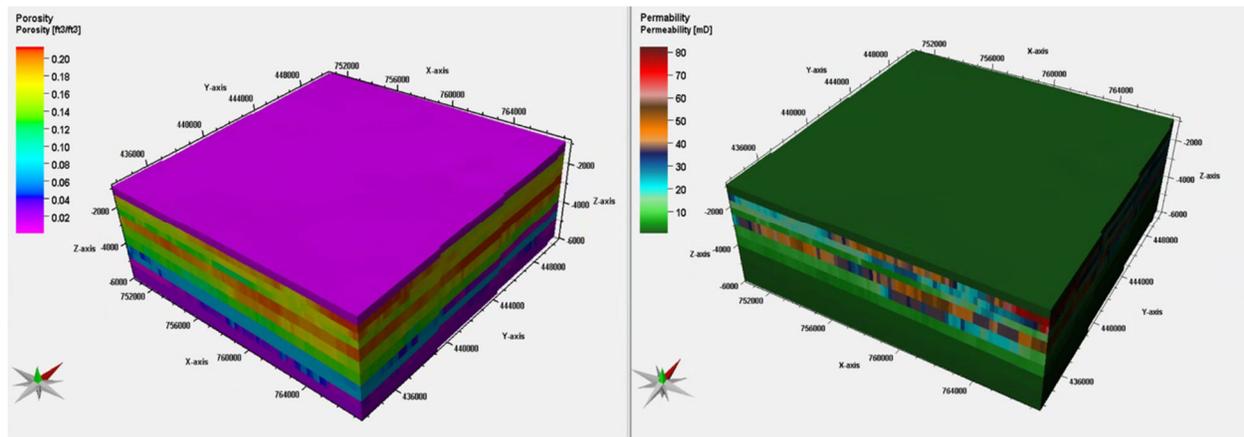


Figure IV-3. Porosity (left) and permeability (right) estimation of the simulation model.

The fracture gradient (FG) for the injection interval was calculated using Eaton's formula, which characterized the formation lithology from Poisson's ratio and stress ratio value:

$$FG = 1 - OBG - \nu \frac{pp}{1 - \nu}$$

Where,

$\nu$  is the Poisson's ratio,

OBG is the overburden gradient,

pp is the pore pressure gradient

An overburden gradient of 1.05 psi/ft is typically used in calculations when no site-specific data is available (Luo et al., 1994). Poisson’s ratio was assumed to be 0.3 for the injection layer, with a variation between 0.29 and 0.31 to account for uncertainties (Smye et al., 2021; Dvory and Zoback, 2021). The fracture gradient was estimated to be 0.65 to 0.68 psi/ft (Dvory and Zoback, 2021). This led to a calculated bottom hole formation fracture pressure of 4,631 psi. Furthermore, a safety margin of 10% was applied to this fracture gradient to prevent the bottom hole injection pressure (BHP) during active injection from surpassing the fracture gradient, setting the maximum BHP at 0.59 psi/ft in simulations. The geomechanical properties of the reservoir are detailed in **Table IV-1**. These parameters, derived from existing well logs and referenced literature, will be validated with actual measurements upon completion of the proposed, with subsequent updates to the modeling and simulation work as necessary.

**Table IV-1. Summary of parameters for the confining zones and injection interval**

Parameter	Upper Confining Zone	Injection Interval	Lower Confining Zone
Overburden Gradient (psi/ft)	1.05	1.05	1.05
Pore Pressure Gradient (psi/ft)	0.45	0.45	0.45
Poisson’s Ratio	0.29	0.30	0.31
Fracture Gradient (psi/ft)	0.68	0.65	0.68
Fracture Gradient with 10% Safety Factor (psi/ft)	0.61	0.59	0.61

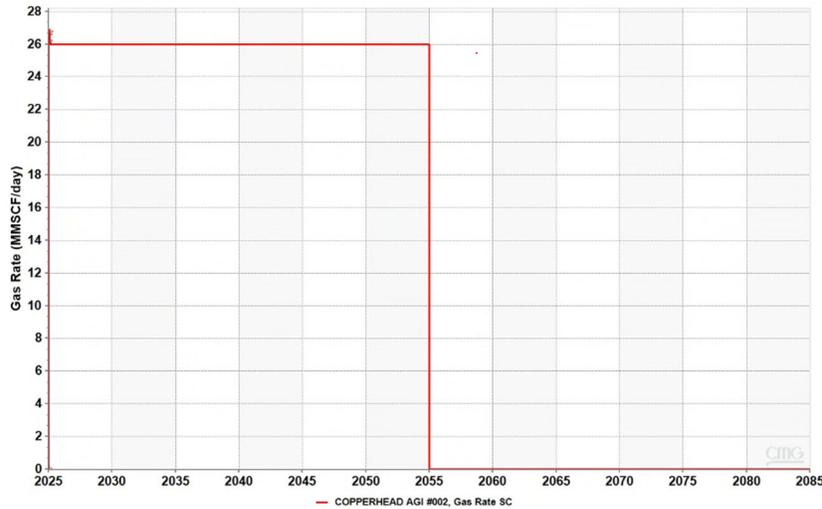
The simulation at Copperhead AGI #002 is set to inject at the proposed average injection rate of 12 MMSCFD and the proposed maximum injection rate of 26 MMSCFD. A maximum allowable surface injection pressure (MAOP) calculated by the NMOCD approved method and bottom hole pressures of 4,168 psi and 1,425 psi, respectively, are set, with an injection composition of 30% H<sub>2</sub>S and 70% CO<sub>2</sub>. The simulation begins on January 1, 2025, and concludes on January 1, 2085, encompassing a 30-year active injection phase followed by a subsequent 30-year post-injection monitoring phase to estimate the maximum impacted area.

**Table IV-2. Well operations input of reservoir simulation**

Well Name	Injection Starting Date	Shut-In Date	Injection Rate
Copperhead AGI #002	2025	2055 (expected)	26 MMSCFD (Surface condition)

## MODEL OUTPUTS

The injection rate profiles for Copperhead AGI #002 suggests the consistent proposed rates, as depicted in **Figure IV-4**. The consistent rate of 26 MMSCFD ensures that the target formations can safely receive the treated acid gas (TAG) from Copperhead #002 over a 30-year period while adhering to the pressure constraints and maintaining formation integrity.



**Figure IV-4.** Forecast of TAG injection rate of Copperhead AGI #002 at 26 MMSCFD.

### TAG PLUME

**Figure IV-5** captures the evolution of the TAG plume for Copperhead AGI #002 at various stages: 5, 10, 15, 20, 25, and 30 years' post-injection commencement in 2025, with the largest part of the plume estimated to span 6,354 ft (1.2 miles) with an injection rate of 26 MMSCFD. The dashed lines in the figure delineate the plume boundary at these specified intervals. We note that the Copperhead AGI #001 well does not inject into the same zone so was not included in the simulation model. The simulation model estimates that there is a gap of over 500 ft of distance between the estimated maximum plume extent of Copperhead AGI #002 and the wellbore of Copperhead AGI #001, which has been permitted to inject into the much deeper Siluro-Devonian section.

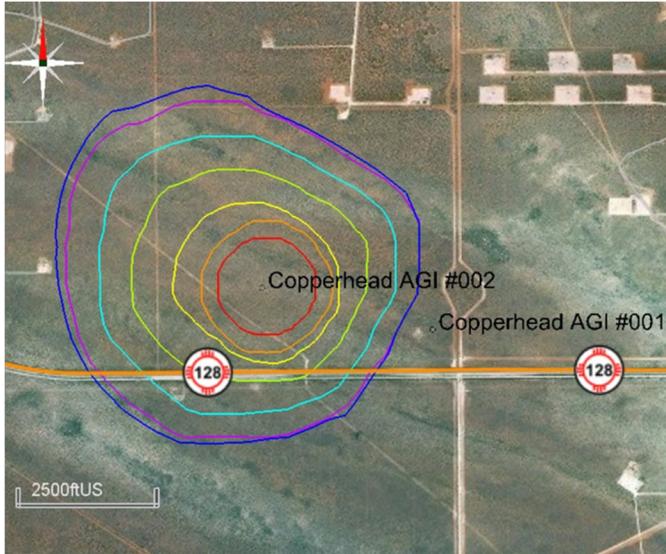


Figure IV-5. Extent of TAG plume (represented by gas saturation) at years 2030, 2035, 2040, 2045, 2050, and 2055 (end of injection) in map view at 26 MMSCFD. Dashed lines represent plume boundary at these time intervals.

#### PREDICTED BOTTOM HOLE PRESSURES

The maximum and average wellhead pressures were determined from the simulation output by CMG-GEM (GEM). GEM uses Equation-of-State (EOS) to compute the effects from the tubing size and calculate friction losses of the phase behavior and fluid properties of the flowing fluid. The input parameters for the wellbore model are summarized in **Table IV-3**. The prediction of the bottom hole and wellhead pressures are summarized in **Table IV-4** and displayed in **Figure IV-6**.

Table IV-3. Input parameters for Wellbore Model Pressure Calculations

Wellbore Model	Values
Length, ft	7,125
Relative Roughness	0.001
Wellhead Temperature, °F	90
Bottomhole Temperature, °F	134
Tubing Size (OD), inch	3.5
Composition of injected gas	70% CO <sub>2</sub> , 30% H <sub>2</sub> S
Density and Viscosity of injected gas	Dynamically Calculated by EOS

Table IV-4. Summary of predicted injection pressures

Injection rate, MMSCFD	Average BHP, psi	Max BHP, psi	Average WHP, psi	Max WHP, psi
26	2,522	2,525	1,419	1,421

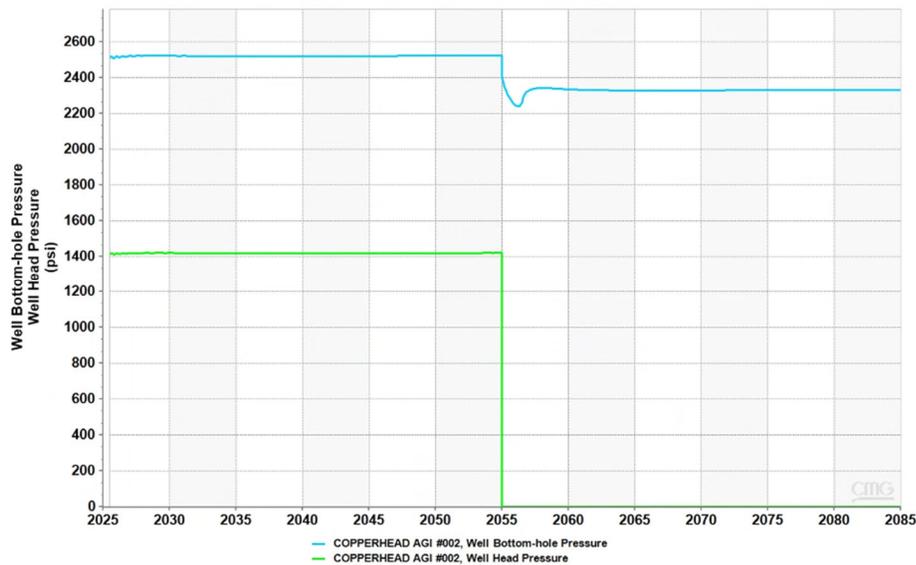


Figure IV-6 Bottom hole pressure (blue) and wellhead pressure (green) of Copperhead AGI #002 at 26 MMSCFD.

### Critical Pressure Front

The base of the deepest underground sources of drinking water (USDW) at approximately 1,500 ft below the surface at the Copperhead AGI #002 area. As given by Nicot et al. (2008) and Bandilla et al. (2012), assuming (1) hydrostatic conditions and (2) initially linearly varying densities in the borehole and constant density once the injection-zone fluid is lifted to the top of the borehole (i.e., uniform density approach), the threshold pressure increase ( $\Delta P_c$ ) may be calculated:

$$\Delta P_c = \frac{1}{2} \cdot g \cdot \xi \cdot (z_u - z_i)^2$$

where  $\xi$  is a linear coefficient defined by:

$$\xi = \frac{\rho_i - \rho_u}{z_u - z_i}$$

Where:  $\rho_u$  is the fluid density of the USDW,

$\rho_i$  is the injection interval fluid density,

$g$  is the acceleration due to gravity,

$z_u$  is the representative elevation of the USDW,

$z_i$  is the representative elevation of the injection interval

As shown in **Table IV-5**, the maximum allowable pressure elevation is 2,415 psi. **Figure VI-7** shows the pressure elevation at year 2055 (end of injection). The center of pressure elevation created by Copperhead AGI #002 with 26 MMSCFD injection rate is the maximum pressure gain of 64 psi. This pressure increase is less than 2,415 psi, indicating the USDW will not be endangered from Copperhead AGI #002 injection.

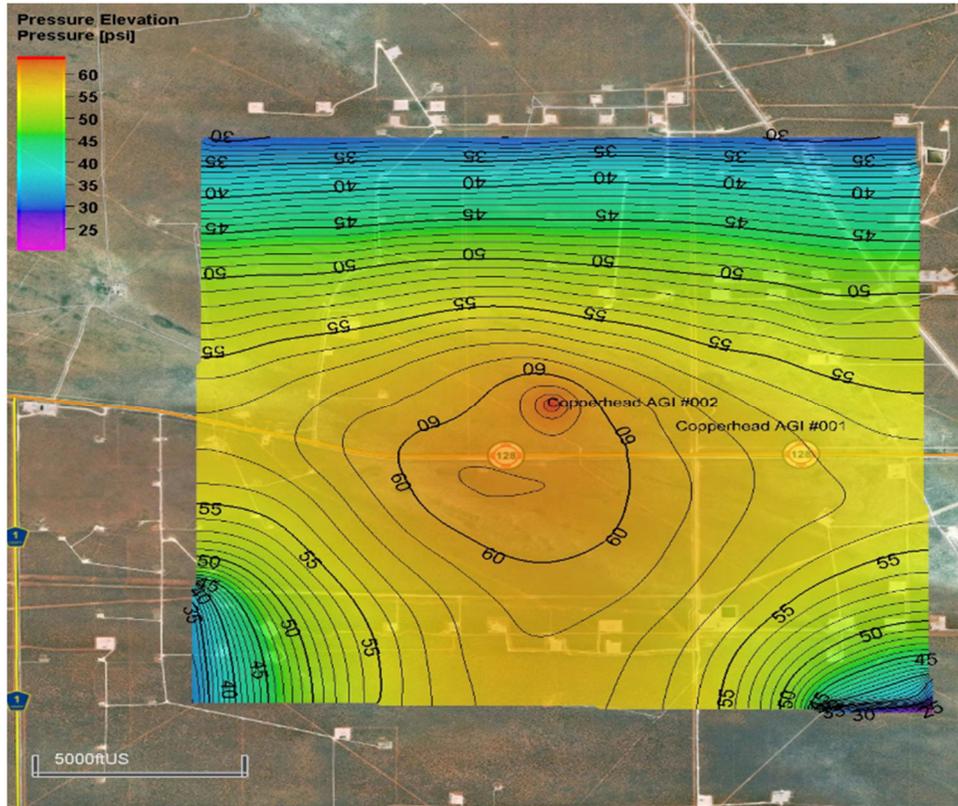


Figure IV-7 Pressure elevation in 2055 (end of injection).

Table IV-5 – Summary of parameters for the USDW critical pressure calculations

USDW Base	Fresh water density	Brine Salinity	Brine Density	Top of Thirtyone	Admissible additional pressure
1,500 ft	62.4 lbm/ft3	247,970 ppm	73 lbm/ft3	7,1256 ft	2,415 psi

In summary, the review of reservoir engineering and numerical simulations indicates that the target formation can receive the TAG at the proposed average and maximum injection rates. The models confirm that the injection pressures will remain below the formation's fracture pressure, ensuring the safe containment of the injected TAG within the designated injection and post-injection periods. The

planned injection process is designed to facilitate sequestration while mitigating potential environmental impacts. This analysis relies on the best available estimates from existing legacy wells and referenced literature. After the proposed well is completed, formation properties will be assessed, and the study will be updated with site-specific data and the most recent legacy injection records before any TAG injection commences.

---

## References

1. Jenkins R.E. 1961. Characteristic of the Delaware Formation.
2. Bennion, B., Bachu, S. 2005. Relative permeability Characteristics for Supercritical CO<sub>2</sub> Displacing Water in a Variety of Potential Sequestration Zones in the Western Canada Sedimentary Basin. SPE 95547.
3. Luo, M., Baker, M.R., LeMone, V. 1994. Distribution and Generation of the Overpressure System, Eastern Delaware Basin, Western Texas and Southern New Mexico.
4. Dvory, N. Z., and Zoback, M. D. 2021. Prior Oil and Gas Production Can Limit the Occurrence of Injection-Induced Seismicity: A Case Study in the Delaware Basin of Western Texas and Southeastern New Mexico, USA. *Geology* 49 (10): 1198–1203.
5. Smye, K.M., Hennings, P.H., and Horne, E.A., 2021. Variations in vertical stress in the Permian Basin region. *AAPG Bulletin*, 105(10), pp. 1893-1907.
6. Nicot, J.P., Oldenburg, C.M., Bryant S.L., Hovorka, S.D. 2009. Pressure perturbations from geologic carbon sequestration: Area-of-review boundaries and borehole leakage driving forces. DOI: 10.1016/j.egypro.2009.01.009. (Note: please change this citation to Nicot et al. (2009) instead of (2008). 2008 was my typo.)
7. Bandilla, K.W., Kraemer, S.R., Birkholzer, J.T. 2021. Using semi-analytic solutions to approximate the area of potential impact for carbon dioxide injection. *International Journal of Greenhouse Gas Control*. <https://doi.org/10.1016/j.ijggc.2012.02.009>
8. Blondes, M.S., Knierim, K.J., Croke, M.R., Freeman, P.A., Doolan, C., Herzberg, A.S., and Shelton, J.L., 2023, U.S. Geological Survey National Produced Waters Geochemical Database (ver. 3.0, December 2023): U.S. Geological Survey data release, <https://doi.org/10.5066/P9DSRCZJ>.

## ATTACHMENT V – GROUNDWATER ANALYSES

There are two Targa water wells located in this region. The water samples provided were taken on July 31<sup>st</sup>, 2023, from groundwater wells C-03666 POD1 and C-03917 POD1 which are both less than 6 miles from the Copperhead AGI #002 well. The sampling and analyses provided were all done in-house at New Mexico Tech.

For these water wells, 1-L washed Nalgene bottles were triple-rinsed with well water and filled. Samples were temperature regulated prior to the general chemistry analysis. The water is basic with pH of 8 to 9 and calculated TDS of 453 to 1380 mg/L. The conductivity ranges from 757 to 2,066 us/cm.

<b>GENERAL CHEMISTRY ANALYSES</b>		
Customer name	Tianguang Fan	
Company	New Mexico Tech	
Address	801 Leroy Place	
City, State, Zip code	Socorro NM 87801	
Phone	(575) 835-5542	
Email	Tianguang.Fan@nmt.edu	
Date sampled	7/31/2023	
Date completed	8/30/2023	
<b>Analyte</b>	<b>C-03666</b>	<b>C-03917</b>
pH	8.5	8.2
Conductivity (uS/cm)	757.0	2,066.0
Alkalinity as CO <sub>3</sub> <sup>2-</sup> (mg/L)	4.0	
Alkalinity as HCO <sub>3</sub> <sup>-</sup> (mg/L)	287.9	97.6
Chloride (mg/L)	15.0	191.4
Fluoride (F) (mg/L)	ND	ND
Bromide (Br) (mg/L)	ND	1.5
Nitrate (NO <sub>3</sub> <sup>-</sup> ) (mg/L)	ND	ND
Phosphate (mg/L)	ND	ND
Sulfate (SO <sub>4</sub> <sup>2-</sup> ) (mg/L)	106.0	666.2
Lithium(Li) (mg/L)	0.1	0.2
Sodium (Na) (mg/L)	156.0	370.7
Potassium (K) (mg/L)	3.6	6.5
Magnesium (Mg) (mg/L)	15.0	33.9
Calcium (Ca) (mg/L)	12.9	62.7
TDS Calculation (mg/L)	452.6	1,379.6
Total cations (meq/L)	8.8	22.2
Total anions (meq/L)	-7.5	-20.9
Percent difference (%)	7.9	3.1

ORP (mV)	292.7	294.2
IC (ppm)	69.8	23.0
NPOC (ppm)	0.6	0.4
ND, non-detectable.		

## ATTACHMENT VI – SAMPLE NOTICE LETTER

### SAMPLE NOTICE LETTER

**VIA CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

**TO: ALL PARTIES ENTITLED TO NOTICE**

**Re: Case No. \_\_\_\_\_ - Application of Targa Midstream Services LLC for  
Authorization to Inject, Lea County, New Mexico.**

To whom it may concern:

This letter is to advise you that Targa Midstream Services LLC has filed a C-108 application (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking authorization to drill, complete and operate an additional acid gas injection (“AGI”) well at its Copperhead Gas Processing Plant located in Lea County, New Mexico. In accordance with New Mexico Oil Conservation Division requirements, you are being provided this notice and hearing application because you have been identified as having an interest within one mile of the proposed AGI well location. A complete copy of the C-108 is available at the following link, or you may contact my office to request a hard copy: \_\_\_\_\_.

The proposed Copperhead AGI #2 will be drilled at a location 1,138’ from the south line (FSL) and 1,842’ from the west line (FWL) of Section 13, Township 24 South, Range 32 East. The Well will be drilled vertically to an approximate depth of 7,125 as a Class II acid gas injection well and will inject treated acid gas into the Bell Canyon and Cherry Canyon formations of the Delaware Mountain Group at a depth of ~4,990-7,125 feet.

The hearing will be conducted on \_\_\_\_\_ beginning at 9:00 am in a hybrid fashion, both virtually and in-person at the Energy, Minerals, Natural Resources Department, Wendell Chino Building, Pecos Hall, 1220 South St. Francis Drive, 1<sup>st</sup> Floor, Santa Fe, NM 87505. The hearing may be held only virtually at the discretion of the Division. To confirm the manner in which the hearing will be held, and to participate virtually, please visit the OCD Hearings website at the following link: <https://www.emnrd.nm.gov/oed/hearing-info/>. You are not required to attend this hearing, but as an owner of an interest that may be affected by the application, you may appear and present testimony. Failure to appear at that time and become a party of record will preclude you from challenging the matter at a later date.

Pursuant to Division Rule 19.15.4.13.B, a party who intends to present evidence at the hearing shall file a pre-hearing statement and serve copies on other parties, or the attorneys of parties who are represented by counsel, at least four business days prior to the scheduled hearing, but in no event later than 5:00 p.m. Mountain Time, on the Thursday preceding the scheduled hearing date. If you are not registered with the OCD's E-Permitting system, you must submit the statement via e-mail to [ocd.hearings@emnrd.nm.gov](mailto:ocd.hearings@emnrd.nm.gov) and should include: the names of the parties; whether or not the parties are represented by counsel; a concise statement of the case; the names of witnesses anticipated to be called to testify at the hearing; the approximate amount of time needed to present the case; and an identification of any procedural matters that are to be resolved prior to the hearing.

If you have any questions about this application, please contact Matt Eales at 832-496-7513.

Sincerely,  
/s/ Dana S. Hardy  
Dana s. Hardy

# ATTACHMENT VII – WELL FILES F OR PLUGGED WELL IN AREA OF REVIEW

Attached are all available well image files for Federal Bondurant #001, API 30-025-08164, a plugged well that penetrates the injection zone within the 1/2 mile radius of the proposed well location.

**APPROVED** COPY TO O. C. C. **HOBBS**

Budget Bureau No. 43-2344  
Approval expires 12-31-60.

FORM 9-321a (Feb. 1961) JUN 19 1961 (SUBMIT IN TRIPLICATE) Land Office \_\_\_\_\_

E. W. STANDLEY DISTRICT ENGINEER UNITED STATES GEOLOGICAL SURVEY HOBBS OFFICE **LC-068911-4** Lease No. \_\_\_\_\_ Unit \_\_\_\_\_

DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
1961 JUN 20 AM 8:21

JUN 19 1961  
U.S. GEOLOGICAL SURVEY  
HOBBS, NEW MEXICO

## SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	<input checked="" type="checkbox"/>	SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....		SUBSEQUENT REPORT OF ALTERING CASING.....	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL.....		SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR.....	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....		SUBSEQUENT REPORT OF ABANDONMENT.....	
NOTICE OF INTENTION TO PULL OR ALTER CASING.....		SUPPLEMENTARY WELL HISTORY.....	
NOTICE OF INTENTION TO ABANDON WELL.....			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

June 19, 1961, 19.....

**Federal Bondurant**

Well No. 1 is located 390 ft. from [N] line and 390 ft. from [W] line of sec. 24

NW/4 NW/4 Sec. 24 T24S R32E N27W

(1/4 Sec. and 1/4 Sec. No.) (Twp.) (Range) (Meridian)

Double X Delaware Log New Mexico

(Field) (County or subdivision) (State or Territory)

The elevation of the derrick floor above sea level is ..... ft.

### DETAILS OF WORK

(State names of and expected depths to objective sands; show class, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

**Intend to drill w/rotary tools-Morwood Drilling Co. to test Delaware at approximate depth of 5200', casing program as follows:**

- 2 1/2" 8-5/8" to be cemented at approx. 300', cement to circulate
- 4-1/2" to be set at total depth w/200' or if commercial production is obtained

C-126 attached- 5 copies  
Designation of Operator in Triplicate from Annie E. Bass

#### Letter from operators

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

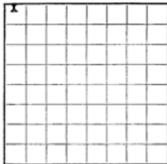
Company OSBORN & THOMPSON and W. D. THORN

Address c/o Oil Reports, Box 763, Hobbs, N.M.

By [Signature]

Title Agent

NOTED  
 JUL 7 1961  
 MOERS  
 SERIAL NUMBER 001-068911-A  
 LEASING PERMIT TO PROSPECT  
 STANDLEY  
 UNITED STATES  
 DEPARTMENT OF THE INTERIOR  
 GEOLOGICAL SURVEY



LOCATE WELL CORRECTLY

**LOG OF OIL OR GAS WELL**

Company Osborn, Thompson & W. D. Thorn Address c/o Oil Reports, Box 763, Hobbs, N.M.  
 Lessor or Tract Federal Land Grant Field Double X-Delaware State New Mexico  
 Well No. 1 Sec. 24 T. 24S R. 32E Meridian NMPM County Lea  
 Location 330 ft. S. of II Line and 330 ft. W. of W Line of Sec. 24 Elevation 3584 KB

The information given herewith is a complete and correct record of the well and all work done thereon so far as can be determined from all available records.  
 Signed [Signature]

Date July 7, 1961 Title Agent

The summary on this page is for the condition of the well at above date.

Commenced drilling June 22, 1961 Finished drilling July 1, 1961

**OIL OR GAS SANDS OR ZONES**  
 (Denote gas by G)

No. 1, from none to \_\_\_\_\_ No. 4, from \_\_\_\_\_ to \_\_\_\_\_  
 No. 2, from \_\_\_\_\_ to \_\_\_\_\_ No. 5, from \_\_\_\_\_ to \_\_\_\_\_  
 No. 3, from \_\_\_\_\_ to \_\_\_\_\_ No. 6, from \_\_\_\_\_ to \_\_\_\_\_

**IMPORTANT WATER SANDS**

No. 1, from 3026 to \_\_\_\_\_ No. 3, from \_\_\_\_\_ to \_\_\_\_\_  
 No. 2, from \_\_\_\_\_ to \_\_\_\_\_ No. 4, from \_\_\_\_\_ to \_\_\_\_\_

**CASING RECORD**

Size casing	Weight per foot	Threads per inch	Make	Amount	Kind of shoe	Cut and pulled from	Perforated	Purpose
8 5/8	246	8		339	Guide			Surface

**MUDDING AND CEMENTING RECORD**

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
8 5/8		339	250	Pump & Plug	

**PLUGS AND ADAPTERS**

Heaving plug—Material \_\_\_\_\_ Length \_\_\_\_\_ Depth set \_\_\_\_\_  
 Adapters—Material \_\_\_\_\_ Size \_\_\_\_\_

**SHOOTING RECORD**

Size	Shell used	Explosive used	Quantity	Date	Depth shot	Depth cleaned out

**TOOLS USED**

Rotary tools were used from 0 feet to 5080 feet, and from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
 Cable tools were used from \_\_\_\_\_ feet to \_\_\_\_\_ feet, and from \_\_\_\_\_ feet to \_\_\_\_\_ feet

Plugged & Abandoned

**DATES**

Put to producing \_\_\_\_\_, 19\_\_\_\_  
 The production for the first 24 hours was \_\_\_\_\_ barrels of fluid of which \_\_\_\_\_% was oil; \_\_\_\_\_% emulsion; \_\_\_\_\_% water; and \_\_\_\_\_% sediment. Gravity, °Bé. \_\_\_\_\_

If gas well, cu. ft. per 24 hours \_\_\_\_\_ Gallons gasoline per 1,000 cu. ft. of gas \_\_\_\_\_

Rock pressure, lbs. per sq. in. \_\_\_\_\_

**EMPLOYEES**

G. D. Cross, Driller Ray Williams, Driller  
J. G. Harlin, Driller

**FORMATION RECORD**

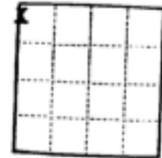
FROM-	TO-	TOTAL FEET	FORMATION
0	315	315	sand, caliche, red bed
315	673	328	Red bed, shells
673	1069	396	red bed, anhydrite
1069	1131	62	Anhydrite, red bed
1131	1281	150	Anhydrite, shells
1281	1446	167	Anhydrite
1446	1571	125	Salt
1571	1898	327	Anhydrite, salt
1898	2248	350	Salt, anhydrite
2248	3090	842	Anhydrite, salt
3090	3320	230	Anhydrite
3320	4146	826	Salt
4146	4320	174	Salt
4320	4694	374	Salt
4694	4930	236	Anhydrite
4930	4998	68	Anhydrite, lime
4998	5080	82	Shale, sandy shale, sand.
	Total depth	5080	

Electric Log Tops:  
 Top Rustler 1130  
 Top Salt 1145  
 Base Salt 4697  
 Top Lamar 4930  
 Top Ramsey 4972  
 Top Ford 4998  
 Top Olds 5008

API 30-025-08104

APPROVED

Form 9-551a  
(Feb. 1961)



FEB 3 1962  
EWS (SUBMIT IN TRIPLICATE)

E. W. STANDLEY  
DISTRICT ENGINEER UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Inspected 2-2-62  
O.K. for submit JWS

District Bureau No. 49-23884  
Approval expires 12-31-62

Land Office  
Lease No. LC-068911-A  
Unit (D)

FEB 7 1962

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	X
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

Federal Bondurant

July 7, 1961

Well No. 1 is located 330 ft. from  N line and 330 ft. from  W line of sec. 24

NW/4 Sec. 24      T24S      R32E      NMPM  
(N Sec. and Sec. No.)      (Twp.)      (Range)      (Meridian)

Double-I Dal      Lea      New Mexico  
(Field)      (County or Subdivision)      (State or Territory)

The elevation of the derrick floor above sea level is 3584 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudlogging jobs, cementing points, and all other important proposed work.)

Well was P&A as follows 7/2/61

- 30 ex cement spotted from 4700-4800'
- 30 ex cement spotted from 1210-1310'
- 25 ex cement across 8-5/8" casing shoe from 288-388'
- 10 ex cement in top of 8-5/8"
- Remainder of hole filled w/10# mud
- Regulation marker was erected and location has been cleared and levelled.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company OSBORN & TOMPSON AND W. D. THORN  
e/o OIL Reports, Box 763 Hobbs, N.M.

Address \_\_\_\_\_

By J. D. Smith  
 Agent  
 Title \_\_\_\_\_