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

APPLICATION OF NORTHWIND MIDSTREAM PARTNERS LLC FOR APPROVAL OF AN ADDITIONAL REDUNDANT ACID GAS INJECTION WELL AND TO AMEND ORDER NO. R-20913, AS AMENDED, AND SWD-2622 TO AUTHORIZE AN INCREASED SHARED MAXIMUM DAILY INJECTION RATE, LEA COUNTY, NEW MEXICO.

CASE NO. _____
ORDER NO. R-20913-D, AS AMENDED

APPLICATION

Northwind Midstream Partners LLC ("Northwind")[1] (OGRID No. 331501), through its undersigned counsel, files this application with the Oil Conservation Commission (the "Commission") pursuant to the provisions of NMSA 1978, § 70-2-12(B)(15) and 19.15.26 NMAC for an order (1) authorizing injection of treated acid gas ("TAG") for purposes of disposal into the proposed Titan AGI #4 well as an additional redundant acid gas injection ("AGI") well, and (2) to further amend Order No. R-21093-D, as amended, and SWD-2622 to authorize a shared maximum daily injection rate of 28.8 million standard cubic feet per day (MMSCFD) of treated acid gas ("TAG") for disposal through either or both its permitted Salt Creek AGI #2 well or the proposed Titan AGI #4 well. In support, Northwind states the following:

1. Attached as **Exhibit A** is a complete C-108 application for approval to drill, complete, and operate an additional redundant AGI well to service the increasing sour-gas disposal needs of Northwind's Titan Treating Facility. The C-108 also requests, and provides the technical

[1] Effective August 18, 2023, the Division approved Northwind to be the successor operator to Salt Creek under Order No. R-20913, as amended.

basis to authorize, a shared maximum daily injection rate of 28.8 million standard cubic feet per day (MMSCFD) of treated acid gas ("TAG") for disposal into either or both its Salt Creek AGI #2 or the proposed Titan AGI #4 wells.

2. The proposed Titan AGI #4 will provide additional redundancy with respect to acid gas disposal operations at Northwind's Titan Treating Facility. The Facility is currently serviced by the existing Salt Creek AGI #3 well, which is a shallow Delaware Mountain Group AGI well (API No. 30-025-51865). Northwind is also currently drilling the approved Salt Creek AGI #2 well (API No. 30-025-53388), which was authorized by the Commission as a redundant AGI well to inject into the Siluro-Devonian formation.

3. The proposed Titan AGI #4 well will be drilled as a deviated well with a surface location of approximately 2,529 feet from the north line (FNL) and approximately 617 feet from the west line (FWL) of Section 21, to a bottom hole location at approximately 1,100 FNL and 66 feet FWL in said Section 21, within Township 26 South, Range 36 East, Lea County, New Mexico.

4. The proposed injection zone for the Titan AGI #4 well will target the geologic formations of the Siluro-Devonian, including the Devonian, Wristen, and Fusselman formations, between depths of approximately 17,570 to 19,130 feet.

5. The injection stream will consist of TAG comprised of approximately 80 percent carbon dioxide and 20 percent hydrogen sulfide from oil and gas wells in the area.

6. The proposed maximum allowable operating pressure ("MAOP") requested for the Titan AGI #4 is approximately 5,811 psig. At the anticipated bottom-hole conditions of 250 °F and 8,300 psi, each MMSCF of TAG will occupy a reservoir volume of approximately 383 barrels.

7. Upon approval, the Titan AGI #4 well will be the second deep (i.e., Siluro-Devonian) AGI well at the Facility, and as such, it is proposed that the requested 28.8 MMSCFD reflect a combined allowable injection volume to be shared with the approved Salt Creek AGI #2

well, currently authorized to inject up to 12 MMSCFD under Order No. R-20913-D, as amended, and SWD-2622. In total, after the Titan AGI #4 well is approved, there will be three service-ready AGI wells to accommodate gas disposal to reduce waste and field flaring in the event any one well experiences downtime.

8. Approving this application will avoid the drilling of unnecessary wells, prevent waste, and protect correlative rights.

WHEREFORE, Northwind Midstream Partners LLC requests that this application be set for a status conference before the Oil Conservation Commission on October 17, 2024, and, after notice and hearing as required by law, the Commission enter an order approving this application.

Respectfully submitted,

HOLLAND & HART LLP

By:_____

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ATTORNEYS FOR NORTHWIND MIDSTREAM PARTNERS LLC

CASE _____: **Application of Northwind Midstream Partners LLC for Approval of an Additional Redundant Acid Gas Injection Well and to Amend Order No. R-20913, As Amended, and SWD-2622 to Authorize an Increased Shared Maximum Daily Injection Rate, Lea County, New Mexico.** Applicant in the above-styled cause seeks an order (1) authorizing injection of treated acid gas ("TAG") for purposes of disposal into the proposed Titan AGI #4 well as an additional redundant acid gas injection ("AGI") well, and (2) to further amend Order No. R-21093-D, as amended, and SWD-2622 to authorize a shared maximum daily injection rate of 28.8 million standard cubic feet per day (MMSCFD) of TAG for disposal through either or both its permitted Salt Creek AGI #2 well (API No. 30-025-53388) or the proposed Titan AGI #4 well. The proposed Titan AGI #4 well will be drilled as a deviated well with a surface location of approximately 2,529 feet from the north line (FNL) and approximately 617 feet from the west line (FWL) of Section 21, to a bottom hole location at approximately 1,100 FNL and 66 feet FWL in said Section 21, within Township 26 South, Range 36 East, Lea County, New Mexico. Injection will be into the Silurian-Devonian formations at depths of between approximately 17,570 to 19,130 feet below the ground through an open-hole completion. The injection stream will consist of TAG comprised of approximately 80 percent carbon dioxide and 20 percent hydrogen sulfide from oil and gas wells in the area. The proposed maximum allowable operating pressure ("MAOP") requested for the Titan AGI #4 is approximately 5,811 psig. The subject well will be located approximately 7.5 miles southwest of Jal, N.M.

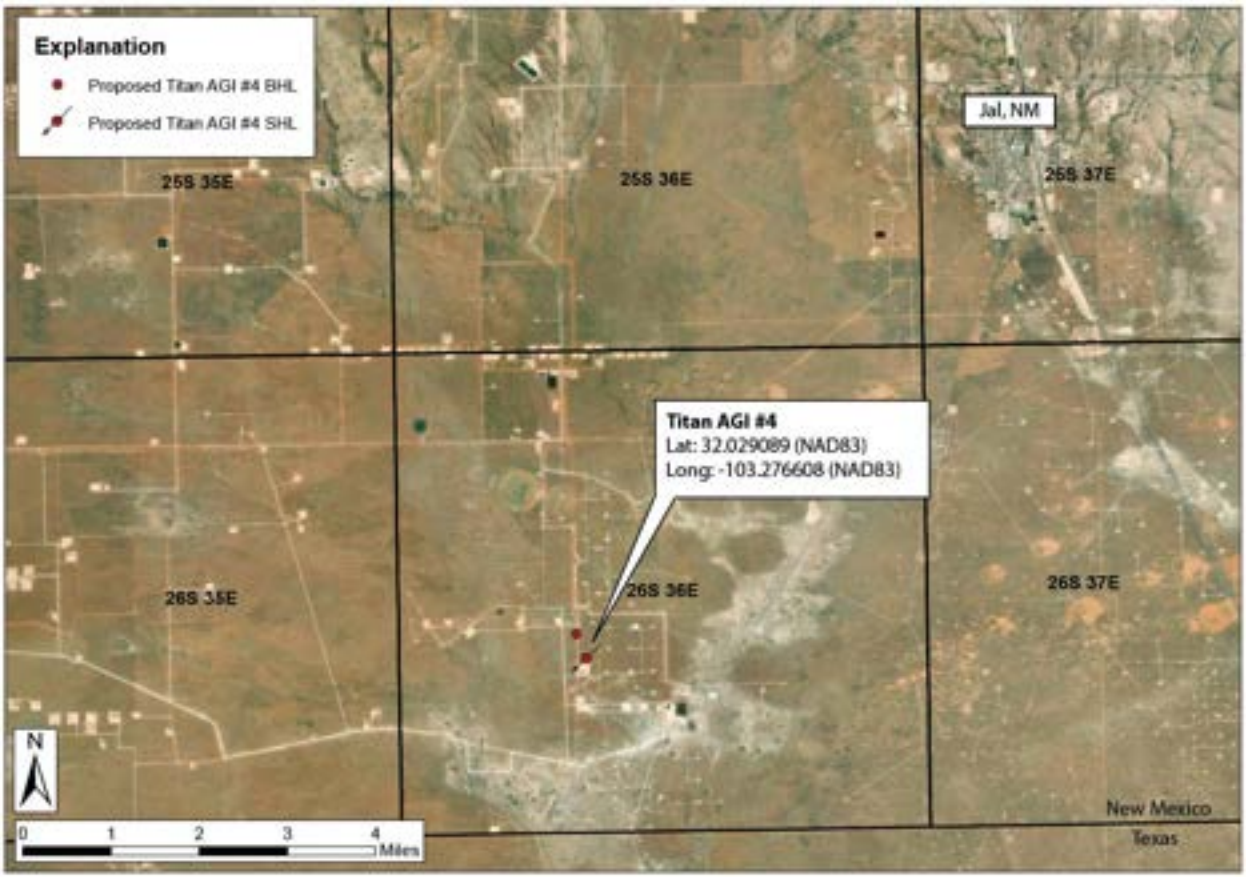
EXHIBIT A

APPLICATION FOR UIC CLASS II AGI WELL

REQUEST FOR ADDITIONAL REDUNDANT AGI WELL AND INCREASE TO ALLOWABLE INJECTION VOLUME FOR THE SILURO-DEVONIAN AGI SYSTEM

NORTHWIND MIDSTREAM PARTNERS, LLC -- (OGRID #331501)

PROPOSED TITAN AGI #4
Section 21, Township 26 South, Range 36 East
Surface Latitude (NAD83): 32.029089
Surface Longitude (NAD83): -103.276608



AUGUST 2024

Prepared for:

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STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____Secondary Recovery _____Pressure Maintenance __X__Disposal _____Storage
Application qualifies for administrative approval? _____Yes __X__No

II. OPERATOR: Northwind Midstream Partners, LLC [331501]

ADDRESS: 811 Louisiana St, Suite 2500, Houston, TX 77002

CONTACT PARTY: Ben Ahiabor PHONE: (346) 613-1451

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? _____Yes __X__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.
Section 5; Appendix A

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.
Section 5; Appendix A

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected; **Sections 1, 2, 3**
2. Whether the system is open or closed; **Sections 1, 2, 4**
3. Proposed average and maximum injection pressure; **Sections 1 & 3**
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, **Sections 3 & 4**
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.). **Sections 3 & 4**

*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.
Section 4

IX. Describe the proposed stimulation program, if any.

*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).

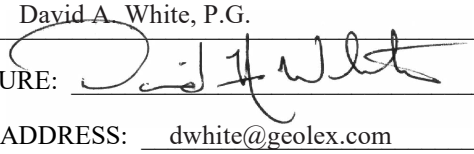
*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
Section 4

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.
Section 7

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
Appendix B

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: David A. White, P.G. TITLE: Consultant to Northwind Midstream

SIGNATURE:  DATE: August 19, 2024

E-MAIL ADDRESS: dwhite@geolex.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: _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

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1.0 EXECUTIVE SUMMARY

On behalf of Northwind Midstream Partners, LLC (Northwind; OGID #331501), Geolex, Inc.® (Geolex) has prepared and is hereby submitting a complete C-108 application for approval to drill, complete, and operate an additional redundant acid gas injection (AGI) well in Section 21, Township 26 South, Range 36 East, approximately 7.5 miles southwest of the city of Jal, in Lea County New Mexico (Figure 1). The proposed well, Titan AGI #4, will provide additional redundancy with respect to acid gas disposal operations at the existing Titan Treating Facility, which is currently serviced by a shallow Delaware Mountain Group AGI well (Salt Creek AGI #3; API: 30-025-51865), and upon the completion of drilling activities, the approved Salt Creek AGI #2 well.

The proposed Titan AGI #4 well is designed to address the increasing sour-gas disposal needs of the Titan Treating Facility and local operators and will provide a redundant deep AGI well at the Northwind Titan Treating Facility (the Titan Facility). In submitting this application, Northwind seeks approval to dispose of up to 28.8 million standard cubic feet per day (MMSCFD), equivalent to approximately 13,760 barrels per day, of treated acid gas (TAG) into the Siluro-Devonian formation for at least 30 years. Upon approval, the Titan AGI #4 well will be the second deep (i.e., Siluro-Devonian) AGI well at the Titan Treating Facility, and as such, it is proposed that the requested 28.8 MMSCFD reflect a combined allowable injection volume to be shared with the approved Salt Creek AGI #2 well, currently authorized to inject up to 12 MMSCFD by New Mexico Oil Conservation Commission (NMOCC) Order 20913 (A-D).

The proposed TAG stream is anticipated to be comprised of approximately 80% carbon dioxide (CO_2) and approximately 20% hydrogen sulfide (H_2S), with trace concentrations (less than 1%) of hydrocarbons (C_1-C_7). When operating at full capacity, the Siluro-Devonian AGI wells (i.e., the proposed Titan AGI #4 and existing Salt Creek AGI #2) will permanently sequester approximately 1,169 tons of carbon dioxide (CO_2) and approximately 388 tons of hydrogen sulfide (H_2S) daily.

To minimize interference and ensure access to quality reservoir, Titan AGI #4 will be drilled as a deviated well with a surface location of approximately 2,529 feet from the north line (FNL) and approximately 617 feet from the west line (FWL) of Section 21 (T26S, R36E). The well will be directionally drilled to a bottom hole location at approximately 1,100 FNL and 66 feet FWL in Section 21 (T26S, R36E). To ensure adequate isolation of groundwater resources, producing intervals, and potential high-pressure depth intervals, Titan AGI #4 will be constructed utilizing a five-string casing design and all casing strings will be cemented to the surface. The integrity of cementing operations will be verified via visual inspection, as well as the collection of radial cement bond logs for all casing strings underlying the surface casing. The production casing and injection tubing will utilize approximately 300 feet of corrosion resistant alloy (CRA) materials in order to protect the well and lower well components from potentially corrosive conditions.

The proposed injection zone will target geologic formations of the Siluro-Devonian, including the Devonian, Wristen, and Fusselman formations, between depths of approximately 17,570 to 19,130 feet. Analyses of these geologic units confirm that they act as excellent closed-system reservoirs that will accommodate the increasing acid gas disposal needs of Northwind (and local operators) for the disposal of acid gas and sequestration of CO_2 from the Northwind Titan Treating Facility. As proposed, the Titan AGI #4 well will further enhance operational redundancy at the Northwind facility, in accordance with the original objectives of NMOCC Order R-20913 (A-D), as it will be a second redundant AGI well incorporated into the operations at the Titan Treating Facility. In total, there will be three service-ready AGI wells to accommodate gas disposal, in order to prevent waste and field flaring in the event any one well experiences downtime.

In the area of Titan AGI #4, the proposed injection interval is overlain by the Woodford Shale (over 400 feet thick), which serves as the primary upper confining layer. Additionally, up to 845 feet of tight carbonates in the Barnett and Osage formations overly the Woodford Shale and provide a significant interval of secondary confining strata. These units, in total, will provide more than 1,600 feet of confining strata that will sufficiently contain and prevent the upward migration of TAG. Within the project area, the closest active pay zone lies approximately 3,350 feet above the proposed injection zone in the Strawn Formation. The distance from active producing zones as well as the thick caprock ensures production will be unaffected by TAG injection via the Titan AGI #4 well. Additionally, the low porosity intervals of the underlying Montoya Formation carbonates and Simpson Group strata will prevent downward migration into underlying geologic strata.

The proposed maximum allowable operating pressure (MAOP) requested for the Titan AGI #4 is approximately 5,811 psig, which was determined by utilizing appropriate NMOCD-approved calculation methods that consider the specific gravity of the acid gas injection stream. At the anticipated bottom-hole conditions of 250 °F and 8,300 psi, each MMSCF of TAG will occupy a reservoir volume of approximately 383 barrels.

As it is critical to verify that the proposed Siluro-Devonian injection reservoir can accommodate the requested 28.8 MMSCFD of TAG, within reasonable operating pressure limitations, a detailed geologic analysis of the project area has been completed. This analysis, which leverages three dimensional (3D) seismic survey data, is the basis for which geologic reservoir modeling and injection simulation investigations have been completed. Analysis of these data has allowed for a detailed characterization of subsurface structure in the project area, and through seismic inversion analysis methods, detailed characterization of the proposed Siluro-Devonian injection reservoir, with respect to porosity development and the interconnectivity of porous strata, has been completed. Subsequent injection simulations completed to support this C-108 application clearly demonstrate that the proposed injection reservoir is fully capable of accommodating TAG injection up to 28.8 MMSCFD.

In accordance with the results of detailed geologic analyses, informed by 3D seismic survey data, reservoir modeling and injection simulations have been completed to better understand and forecast plume characteristics and the migration of the resultant TAG plume after 30 years of injection operations. Following operation of the Titan AGI #4, concurrently with Salt Creek AGI #2, as proposed, the resultant TAG plume will occupy a maximum area of approximately 5.2 square miles and would extend a maximum of approximately 1.8 miles north from the Titan Treatment Facility. Gas saturation values are anticipated to range from approximately 0 to 0.55 with diffuse concentrations (i.e., less than 10%) characterizing the plume margins. Comparison of these results to the locations of existing wells penetrating the Siluro-Devonian demonstrates that the migrating plume is not anticipated to encounter any nearby open wellbores, and thus, these wells are not anticipated to be impacted by the proposed operations of the Titan AGI #4 well.

To evaluate the potential for induced seismicity in response to injection operations, at the proposed rate of up to 28.8 MMSCFD, an induced seismicity risk assessment was completed. The analysis was completed utilizing the Stanford Center for Induced and Triggered Seismicity's Fault Slip Potential (FSP) modeling platform. While analysis of 3D seismic survey data has produced a detailed characterization of faults within the project area, it should be noted that no faults exhibit offset sufficient to compromise the injection reservoir confining strata. Results of the FSP analysis, which considers operation of the Northwind AGI wells, as well as additional offset saltwater disposal (SWD) wells, demonstrates that operation of the deep AGI wells (i.e., Salt Creek AGI #2 and Titan AGI #4), as proposed, will not result in an elevated risk for injection-induced fault slip in the area.

Within the one-mile area of review (AOR) there are 101 wells, which commonly were completed to produce shallow Tansill-Yates-Seven Rivers plays and deeper Bone Spring and Wolfcamp Formation plays. It should be noted that for the proposed Titan AGI #4, the one-mile area of review has been enhanced to include a one-mile buffer area comprising the surface location, bottom-hole location, and around the deviated well path. Of these 101 wells, 22 are active and 29 are plugged. Additionally, there are 32 locations permitted that have not yet been drilled or completed. Within a two-mile radius of the modified Titan AGI #4 AOR, there are four (4) plugged wells which penetrate the proposed Siluro-Devonian injection zone. These wells have been properly plugged and are not anticipated to be impacted by operation of the proposed Titan AGI #4 well, nor will they serve conduits for fluids to escape the injection zone. All relevant plugging reports and documents for these wells are included in Appendix A.

The area surrounding the proposed injection site is arid and there are no natural bodies of water within several miles of the Northwind Facility and proposed Titan AGI #4 well. A search of the New Mexico Office of the State Engineer's files shows 58 water wells or points of diversion within two miles of the proposed AGI surface- and bottom-hole locations. The closest water well is located approximately 0.6 miles away from the AGI #4 surface location and has been plugged. All wells within a two-mile radius are shallow and will be protected via the proposed Titan AGI #4 casing design, which includes a surface casing interval down to 2,120 feet that will isolate and protect all shallow groundwater resources.

In preparing this C-108 application, Geolex conducted a detailed examination of all the elements required to be evaluated in order to prepare and obtain approval for this application for Class II injection. The elements of the evaluation include:

- Identification and characterization of all hydrocarbon-producing zones of wells that surround and are present on the plant's site
- The depths of perforated pay intervals in those wells relative to the depth of the target injection zone (Siluro-Devonian interval)
- The past and current uses of the proposed injection interval
- The stratigraphic and structural setting of the targeted zones relative to any nearby active or plugged wells, and other wells penetrating the interval
- The identification of and sample notification letter that will be sent to all surface owners, lessees, and operators within a one-mile radius of the proposed injection well
- Identification and characterization of all plugged and operating wells penetrating the proposed injection zone within a one-mile radius of the proposed injection well
- The details of the proposed injection operation, including general well design and average maximum daily rates of injection and injection pressures
- An analysis of the potential for induced seismicity based on seismic review and mapping in the area
- Reservoir injection simulations to evaluate the resultant effects of injection operations in the area after 30 years at the maximum daily injection rate and predict the resultant acid gas dispersion area and saturation characteristics
- Sources of injection fluid and compatibility with the formation fluid of the injection zone

- Location and identification of any freshwater-bearing zones in the area; the depth and quality of available groundwater in the vicinity of the proposed well, including a determination that there are no structures which could possibly communicate the disposal zone with any known sources of drinking water

Based upon this detailed evaluation, Northwind has determined that the proposed Titan AGI #4 well is a safe and environmentally sound project for the disposal of TAG. Furthermore, our analyses demonstrate that the proposed injection well will not negatively affect any waters of the State, nor have any actual or potential impacts on production in the area. This application is fully protective of correlative rights.

2.0 INTRODUCTION AND ORGANIZATION OF THE C-108 APPLICATION

The completed NMOCD Form C-108 is included before the Table of Contents of this document and references appropriate sections where data required to be submitted are included.

This application organizes and details all of the information required by NMOCD and NMOCC to evaluate and approve the submitted Form C-108 – Application for Authorization to Inject. This information is presented in the following categories:

- A detailed description of the location, construction, and operation of the proposed Titan AGI #4 injection well (Section 3.0)

- An overview of the acid gas characteristics and modeling simulation results to predict the resultant acid gas plume and reservoir pressure effects from injection operations in the area of the proposed AGI well (Section 4.0)

- A summary of the regional and local geology, hydrogeology, and the location of drinking water wells within the area of review (Section 4.0)

- The identification, location, status, producing zones, and other relevant information on oil and gas wells within the area of review (Section 5.0)

- The identification and required notification for operators and surface landowners that are located within the area of review (Section 6.0)

- An affirmative statement, based on the analysis of geological conditions at the site that there is no hydraulic connection between the proposed injection zone and any known sources of drinking water (Section 7.0)

In addition, this application includes the following supporting information:

- **Appendix A:** Data tables showing all active, temporarily abandoned, abandoned, and plugged oil and gas wells within a two-mile radius and within the one-mile area of review, as well as associated plugging documents for relevant wells within two miles.

- **Appendix B:** Tables summarizing the operators, lessees, and surface owners in the one-mile radius area of review, an example of the notification letter that will be provided no less than 20 days prior to the NMOCC hearing, and a draft public notice.

- **Appendix C:** Request letter for permission to sample and analyze groundwater and proof of mailing documents (USPS Certified Mail).

3.0 PROPOSED CONSTRUCTION AND OPERATION OF TITAN AGI #4

Titan AGI #4 is intended to service Northwind's Titan Treatment Facility and will be constructed on the facility property in Section 21 of Township 26 South, Range 36 East, approximately 7.5 miles from the city of Jal, in Lea County, New Mexico (Figure 1). The well will be drilled as a deviated well from the surface geographic coordinates 32.029089, -103.276608 (NAD83) to a bottom-hole location approximately 1,532 feet to the northwest at 32.033013, -103.278384 (NAD83), as shown in Figure 2.

TAG to be injected via Titan AGI #4 will be routed from the adjacent Titan Treating Facility to on-site compression facilities that will compress and dehydrate the acid gas. The compressed TAG will then be transmitted to the AGI #4 injection tree via high-pressure, NACE-compliant piping for injection. AGI design details are provided in the following Sections 3.1 and 3.2.

3.1 PROPOSED DESIGN OF TITAN AGI #4

The location of the proposed Titan AGI #4 well and other facility AGI wells are shown in Figure 2, and a general schematic of the injection system is shown in Figure 3. The Titan AGI #4 well will be drilled to a total depth of approximately 19,130 ft MD (measured depth) within the Fusselman Formation. The injection interval (approximately 17,570 to 19,130 feet) will be completed as an open-hole injection interval that includes the Devonian, Wristen, and Fusselman formations.

The AGI facilities and well will be integrated components of the Northwind Titan Treating Facility design and the proposed Titan AGI #4, combined with the approved Salt Creek AGI #2 and #3 wells, will provide significant operational redundancy, with respect to acid gas disposal operations at the facility. The preliminary well design for the Titan AGI #4 well is shown in Figure 4.

Titan AGI #4 will utilize a five-string casing design to ensure the protection and isolation of shallow groundwater resources, oil and gas producing intervals, potential intervals of high-pressure conditions, and potential intervals of lost circulation. The surface casing (24-inch) will be set at approximately 2,120 feet, within the Rustler Formation to isolate shallow groundwater resources of the Dockum Group. The first intermediate casing string (18 5/8-inch) will be set at approximately 3,660 feet, to cement and isolate units overlying the Capitan Reef. The second intermediate casing string (13 3/8-inch) will provide isolation of the Capitan Reef, a known and confirmed interval of lost circulation, and be set at approximately 5,590 ft, overlying strata of the Delaware Mountain Group. The third intermediate casing string will be 9 5/8-inches and will be set within the Wolfcamp Formation at approximately 11,820 ft. MD to aid in the isolation of the lower pressured Delaware Mountain Group and Bone Spring Formation from the underlying, higher-pressure zones of the Wolfcamp, Strawn, Atoka, and Morrow formations. The production casing will utilize 7-inch casing and will be set in a competent geologic unit within the Devonian at an approximate depth of 17,570 ft. The injection interval will be drilled as a 5 7/8-inch open hole interval to a depth of approximately 19,130 ft. in the lower Fusselman Formation.

As shown in Figures 3 and 4, the Titan AGI #4 well design will include a subsurface safety valve (SSSV) on the production tubing to ensure that injected fluids are prevented from flowing back out of the well in the event of a failure of injection equipment. Additionally, the annular space between the production tubing and the wellbore will be filled with an inert fluid (i.e., corrosion-inhibited diesel fuel with biocide additives) as a further safety measure. These practices are consistent with injection well designs previously supported by NMOCD and approved by the NMOCC for acid gas injection and conform to industry best practices for AGI well design.

Design and material considerations for Titan AGI #4 include: (1) Placement of a corrosion-resistant subsurface safety valve to provide down-hole isolation and a CRA permanent packer; (2) installation of

multiple casing strings to isolate and protect shallow groundwater resources (Ogallala and Santa Rosa groundwater, Rustler Formation saline groundwater); (3) characterization of the zone of injection; and (4) a total depth ensuring accurate identification of the injection reservoir.

A suitable drilling rig will be selected for the job that will include an appropriately sized blowout preventer and choke-manifold system for any unforeseen pressures encountered, and operations to drill the Titan AGI #4 well will utilize a closed-loop system to manage drilling fluids. Visual inspection of cement returns to the surface will be documented in cementing operations of all casing strings, and casing and cement integrity will be demonstrated by pressure testing and 360-degree cement bond logs recorded for each cement operation below the surface casing. A schematic of the proposed well is shown in Figure 4 and the anticipated Titan AGI #4 casing plan is summarized in Table 1.

Table 1. Titan AGI #4 proposed casing schedule

Casing	Hole Size (in.)	Csg. Size (in.)	Pounds Per Foot	Grade	Thread	Top (ft.)	Bottom (ft.)
Proposed Casing Schedule							
Conductor	36	30	118	-	Welded	0	120
Surface	26	24	186.4	X-56	XLF	0	2,120
1st Intermediate	22	18.625	137	Q125	BTC	0	3,660
2nd Intermediate	17.5	13.625	88.2	Q-125HC	BTC	0	5,590
3rd Intermediate	12.25	9.625	47	L-80HC	BTC	0	9,360
3rd Intermediate	12.25	9.625	47	P110HP	BTC	9,360	11,820
Production	8.5	7	32	P110EC	VAMTOP*	0	17,270
Production (CRA)	8.5	7	32	G3 (CRA)	VAMTOP*	17,270	17,570
Proposed Injection Tubing							
Tubing	N/A	3.5	10.2	SS-95	VAMTOP*	0	17,270
Tubing (CRA)	N/A	3.5	10.2	G3 (CRA)	VAM*	17,270	17,570

*Or equivalent gas-tight, premium thread connections

All casing strings will be cemented to the surface using appropriate conventional cement methods. The adequacy of cementing operations will be confirmed through pressure testing of the casing and 360-degree cement bond logs will be recorded after the required amount of time has passed for cement to set. Once the integrity of cementing operations has been verified, drilling of the next casing interval will commence.

In accordance with AGI well best construction practices, acid resistant cement slurries and/or CRA casing will be utilized along key depth intervals in which corrosive conditions may potentially be present. For the proposed Titan AGI #4 well, this includes the strategic use of acid resistant cement (e.g., Halliburton WellLock Resin, LockCem, or equivalent) across the Delaware Mountain Group, to ensure well integrity across an active acid gas disposal zone, and the incorporation of CRA casing, tubing, and acid-resistant cement at the base of the 7-inch production casing to protect lower well components and ensure well integrity. Depth intervals which incorporate acid-resistant cement slurries will utilize cement diverter tools (DVT) and external casing packers (ECP) to ensure successful placement and bonding of acid resistant cement, where required. Table 2 summarizes the preliminary cementing program for all Titan AGI #4 casing strings.

Table 2. Titan AGI #4 proposed cementing program

Casing String	Stage #	Cement Type	No. of Sacks	Density (#/gal)	Coverage Interval
Conductor	1	Redimix	-	-	0' – 120'
Surface	1	Lead: ExtendaCem Tail: HalCem C	Lead: 1,165 Tail: 335	Lead: 13.5 Tail: 14.8	0' – 2,120'
1st Intermediate	1	Lead: EconoCem HLC Tail: HalCem C	Lead: 1,332 Tail: 384	Lead: 12.9 Tail: 14.8	0' – 3,660'
2nd Intermediate	1	Lead: EconoCem Tail: HalCem	Lead: 600 Tail: 375	Lead: 12.5 Tail: 14.8	0' – 5,590'
	2	Lead: NeoCem Tail: HalCem	Lead: 604* Tail: 100	Lead: 11.0 Tail: 14.8	
3rd Intermediate	1	Lead: NeoCem Tail: NeoCem	Lead: 313* Tail: 38.2*	Lead: 11.0 Tail: 13.2	0' – 11,820'
	2	Lead: WellLock Resin (or equivalent)	Lead: 80.3*	12.0	
	3	Lead: NeoCem Tail: NeoCem	Lead: 317* Tail: 25.5*	Lead: 11.0 Tail: 13.2	
Production	1	Lead: WellLock Resin (or equivalent)	Lead: 80.3*	12.0	0' – 17,570'
	2	Lead: NeoCem	Lead: 104*	13.2	
	3	Lead: NeoCem	Lead: 330*	13.2	

*Denotes amount of cement in barrels

For the purposes of monitoring down-hole injection conditions and long-term evolution of the Siluro-Devonian injection reservoir, Titan AGI #4 will be completed with permanent down-hole pressure and temperature sensors installed on a mandrel immediately overlying the packer assembly. The associated sensor communication lines will be clamped to the injection tubing, within the annulus, through termination blocks on the injection tree, and to a surface control panel, which will directly transmit data to the facility control room for observation, analysis, and recording.

The SSSV will be installed on the 3 ½-inch injection tubing at a depth of approximately 150 feet and connected to the surface wellhead via a ¼-inch Inconel hydraulic line. From the surface, the line is run to a surface control panel through stainless steel line. The SSSV surface control panel will be integrated into the facility control system, such that the SSSV can be activated on-site, from the control room, or through an automated emergency shutdown (ESD) process. While additional isolation equipment will be incorporated into the Titan AGI #4 design (e.g., manual and automatic valves on injection tree), the SSSV is critical as it provides a subsurface isolation point, in the event physical damage to the wellhead or surface isolation points occurs.

The National Association of Corrosion Engineers (NACE) issues guidelines for metals exposed to various corrosive gases, such as those anticipated for this AGI well. For an H_2S-CO_2 stream of acid gas that is dewatered at the surface via successive stages of compression, down-hole components, such as the SSSV and packer should be constructed of Inconel 925 (or equivalent) grade materials. The CRA joints utilized in the Titan AGI #4 well will be constructed of a similar alloy, such as Sumitomo SM2550 (with 50% nickel content), G3, or other suitable material grade. Additionally, the gates, bonnets, and valve stems within the injection tree will also be nickel coated, in accordance with the requirements of a dry acid gas injection tree.

The remainder of the injection tree will be constructed of standard carbon steel components and outfitted with annular pressure gauges that report operating pressure conditions in real time to a gas-control center located remotely from the wellhead. In the case of abnormal pressures or any other situation requiring immediate action, the acid gas injection process can be stopped or diverted to AGI #2 or AGI #3 at the

compressor, and the wellhead can be shut in using a pneumatically operated wing valve on the injection tree. The SSSV provides a redundant safety feature to shut in the well in case the wing valve does not close properly. After the AGI well is drilled and tested to assure that it will be capable of accepting the proposed volume of injection fluid (without using acid gas), it will be completed with the approved injection equipment for the acid gas stream.

3.2 GEOPHYSICAL LOGGING

Prior to running the intermediate (1st, 2nd, and 3rd) and production casing strings, open-hole geophysical logging will be performed for the interval underlying the surface casing from approximately 2,120 to 19,130 feet. The proposed open-hole logging suite will consist of the following: Gamma ray, formation density, resistivity, neutron porosity, sonic porosity, and 360-degree caliper measurements with integrated borehole volume. Additionally, Fullbore Formation MicroImager (FMI) logs will be recorded along the proposed Siluro-Devonian injection interval, as well as the overlying caprock (i.e., Woodford Shale) to verify the integrity and confirm the capability of overlying strata to properly confine and permanently sequester the injected TAG. Porosity and permeability characteristics of the proposed injection zone and overlying caprock strata will be further verified through collection and analysis of sidewall cores.

3.3 RESERVOIR STIMULATION, TESTING, AND PRESSURE MONITORING

Upon the completion of geophysical logging for drilling, casing/cementing, and geophysical logging activities, reservoir stimulation and testing operations will be completed. These operations include a spot-acid treatment to clean out the wellbore prior to reservoir testing, step-rate injection testing (SRT), followed by acid stimulation. In accordance with accepted stimulation procedures for AGI wells, the step-rate injection test will be conducted prior to acid stimulation activities, with the exception of low-volume, spot acid treatment to clean out and prepare the well for testing.

Prior to step-rate injection testing, a spot acid treatment will be performed in which approximately 3,000 gallons of 15% hydrochloric acid (HCl) will be displaced along the open-hole injection interval for approximately 24 hours, for the purposes of cleaning the wellbore of drilling fluids potentially invading porous intervals. Utilizing a temporary string comprised of a retrievable test packer and workstring tubing, a step-rate injection test will be performed to confirm the adequacy of injection pressure limitations and approved injection volume, and to ensure that the formation parting pressure (i.e., fracture pressure) is not reached during future TAG injection operations. Once the reservoir has been tested and safe operational conditions have been confirmed, the injection reservoir response to injection activities will be characterized through completion of a pressure fall-off test, in which the return to static pressure conditions is monitored via down-hole pressure gauges. Depending on actual reservoir porosity and permeability attributes, it is anticipated that fall-off testing activities will require approximately 3-10 days of down-hole monitoring.

Following the completion of reservoir testing activities (SRT and pressure fall-off monitoring), a complete acid stimulation of the open-hole interval will be completed. Approximately 40,000 gallons of 15% HCl and approximately 8,000 gallons of gelled 15% HCl acid will be injected into the reservoir to open potential reservoir-bound fractures, secondary porosity zones, and dissolve any natural carbonate cement within the pore spaces of the Siluro-Devonian injection zone. As needed, diverter materials (e.g., rock salt) will be utilized to divert acid volumes away from high-porosity intervals and ensure complete stimulation of the open-hole interval.

Upon the completion of reservoir testing and stimulation activities, the final tubing string and permanent injection packer will be run and set at an approximate depth of 17,540 feet. For long-term monitoring of down-hole conditions, Titan AGI #4 will be equipped with bottom-hole pressure and temperature

instrumentation designed to provide real-time monitoring of reservoir conditions, as it is installed immediately above the permanent injection packer. While this equipment is useful in gathering data that will ultimately be used to evaluate reservoir and well performance, it is only a portion of the overall data collection and analysis program to evaluate the reservoir over time and to compare the predicted reservoir performance (discussed in Sections 4.6 and 4.7) with actual performance in future reporting periods.

The collection and analysis of injection and annular pressure data has a two-fold purpose. First, to provide an early warning of any mechanical well integrity issues that may arise, and the second to provide data for reservoir performance evaluation. While the initial purpose of monitoring the mechanical integrity of the well only requires the surface injection pressure, temperature, rate, and annular pressure monitoring, the bottom-hole data provides the ability to analyze and evaluate the performance of the Siluro-Devonian injection reservoir.

Surface pressure/temperature/annular pressure monitoring equipment has extremely high reliability, whereas our experience with bottom-hole pressure/temperature monitoring equipment has shown that this equipment is more complex and may suffer from periodic data collection and transmission issues. As such, we have developed a process to ensure that necessary data are collected in the event of bottom-hole sensor failure. The simultaneous collection of the surface- and bottom-hole data allows for the development of empirical relationships with actual observed data that, in conjunction with the use of established models (such as, AQUAlibrium™, or equivalent) will allow data gaps to be filled when bottom-hole data loss occurs. This approach will allow us to provide NMOCD with reliable monitoring data and interpretations that provide the basis for reservoir evaluation performed periodically during the life of the Titan AGI #4 well.

Below is a summary of the overall data collection and analysis program proposed for this well and injection reservoir:

1. Obtain measurements of initial bottom-hole pressure and temperature after drilling (during logging)

2. Perform detailed step-rate injection test and pressure fall-off test to provide baseline reservoir conditions prior to the commencement of TAG injection activities

3. Monitor surface parameters (injection pressure, temperature, injection rate, and annular pressure) to provide an early warning system for any potential mechanical integrity issues in the well

4. Monitor bottom-hole pressure and temperature with permanent sensors to provide real-time reservoir conditions for analysis of reservoir performance

5. Use bottom-hole reservoir and surface pressure and temperature data to develop a well-specific empirical relationship between observed surface- and bottom-hole conditions

6. Use TAG/wellbore model to predict bottom-hole conditions based on surface data and test with empirical relationships observed in #5 above to calibrate models

7. Use surface data along with protocols described above to fill in missing bottom-hole data when data gaps or sensor failure occurs

8. In the event of an extended period of bottom-hole pressure/temperature sensor failure, perform periodic bottom-hole pressure monitoring using slickline pressure gauges when data from such temporary device is necessary to fill in data for relevant reservoir analysis

9. After approximately ten (10) years of operation, perform another detailed step-rate injection test and fall-off test to compare with baseline conditions prior to the commencement of TAG injection

3.4 INJECTION STREAM CHARACTERISTICS AND MAXIMUM ALLOWABLE OPERATING PRESSURE

The proposed Titan AGI #4 well has been designed and will be constructed such that it can be safely operated as an acid gas injection well to dispose of a mixed stream of TAG containing H_2S and CO_2. Based on current gas-treatment forecasting, the TAG stream is anticipated to be comprised of the following constituents:

- Carbon Dioxide (CO_2) 80%
- Hydrogen Sulfide (H_2S) 20%
- Trace Nitrogen and hydrocarbons (C_1-C_7) Less than 1%

The maximum total volume of TAG to be injected daily will be approximately 28.8 MMSCF per day, a volume proposed to be shared with the approved Salt Creek AGI #2 and reflective of a total daily volume limitation for Siluro-Devonian injection (via Titan AGI #4 and Salt Creek AGI #2). Pressure reduction valves and controls will be incorporated to ensure that the maximum surface injection pressure allowed by NMOCD will not be exceeded.

The specific gravity of TAG is dependent on the temperature and pressure conditions and the composition of the TAG mixture. It is most accurately calculated using a modification of the Peng-Robinson (PR) equation of state (EOS) model (Boyle and Carroll, 2002). We have calculated the specific gravity of the supercritical TAG phase for the proposed Titan AGI #4 well using the AQUAlibrium™ 3.1 software, which employs the modified PR EOS model (Table 3).

We have modeled the proposed maximum daily injection rate of 28.8 MMSCF per day composed of 80% CO_2 and 20% H_2S. Specific gravities of TAG were determined for the conditions at the wellhead (1,700 psi, 110 °F), the total depth of the well (8,300 psi, 250 °F), and under average reservoir conditions (see Table 3).

To determine the proposed maximum surface injection pressure, we utilize the following NMOCD-approved method, which is based on the final specific gravity of the injection stream. Utilizing this method, we propose a maximum allowable operating pressure (MAOP) of approximately 5,811 psig, as determined by the following calculations:

MAXIMUM ALLOWABLE OPERATING PRESSURE (MAOP) DETERMINATION

$$IP_{Max} = PG\ (D_{Top})$$

Where: IP_{Max} = Maximum Surface Injection Pressure (psi)
PG = Pressure Gradient of Injection Fluid (psi/ft.)
D_{Top} = Depth at top of perforated interval of injection zone (ft.)

And

$$PG = 0.2 + 0.433\ (\ 1.04 - SG_{Tag}\ )$$

Where: SG_{Tag} = Average specific gravity of treated acid gas in the tubing (SG_{Tag} at top = 0.66, and SG_{Tag} at bottom = 0.82; see Table 3)

For the maximum requested injection volume case, it is assumed that:

$$SG_{Tag} = 0.7381$$
$$D_{Top} = 17{,}570\ feet$$

Therefore:

$$PG = 0.2 + 0.433\ (1.04 - 0.7381)$$

$$PG = 0.3307$$

And

$$IP_{Max} = 0.3299 \frac{psi}{ft}\ x\ 17{,}570\ ft$$

$$\boldsymbol{IP_{Max} = 5{,}811\ psi}$$

Based on this determination, Northwind requests approval for a surface injection MAOP of 5,811 psig for the proposed Titan AGI #4 well.

Table 3. Anticipated TAG stream characteristics at wellhead, bottom of well, and in reservoir at equilibrium conditions

Proposed Injection Stream Characteristics

TAG	H_2S	CO_2	H_2S	CO_2	TAG
Gas Volume MMSCFD^{-1}	Conc. Mol %	Conc. Mol %	Injection Rate lbs/day	Injection Rate lbs/day	Injection Rate lbs/day
28.8	20	80	517275	2671887	3189162

Conditions at Wellhead

Wellhead		TAG							
Temp F	Pressure psi	Gas Vol (MMSCFD)$^{-1}$	Comp CO_2:H_2S	Inject Rate lbs/day	Density kg/m^3	SG	Density lbs/gal	Volume ft^3	Volume bbl
110	1700	28.8	80:20	3189162	660.90	0.66	5.52	77260	13760

Conditions at Bottom of Well

TD		TAG							
Temp F	Pressure psi	$Depth_{Top}$ ft	$Depth_{Bot}$ ft	Thickness ft	Density kg/m^3	SG	Density lbs/gal	Volume ft^3	Volume bbl
250	8300	17570	19130	1560	815.33	0.82	6.81	62626	11154

Conditions in Reservoir at Equilibrium

Reservoir Mid		TAG					
Temp F	Pressure psi	Avg. Porosity	Density kg/m^3	SG	Density lbs/gal	Volume ft^3	Volume bbl
240	7965	2.1	817.14	0.82	6.82	62487	11129

4.0 REGIONAL AND LOCAL GEOLOGY AND HYDROGEOLOGY, RESERVOIR CHARACTERIZATION AND INJECTION SIMULATION

4.1 GENERAL GEOLOGIC SETTING AND SURFICIAL GEOLOGY

The proposed Titan AGI #4 well site is located in Section 21 of Township 26 South, Range 36 East, approximately 7.5 southwest of the city of Jal, in Lea County, New Mexico (Figure 1). The well's location lies on the eastern flank of the topographic Pecos River Basin within the Javelina Basin. Generally, the area is flat and covered predominantly by sand dunes overlying a hard caliche surface. The dunes are locally stabilized with shin oak, mesquite, and some burr grass. There are no observed surface bodies of water, or groundwater discharge sites within one mile of the proposed location. Where drainages exist in interdunal areas, they are ephemeral, discontinuous, dry washes. The proposed well site is underlain by Quaternary alluvium overlying the Triassic redbeds of the Santa Rosa Formation (i.e., Dockum Group), both of which are local sources of groundwater. The thick sequences of Permian rocks that underly these deposits are generally described below.

4.2 BEDROCK GEOLOGY

The Northwind Midstream Titan Treatment Facility and the proposed Titan AGI #4 well are located along the eastern margin of the Delaware Basin, a sub-basin of the larger, encompassing Permian Basin (Figure 5), which covers a large area of southeastern New Mexico and west Texas. The Permian as we know it today began to take form during the Middle to Late Mississippian, with various segments (Delaware Basin, Midland Basin, Central Basin Platform, and North Platform) arising from the ancestral Tabosa Basin. The Delaware Basin was subsequently deepened by periodic deformation during the Hercynian Orogeny of the Pennsylvanian through Early Permian. Following the orogeny, the Delaware Basin was structurally stable and was gradually filled by large quantities of clastic sediments while carbonates were deposited on the surrounding shelves and was further deepened via basin subsidence.

Figure 6 illustrates a generalized Permian Basin stratigraphic column showing the anticipated formations and lithologies that underly the proposed well site. The entire Lower Paleozoic interval (Ellenburger through Devonian) was periodically subjected to subaerial exposure and prolonged periods of karsting, most especially in the Fusselman and Devonian intervals. The result of this exposure was the development of systems of karst-related secondary porosity, which included solution-enlargement of fractures and vugs, and the development of small cavities and caves. Particularly in the Fusselman, solution features from temporally distinct karst events became interconnected with each successive episode of subaerial exposure, so there is the potential for vertical continuity in parts of the Fusselman that could lead to enhanced vertical and horizontal permeability.

The sub-Woodford Shale Paleozoic rocks extend down to the Ordovician Ellenburger Formation, which is separated from underlying basement rock by a limited interval of Early Ordovician sandstones and granite wash. The Ellenburger is comprised of dolomites and limestones and can be several hundred feet thick. It is overlain by approximately 880 feet of Ordovician Simpson Group sandstones, shale, and tight limestones, as well as approximately 480 feet of basal Montoya cherty carbonates. Tight carbonates and abundant interbedded shale deposits within the Montoya and Simpson group serve as the underlying confining strata for the proposed Siluro-Devonian injection reservoir.

The Silurian Fusselman, Wristen, and Devonian Thirtyone formations overly the Montoya Formation and are comprised of interbedded dolomites and dolomitic limestones that are capped by the Woodford Shale. The Woodford Shale is overlain by several hundred feet of tight Osagean limestone and several hundred feet of shale and basinal limestones of the Upper Mississippian Barnett Formation. The overlying Pennsylvanian Morrow, Atoka, and Strawn formations complete the pre-Permian section. Within this

entire sequence, wells have historically produced gas from the Strawn, however, gas production from Strawn in the area is limited to only one nearby producing well. Active oil and gas production within the area of review of the proposed AGI well is found predominantly in the Tansill-Yates-Seven Rivers pools and horizontal plays (active and permitted) within the Bone Spring and Wolfcamp formations. The deepest currently producing formation, the Strawn Formation, is approximately 3,300 feet above the target injection zone.

4.3 LITHOLOGIC AND RESERVOIR CHARACTERISTICS OF THE SILURO-DEVONIAN FORMATIONS

The proposed injection interval for the Titan AGI #4 well includes the Devonian Thirtyone and Silurian Wristen and Fusselman formations (collectively referred to as Siluro-Devonian). These strata are comprised of carbonates with high permeability such as porous limestones or dolostones with moderate porosity that are well-demonstrated as capable injection reservoirs by numerous saltwater disposal (SWD) and AGI wells in the basin. In evaluating the proposed Titan AGI #4 location, Geolex determined that the Devonian and Silurian injection reservoirs exhibited sufficient porosity potential to accommodate the disposal needs of the Northwind Midstream Titan Treatment Facility. Additional discussion regarding the evaluation of Siluro-Devonian reservoir characterization is included in Section 4.6.

Based on the geologic analysis of the subsurface, acid gas injection and CO_2 sequestration is recommended between the depths of approximately 17,570 feet to 19,130 feet. The proposed injection zone consists of approximately 1,560 feet of Siluro-Devonian strata, comprised predominantly of porous carbonates (resulting from numerous subaerial exposure events) that would readily accept TAG for permanent sequestration. Figure 7 includes an interpreted type log, showing the lithology of the subsurface formations and anticipated formations are included in Table 4.

The primary caprock for the Siluro-Devonian injection reservoir is the upper Devonian Woodford Shale, approximately 370 feet thick in this area. The Woodford Shale is overlain, in turn, by approximately 845 feet of tight shales and carbonates of the Barnett and Osage formations. These units provide an excellent geologic seal above the porous carbonates of the injection zone, ensuring that overlying pay intervals and shallow groundwater resources are adequately isolated from the proposed injection zone.

Figure 8 shows a structural contour map covering the area of the proposed Titan AGI #4 well and Figure 9 includes a structural cross section (A-A') which highlights the lateral extent of available Siluro-Devonian porosity and regional coverage of the overlying Woodford Shale caprock. The proposed AGI well location is on the southwestern-dipping slope and there is no indication of faulting that offsets the lateral continuity of injection reservoir confining strata. Geophysical logs from included wells indicate several intervals within the proposed injection zone exhibit significant porosity development and the anticipated low-porosity and low-permeability caprock is shown to be laterally continuous within the greater project area.

Table 4. Anticipated formation tops at the proposed Titan AGI #4 location

Formation	Depth (MD)	Formation	Depth (MD)
Dockum Group	878	Wolfcamp	11,820
Ochoa-Dewey Lake	1,305	Strawn	12,698
Rustler	2,117	Atoka	14,218
Tansill	3,132	Morrow	14,831
Yates	3,346	Barnett	16,354
Seven Rivers	3,531	Osage	16,740
Capitan Reef	3,660	Woodford	17,199
Bell Canyon	5,590	Devonian	17,570
Cherry Canyon	5,979	Wristen	17,860
Brushy Canyon	7,108	Fusselman	18,510
Bone Spring	8,508		

4.4 CHEMISTRY OF SILURO-DEVONIAN RESERVOIR FLUIDS

A review of formation waters from the U.S. Geological Survey National Produced Water Geochemical Database, v. 2.3 identified six wells with analyses from drill stem test fluids collected from the Devonian-Silurian interval in wells within approximately 15 miles of the proposed Titan AGI #4. Table 5 below summarizes the measured formation fluid characteristics.

Table 5. Summary of produced water analyses from nearby wells (U.S. Geological Survey National Produced Water Geochemical Database, v. 2.3)

API	Concentration (parts per million)						
	TDS	HCO_3	Ca	Cl	Mg	Na	SO_4
30-025-12386	56776	66	5407	35590	1333	14380	N/A
30-025-11886	101036	540	5393	61630	2183	N/A	910
30-025-11818	27506	1089	1384	15270	540	N/A	1079
30-025-24464	108837	188	5659	65493	1051	34834	1613
30-025-11863	158761	476	17240	100300	5345	N/A	N/A
30-025-11950	31931	302	7196	20450	2241	N/A	591

These analyses show Total Dissolved Solids (TDS) in the area of the proposed AGI well ranging from 31,931 to 158,761 parts per million (PPM) with an average of 80,808 PPM. The primary constituent in the sampled formation waters is the chloride ion, with an average concentration of 49,455 PPM.

Based on these data, the Siluro-Devonian reservoir fluids are anticipated to be completely compatible with the acid gas injectate, however, an attempt will be made to sample formation fluids during drilling and completion of the proposed Titan AGI #4 to provide more site-specific fluid properties and verify our assessment of fluid compatibility.

4.5 GROUNDWATER HYDROLOGY IN THE VICINITY OF THE PROPOSED AGI WELL

Based on the New Mexico Water Rights Database from the New Mexico Office of the State Engineer, there are 58 water wells or points of diversion located within a two-mile radius of the Titan AGI #4 surface- and bottom-hole location, and 14 water wells within one mile. Of these wells, the closest is located approximately 0.61 miles to the south of the Titan AGI #4 surface-hole location (Figure 10; Table 6). All wells within the two-mile radius are relatively shallow, with depths ranging from approximately 100 feet to 1,000 feet in alluvium and Triassic redbeds. Shallow groundwater resources will be fully protected by multiple strings of telescoping casing, all of which will be cemented back to surface. As

illustrated in Figure 4, design considerations for the Titan AGI #4 well include a five-string casing design, including a surface casing interval that extends to approximately 2,120 feet within the Rustler Formation, effectively isolating shallow groundwater resources.

The area surrounding the proposed injection well is arid and there are no bodies of surface water within a two-mile radius.

Table 6. Water wells or points of diversion within one mile of the Titan AGI #4 surface- and bottom-hole locations (Retrieved from the New Mexico Office of the State Engineer's Files on May 1, 2024)

POD	USE	Owner	Well Depth (ft)	Water Depth (ft)	Latitude (NAD83)	Longitude (NAD83)
J 00002 POD6	Municipal	City Of Jal	-	-	32.03056	-103.29344
J 00038 POD1	Exploration	Stewart	-	-	32.02055	-103.27972
J 00038 POD2	Exploration	Beckham	-	-	32.02166	-103.26361
J 00025 POD1	Commercial	NGL South Ranch, Inc.	-	-	32.02095	-103.28067
J 00025 POD2	Commercial	NGL South Ranch, Inc.	800	-	32.02167	-103.26361
J 00051 POD2	Exploration	City Of Jal	1005	-	32.03970	-103.28566
J 00053 POD 1	Exploration	Ameredev Operating, LLC	-	-	32.03399	-103.26634
J 00054	Monitoring	Ameredev Operating, LLC	101	-	32.04149	-103.27821
J 00055 POD1	Monitoring	Ameredev Operating, LLC	101	-	32.04149	-103.27821
J 00057 POD1	Monitoring	Ameredev Operating, LLC	101	-	32.03418	-103.28923
J 00060 POD1	Exploration	Ameredev Operating, LLC	-	-	32.02045	-103.27792
J 00051 POD1	Exploration	Glorieta Geoscience, Inc.	901	-	32.04487	-103.28548
J 00051 POD3	Exploration	Glorieta Geoscience, Inc.	1119	-	32.04194	-103.29000
J 00064 POD1	Exploration	City Of Jal	-	-	32.04474	-103.28540

In lieu of recent groundwater sample collection and chemical analysis, Geolex conducted a review of *Geology and Ground-Water Conditions in Southern Lea County, New Mexico* (Nicholson and Clebsch, 1961) to identify published groundwater data representative of nearby water wells in the area (within less than 10 miles) of the proposed Titan AGI #4 well. Table 7 summarizes the four wells identified in this review and the results of those chemical analyses.

Table 7. Chemical analysis results of samples collected from water wells in the area of the proposed Titan AGI #4 (Nicholson and Clebsch, 1961. *Geology and Ground-Water Conditions in Southern Lea County, New Mexico*)

Historical Owner	Location (T-R-S)	Depth (ft)	Ca (eq)	Na+K	HCO_3	SO_4	Cl	NO_3	Hardness	pH
-	26S-35E-13	230	6.72	-	207	233	73	-	336	7.3
W.D. Dinwiddie	26S-33E-3	180	8.72	-	306	110	57	-	436	7.3
City of Jal	25S-37E-19	500	55	170	376	280	71	0.4	338	-
City of Jal	25S-37E-19	450	34	175	264	286	54	0.5	262	-
El Paso Nat. Gas	25S-37E-20	70	102	77	150	145	168	7.6	386	-
El Paso Nat. Gas	25S-37E-20	47	7.96	-	191	200	145	-	398	7.5

Underlined values represented in terms of equivalents per million; others are expressed in parts per million

Our analysis confirms that the proposed well poses no risk of contaminating groundwater in the area as (1) the proposed well design includes material considerations to protect shallow groundwater resources and multiple casing strings that provide redundant physical barriers isolating groundwater, and (2) there are no identified conduits that would facilitate migration of injected fluids to freshwater-bearing depth intervals.

4.6 RESERVOIR CHARACTERIZATION TO SUPPORT GEO-MODELING AND INJECTION SIMULATION ASSESSMENT

As it is critical to verify that the proposed Siluro-Devonian injection reservoir can accommodate the requested 28.8 MMSCFD of TAG, within anticipated surface operating pressure limitations, Northwind has completed detailed reservoir characterization, reservoir modeling, and injection simulation evaluations, which leverage licensed three dimensional (3D) seismic survey data. Analysis of these data has allowed for the development of a reservoir characterization model, refinement of previous geologic structure and fault interpretations, and through seismic inversion analysis methods, a detailed characterization of Siluro-Devonian porosity development and the interconnectivity of porous strata. Subsequent injection simulations clearly demonstrate the proposed Siluro-Devonian injection reservoir is capable of accommodating TAG injection up to 28.8 MMSCFD.

In completing geologic analysis of the project area, Northwind has licensed approximately 18 square miles of 3D seismic survey data. Analysis, interpretation, and reprocessing of these data forms the basis in confirming the Siluro-Devonian injection reservoir's capability of accommodating TAG injection up to 28.8 MMSCFD. Specifically, derivative data yielded from high-resolution seismic trace inversion methods, have allowed Northwind to more accurately characterize porosity development within the Siluro-Devonian geologic strata. Being sourced from 3D seismic data, the result of this analysis provides critical information regarding not only porosity development, but also the vertical and lateral continuity and interconnectivity of porous strata.

From seismic survey analysis, significant porosity development produced from karst dissolution processes is apparent and is highly interconnected across the greater project area. As anticipated, porosity development is most significant in the depth intervals of the upper Devonian and Fusselman formations strata. Based on mapped acoustic impedance attributes, which are directly related to porosity within the

injection reservoir, Siluro-Devonian porosity attributes were determined to range from less than 1% to approximately 8%, with an average porosity of 2.1%. Impedance attributes derived from high-resolution seismic trace inversion were transformed to porosity through direct correlation with log porosity, and the transform function was limited to maximum porosity measurements observed in wireline porosity logs.

In addition to providing a more accurate characterization of reservoir attributes, the analysis of seismic survey data yields a better understanding of subsurface faults and reservoir geometry within the project area. Figure 11 includes a map of fault features interpreted through the analysis of seismic data. Generally, faults within the project area trend north to south or approximately east to west. In total, 13 faults are interpreted, which have been further subdivided into 24 fault segments, for the purposes of evaluating induced seismicity risk (discussed in Section 4.9). For all interpreted faults, the magnitude of offset (or fault throw) is less than the thickness of the Woodford Shale confining strata, and thus, does not compromise the ability to contain TAG within the proposed Siluro-Devonian injection reservoir.

From our review and analysis of seismic survey data, a reservoir characterization model was developed to be utilized for injection simulation investigations that assess the feasibility of TAG injection up to 28.8 MMSCFD and shared by the approved Salt Creek AGI #2 well and the proposed Titan AGI #4 well. The results of these case simulations are discussed further in Section 4.7 and confirm the capability of the Siluro-Devonian injection reservoir in accommodating TAG injection volumes, as proposed and requested by Northwind.

4.7 ACID GAS INJECTION MODELING AND SIMULATION

To simulate the proposed injection scenario and characterize the resultant TAG injection plume, after 30 years of operation at the maximum daily injection rate of 28.8 MMSCFD, Geolex collaborated with Sproule to develop a reservoir characterization model and complete updated injection simulations, informed by and incorporating the recently acquired seismic survey data and resultant mapped porosity attributes. This modeling evaluation was completed utilizing Schlumberger Petrel to construct a geologic simulation grid informed by available well log data and mapped seismic impedance attributes, which are directly related to porosity within the injection reservoir. Schlumberger's Eclipse platform was then utilized to complete injection simulations representative of the injection scenario proposed for the Titan AGI #4 and approved Salt Creek AGI #2 wells (up to 28.8 MMSCFD).

The reservoir characterization model is comprised of 151 simulation layers characterizing eight discrete depth intervals identified within the Siluro-Devonian reservoir. In total, the model grid is comprised of 3,395,651 cells. The simulation model includes nearby subsurface fault features and the approved (but not yet drilled) Salt Creek AGI #2.

As described previously in Section 4.6, porosity attributes within the reservoir model are based on mapped acoustic impedance attributes, which directly relate to porosity within carbonate and dolomitic strata of the injection reservoir. Impedance attributes derived from high-resolution seismic trace inversion were transformed to porosity through direct correlation with geophysical log porosity and the range of porosity was limited to measurements observed in wireline logs. Utilizing this method, Siluro-Devonian reservoir porosity was determined to range from less than 1% to approximately 8%, with an average porosity of 2.1%. The distribution of porosity within the reservoir model is shown in Figure 12.

In defining permeability attributes, multiple data sources were utilized to identify baseline relationships between porosity and permeability, including injection reservoir test data, DST, injection well operating data, and published core-analysis data (e.g., Lucia et al., 1995). Permeability within the reservoir model, averaged by zone, ranges from 0.9 to 12.3 millidarcies (mD), with an average model permeability of 5.1 mD. The total model (all zones) permeability distribution is shown in Figure 12 and Table 8 below

summarizes geologic model zones defined, zone thickness, and average model porosity and permeability, by zone.

Table 8. Summary of geologic model zone thickness and model porosity and permeability attributes

Zone #	Thickness	Average Porosity (%)	Avg. Permeability (mD)
1	118	0.9	2.1
2	98	1.9	1.2
3	126	3.2	2.4
4	374	1.4	0.9
5	199	1.8	1.7
6	220	2.6	0.01
7	38	2.4	10.5
8	378	2.1	12.3

With the constructed geologic model, injection operations for the proposed Titan AGI #4 and approved Salt Creek AGI #2 wells were simulated (i.e., dynamic modeling) utilizing the Schlumberger Eclipse platform. Dynamic modeling was utilized to simulate injection of a mixed acid gas stream containing approximately 20% H_2S and 80% CO_2 at a constant rate of 28.8 MMSCFD. Reservoir pressure conditions initially reflect a normally pressured system (0.433 psi/ft.) and to ensure a conservative estimate of plume size, the injection simulations do not consider acid gas dissolution into existing formations.

In support of this C-108 application, two dynamic model simulations are presented, which estimate the size and characteristics of the resultant TAG injection plume, following operations of the AGI wells (Titan AGI #4 and Salt Creek AGI #2) at a shared daily injection volume of up to 28.8 MMSCFD. Case 1 reflects injection well operations in a subsurface environment in which faults are fully transmissive of fluids, while Case 2 considers faults to be non-transmissive of fluids. From these simulation end members, conservative estimates of plume size and migration directions are identified.

The results of Case 1 and Case 2 injection simulations are illustrated in Figures 13 and 14, for transmissive and non-transmissive faults, respectively. Following the 30-year injection period, the resultant TAG plume is anticipated to occupy an area of approximately 5.2 square miles generally extending up to 1.8 miles from the Titan Treatment Facility. For all case simulations, results indicate that injection operations, up to 28.8 MMSCFD, can be maintained for the complete simulation period. Furthermore, injection activities at the proposed daily rates are sustained within anticipated and currently approved surface injection pressure limitations.

4.8 POTENTIAL FOR VERTICAL MIGRATION OF ACID GAS TO OVERLYING PRODUCTIVE ZONES

Results of the injection system simulations predict that some fraction of acid gas injectate will exhibit a dispersion pattern such that gas reaches local fault features in the area. These features represent potential conduits for the vertical transmission of acid gas out of the target injection reservoir and into overlying productive zones. To address this concern, Geolex reviewed available drilling fluid records in the area of the proposed AGI. Additionally, published literature evaluating regional reservoir pressure conditions in the Delaware Basin was utilized. Based on this analysis, we determined these sealed faults could not result in an escape of TAG from the injection zone.

Illustrated in Figure 16 are wells and associated drilling fluid densities utilized while drilling through overlying producing zones in the area of the Titan AGI #4 well. Above the proposed Siluro- Devonian injection reservoir mud weights utilized range from 11.9 to 15.1 pounds per gallon (ppg). For those wells identified that penetrate the proposed injection reservoir, fluid records indicate utilization of less dense fluids (average of 9.0 ppg). These records support the interpretation that overlying producing zones in this area are over-pressured with respect to the target injection reservoir.

Over-pressured reservoir conditions within the Lower Bone Springs to Woodford formation strata have been recognized in many areas of the eastern Delaware Basin (Luo et al., 1994). Rittenhouse et al. (2016) generated a regional pore-pressure model of the Delaware Basin informed by over 23,700 drilling fluid recordings and more than 4,000 drill-stem and fracture injection tests. As shown in Figure 15, these compiled fluid records and testing operations indicate increased pore-pressure gradients from Lower Bone Springs to Woodford Formation strata expressed in the utilization of heavier drilling fluids. Normal pressure conditions are observed to return underlying the Woodford Shale.

Based on the record of local drilling fluids utilized and extensive records compiled by Rittenhouse et al. (2016), the proposed Siluro-Devonian injection reservoir at this location is anticipated to be under-pressured with respect to overlying strata. Under these conditions, there is no potential for the vertical migration of acid gas out of the target reservoir as the pressure differential between the over- and under-pressured intervals will act as a barrier impeding vertical migration, even along potential conduits.

4.9 INDUCED-SEISMICITY RISK ASSESSMENT

To evaluate the potential for seismic events in response to injected fluids, an induced-seismicity risk assessment was conducted in the area of the proposed Titan AGI #4 well. This estimate (1) Models the impact of five injection wells over a 30-year injection period, and (2) estimates the fault slip probability associated with the five-well injection scenario. The analysis was completed utilizing the Stanford Center for Induced and Triggered Seismicity's (SCITS) Fault Slip Potential (FSP) modeling package.

Based on the detailed review of seismic survey data (described previously in Section 4.6), Geolex identified 13 faults, located within approximately three miles of the Titan AGI #4, and generally striking north to south, and east to west (Figure 11). Due to the low number of wells in close proximity to these features and considering the relatively small injection volume proposed for the Titan AGI #4 well (equivalent to approximately 11,043 barrels per day and shared with AGI #2), operation of the Titan AGI #4 well, concurrently with the approved Salt Creek AGI #2 well, is not anticipated to contribute significantly to the risk for injection-induced fault slip. To verify these structures would not be adversely affected by operation of the AGI wells, as proposed, a model simulation was performed.

To calculate the fault slip probability for this injection scenario, input parameters characterizing the local stress field, reservoir characteristics, subsurface features, and injected fluids are required. Parameters utilized and their sources for this study are included in Table 9 below. Additionally, Table 10 and Figure 17 detail the injection volume characteristics and geographic locations of injection wells included in this assessment.

For this study, limitations of the FSP model require a conservative approach be taken in determining the fault slip probability of the four-well injection scenario. Specifically, the FSP model is only capable of considering a single set of fluid characteristics and this study aims to model a scenario that includes saltwater disposal (SWD) wells and acid gas injection wells. To ensure a conservative fault slip probability estimate, the proposed AGI well was modeled utilizing the fluid characteristics of produced water. This approach yields a more conservative model prediction as produced water displays greater

density, dynamic viscosity, and is significantly less compressible than acid gas. Characteristics of acid gas at anticipated reservoir conditions, as modeled by AQUAlibrium™, are shown in Table 9.

Table 9. Input parameters and source material for FSP simulation

Modeled Parameter	Input Value	Variability (+/-)	UOM	Source
Stress				
Vertical Stress Gradient	1.05	0.105	psi ft^{-1}	Nearby well estimate
Max Horizontal Stress Direction	N75E	0	Deg.	Lund Snee & Zoback, 2018
Reference Depth	18,120	0	ft	Nearby well evaluation
Initial Res. Pressure Gradient	0.43	0.043	psi ft^{-1}	Lund Snee & Zoback, 2018
A_Φ Parameter	0.6	0.06	-	Lund Snee & Zoback, 2018
Reference Friction Coefficient (μ)	0.6	0.06	-	Standard Value
Hydrologic				
Aquifer Thickness	1,550	155	ft	Nearby well evaluation
Porosity	2.1	0.21	%	Nearby well evaluation
Permeability	5.1	0.5	mD	Nearby well evaluation
Material properties				
Density (Water)	1,040	20	kg m^{-3}	Standard Value
Dynamic Viscosity (Water)	0.0008	0.0001	Pa.s	Standard Value
Fluid Compressibility (water)	3.6×10^{-10}	0	Pa^{-1}	Standard Value
Rock Compressibility	1.08×10^{-9}	0	Pa^{-1}	Standard Value
Acid gas @ 240 °F, 7,965 psi				
Density	817.14	-	kg m^{-3}	AQUAlibrium™
Dynamic Viscosity	0.0000804	-	Pa.s	AQUAlibrium™

Daily maximum injection volumes utilized in the FSP model range from 4,265 to 20,000 bpd (Table 10). In submission of this application, Northwind is requesting approval to operate the proposed Titan AGI #4 well for a period of at least 30 years. This simulation includes a history matching period of six additional years to ensure the simulation results also consider the historical impact of injection wells that have been operating since 2019. Figure 18 shows the resultant pressure front, single well radial solutions, and the predicted pressure change at the fault segment midpoints; Figure 19 shows the model-predicted fault slip potential for all wells operating at maximum capacity. The predicted pressure change along each fault segment, model-derived pressure change to induce slip, and model-predicted actual pressure change are summarized in Table 11 below.

Table 10. Location and operating parameters of injection wells modeled in FSP assessment

#	API	Well Name	Latitude (NAD83)	Longitude (NAD83)	Volume (bbls/day)	Start Year	End Year
1	TBD	Titan AGI #4	32.033013	-103.278384	6880	2025	2055
2	TBD	Salt Creek AGI #2	32.028828	-103.277809	6880	2025	2055
3	30-025-48081	Independence AGI #1	32.120835	-103.291025	4265	2021	2055
4	30-025-49974	Independence AGI #2	32.120062	-103.291025	4265	2023	2055
5	30-025-43360	Kimberly SWD #1	32.08353	-103.194274	20000	2019	2055

Table 11. Summary of model simulation results showing the required pressure change to induce fault slip, actual pressure changes as predicted by the FSP model, and probability of fault slip at the end of the 30-year injection scenario.

Fault Segment #	Δ Pressure necessary to induce fault slip	Actual Δ Pressure at fault midpoint at year 2055	Fault Slip Potential at year 2055
1	1444	66	0.00
2	1219	86	0.00
3	1654	136	0.00
4	1615	173	0.00
5	6303	22	0.00
6	7398	38	0.00
7	7162	49	0.00
8	1595	186	0.00
9	1282	124	0.00
10	1153	156	0.00
11	4053	125	0.00
12	6020	151	0.00
13	5141	215	0.00
14	2200	232	0.00
15	3851	256	0.00
16	1514	172	0.00
17	1652	143	0.00
18	6703	223	0.00
19	1894	262	0.00
20	1550	318	0.00
21	1167	96	0.00
22	6280	74	0.00
23	6354	71	0.00
24	4703	53	0.00

Generally, faults considered in this assessment are predicted by the FSP model to have very low potential for injection-induced slip and the proposed Titan AGI #4 is not predicted to contribute significantly to the total resultant pressure front. All faults within the modeled study area show no increase in slip probability throughout the 30-year scenario (Figures 18 and 19). Furthermore, radial pressure solutions calculated for each injection well illustrate that the operation of the proposed Titan AGI #4 well, and approved Salt Creek AGI #2 well, will have little impact pressure conditions near faults in the area.

5.0 OIL AND GAS WELLS IN THE TITAN AGI #4 AREA OF REVIEW AND PROJECT AREA

In support of this application, Northwind conducted a detailed review of the area within one-mile and two-miles of the proposed Titan AGI #4 location. This review is necessary to ensure all oil and gas operators and all interested parties have been identified, such that they can be provided notice of the NMOCC hearing to consider this matter and be provided complete copies of the C-108 application and request.

For the purposes of evaluating and identifying oil and gas activities, operators, and other interested parties within the project area, the one-mile Area of Review (AOR) is displayed as a one-mile buffer area around the surface- and bottom-hole location of the Titan AGI #4 well, and along the deviated wellbore path of Titan AGI #4.

5.1 OIL AND GAS WELLS IN THE TITAN AGI #4 AREA OF REVIEW

Appendix A summarizes in detail all NMOCD recorded wells within a one- and two-mile radius of the proposed Titan AGI #4. These wells are shown in Figure A-1 and include active, plugged, and permitted well locations. Table A-1 summarizes all wells within two miles of the proposed AGI well and wells located within one mile are included in Table 14 below.

In total, there are 83 wells within a one-mile radius of the proposed Titan AGI #4 surface- and bottom-hole locations. Specific information relating to active, new, and plugged wells is summarized in Appendix A and Table 12, and their geographic locations are shown in Figure 20. Of these wells, 22 are active and 29 have been plugged. Additionally, there are 32 locations permitted that have not yet been drilled or completed. Specific information relating to active and plugged wells is summarized. Active wells are primarily producing from the Tansill-Yates-Seven Rivers shallow depth intervals, as well as the Lower Bone Spring and Wolfcamp pools, all of which, overly and are isolated from the proposed injection zone.

Table 12. Wells located within one mile of proposed Titan AGI #4

API	Well Name	Associated Pools	Well Type	Well Status	Lat (NAD83)	Long (NAD83)	Depth (ft)
3002549931	Azalea 26 36 28 State Com #104H	Wolfcamp	Oil	New	32.0209	-103.271	0
3002549932	Azalea 26 36 28 State Com #123H	Wolfcamp	Oil	New	32.0209	-103.271	0
3002549933	Azalea 26 36 28 State Com #127H	Wolfcamp	Oil	New	32.0209	-103.266	0
3002546746	Salt Creek AGI #001	Delaware	SWD	Plugged	32.028	-103.277	0
3002549590	Azalea 26 36 28 State Com #125H	Wolfcamp	Oil	New	32.0209	-103.269	0
3002542733	Wildhog BWX State Com #001H	BS, Wolfcamp	Oil	Active	32.0355	-103.289	12517
3002544112	Wildhog BWX State Com #002H	Wolfcamp	Oil	Active	32.0353	-103.282	12008
3002526816	Pre-Ongard Well #003	Tan-Yates-7Riv	Oil	Plugged	32.0378	-103.281	3700
3002526815	Pre-Ongard Well #002	Tan-Yates-7Riv	Oil	Plugged	32.0415	-103.281	3700
3002509857	Pre-Ongard Well #006	No Data	Oil	Plugged	32.0224	-103.281	3349
3002509856	Pre-Ongard Well #006	No Data	Oil	Plugged	32.0233	-103.281	1247
3002527197	Lea 20 7426 JV-S #002	Tan-Queen	Oil	Plugged	32.0351	-103.28	3670
3002525957	Lea 20 #001	Capitan Reef	SWD	Plugged	32.0242	-103.28	3420
3002545837	Camellia Fed Com 26 36 21 #111H	Wolfcamp	Oil	New	32.0223	-103.278	0
3002544229	Azalea 26 36 28 State #121Y	Wolfcamp	Oil	Active	32.0209	-103.278	12434
3002545897	Camellia Fed Com 26 36 21 #121H	Wolfcamp	Oil	Active	32.0223	-103.278	11992
3002544104	Azalea 26 36 28 State #111H	Wolfcamp	Oil	Active	32.0209	-103.278	11966
3002544105	Azalea 26 36 28 State #121	Wolfcamp	Oil	New	32.0209	-103.278	994
3002525920	Pre-Ongard Well #007	Tan-Queen	Oil	Plugged	32.017	-103.278	3270
3002526753	Maralo 16 State #009	Tan-Yates-7Riv	Oil	Plugged	32.0415	-103.277	3800
3002509847	Maralo Sv 16 State #006	No Data	Oil	Plugged	32.0378	-103.277	11492
3002526806	Maralo 16 State #006Y	Tan-Yates-7Riv	Oil	Plugged	32.0378	-103.276	3800
3002526718	Pre-Ongard Well #006Y	Tan-Queen	Oil	Plugged	32.0313	-103.276	3750
3002526138	Wilson 21 Fed #008	Tan-Queen	Oil	Active	32.0343	-103.275	3700
3002526056	Pre-Ongard Well #009	No Data	Oil	Plugged	32.0197	-103.275	1406
3002526136	Pre-Ongard Well #006	No Data	Oil	Plugged	32.0313	-103.275	1682
3002526068	Lea 7406 JV-S #009Y	Tan-Queen	Oil	Plugged	32.0196	-103.275	3270
3002526132	Wilson 21 Fed #002	Tan-Queen	Oil	Active	32.0224	-103.275	3500
3002526134	Wilson 21 Fed #004	Tan-Queen	Oil	Active	32.026	-103.275	3575
3002525930	Lea 7406 JV-S #008	Tan-Queen	Oil	Plugged	32.019	-103.273	3270
3002526131	Wilson 21 Fed #001	Tan-Queen	Oil	Active	32.0224	-103.273	3340
3002526133	Wilson 21 Fed #003	Tan-Queen	Oil	Active	32.0267	-103.273	3797
3002526135	Wilson 21 Fed #005	Tan-Queen	Oil	Active	32.0305	-103.272	3800
3002526751	Maralo 16 State #007	Tan-Yates-7Riv	Oil	Plugged	32.0378	-103.272	3800
3002509858	Pre-Ongard Well #001	No Data	Oil	Plugged	32.0269	-103.272	3940
3002526137	Wilson 21 Fed #007	Tan-Queen	Oil	Active	32.0342	-103.272	3700
3002526752	Maralo 16 State #008	Tan-Yates-7Riv	Oil	Plugged	32.0415	-103.272	3750
3002527030	Pre-Ongard Well #004	No Data	Oil	Plugged	32.0233	-103.268	1060
3002509848	Maralo 16 State #005	Tan-Yates-7Riv	Oil	Plugged	32.0415	-103.268	4149

3002527028	Lea 21, 7406 JV-S #002	Tan-Queen	Oil	Active	32.0306	-103.268	3658
3002526805	Maralo 16 State #010	Tan-Yates-7Riv	Oil	Active	32.0378	-103.268	3800
3002527029	Lea 21, 7406 JV-S #003	Tan-Queen	Oil	Active	32.0269	-103.268	3574
3002527000	Lea 21, 7406 JV-S #001	Tan-Queen	Oil	Active	32.0342	-103.268	3668
3002538885	Eagle Feather Fed #002	Strawn	Gas	Active	32.0342	-103.267	13179
3002527207	Lea 21, 7406 JV-S #004Y	Tan-Queen	Oil	Active	32.0242	-103.267	3550
3002527043	Lea 21, 7406 JV-S #008	Tan-Queen	Oil	Active	32.0233	-103.264	3570
3002527031	Lea 21, 7406 JV-S #005	Tan-Queen	Oil	Active	32.0342	-103.264	3660
3002527042	Lea 21, 7406 JV-S #007	Tan-Queen	Oil	Active	32.0269	-103.264	3525
3002527041	Lea 21, 7406 JV-S #006	Tan-Queen	Oil	Active	32.0306	-103.264	3495
3002552091	Azalea 26 36 28 State Com #262H	BS, Wolfcamp	Oil	New	32.0209	-103.273	0
3002552092	Azalea 26 36 28 State Com #264H	BS, Wolfcamp	Oil	New	32.0209	-103.264	0
3002552093	Azalea 26 36 28 State Com #281H	BS, Wolfcamp	Oil	New	32.0208	-103.277	0
3002552094	Azalea 26 36 28 State Com #282H	BS, Wolfcamp	Oil	New	32.0209	-103.273	0
3002552095	Azalea 26 36 28 State Com #284H	BS, Wolfcamp	Oil	New	32.0209	-103.264	0
3002552096	Azalea 26 36 28 State Com #381H	BS, Wolfcamp	Oil	New	32.0209	-103.274	0
3002552097	Azalea 26 36 28 State Com #382H	BS, Wolfcamp	Oil	New	32.0209	-103.272	0
3002552098	Azalea 26 36 28 State Com #384H	BS, Wolfcamp	Oil	New	32.0209	-103.264	0
3002552105	Azalea 26 36 28 State Com #061H	BS, Wolfcamp	Oil	New	32.0209	-103.277	0
3002552106	Azalea 26 36 28 State Com #062H	BS, Wolfcamp	Oil	New	32.0209	-103.273	0
3002552107	Azalea 26 36 28 State Com #071H	BS, Wolfcamp	Oil	New	32.0209	-103.274	0
3002552108	Azalea 26 36 28 State Com #072H	BS, Wolfcamp	Oil	New	32.0208	-103.272	0
3002552109	Azalea 26 36 28 State Com #181H	BS, Wolfcamp	Oil	New	32.0209	-103.274	0
3002552110	Azalea 26 36 28 State Com #182H	BS, Wolfcamp	Oil	New	32.0209	-103.272	0
3002552111	Azalea 26 36 28 State Com #184H	BS, Wolfcamp	Oil	New	32.0209	-103.264	0
3002552112	Azalea 26 36 28 State Com #261H	BS, Wolfcamp	Oil	New	32.0209	-103.277	0
3002552134	Azalea 26 36 28 State Com #064H	BS, Wolfcamp	Oil	New	32.0209	-103.265	0
3002552150	Azalea 26 36 28 State Com #074H	BS, Wolfcamp	Oil	New	32.0209	-103.264	0
3002551468	Azalea 26 36 28 State Com #063h	BS, Wolfcamp	Oil	New	32.0206	-103.268	0
3002551469	Azalea 26 36 28 State Com #073H	BS, Wolfcamp	Oil	New	32.021	-103.268	0
3002551470	Azalea 26 36 28 State Com #183H	BS, Wolfcamp	Oil	New	32.021	-103.268	0
3002551471	Azalea 26 36 28 State Com #195H	BS, Wolfcamp	Oil	New	32.0206	-103.268	0
3002551472	Azalea 26 36 28 State Com #263H	BS, Wolfcamp	Oil	New	32.021	-103.268	0
3002551473	Azalea 26 36 28 State Com #283H	BS, Wolfcamp	Oil	New	32.0206	-103.268	0
3002551474	Azalea 26 36 28 State Com #383H	BS, Wolfcamp	Oil	New	32.0206	-103.268	0
3002551865	Salt Creek AGI #003	Delaware	SWD	New	32.028	-103.278	0
3002509849	Pre-Ongard Well #007	No Data	Oil	Plugged	32.0378	-103.294	3471
3002523197	South Lea Fed #001	Dev; Strawn	Gas	Plugged	32.0415	-103.289	21252
3002526960	Pre-Ongard Well #004Y	No Data	Oil	Plugged	32.0451	-103.285	1331
3002526984	Pre-Ongard Well #004Z	No Data	Oil	Plugged	32.0451	-103.285	3603
3002526845	Pre-Ongard Well #004	No Data	Oil	Plugged	32.0451	-103.285	1950

3002526814	Pre-Ongard Well #001	Tan-Yates-7Riv	Oil	Plugged	32.0451	-103.281	3800
3002526644	Maralo 16 State #002	Tan-Yates-7Riv	Oil	Plugged	32.0451	-103.277	3770
3002526646	Maralo 16 State #004	Tan-Yates-7Riv	Oil	Plugged	32.0451	-103.272	3780

Within two miles of the Titan AGI #4 well, there are 169 wells (Appendix A, Figure A-1, Table A-1). Of these wells, there are 26 active wells, 67 permitted locations, and 76 wells that have been plugged and abandoned. Similar to the one-mile AOR, wells primarily produce from shallow geologic interval (i.e., Tansill-Yates-Seven Rivers), as well as the Bone Spring and Wolfcamp formations. In addition to this, there is one active gas well, within two miles, producing from the Strawn Formation.

There are four wells within two miles of the Titan AGI #4 that penetrate the proposed Siluro-Devonian injection interval (Table 13). All of these wells have been properly plugged and abandoned and are located greater than one mile from the proposed Titan AGI #4 bottom-hole location. These include the South Lea Federal #1 (API: 30-025-23197), Pawnee Deep Unit #1 (API: 30-025-26557), Horse Back #1 (30-025-25354), and the Dogie Draw Federal #1 (API: 30-025-24719). Although the wells were drilled such that they penetrate the proposed injection zone, each was plugged back to produce shallower depth intervals before being plugged and abandoned. The wells are properly cemented through the injection zone and are not anticipated to be negatively affected by the operation of the Titan AGI #4 well. All relevant plugging reports have been included in Appendix A.

Table 13. Wells located within two miles of the Titan AGI #4 well that penetrate the proposed injection interval

API	Well Name	Pool	Status	Latitude (NAD 83)	Longitude (NAD 83)	Total Depth (ft)	Mi. from BHL
3002523197	South Lea Federal #001	Strawn	Plugged	32.0415	-103.2892	21252	1.05
3002526557	Pawnee Deep Unit #001	Strawn, B Spring	Plugged	32.0315	-103.2541	18577	1.40
3002525354	Horse Back #001	Bone Spring	Plugged	32.0031	-103.2679	21750	1.84
3002524719	Dogie Draw Federal #001	Bone Spring	Plugged	32.0560	-103.2850	20971	1.94

6.0 IDENTIFICATION AND REQUIRED NOTIFICATION OF OPERATORS, SUBSURFACE LESSEES, AND SURFACE OWNERS WITHIN THE AREA OF REVIEW

In developing this C-108 application, a detailed review of land records was completed to obtain a listing of all operators, oil and gas mineral leases, and surface owners within a one-mile radius of the proposed AGI well. Appendix B includes the results from that review.

Table B-1 summarizes the surface owners, operators, and lessees in the one-mile area of review. The table is inclusive of all persons that will be provided notice and a complete copy of the C-108 application. Figure B-1 shows the location of the surface owners and active operators, and Figure B-2 shows leaseholders and mineral ownership within one mile of the proposed Titan AGI #4 location.

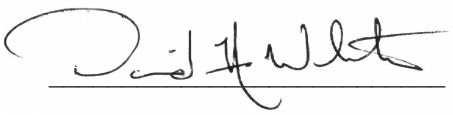
Upon issuance of an NMOCC hearing date to consider the matter of Northwind's application, all interested parties identified will be provided with written notice of the associated NMOCC hearing and will be provided complete copies of the Form C-108 application. Appendix B includes an example notification letter that will be provided to interested parties, as well as an example public notice that may be utilized by Commission staff or published in local newspapers, as necessary.

7.0 AFFIRMATIVE STATEMENT OF LACK OF HYDRAULIC CONNECTION BETWEEN THE PROPOSED INJECTION ZONE AND KNOWN SOURCES OF DRINKING WATER

As part of the work performed to support this application, a detailed investigation of the structure, stratigraphy, and hydrogeology of the area surrounding the proposed Titan AGI #4 well has been performed. The investigation included the analysis of available geologic data and hydrogeologic data from wells and literature identified in Section 3.0, 4.0, and 5.0 above, including related appendices. Based on this investigation and the analysis of these data, it is clear that there are not open fractures, faults, or other structures which could potentially result in the communication of fluids between the proposed injection zone and any known sources of drinking water or oil/gas production in the vicinity, as described above in Section 4.0 and 5.0 of this application.

I have reviewed this information and affirm that it is correct to the best of my knowledge.

David A. White, P.G.
Vice President – Geolex, Inc.®
Consultant to Northwind Midstream Partners, LLC



Date: 8/19/2024

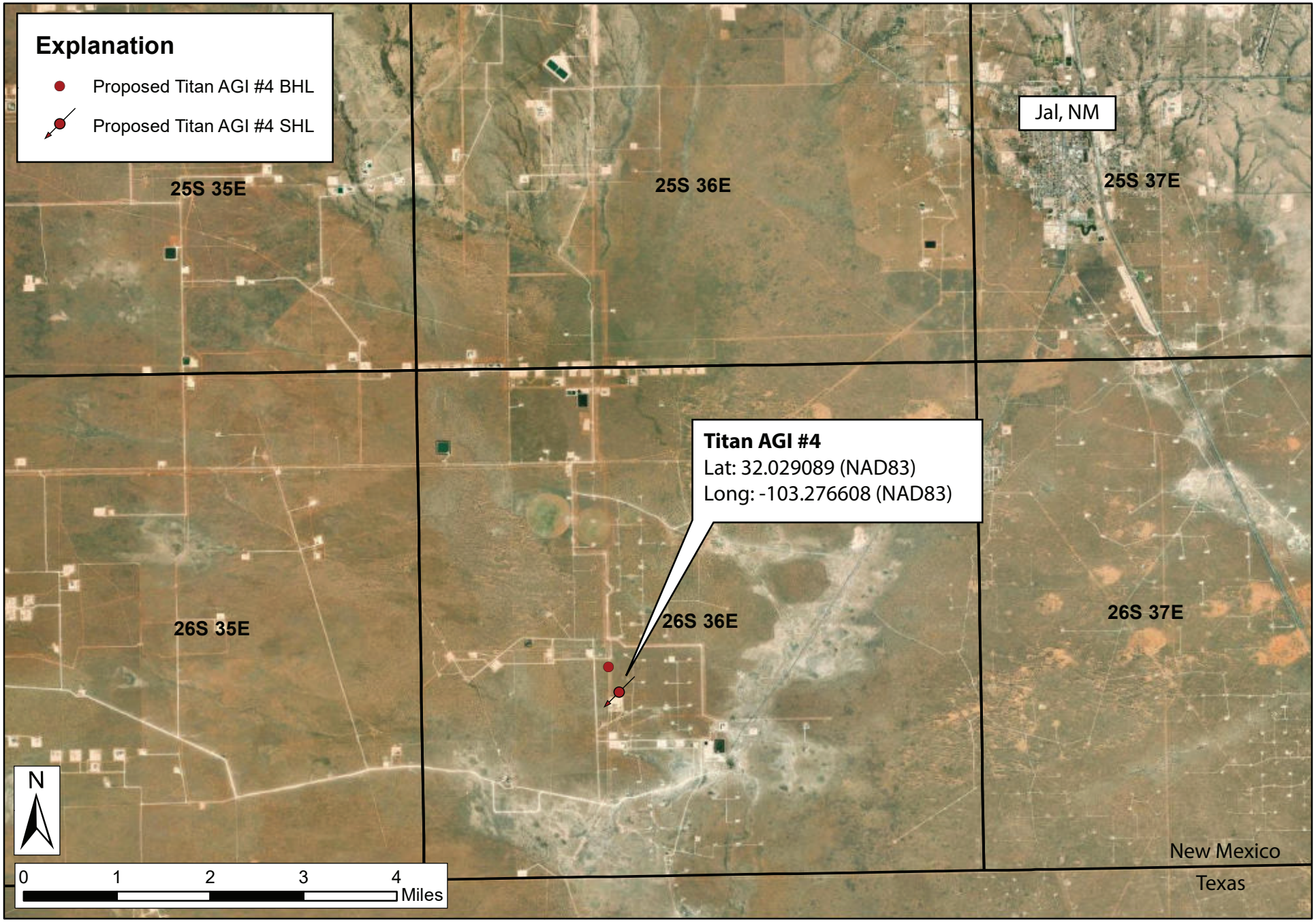


Figure 1. General location map for the proposed Titan AGI #4 well, approximately seven (7) miles southwest of Jal, NM.

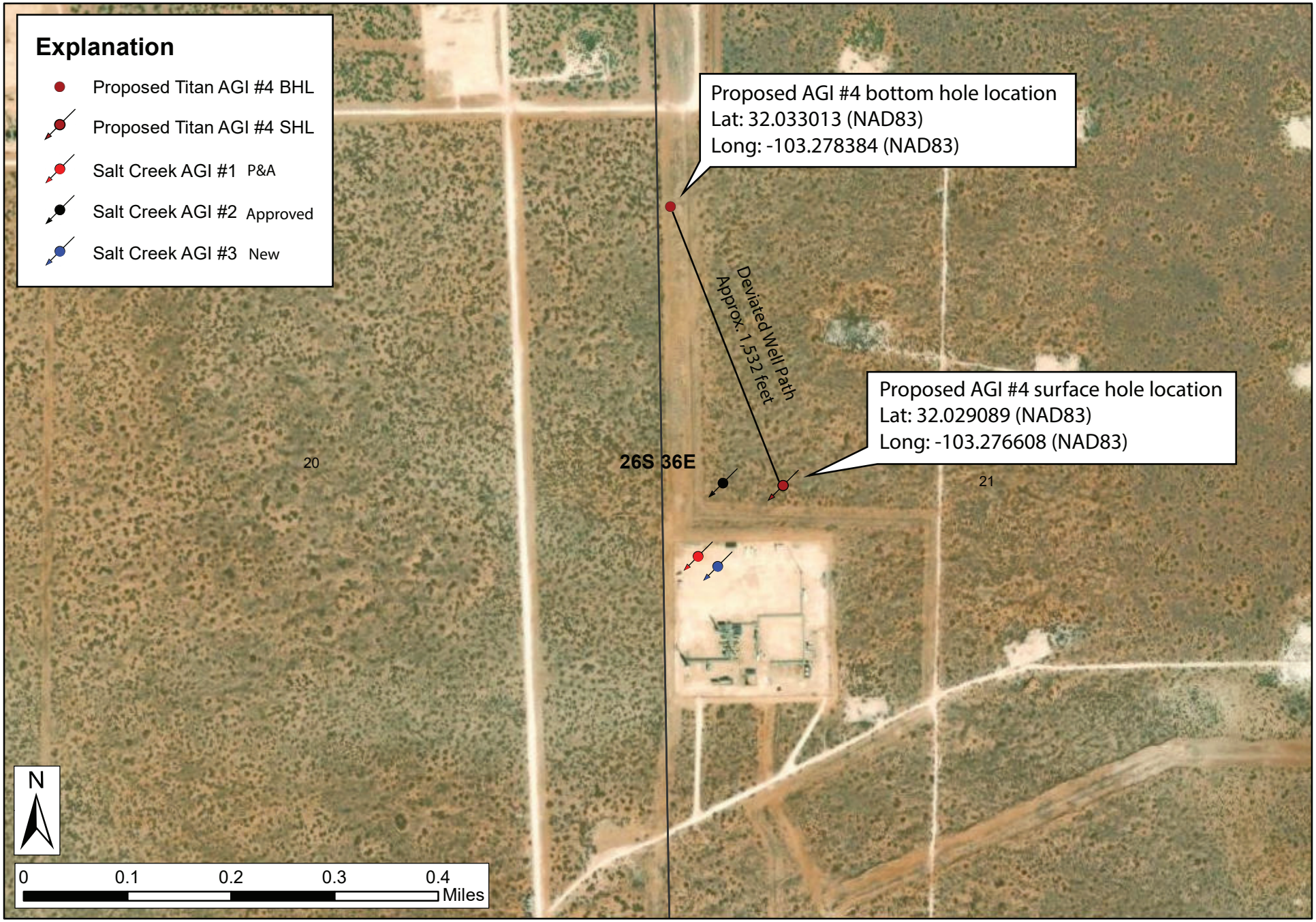


Figure 2. Aerial photographic location map showing Northwind facility, surface locations of the Titan Facility AGI wells, and the proposed surface and bottom-hole location of Titan AGI #4.

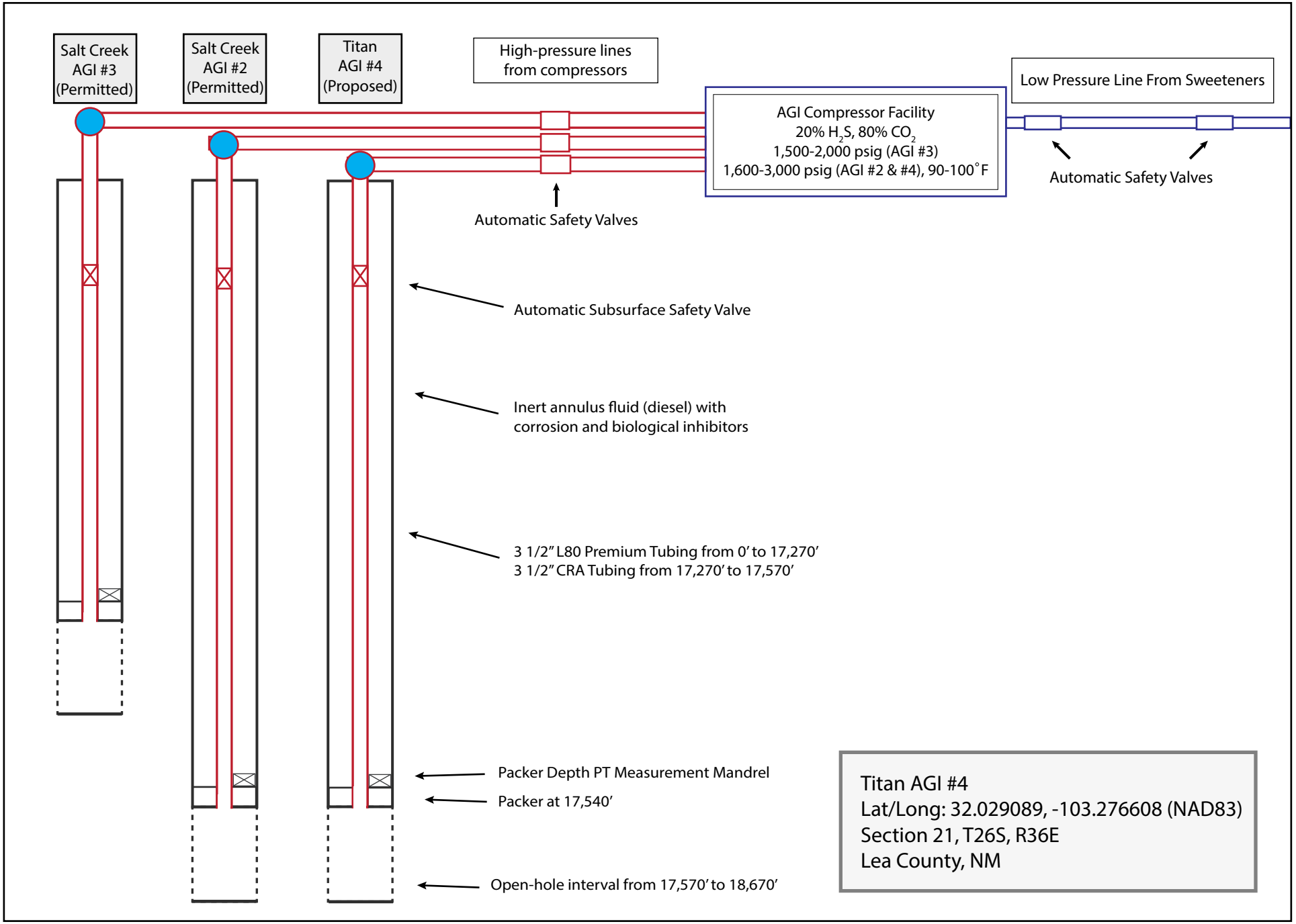


Figure 3. Schematic of Northwind surface facilites and associated AGI wells.

DEVIATED WELL SCHEMATIC
TITAN AGI #4 (S21, T26S, R36E)

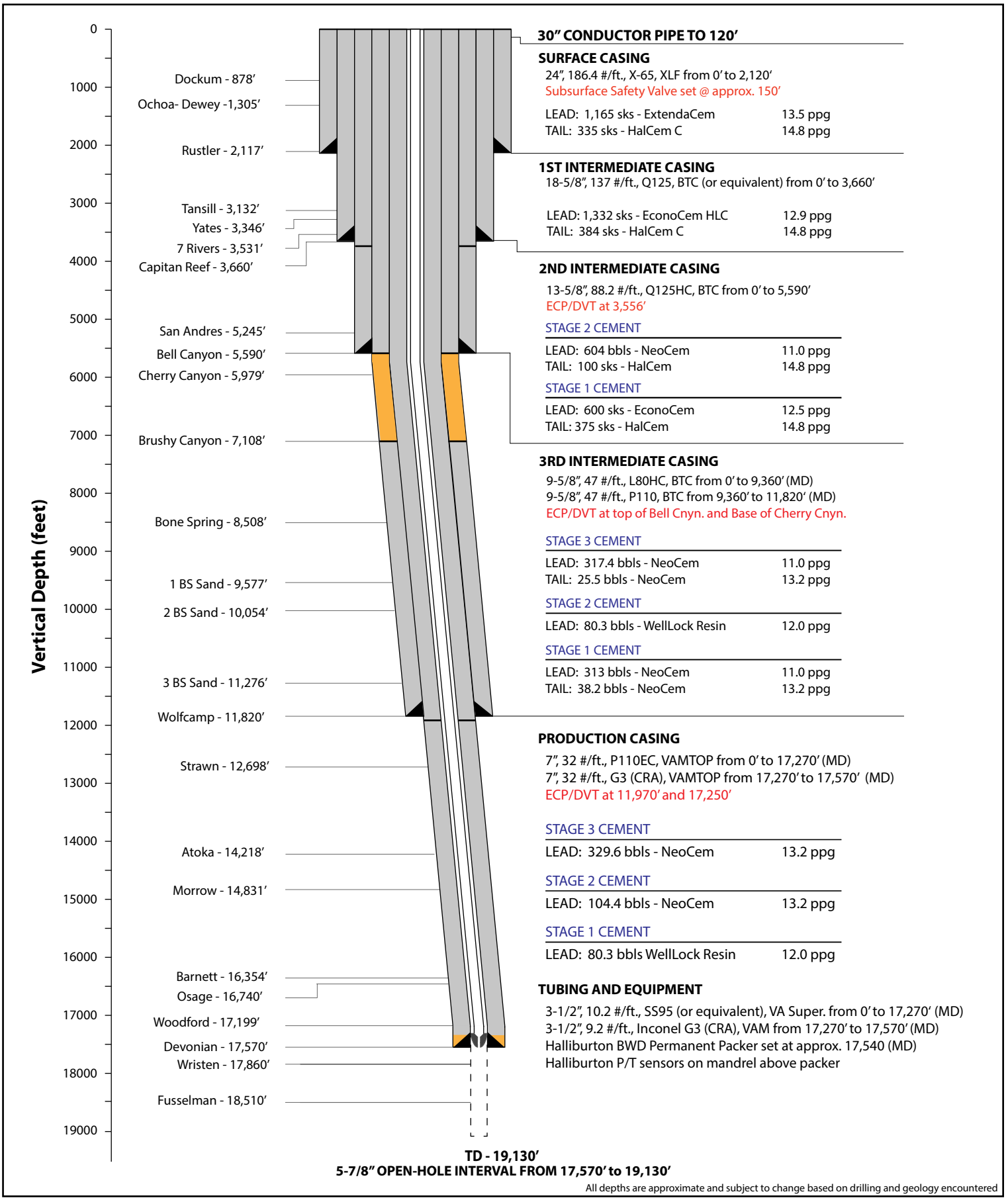
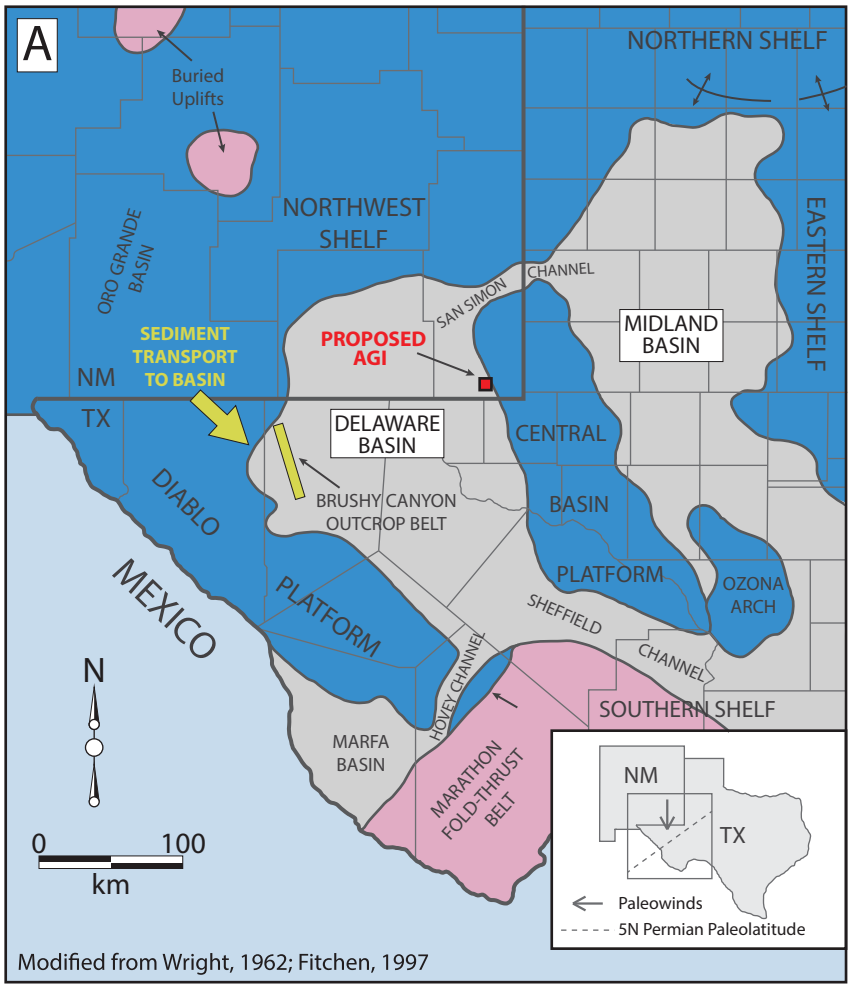


Figure 4. Proposed Titan AGI #4 well schematic.



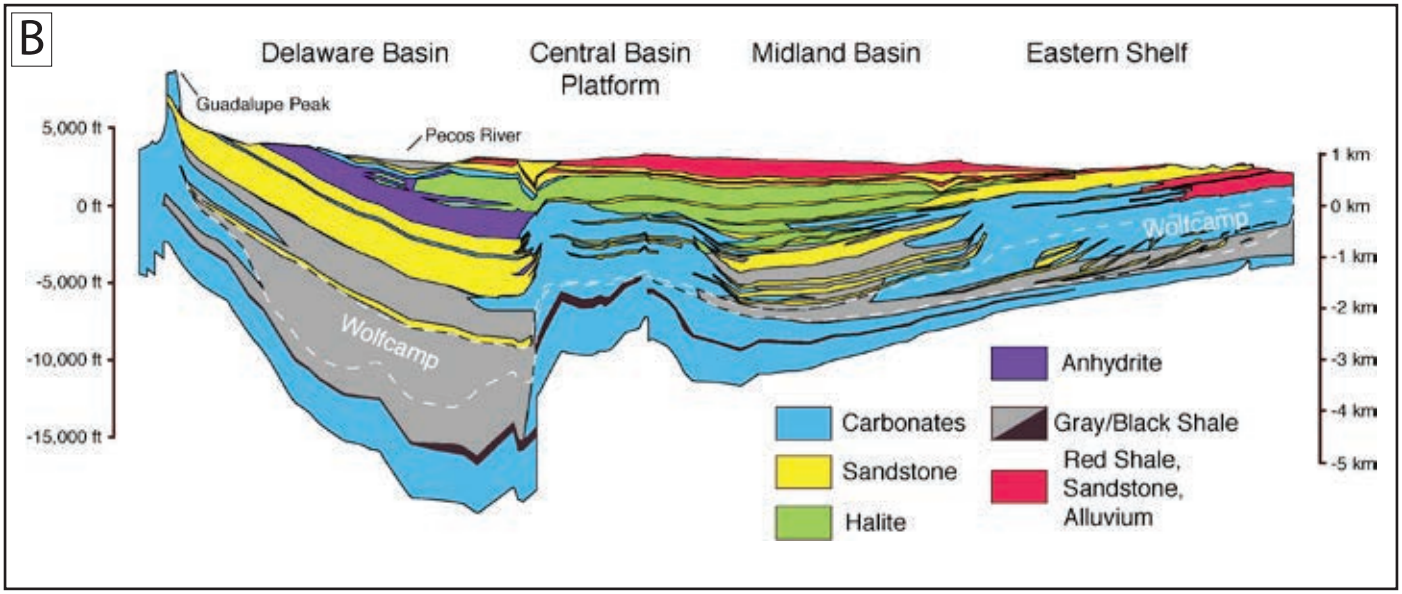


Figure 5. Structural setting (panel A) and general lithology (panel B) of the Permian Basin

Generalized stratigraphic correlation chart for the Permian Basin region

SYSTEM	SERIES/ STAGE	NORTHWEST SHELF	CENTRAL BASIN PLATFORM	MIDLAND BASIN & EASTERN SHELF	DELAWARE BASIN	VAL VERDE BASIN
PERMIAN	OCHOAN	DEWEY LAKE RUSTLER SALADO	DEWEY LAKE RUSTLER SALADO	DEWEY LAKE RUSTLER SALADO	DEWEY LAKE RUSTLER SALADO CASTILE	RUSTLER SALADO
	GUADALUPIAN	TANSILL YATES SEVEN RIVERS QUEEN GRAYBURG SAN ANDRES GLORIETA	TANSILL YATES SEVEN RIVERS QUEEN GRAYBURG SAN ANDRES GLORIETA	TANSILL YATES SEVEN RIVERS QUEEN GRAYBURG SAN ANDRES SAN ANGELO	DELAWARE MT. GROUP BELL CANYON CHERRY CANYON BRUSHY CANYON	TANSILL YATES SEVEN RIVERS QUEEN GRAYBURG SAN ANDRES
	LEONARDIAN	CLEARFORK YESO WICHITA ABO	CLEARFORK WICHITA	LEONARD SPRABERRY, DEAN	★ BONE SPRING	LEONARD
	WOLFCAMPIAN	WOLFCAMP	WOLFCAMP	WOLFCAMP	★WOLFCAMP	WOLFCAMP
PENNSYLVANIAN	VIRGILIAN	CISCO	CISCO	CISCO	CISCO	CISCO
	MISSOURIAN	CANYON	CANYON	CANYON	CANYON	CANYON
	DESMOINESIAN	STRAWN	STRAWN	STRAWN	★STRAWN	STRAWN
	ATOKAN	ATOKA BEND	ATOKA BEND	ATOKA BEND	★ATOKA BEND	(ABSENT)
	MORROWAN	MORROW	(ABSENT)	(ABSENT ?)	★MORROW	(ABSENT)
MISSISSIPPIAN	CHESTERIAN MERAMECIAN OSAGEAN KINDERHOOKIAN	CHESTER MERAMEC OSAGE KINDERHOOK WOODFORD	CHESTER MERAMEC OSAGE "BARNETT" KINDERHOOK WOODFORD	CHESTER MERAMEC OSAGE "BARNETT" KINDERHOOK WOODFORD	CHESTER MERAMEC OSAGE "BARNETT" KINDERHOOK WOODFORD	MERAMEC OSAGE "BARNETT" KINDERHOOK WOODFORD
DEVONIAN		DEVONIAN	DEVONIAN	DEVONIAN	DEVONIAN	DEVONIAN
SILURIAN		SILURIAN (UNDIFFERENTIATED)	SILURIAN SHALE FUSSELMAN	SILURIAN SHALE FUSSELMAN	MIDDLE SILURIAN FUSSELMAN	MIDDLE SILURIAN FUSSELMAN
ORDOVICIAN	UPPER	MONTOYA	MONTOYA	SYLVAN MONTOYA	SYLVAN MONTOYA	SYLVAN MONTOYA
	MIDDLE	SIMPSON	SIMPSON	SIMPSON	SIMPSON	SIMPSON
	LOWER	ELLENBURGER	ELLENBURGER	ELLENBURGER	ELLENBURGER	ELLENBURGER
CAMBRIAN	UPPER	CAMBRIAN	CAMBRIAN	CAMBRIAN	CAMBRIAN	CAMBRIAN
PRECAMBRIAN						

Figure 6. General stratigraphy and producing zones (red stars) in the immediate area of Titan AGI #4. Source: Yang and Dorobek (1995).

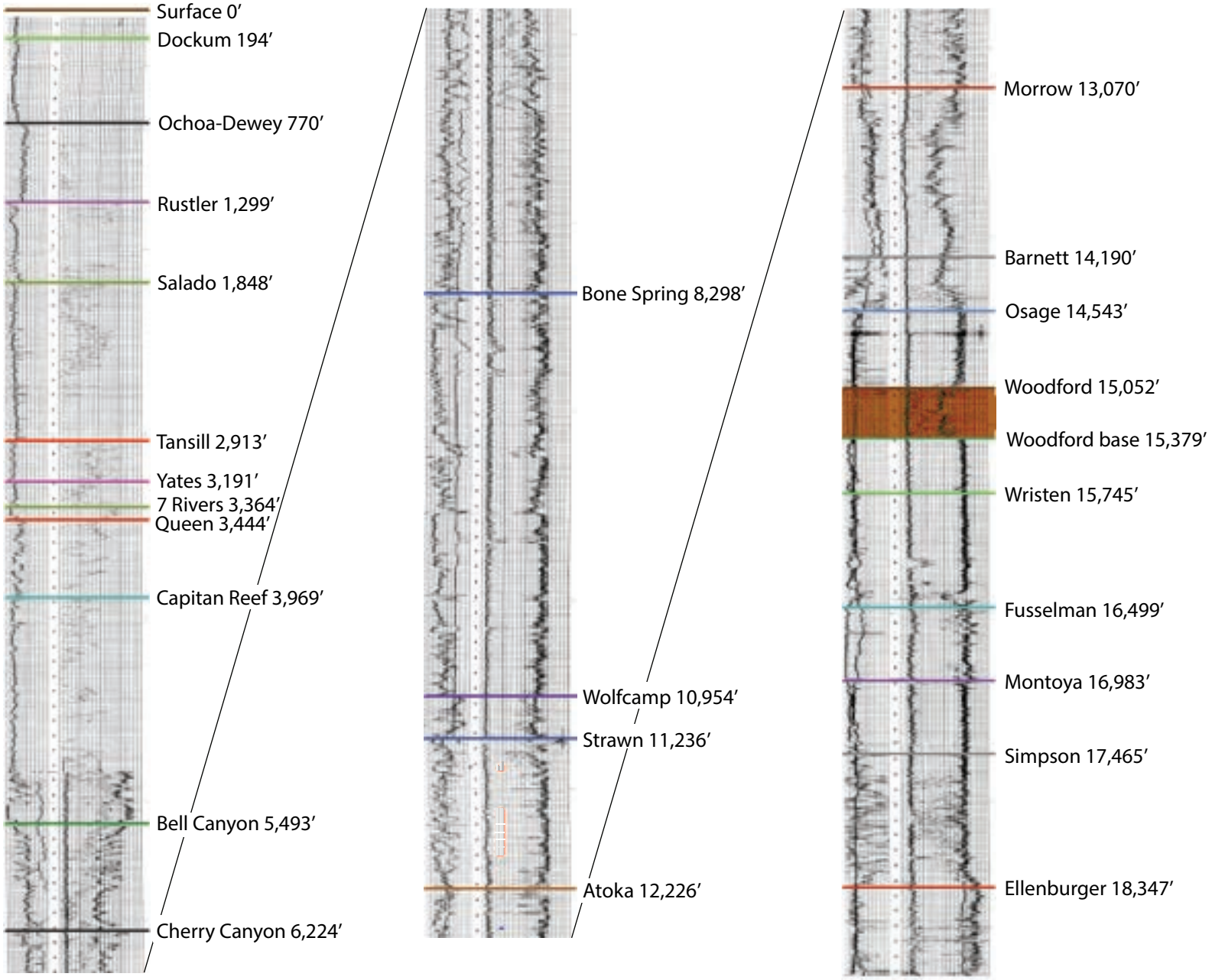


Figure 7. Interpreted type log from nearby index well (30-025-25046) showing anticipated formation tops in the area of the proposed Titan AGI #4.

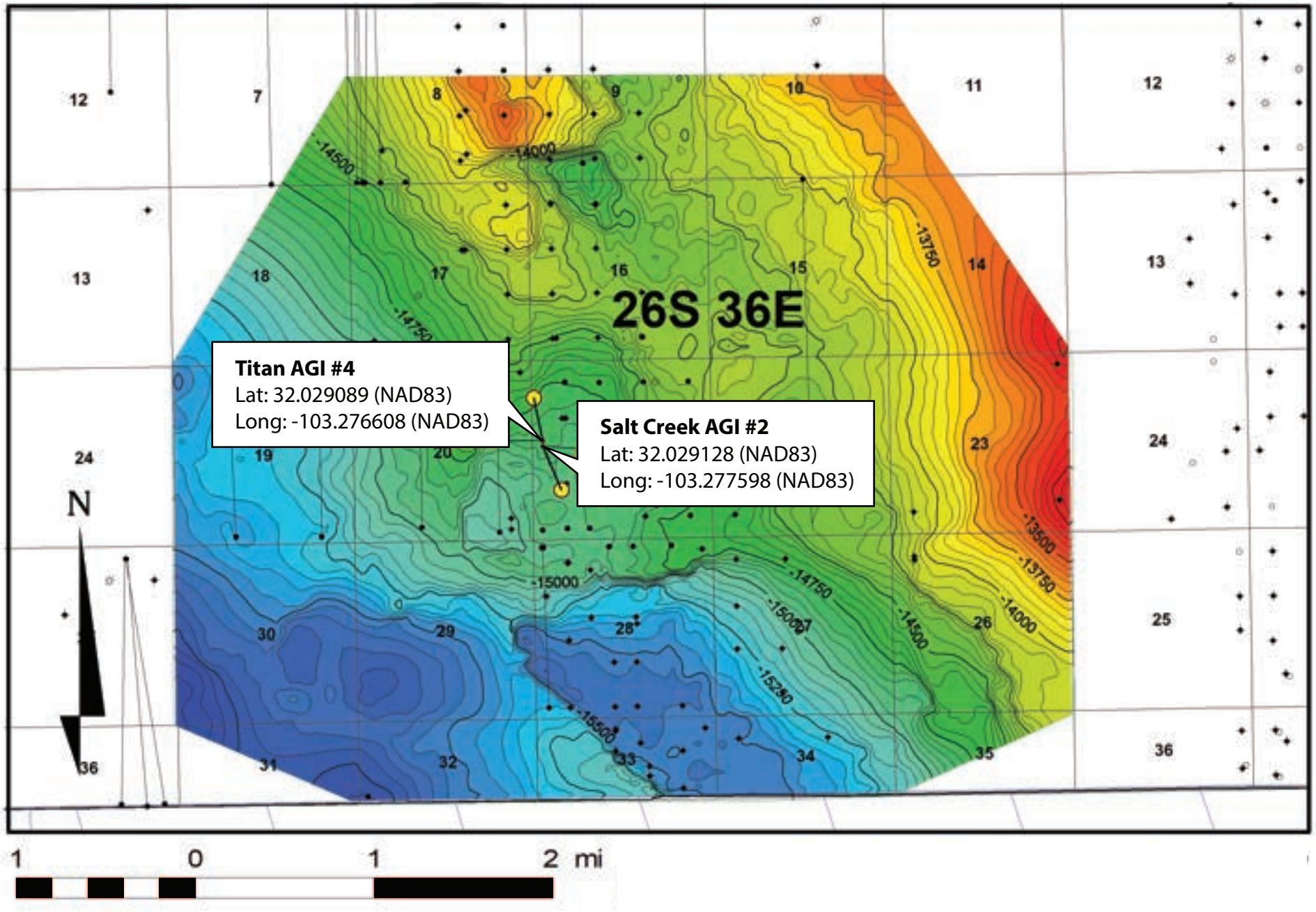


Figure 8. Structure contour map showing the top of the Siluro-Devonian target reservoir.

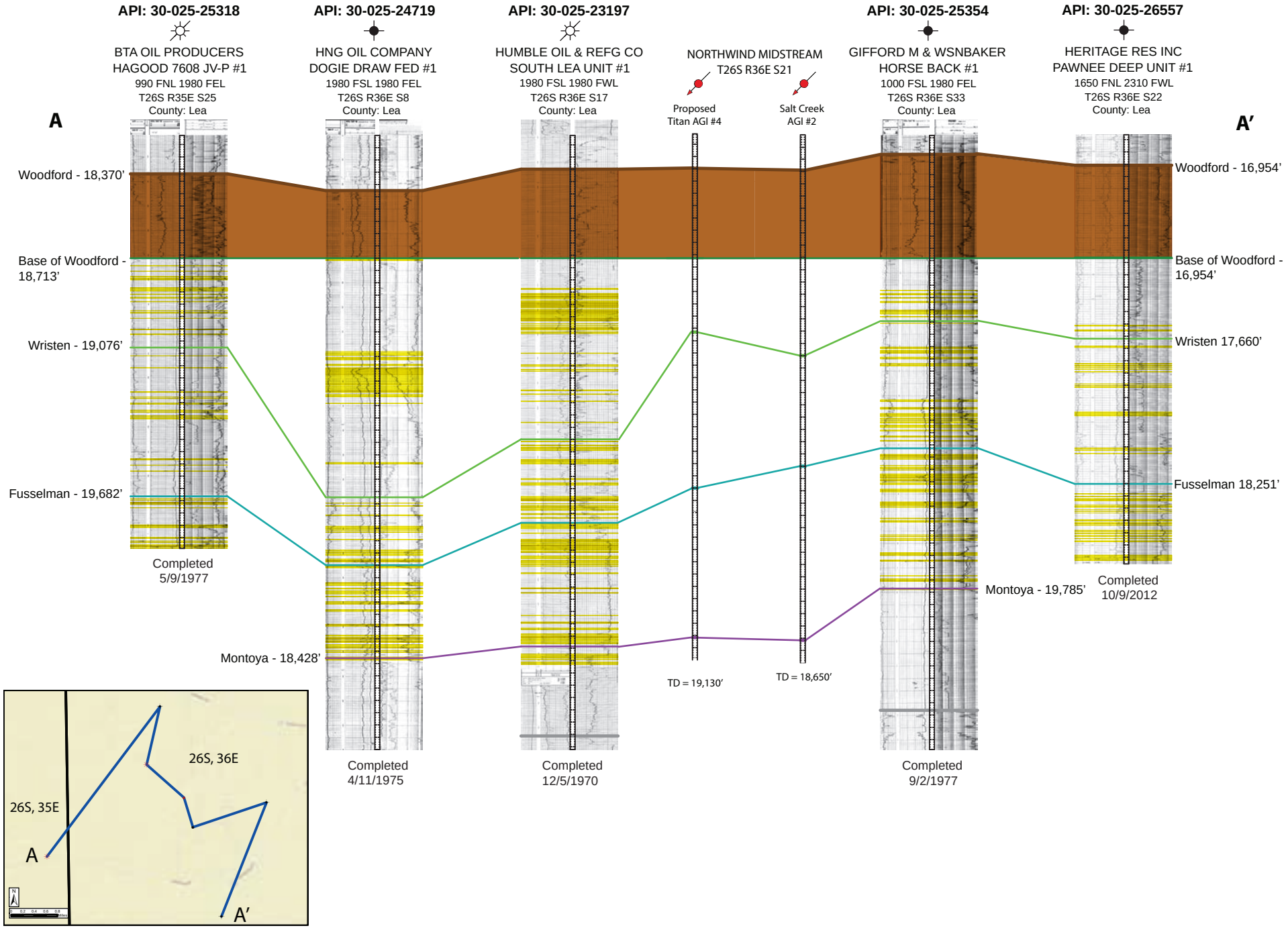


Figure 9. Structural cross section A-A' showing porosity zones correlated from nearby wells within the proposed injection interval.

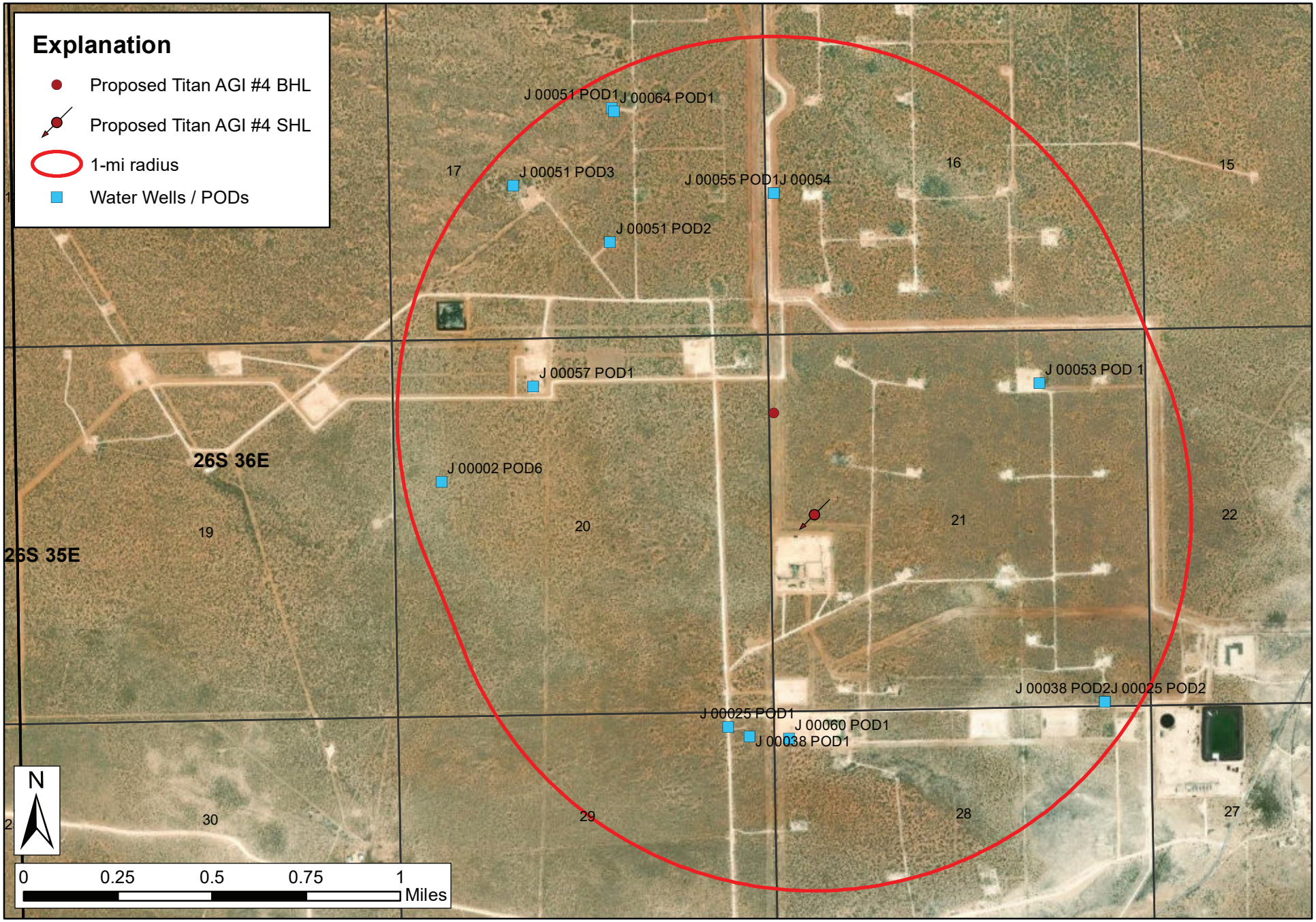


Figure 10. Water wells or points of diversion within one mile of the surface and bottom hole location of the proposed AGI #4 well.

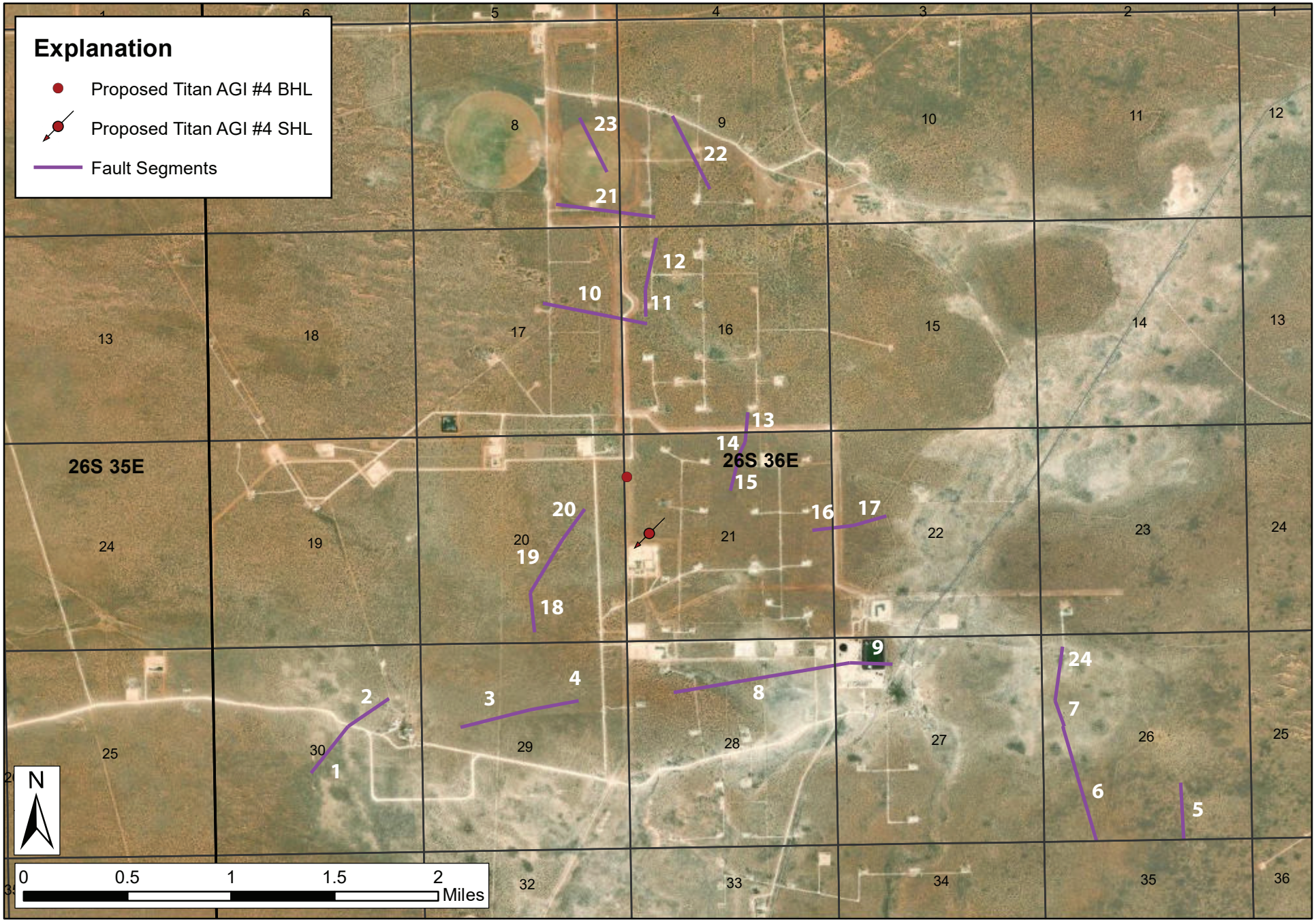
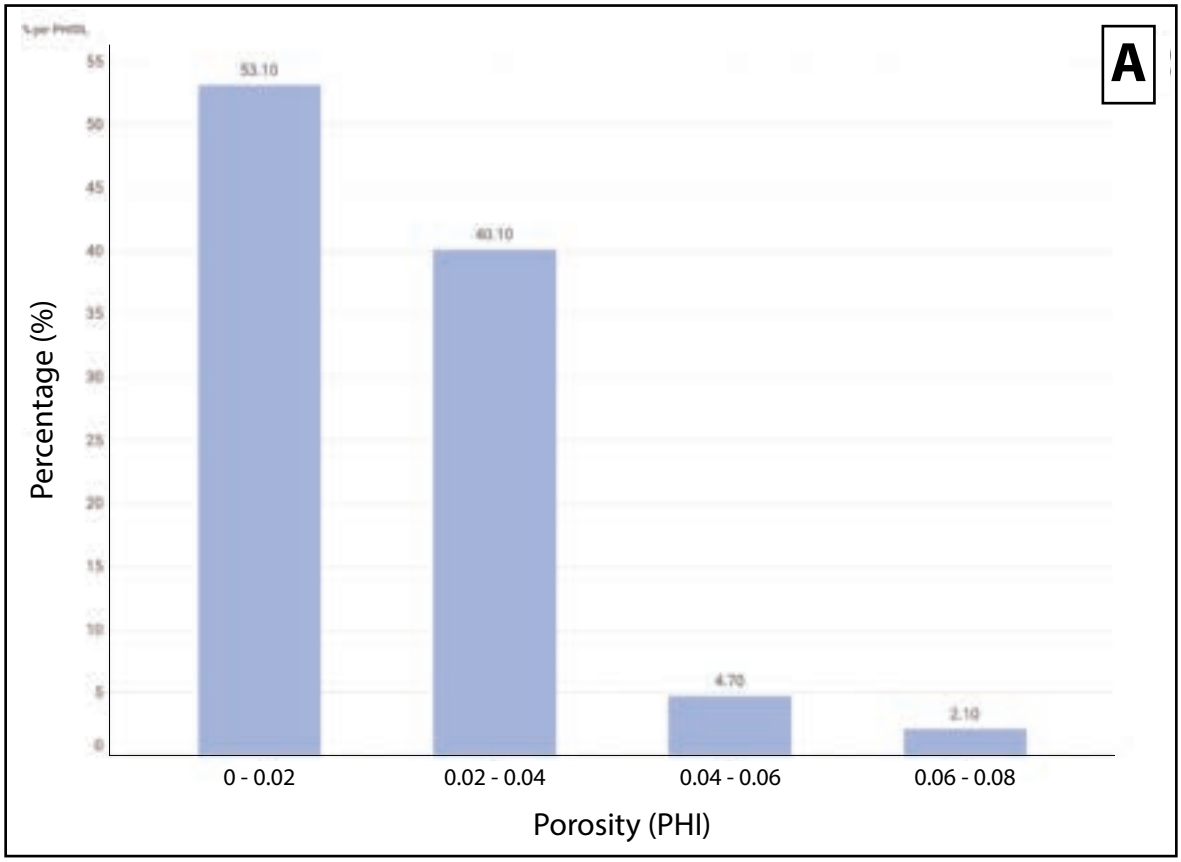


Figure 11. Subsurface fault features interpreted from 3D seismic survey data in the area of the proposed AGI well, comprised of 24 fault segments and are annotated for reference in FSP simulation results in Section 4.0 in the text.



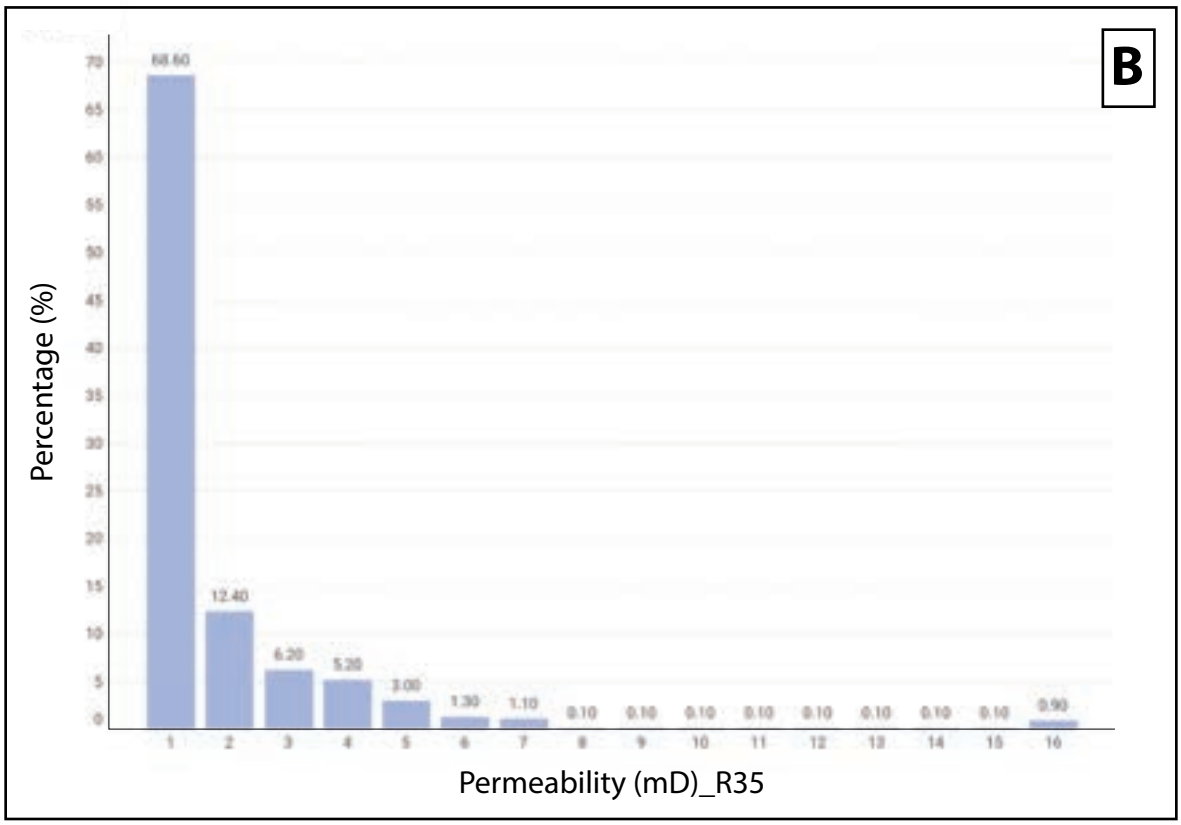


Figure 12. Petrel geomodel porosity (Panel A) and permeability (Panel B) distributions, generated from available offset well data and impedance distribution.

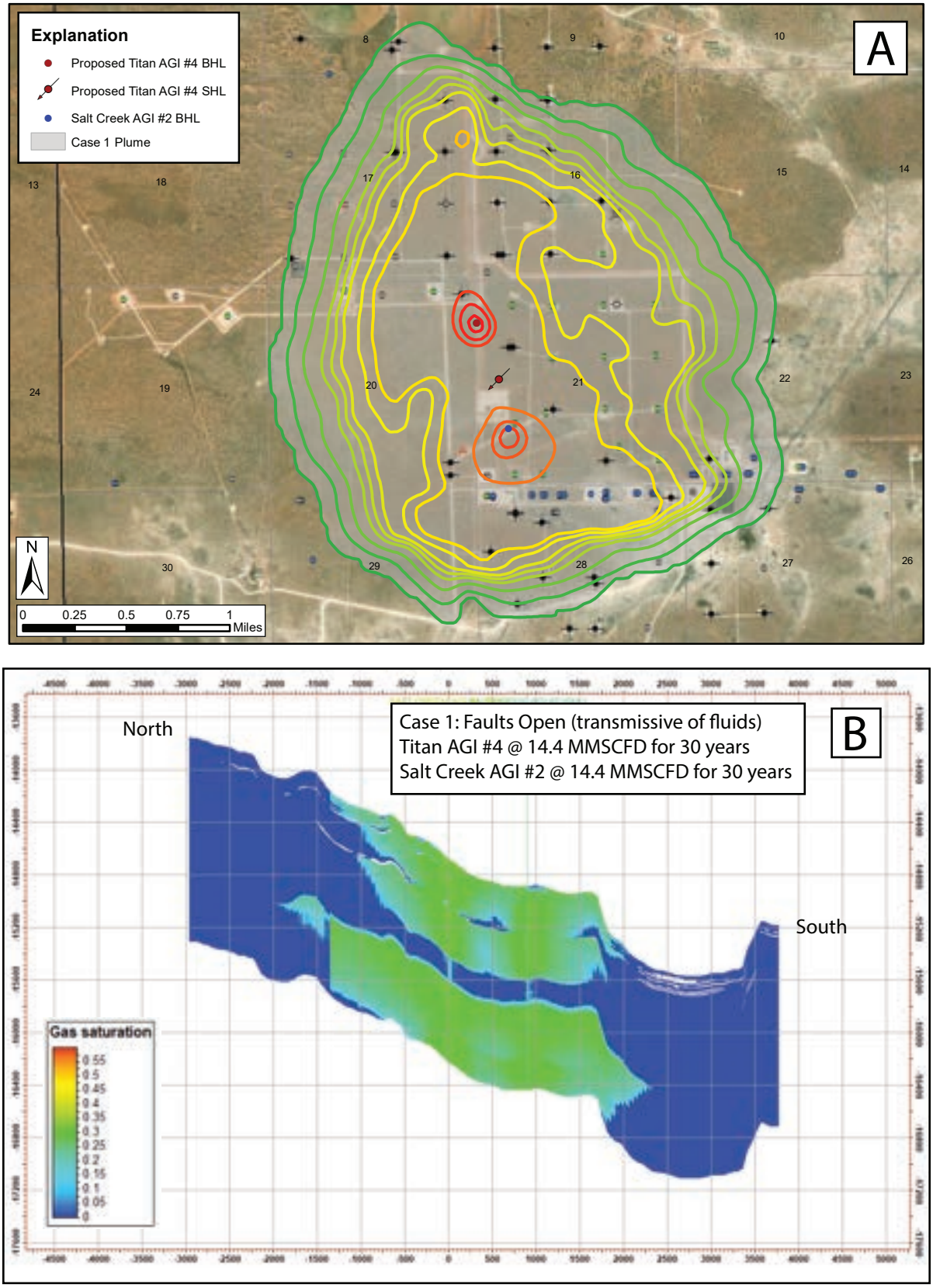
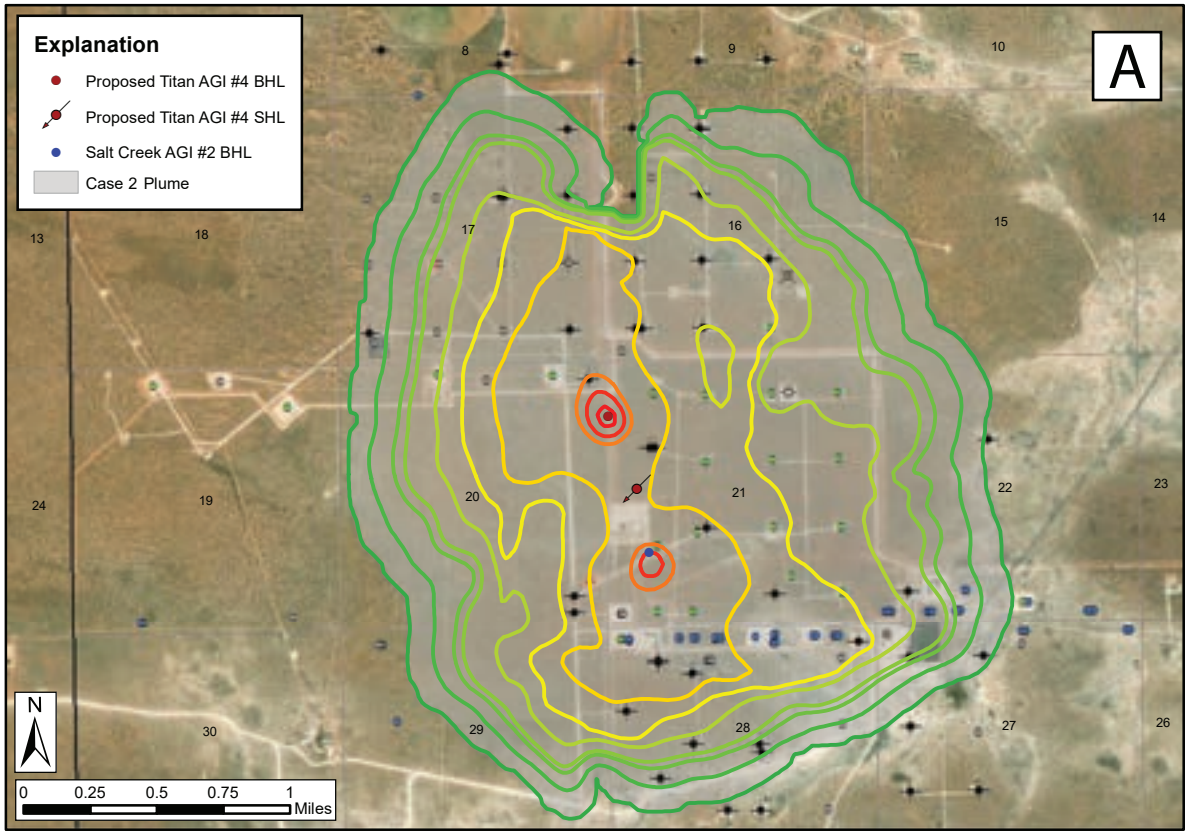


Figure 13. Summary of Eclipse simulation results for Case 1 (faults transmissive of fluids) showing gas saturation contours after 30 years of injection.



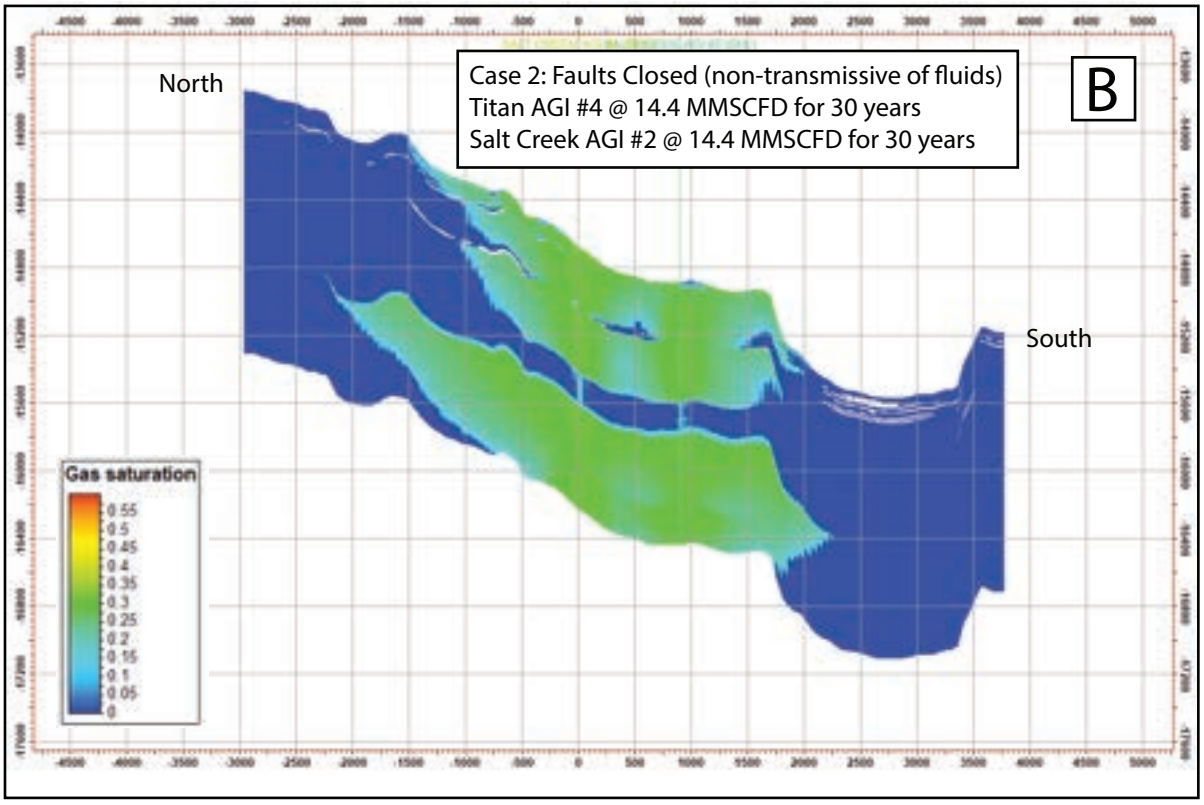


Figure 14. Summary of Eclipse simulation results for Case 2 (faults non-transmissive of fluids) showing gas saturation contours after 30 years of injection.

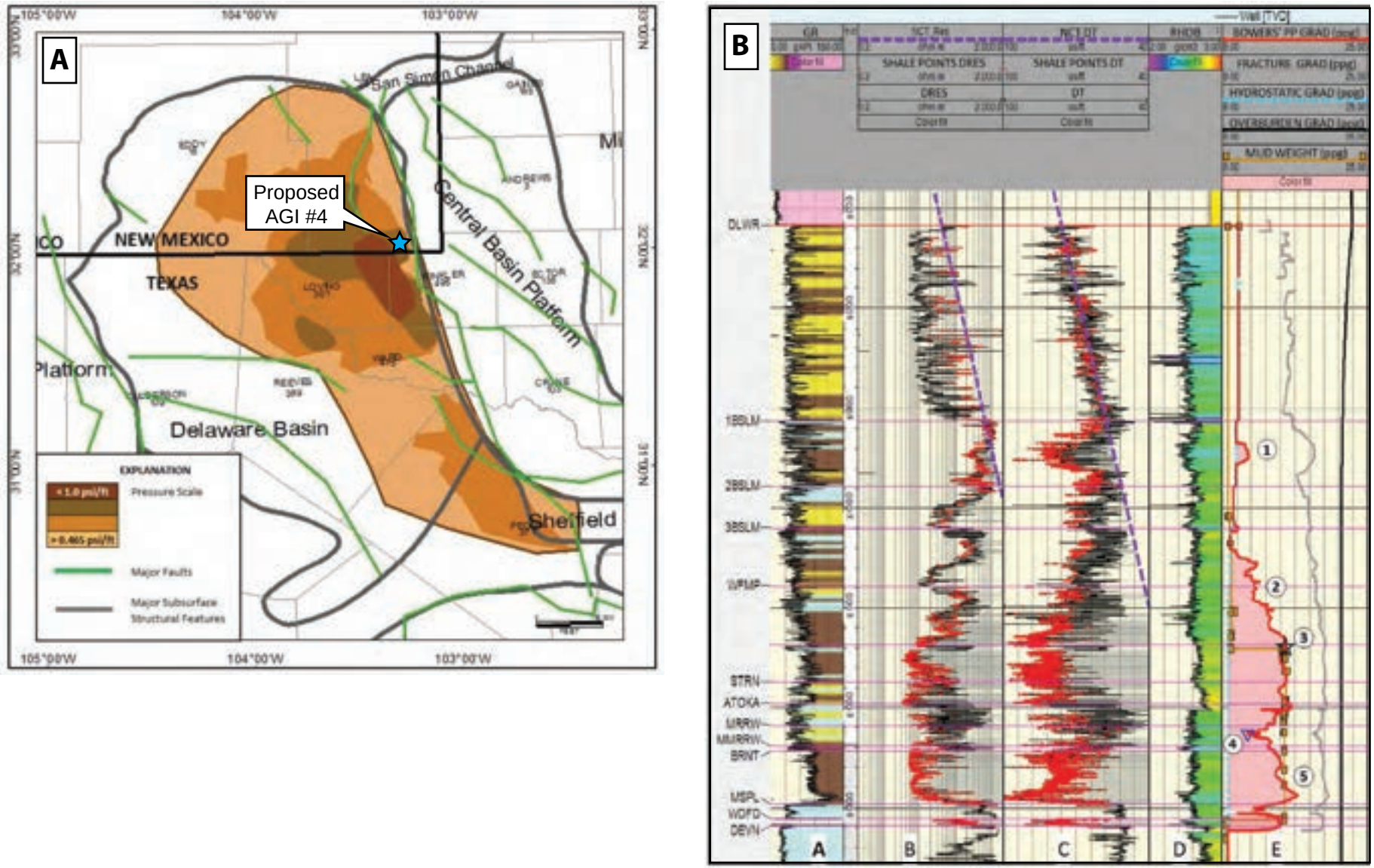


Figure 15. Mapped extent of present day overpressure in the Delaware Basin (Panel A) and example log response (Panel B) illustrating stratigraphic onset of over-pressured intervals and associated drilling fluid densities (modified from Rittenhouse et al., 2016).

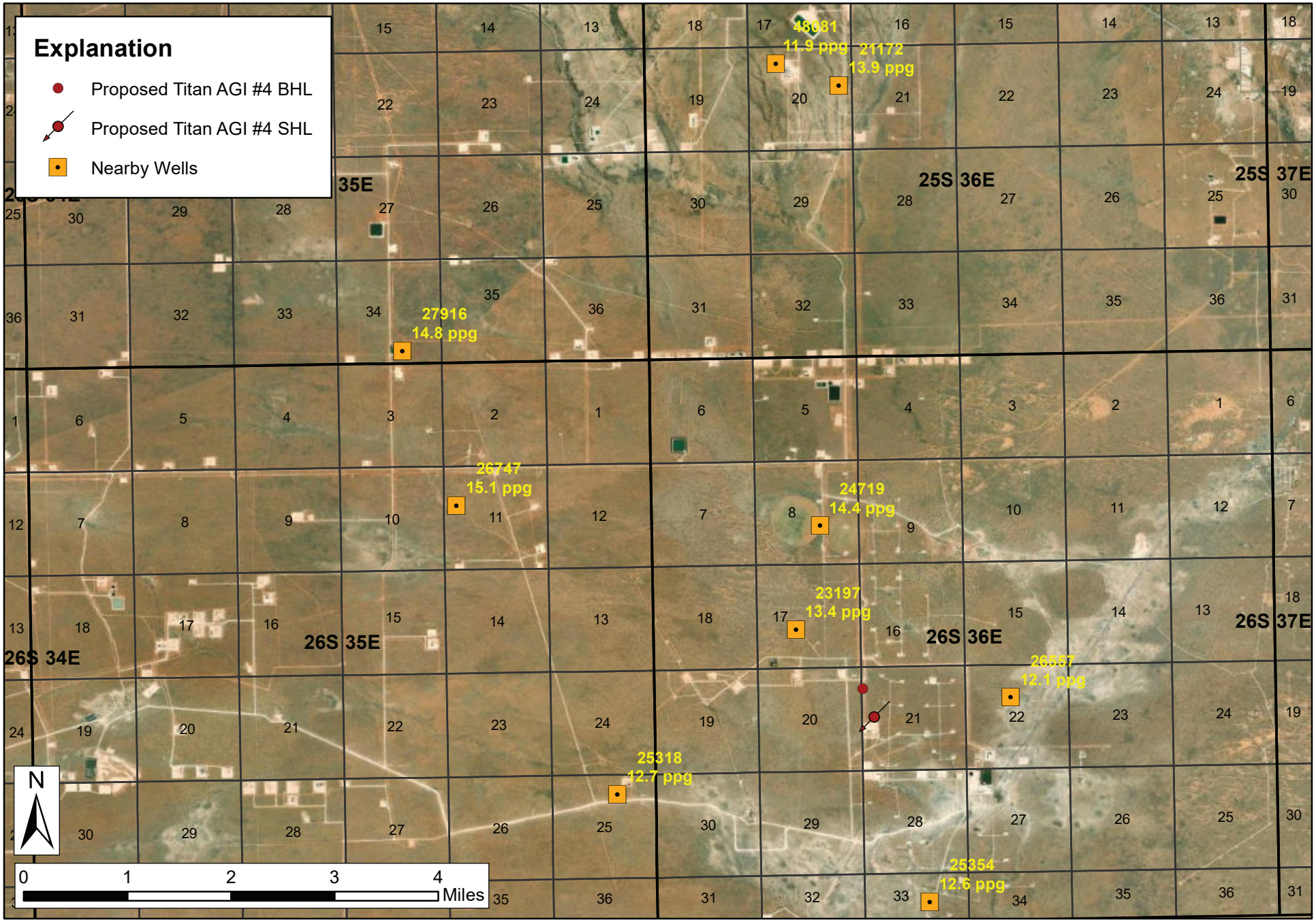


Figure 16. Location map summarizing drilling fluid weights utilized while drilling through overlying productive intervals and strata directly above the proposed injection zone. Labels denote the last five digits of API #30-025-XXXXX.

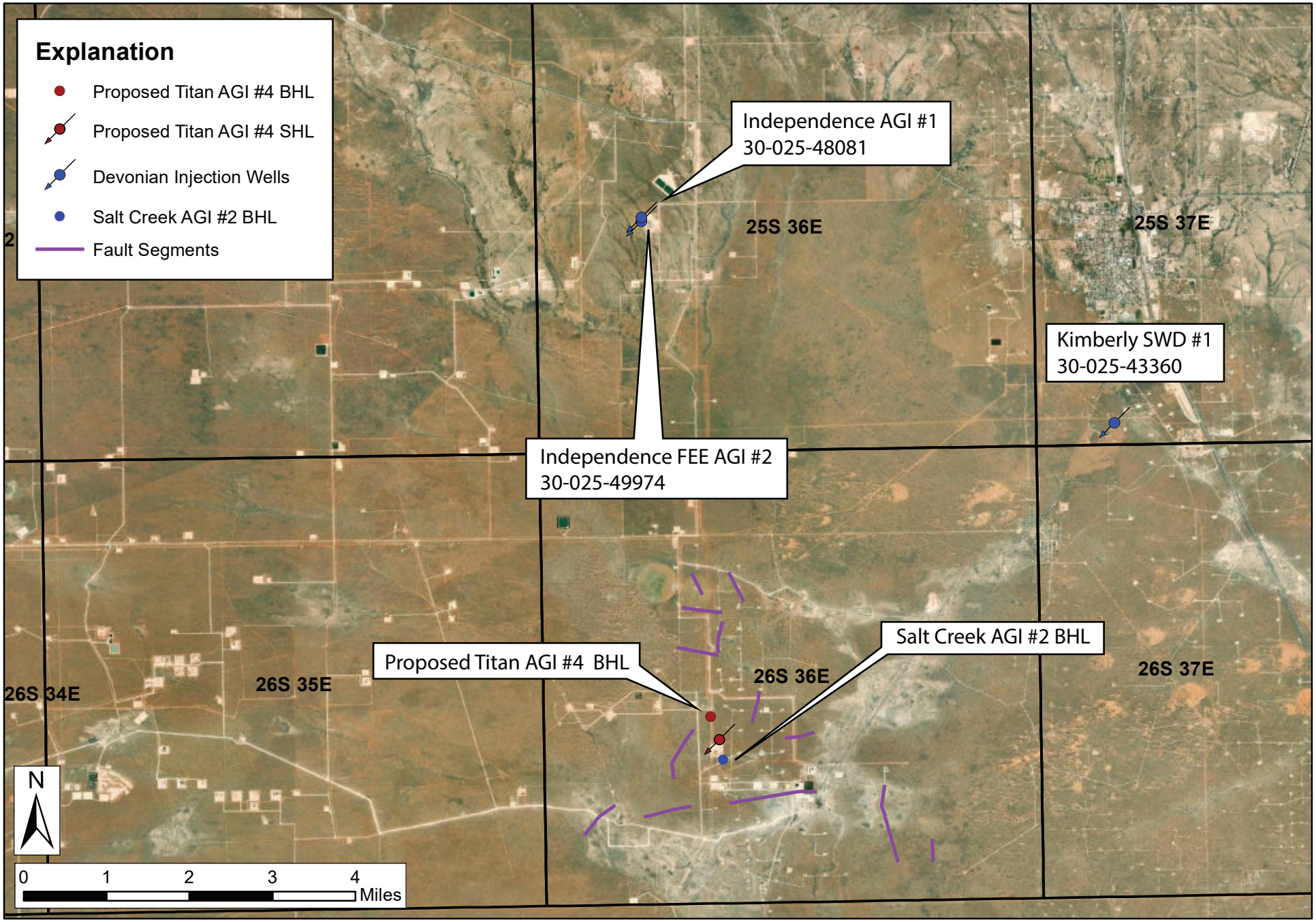
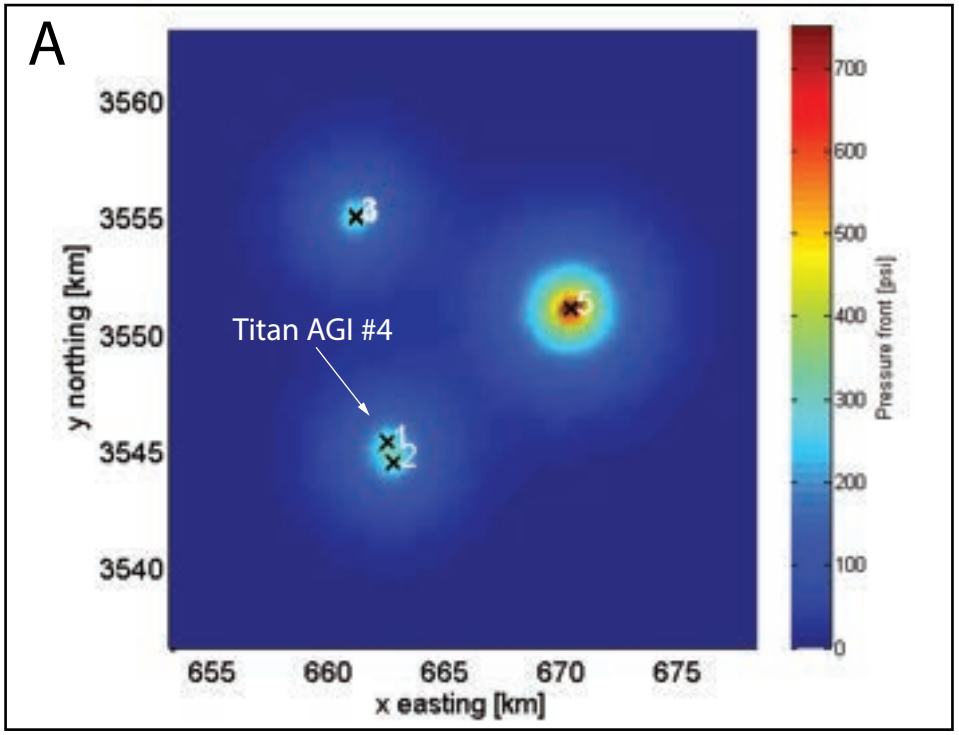
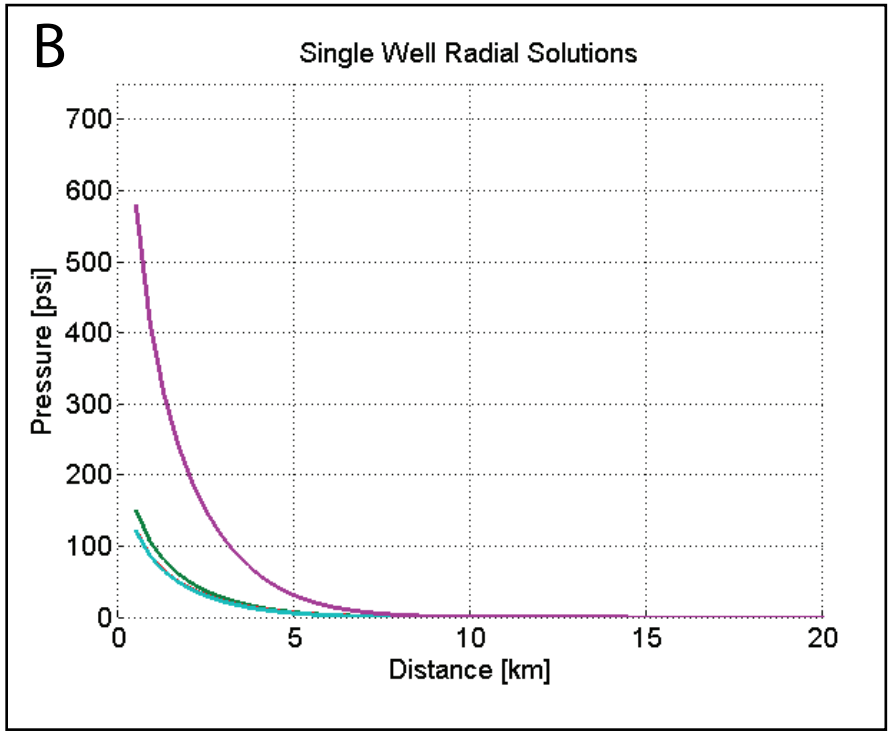


Figure 17. Siluro-Devonian injection wells and subsurface fault features in vicinity of the proposed Titan AGI #4 well.





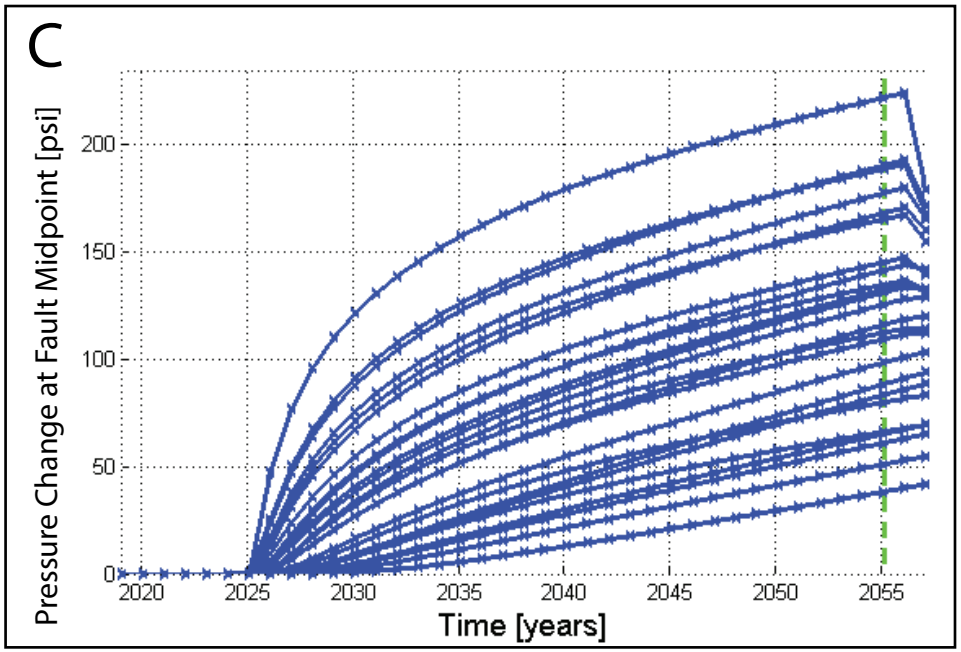


Figure 18. Summary of FSP model-predicted pressure front effects in the year 2055, resulting from injection activities of nearby wells that are actively injecting within the Siluro-Devonian formations.

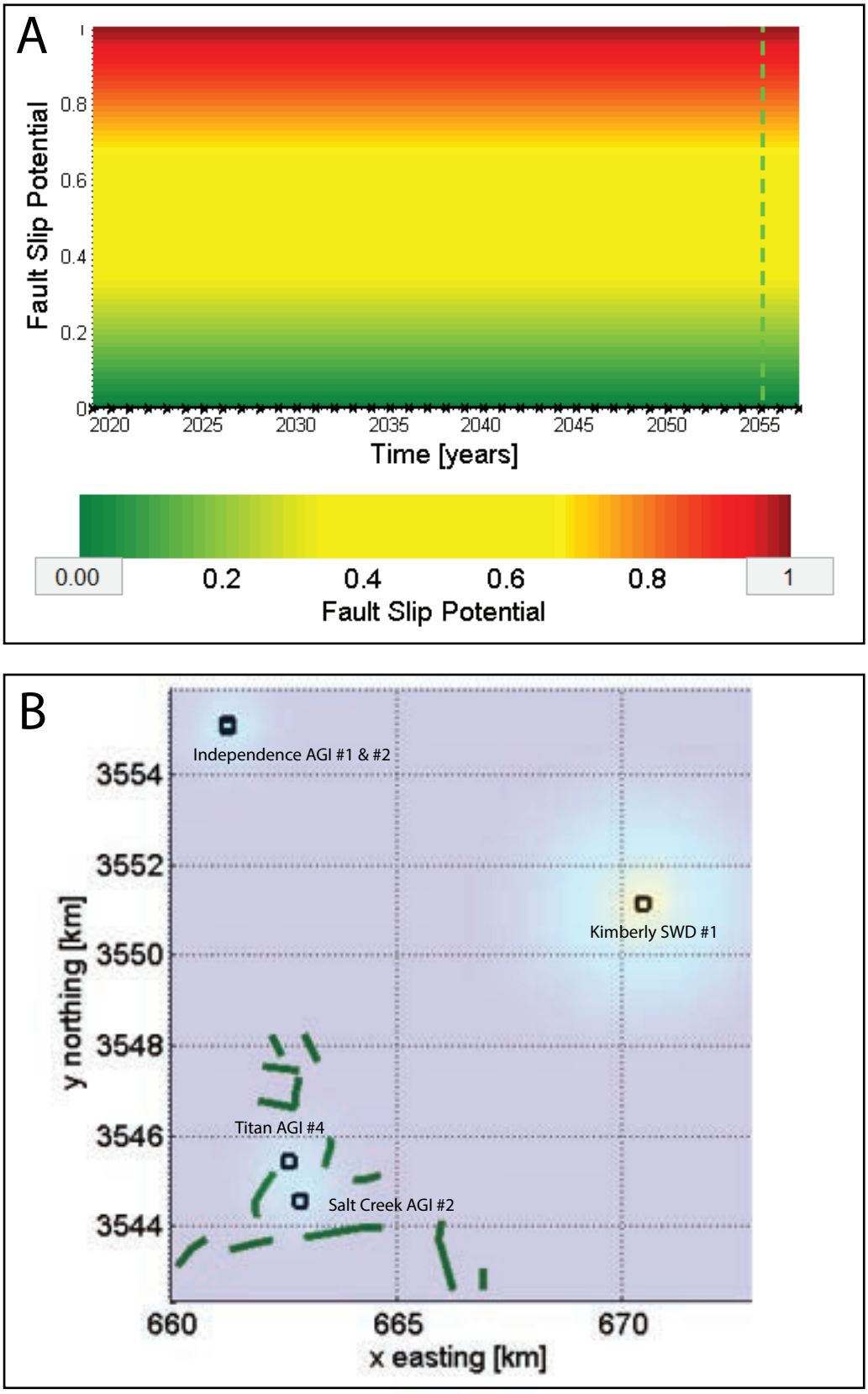


Figure 19. Model-predicted fault slip potential after 30 years of injection operations at maximum daily injection volume conditions (panel A). Proposed injection operations will have little impact on faults in the area and indicate no risk of increasing the likelihood of induced seismicity (panel B).

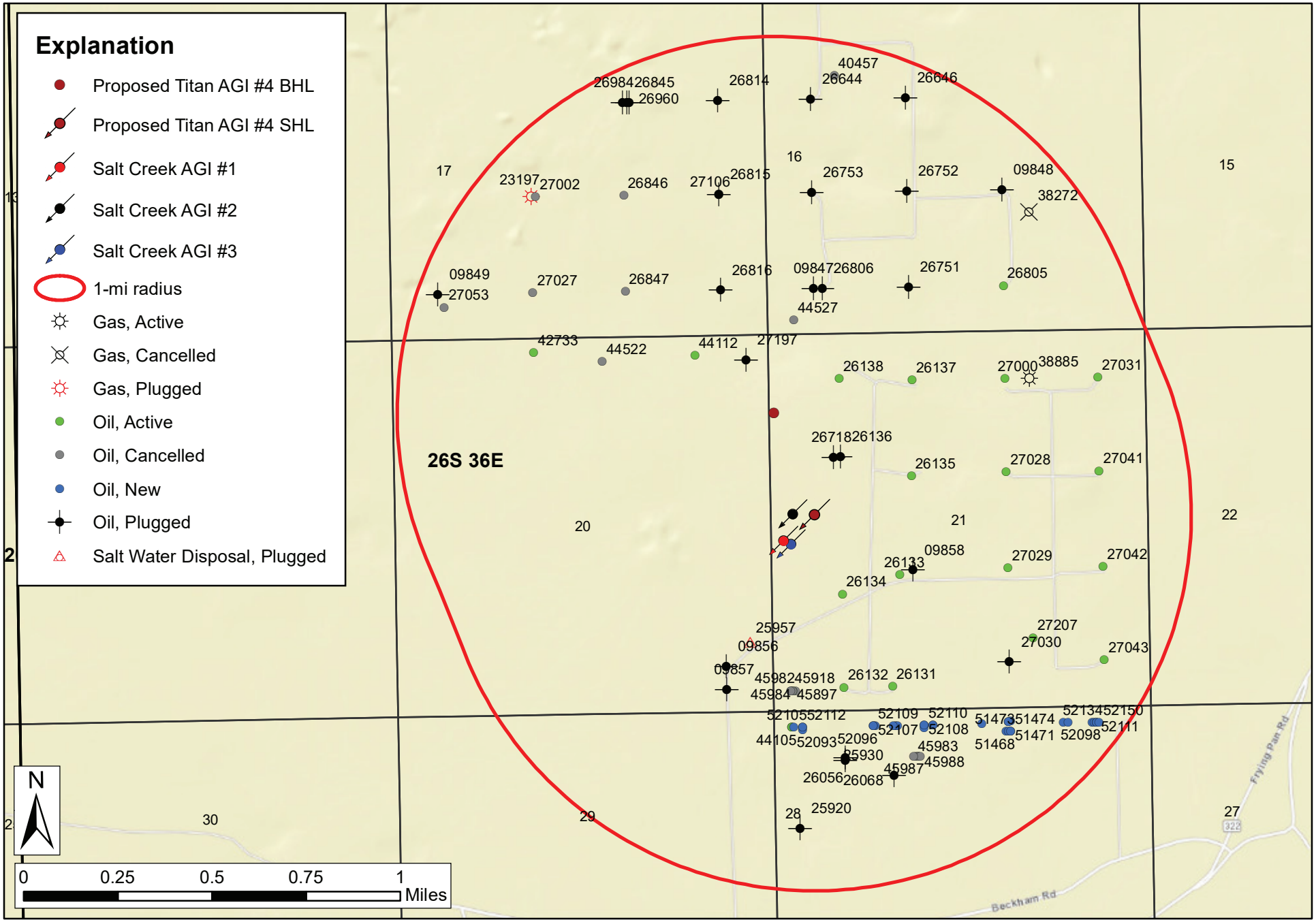


Figure 20. All wells located within one (1) mile of the proposed Titan AGI #4 well.

APPENDIX A

INFORMATION ON ALL WELLS WITHIN TWO MILES OF THE PROPOSED TITAN AGI #4 WELL

Figure A-1:	All wells located within two miles of the proposed Titan AGI #4
Table A-1:	Tabulated summary of all wells within two miles of the proposed Titan AGI #4 well
Attachment A:	Plugging Documents from NMOCD online database for wells within two miles that penetrate the injection zone

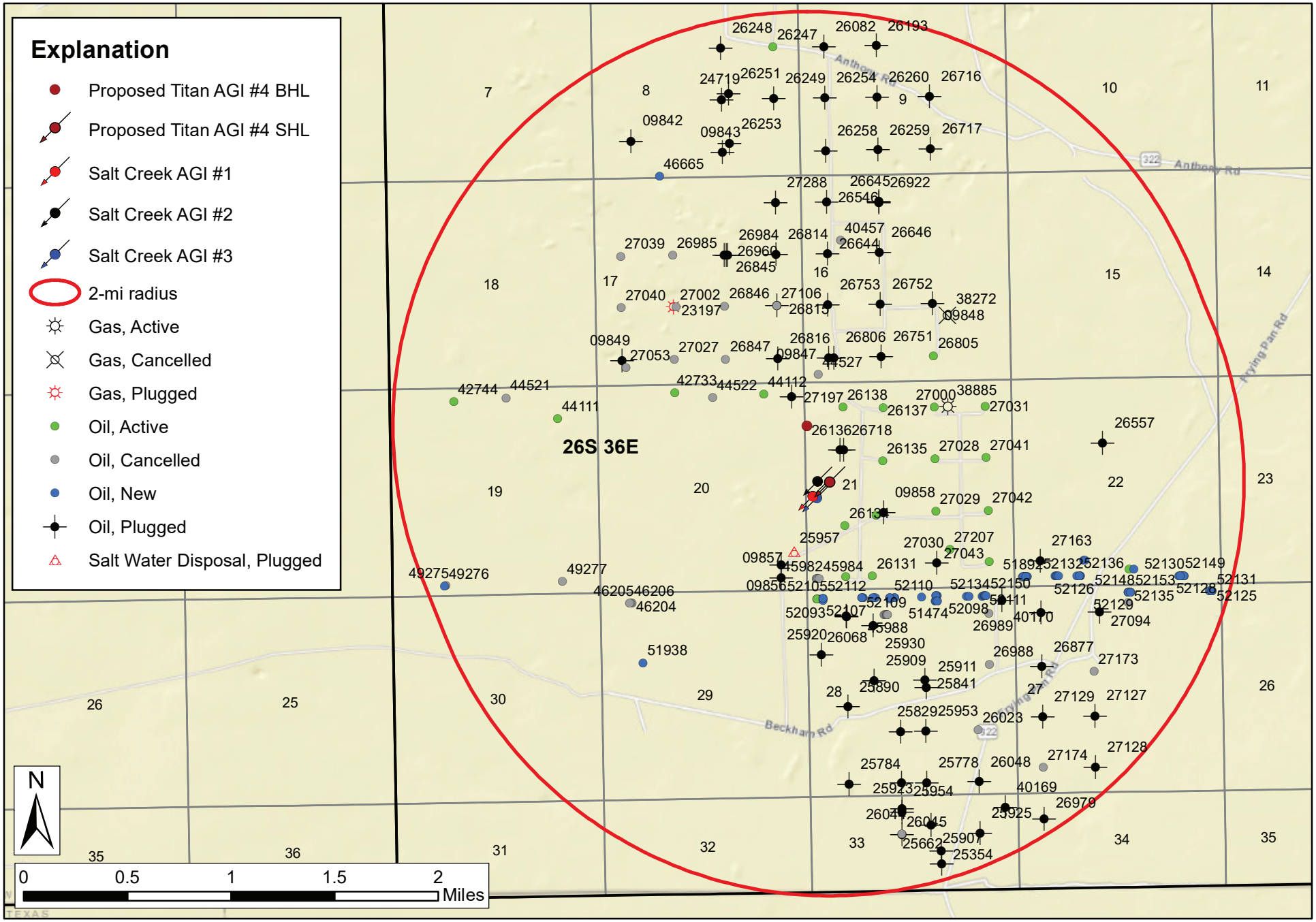


Figure A-1. All wells within two miles of the proposed Titan AGI #4 well.

Table A-1. information on wells within two miles

API	Well Name	Operator Name	Associated Pools	Well Type	Well Status	Latitude (NAD83)	Longitude (NAD83)	Depth (ft)	Plug Date
30-025-09842	PRE-ONGARD WELL #008	PRE-ONGARD WELL OPERATOR	No Data	Oil	Plugged (site released)	32.0532	-103.2925	3,348	-
30-025-09843	PRE-ONGARD WELL #003	PRE-ONGARD WELL OPERATOR	No Data	Oil	Plugged (site released)	32.0523	-103.285	5,500	-
30-025-09847	MARALO SV 16 STATE #006	MARALO LLC	No Data	Oil	Plugged (site released)	32.0378	-103.2765	11,492	-
30-025-09848	MARALO 16 STATE #005	DRACO ENERGY, INCORPORATED	Tansill-Yates-Seven Rivers	Oil	Plugged (site released)	32.0415	-103.2679	4,149	5/22/2003
30-025-09849	PRE-ONGARD WELL #007	PRE-ONGARD WELL OPERATOR	No Data	Oil	Plugged (site released)	32.0378	-103.2935	3,471	-
30-025-09856	PRE-ONGARD WELL #006	PRE-ONGARD WELL OPERATOR	No Data	Oil	Plugged (site released)	32.0233	-103.2807	1,247	-
30-025-09857	PRE-ONGARD WELL #006	PRE-ONGARD WELL OPERATOR	No Data	Oil	Plugged (site released)	32.0224	-103.2807	3,349	-
30-025-09858	PRE-ONGARD WELL #001	PRE-ONGARD WELL OPERATOR	No Data	Oil	Plugged (site released)	32.0269	-103.2722	3,940	-
30-025-23197	SOUTH LEA FEDERAL #001	ENERGEN RESOURCES CORPORATION	Devonian; Strawn	Gas	Plugged (site released)	32.0415	-103.2892	21,252	6/17/2015
30-025-24719	PRE-ONGARD WELL #001	PRE-ONGARD WELL OPERATOR	No Data	Oil	Plugged (site released)	32.056	-103.285	20,971	-
30-025-25354	PRE-ONGARD WELL #001	PRE-ONGARD WELL OPERATOR	No Data	Oil	Plugged (site released)	32.0031	-103.2679	21,750	-
30-025-25662	HORSEBACK #002	WHITING OIL AND GAS CORPORATION	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.0022	-103.2679	-	12/13/2005
30-025-25702	LEA 7406 JV-S #002	BTA OIL PRODUCERS	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.0079	-103.2711	3,349	9/1/2009
30-025-25778	QUANAH PARKER #001	WHITING OIL AND GAS CORPORATION	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.0079	-103.269	-	8/23/2005
30-025-25784	PRE-ONGARD WELL #003	PRE-ONGARD WELL OPERATOR	No Data	Oil	Plugged (site released)	32.0079	-103.2754	887	-
30-025-25829	LEA 7406 JV-S #004	BTA OIL PRODUCERS	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.0115	-103.2711	3,268	9/8/2009
30-025-25841	PRE-ONGARD WELL #002	PRE-ONGARD WELL OPERATOR	No Data	Oil	Plugged (site released)	32.0151	-103.269	284	-
30-025-25890	PRE-ONGARD WELL #005	PRE-ONGARD WELL OPERATOR	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.0133	-103.2754	3,266	-
30-025-25907	HORSEBACK #003	WHITING OIL AND GAS CORPORATION	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.0049	-103.2687	3,255	12/20/2005
30-025-25909	LEA 7406 JV-S #006	BTA OIL PRODUCERS	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.0151	-103.2732	3,250	9/11/2009
30-025-25911	QUANAH PARKER #002Y	WHITING OIL AND GAS CORPORATION	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.0146	-103.2689	3,258	8/25/2005
30-025-25920	PRE-ONGARD WELL #007	PRE-ONGARD WELL OPERATOR	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.017	-103.2775	3,270	-
30-025-25923	PRE-ONGARD WELL #004	PRE-ONGARD WELL OPERATOR	No Data	Oil	Plugged (site released)	32.0061	-103.2711	748	-
30-025-25925	HORSEBACK #006	WHITING OIL AND GAS CORPORATION	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.0043	-103.2647	-	12/15/2005
30-025-25930	LEA 7406 JV-S #008	BTA OIL PRODUCERS	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.019	-103.2732	3,270	9/16/2009
30-025-25953	NEW MEXICO CV STATE #001	WHITING OIL AND GAS CORPORATION	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.0115	-103.269	3,239	12/23/2005
30-025-25954	PRE-ONGARD WELL #004Y	PRE-ONGARD WELL OPERATOR	No Data	Oil	Plugged (site released)	32.0059	-103.2711	749	-
30-025-25957	LEA 20 #001	CHANCE PROPERTIES COMPANY	Capitan Reef	Salt Water Disposal	Plugged (not released)	32.0242	-103.2796	3,420	6/11/2021
30-025-26023	PRE-ONGARD WELL #003	PRE-ONGARD WELL OPERATOR	No Data	Oil	Cancelled	32.0115	-103.2647	0	-
30-025-26044	HORSEBACK #007	WHITING OIL AND GAS CORPORATION	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.0043	-103.2711	-	12/21/2005
30-025-26045	PRE-ONGARD WELL #008	PRE-ONGARD WELL OPERATOR	No Data	Oil	Cancelled	32.0043	-103.2711	0	-
30-025-26048	NEW MEXICO CV STATE #002	WHITING OIL AND GAS CORPORATION	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.0079	-103.2647	3,400	11/20/2004
30-025-26056	PRE-ONGARD WELL #009	PRE-ONGARD WELL OPERATOR	No Data	Oil	Plugged (site released)	32.0197	-103.2754	1,406	-
30-025-26068	LEA 7406 JV-S #009Y	BTA OIL PRODUCERS	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.0196	-103.2754	3,270	9/21/2009
30-025-26082	FEDERAL A #001	DASCO ENERGY CORP	Tansill-Yates-Seven Rivers	Oil	Plugged (site released)	32.0596	-103.2765	3,605	4/29/1986
30-025-26131	WILSON 21 FEDERAL #001	FULFER OIL & CATTLE LLC	Tansill-Yates-7Rivers-Qu	Oil	Active	32.0224	-103.2732	3,340	-
30-025-26132	WILSON 21 FEDERAL #002	FULFER OIL & CATTLE LLC	Tansill-Yates-7Rivers-Qu	Oil	Active	32.0224	-103.2754	3,500	-
30-025-26133	WILSON 21 FEDERAL #003	FULFER OIL & CATTLE LLC	Tansill-Yates-7Rivers-Qu	Oil	Active	32.0267	-103.2728	3,797	-
30-025-26134	WILSON 21 FEDERAL #004	FULFER OIL & CATTLE LLC	Tansill-Yates-7Rivers-Qu	Oil	Active	32.026	-103.2754	3,575	-
30-025-26135	WILSON 21 FEDERAL #005	FULFER OIL & CATTLE LLC	Tansill-Yates-7Rivers-Qu	Oil	Active	32.0305	-103.2722	3,800	-
30-025-26136	PRE-ONGARD WELL #006	PRE-ONGARD WELL OPERATOR	No Data	Oil	Plugged (site released)	32.0313	-103.2754	1,682	-
30-025-26137	WILSON 21 FEDERAL #007	FULFER OIL & CATTLE LLC	Tansill-Yates-7Rivers-Qu	Oil	Active	32.0342	-103.2721	3,700	-
30-025-26138	WILSON 21 FEDERAL #008	FULFER OIL & CATTLE LLC	Tansill-Yates-7Rivers-Qu	Oil	Active	32.0343	-103.2754	3,700	-
30-025-26193	FEDERAL A #002	DASCO ENERGY CORP	Tansill-Yates-Seven Rivers	Oil	Plugged (site released)	32.0596	-103.2722	3,615	4/30/1986
30-025-26247	WILSON 8 FEDERAL #001	FULFER OIL & CATTLE LLC	Tansill-Yates-Seven Rivers	Oil	Active	32.0596	-103.2807	3,606	-

30-025-26248	PRE-ONGARD WELL #002	PRE-ONGARD WELL OPERATOR	Tansill-Yates-Seven Rivers	Oil	Plugged (site released)	32.0596	-103.285	3,850	-
30-025-26249	PRE-ONGARD WELL #003	PRE-ONGARD WELL OPERATOR	Tansill-Yates-Seven Rivers	Oil	Plugged (site released)	32.056	-103.2807	3,795	-
30-025-26251	PRE-ONGARD WELL #005	PRE-ONGARD WELL OPERATOR	Tansill-Yates-Seven Rivers	Oil	Plugged (site released)	32.0564	-103.2844	3,700	-
30-025-26253	PRE-ONGARD WELL #007	PRE-ONGARD WELL OPERATOR	Tansill-Yates-Seven Rivers	Oil	Plugged (site released)	32.0529	-103.2844	3,700	-
30-025-26254	PRE-ONGARD WELL #001	PRE-ONGARD WELL OPERATOR	Tansill-Yates-Seven Rivers	Oil	Plugged (site released)	32.056	-103.2765	3,730	-
30-025-26258	PRE-ONGARD WELL #002	PRE-ONGARD WELL OPERATOR	Tansill-Yates-Seven Rivers	Oil	Plugged (site released)	32.0523	-103.2765	3,800	-
30-025-26259	PRE-ONGARD WELL #003	PRE-ONGARD WELL OPERATOR	Tansill-Yates-Seven Rivers	Oil	Plugged (site released)	32.0523	-103.2722	3,684	-
30-025-26260	PRE-ONGARD WELL #004	PRE-ONGARD WELL OPERATOR	Tansill-Yates-Seven Rivers	Oil	Plugged (site released)	32.056	-103.2722	3,700	-
30-025-26546	MARALO 16 STATE #001	RMR OPERATING, LLC	Tansill-Yates-Seven Rivers	Oil	Plugged (not released)	32.0487	-103.2765	3,800	9/5/2012
30-025-26557	PAWNEE DEEP UNIT #001	HERITAGE RESOURCES, INC.	Strawn; Delaware; Bone Spring	Oil	Plugged (site released)	32.0315	-103.2541	18,577	5/27/2014
30-025-26644	MARALO 16 STATE #002	NORTHERN PACIFIC OIL AND GAS INCORPORATED	Tansill-Yates-Seven Rivers	Oil	Plugged (not released)	32.0451	-103.2765	3,770	6/19/2018
30-025-26645	MARALO SV 16 STATE #003	MARALO LLC	No Data	Oil	Plugged (site released)	32.0487	-103.2722	1,576	-
30-025-26646	MARALO 16 STATE #004	NORTHERN PACIFIC OIL AND GAS INCORPORATED	Tansill-Yates-Seven Rivers	Oil	Plugged (not released)	32.0451	-103.2722	3,780	6/30/2018
30-025-26716	PRE-ONGARD WELL #005	PRE-ONGARD WELL OPERATOR	Tansill-Yates-Seven Rivers	Oil	Plugged (site released)	32.056	-103.2679	3,700	-
30-025-26717	PRE-ONGARD WELL #006	PRE-ONGARD WELL OPERATOR	Tansill-Yates-Seven Rivers	Oil	Plugged (site released)	32.0523	-103.2679	3,650	-
30-025-26718	PRE-ONGARD WELL #006Y	PRE-ONGARD WELL OPERATOR	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.0313	-103.2757	3,750	-
30-025-26751	MARALO 16 STATE #007	DRACO ENERGY, INCORPORATED	Tansill-Yates-Seven Rivers	Oil	Plugged (site released)	32.0378	-103.2722	3,800	5/19/2003
30-025-26752	MARALO 16 STATE #008	NORTHERN PACIFIC OIL AND GAS INCORPORATED	Tansill-Yates-Seven Rivers	Oil	Plugged (not released)	32.0415	-103.2722	3,750	7/3/2018
30-025-26753	MARALO 16 STATE #009	NORTHERN PACIFIC OIL AND GAS INCORPORATED	Tansill-Yates-Seven Rivers	Oil	Plugged (not released)	32.0415	-103.2765	3,800	6/21/2018
30-025-26805	MARALO 16 STATE #010	NORTHERN PACIFIC OIL AND GAS INCORPORATED	Tansill-Yates-Seven Rivers	Oil	Active	32.0378	-103.2679	3,800	-
30-025-26806	MARALO 16 STATE #006Y	NORTHERN PACIFIC OIL AND GAS INCORPORATED	Tansill-Yates-Seven Rivers	Oil	Plugged (not released)	32.0378	-103.2761	3,800	6/26/2018
30-025-26814	PRE-ONGARD WELL #001	PRE-ONGARD WELL OPERATOR	Tansill-Yates-Seven Rivers	Oil	Plugged (site released)	32.0451	-103.2807	3,800	-
30-025-26815	PRE-ONGARD WELL #002	PRE-ONGARD WELL OPERATOR	Tansill-Yates-Seven Rivers	Oil	Plugged (site released)	32.0415	-103.2807	3,700	-
30-025-26816	PRE-ONGARD WELL #003	PRE-ONGARD WELL OPERATOR	Tansill-Yates-Seven Rivers	Oil	Plugged (site released)	32.0378	-103.2807	3,700	-
30-025-26845	PRE-ONGARD WELL #004	PRE-ONGARD WELL OPERATOR	No Data	Oil	Plugged (site released)	32.0451	-103.285	1,950	-
30-025-26846	PRE-ONGARD WELL #005	PRE-ONGARD WELL OPERATOR	No Data	Oil	Cancelled	32.0415	-103.285	0	-
30-025-26847	PRE-ONGARD WELL #006	PRE-ONGARD WELL OPERATOR	No Data	Oil	Cancelled	32.0378	-103.285	0	-
30-025-26877	BUFFALO HUMP #001	WHITING OIL AND GAS CORPORATION	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.0159	-103.2594	3,585	7/20/2005
30-025-26922	MARALO 16 STATE #003Y	DRACO ENERGY, INCORPORATED	Tansill-Yates-Seven Rivers	Oil	Plugged (site released)	32.0486	-103.2722	3,800	5/30/2003
30-025-26960	PRE-ONGARD WELL #004Y	PRE-ONGARD WELL OPERATOR	No Data	Oil	Plugged (site released)	32.0451	-103.2848	1,331	-
30-025-26979	PRE-ONGARD WELL #001	PRE-ONGARD WELL OPERATOR	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.0052	-103.2594	3,624	-
30-025-26984	PRE-ONGARD WELL #004Z	PRE-ONGARD WELL OPERATOR	No Data	Oil	Plugged (site released)	32.0451	-103.2847	3,603	-
30-025-26985	PRE-ONGARD WELL #007	PRE-ONGARD WELL OPERATOR	No Data	Oil	Cancelled	32.0451	-103.2892	0	-
30-025-26987	BUFFALO HUMP #002	WHITING OIL AND GAS CORPORATION	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.0197	-103.2594	3,545	7/22/2005
30-025-26988	PRE-ONGARD WELL #003	PRE-ONGARD WELL OPERATOR	No Data	Oil	Cancelled	32.0161	-103.2637	0	-
30-025-26989	PRE-ONGARD WELL #004C	PRE-ONGARD WELL OPERATOR	No Data	Oil	Cancelled	32.0197	-103.2637	0	-
30-025-27000	LEA 21, 7406 JV-S #001	FULFER OIL & CATTLE LLC	Tansill-Yates-7Rivers-Qu	Oil	Active	32.0342	-103.2679	3,668	-
30-025-27002	PRE-ONGARD WELL #008	PRE-ONGARD WELL OPERATOR	No Data	Oil	Cancelled	32.0415	-103.289	0	-
30-025-27027	PRE-ONGARD WELL #009	PRE-ONGARD WELL OPERATOR	No Data	Oil	Cancelled	32.0378	-103.2892	0	-
30-025-27028	LEA 21, 7406 JV-S #002	FULFER OIL & CATTLE LLC	Tansill-Yates-7Rivers-Qu	Oil	Active	32.0306	-103.2679	3,658	-
30-025-27029	LEA 21, 7406 JV-S #003	FULFER OIL & CATTLE LLC	Tansill-Yates-7Rivers-Qu	Oil	Active	32.0269	-103.2679	3,574	-
30-025-27030	PRE-ONGARD WELL #004	PRE-ONGARD WELL OPERATOR	No Data	Oil	Plugged (site released)	32.0233	-103.2679	1,060	-

30-025-27031	LEA 21, 7406 JV-S #005	FULFER OIL & CATTLE LLC	Tansill-Yates-7Rivers-Qu	Oil	Active	32.0342	-103.2637	3,660	-
30-025-27039	PRE-ONGARD WELL #010	PRE-ONGARD WELL OPERATOR	No Data	Oil	Cancelled	32.0451	-103.2935	0	-
30-025-27040	PRE-ONGARD WELL #011	PRE-ONGARD WELL OPERATOR	No Data	Oil	Cancelled	32.0415	-103.2935	0	-
30-025-27041	LEA 21, 7406 JV-S #006	FULFER OIL & CATTLE LLC	Tansill-Yates-7Rivers-Qu	Oil	Active	32.0306	-103.2637	3,495	-
30-025-27042	LEA 21, 7406 JV-S #007	FULFER OIL & CATTLE LLC	Tansill-Yates-7Rivers-Qu	Oil	Active	32.0269	-103.2636	3,525	-
30-025-27043	LEA 21, 7406 JV-S #008	FULFER OIL & CATTLE LLC	Tansill-Yates-7Rivers-Qu	Oil	Active	32.0233	-103.2636	3,570	-
30-025-27053	PRE-ONGARD WELL #012	PRE-ONGARD WELL OPERATOR	No Data	Oil	Cancelled	32.0373	-103.2932	0	-
30-025-27094	PRE-ONGARD WELL #003	PRE-ONGARD WELL OPERATOR	No Data	Oil	Plugged (site released)	32.0197	-103.2546	3,608	-
30-025-27106	PRE-ONGARD WELL #001	PRE-ONGARD WELL OPERATOR	No Data	Oil	Cancelled	32.0415	-103.2807	0	-
30-025-27127	BUFFALO HUMP #005	WHITING OIL AND GAS CORPORATION	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.0124	-103.2551	3,554	7/25/2005
30-025-27128	BUFFALO HUMP #006	WHITING OIL AND GAS CORPORATION	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.0088	-103.2551	3,564	7/22/2005
30-025-27129	BUFFALO HUMP #008	WHITING OIL AND GAS CORPORATION	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.0124	-103.2594	3,606	7/20/2005
30-025-27163	AMERICAN EAGLE #001	WHITING OIL AND GAS CORPORATION	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.0233	-103.2594	3,550	7/27/2005
30-025-27173	PRE-ONGARD WELL #004	PRE-ONGARD WELL OPERATOR	No Data	Oil	Cancelled	32.0155	-103.2551	0	-
30-025-27174	PRE-ONGARD WELL #007	PRE-ONGARD WELL OPERATOR	No Data	Oil	Cancelled	32.0088	-103.2594	0	-
30-025-27197	LEA 20 7426 JV-S #002	BTA OIL PRODUCERS	Tansill-Yates-7Rivers-Qu	Oil	Plugged (site released)	32.0351	-103.2796	3,670	12/22/1982
30-025-27207	LEA 21, 7406 JV-S #004Y	FULFER OIL & CATTLE LLC	Tansill-Yates-7Rivers-Qu	Oil	Active	32.0242	-103.2668	3,550	-
30-025-27288	PRE-ONGARD WELL #001	PRE-ONGARD WELL OPERATOR	No Data	Oil	Plugged (site released)	32.0487	-103.2807	2,879	-
30-025-38272	EAGLE FEATHER STATE #001	COG OPERATING LLC	Strawn	Gas	Cancelled	32.0406	-103.2667	0	-
30-025-38885	EAGLE FEATHER FEDERAL #002	AMEREDEV OPERATING, LLC	Strawn	Gas	Active	32.0342	-103.2668	13,179	-
30-025-40169	BIG BRAVE STATE #001	NORTHERN PACIFIC OIL AND GAS INCORPORATED	Tansill-Yates-7Rivers-Qu	Oil	Plugged (not released)	32.0061	-103.2626	999	6/13/2018
30-025-40170	GOOD CHIEF STATE #001	NORTHERN PACIFIC OIL AND GAS INCORPORATED	Tansill-Yates-7Rivers-Qu	Oil	Plugged (not released)	32.0206	-103.2626	3,873	6/16/2018
30-025-40457	MEDICINE MAN STATE #001	RMR OPERATING, LLC	Tansill-Yates-Seven Rivers	Oil	Cancelled	32.046	-103.2754	0	-
30-025-42733	WILDHOG BWX STATE COM #001H	AMEREDEV OPERATING, LLC	Lower Bone Spring; Wolfcamp	Oil	Active	32.0355	-103.2892	12,517	-
30-025-42744	PRIZEHOG BWZ STATE COM #001H	AMEREDEV OPERATING, LLC	Lower Bone Spring; Wolfcamp	Oil	Active	32.0351	-103.3074	12,778	-
30-025-44104	AZALEA 26 36 28 STATE #111H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Active	32.0209	-103.2778	11,966	-
30-025-44105	AZALEA 26 36 28 STATE #121	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	New	32.0209	-103.2777	994	-
30-025-44111	PRIZEHOG BWZ STATE COM #002H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Active	32.0338	-103.2989	12,366	-
30-025-44112	WILDHOG BWX STATE COM #002H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Active	32.0353	-103.2819	12,008	-
30-025-44202	AMEN CORNER 26 36 27 STATE COM #111C	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Cancelled	32.0222	-103.2606	0	-
30-025-44229	AZALEA 26 36 28 STATE #121Y	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Active	32.0209	-103.2778	12,434	-
30-025-44439	MAGNOLIA 26 36 22 STATE COM #111C	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Cancelled	32.0222	-103.2607	0	-
30-025-44472	MAGNOLIA 26 36 22 STATE COM #101C	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Cancelled	32.0222	-103.2607	0	-
30-025-44521	PRIZEHOG BWZ STATE COM #003C	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Cancelled	32.0353	-103.3031	0	-
30-025-44522	WILDHOG BWX STATE COM #003C	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Cancelled	32.0351	-103.2861	0	-
30-025-44527	CAMELLIA 26 36 16 STATE COM #101C	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Cancelled	32.0366	-103.2774	0	-

30-025-44651	AMEN CORNER 26 36 27 STATE COM #115C	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Cancelled	32.021	-103.252	0	-
30-025-44652	AMEN CORNER 26 36 27 STATE COM #125C	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Cancelled	32.021	-103.2521	0	-
30-025-44653	MAGNOLIA 26 36 22 STATE COM #105C	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Cancelled	32.021	-103.2522	0	-
30-025-44654	MAGNOLIA 26 36 22 STATE COM #115C	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Cancelled	32.0203	-103.2522	0	-
30-025-44809	AMEN CORNER 26 36 27 STATE COM #105C	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Cancelled	32.021	-103.252	0	-
30-025-44810	MAGNOLIA 26 36 22 STATE COM #125H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Active	32.0226	-103.2521	11,449	-
30-025-44942	AMEN CORNER 26 36 27 STATE COM #121C	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Cancelled	32.0222	-103.2608	0	-
30-025-44943	AMEN CORNER 26 36 27 STATE COM #091C	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	Cancelled	32.0222	-103.2605	0	-
30-025-44944	MAGNOLIA 26 36 22 STATE COM #121C	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Cancelled	32.0222	-103.2609	0	-
30-025-45837	CAMELLIA FEDERAL COM 26 36 21 #111H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	New	32.0223	-103.2778	0	-
30-025-45897	CAMELLIA FEDERAL COM 26 36 21 #121H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Active	32.0223	-103.2777	11,992	-
30-025-45918	CAMELLIA FEDERAL COM 26 36 21 #101H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Cancelled	32.0223	-103.2778	0	-
30-025-45982	CAMELLIA FEDERAL COM 26 36 21 #081C	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	Cancelled	32.0223	-103.2777	0	-
30-025-45983	CAMELLIA FEDERAL COM 26 36 21 #083H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	Cancelled	32.0197	-103.2723	0	-
30-025-45984	CAMELLIA FEDERAL COM 26 36 21 #091H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	Cancelled	32.0223	-103.2776	0	-
30-025-45985	CAMELLIA FEDERAL COM 26 36 21 #093H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	Cancelled	32.0197	-103.2722	0	-
30-025-45986	CAMELLIA FEDERAL COM 26 36 21 #104H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Cancelled	32.0197	-103.2721	0	-
30-025-45987	CAMELLIA FEDERAL COM 26 36 21 #114H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Cancelled	32.0197	-103.2721	0	-
30-025-45988	CAMELLIA FEDERAL COM 26 36 21 #124H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Cancelled	32.0197	-103.272	0	-
30-025-46204	GREEN JACKET 26 36 29 FEDERAL COM #101H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Cancelled	32.0208	-103.293	0	-
30-025-46205	GREEN JACKET 26 36 29 FEDERAL COM #111H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Cancelled	32.0208	-103.2931	0	-
30-025-46206	GREEN JACKET 26 36 29 FEDERAL COM #121H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Cancelled	32.0208	-103.2932	0	-
30-025-46665	HOLLY 26 36 05 FEDERAL COM #104H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	New	32.0507	-103.2902	0	-
30-025-46746	SALT CREEK AGI #001	Salt Creek Midstream, LLC	Delaware	Salt Water Disposal	Plugged (site released)	32.028	-103.2767	0	5/8/2023

30-025-49275	PRIZEHOG A FEDERAL STATE COM #001H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Cancelled	32.0222	-103.3083	0	-
30-025-49276	PRIZEHOG A FEDERAL STATE COM #002H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	New	32.0222	-103.3084	0	-
30-025-49277	PRIZEHOG B FEDERAL STATE COM #001H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	Cancelled	32.0224	-103.2987	0	-
30-025-49590	AZALEA 26 36 28 STATE COM #125H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	New	32.0209	-103.2692	0	-
30-025-49931	AZALEA 26 36 28 STATE COM #104H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	New	32.0209	-103.2714	0	-
30-025-49932	AZALEA 26 36 28 STATE COM #123H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	New	32.0209	-103.2714	0	-
30-025-49933	AZALEA 26 36 28 STATE COM #127H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	New	32.0209	-103.2655	0	-
30-025-51468	AZALEA 26 36 28 STATE COM #063H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0206	-103.2681	0	-
30-025-51469	AZALEA 26 36 28 STATE COM #073H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.021	-103.2679	0	-
30-025-51470	AZALEA 26 36 28 STATE COM #183H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.021	-103.268	0	-
30-025-51471	AZALEA 26 36 28 STATE COM #195H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0206	-103.2679	0	-
30-025-51472	AZALEA 26 36 28 STATE COM #263H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.021	-103.268	0	-
30-025-51473	AZALEA 26 36 28 STATE COM #283H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0206	-103.268	0	-
30-025-51474	AZALEA 26 36 28 STATE COM #383H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0206	-103.2679	0	-
30-025-51676	MAGNOLIA 26 36 22 STATE COM #061H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0222	-103.2607	0	-
30-025-51677	MAGNOLIA 26 36 22 STATE COM #062H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0222	-103.2564	0	-
30-025-51678	MAGNOLIA 26 36 22 STATE COM #064H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0221	-103.2477	0	-
30-025-51679	MAGNOLIA 26 36 22 STATE COM #071H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0222	-103.2582	0	-
30-025-51680	MAGNOLIA 26 36 22 STATE COM #072H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0233	-103.2558	0	-
30-025-51681	MAGNOLIA 26 36 22 STATE COM #073H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0221	-103.2478	0	-
30-025-51682	MAGNOLIA 26 36 22 STATE COM #074H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.021	-103.2455	0	-
30-025-51683	MAGNOLIA 26 36 22 STATE COM #181H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0222	-103.2581	0	-
30-025-51865	SALT CREEK AGI #003	Northwind Midstream Partners LLC	Delaware	Salt Water Disposal	New	32.028	-103.2777	0	-
30-025-51887	AMEN CORNER 26 36 27 STATE COM #061H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0222	-103.2608	0	-

30-025-51888	AMEN CORNER 26 36 27 STATE COM #064H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0221	-103.2477	0	-
30-025-51889	AMEN CORNER 26 36 27 STATE COM #071H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0222	-103.258	0	-
30-025-51890	AMEN CORNER 26 36 27 STATE COM #121H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	New	32.0222	-103.2605	0	-
30-025-51891	AMEN CORNER 26 36 27 STATE COM #181H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0222	-103.2579	0	-
30-025-51892	AMEN CORNER 26 36 27 STATE COM #261H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0222	-103.2606	0	-
30-025-51893	AMEN CORNER 26 36 27 STATE COM #264H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0221	-103.2476	0	-
30-025-51894	MAGNOLIA 26 36 22 STATE COM #063H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0226	-103.2517	0	-
30-025-51895	MAGNOLIA 26 36 22 STATE COM #182H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0233	-103.2557	0	-
30-025-51896	MAGNOLIA 26 36 22 STATE COM #183H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0221	-103.2479	0	-
30-025-51897	MAGNOLIA 26 36 22 STATE COM #184H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.021	-103.2455	0	-
30-025-51938	PINE STRAW 25 36 05 FEDERAL COM #102H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	New	32.0166	-103.2922	0	-
30-025-52091	AZALEA 26 36 28 STATE COM #262H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0209	-103.2731	0	-
30-025-52092	AZALEA 26 36 28 STATE COM #264H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0209	-103.2642	0	-
30-025-52093	AZALEA 26 36 28 STATE COM #281H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0208	-103.2773	0	-
30-025-52094	AZALEA 26 36 28 STATE COM #282H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0209	-103.273	0	-
30-025-52095	AZALEA 26 36 28 STATE COM #284H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0209	-103.2641	0	-
30-025-52096	AZALEA 26 36 28 STATE COM #381H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0209	-103.274	0	-
30-025-52097	AZALEA 26 36 28 STATE COM #382H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0209	-103.2718	0	-
30-025-52098	AZALEA 26 36 28 STATE COM #384H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0209	-103.264	0	-
30-025-52105	AZALEA 26 36 28 STATE COM #061H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0209	-103.2773	0	-
30-025-52106	AZALEA 26 36 28 STATE COM #062H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0209	-103.2732	0	-
30-025-52107	AZALEA 26 36 28 STATE COM #071H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0209	-103.2741	0	-
30-025-52108	AZALEA 26 36 28 STATE COM #072H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0208	-103.2718	0	-
30-025-52109	AZALEA 26 36 28 STATE COM #181H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0209	-103.2741	0	-

30-025-52110	AZALEA 26 36 28 STATE COM #182H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0209	-103.2718	0	-
30-025-52111	AZALEA 26 36 28 STATE COM #184H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0209	-103.264	0	-
30-025-52112	AZALEA 26 36 28 STATE COM #261H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0209	-103.2773	0	-
30-025-52125	AMEN CORNER 26 36 27 STATE COM #074H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.021	-103.2453	0	-
30-025-52126	AMEN CORNER 26 36 27 STATE COM #123H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	New	32.0222	-103.2561	0	-
30-025-52127	AMEN CORNER 26 36 27 STATE COM #125H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	New	32.021	-103.2521	0	-
30-025-52128	AMEN CORNER 26 36 27 STATE COM #127H	AMEREDEV OPERATING, LLC	Wolfcamp	Oil	New	32.0221	-103.2476	0	-
30-025-52129	AMEN CORNER 26 36 27 STATE COM #182H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.021	-103.2522	0	-
30-025-52130	AMEN CORNER 26 36 27 STATE COM #183H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0221	-103.248	0	-
30-025-52131	AMEN CORNER 26 36 27 STATE COM #184H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.021	-103.2453	0	-
30-025-52132	AMEN CORNER 26 36 27 STATE COM #262H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0222	-103.2561	0	-
30-025-52134	AZALEA 26 36 28 STATE COM #064H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0209	-103.2653	0	-
30-025-52135	AMEN CORNER 26 36 27 STATE COM #263H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.021	-103.2521	0	-
30-025-52136	AMEN CORNER 26 36 27 STATE COM #062H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0222	-103.2562	0	-
30-025-52148	AMEN CORNER 26 36 27 STATE COM #072H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.021	-103.2522	0	-
30-025-52149	AMEN CORNER 26 36 27 STATE COM #073H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0221	-103.2479	0	-
30-025-52150	AZALEA 26 36 28 STATE COM #074H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.0209	-103.2639	0	-
30-025-52153	AMEN CORNER 26 36 27 STATE COM #063H	AMEREDEV OPERATING, LLC	Lower Bone Spring	Oil	New	32.021	-103.252	0	-

Attachment A

All relevant plugging documents for wells that penetrate the Siluro-Devonian interval within two miles of the proposed Titan AGI #4 well

South Lea Federal #001 (30-025-23197)

Pawnee Deep Unit #001 (30-025-26557)

Horse Back #001 (30-025-25354)

Doggie Draw Federal #001 (30-025-24719)

Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

HOBBS OCD
DEC 21 2015
RECEIVED

5. Lease Serial No.
NMNM18644

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
SOUTH LEA FEDERAL 001

2. Name of Operator
ENERGEN RESOURCES CORPORATION
Contact: BRENDA F RATHJEN
Email: brenda.rathjen@energen.com

9. API Well No.
30-025-23197

3a. Address
3510 NORTH "A" STREET BLGS A & B
MIDLAND, TX 79705

3b. Phone No. (include area code)
Ph: 432-688-3323

10. Field and Pool, or Exploratory
PAWNEE STRAWN; 97040

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 17 T26S R36E Mer NMP NESW 1980FSL 1980FWL

11. County or Parish, and State
LEA COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NAT[illegible] OTHER DATA

E-PERMITTING <SWD ___ INJECTION>
CONVERSION ___ RBDMS ___
RETURN TO ___ TA ___
CSNG ___ ENVIRO ___ CHG LOC ___
INT TO PA ___ P&A NR ___ P&A R ___

TYPE OF SUBMISSION		
☐ Notice of Intent	☐ Acidize	☐ Deepen
☒ Subsequent Report	☐ Alter Casing	☐ Fracture [illegible]
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction
	☐ Change Plans	☒ Plug and Abandon
	☐ Convert to Injection	☐ Plug Back
		☐ [illegible]
		☐ Temporarily Abandon
		☐ Water Disposal

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

ATTACHED IS THE P&A PROCEDURE AS SUBMITTED FROM THE PLUGGING COMPANY FOR THE SOUTH LEA FEDERAL #1.

THANK YOU.

12-17-15

Accepted as to plugging of the well bore.
Liability under bond is retained until
Surface restoration is completed.

14. I hereby certify that the foregoing is true and correct.
Electronic Submission #309836 verified by the BLM Well Information System
For ENERGEN RESOURCES CORPORATION, sent to the Hobbs
Committed to AFMSS for processing by LINDA JIMENEZ on 08/31/2015 ()

Name *(Printed/Typed)* BRENDA F RATHJEN — Title REGULATORY ANALYST

Signature (Electronic Submission) — Date 07/21/2015

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

ACCEPTED FOR RECORD
DEC 3 2015
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

Approved By _____ Title _____ Date _____

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

MAB/OCD 12/22/2015

DEC 31 2015

1/4/16

Form 3160-5
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OM B No. 1004-0137
Expires: March 31, 2007

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

5. Lease Serial No. **NMNM18644**	
6. If Indian, Allottee or Tribe Name	
7. If Unit of CA / Agreement, Name and/or No.	
1. Type of Well: Oil Well ☐ Gas Well ☑ Other ☐	8. Well Name and No. **South Lea Federal 001**
2. Name of Operator **Energen Resources Corporation**	9. API Well No. **30-025-23197**
3a. Address **3510 N. 'A' St, Bldg A&B Midland, TX 79705** / 3b. Phone No. (include area code) **432-688-3323**	10. Field and Pool, or Exploratory Area **Pawnee Strawn; 97040**
4. Location of (Footage, Sec., T., R., or Survey Description) **Sec 17 T26S R36E Mer NMP NESW 1980 FSL 1980FWL**	11. County or Parish, State **Lea, NM**

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-off
☑ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☑ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the bond No. on file with the BLM / BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

SEE ATTACHED

14. I hereby certify that the following is true and correct
Name Brenda Fratlyn - Energen Resources - Regulatory Analyst - 7/13/15 432-688-3323
Greg Bryant — Title P&A Tech

Signature — Date 6/20/15

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by — Title — Date

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. — Office

ACCEPTED FOR RECORD
DEC 9 2015
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

Title 18 U.S.C. Section 1001 and Title 43 U.S.C., Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Energen Resources – South Lea Federal 001 – 30-025-23197

Subsequent Report of Plug and Abandonment

4/8/15---MIRU

4/9/15---RIH w/ WL & Tag in Tbg @ 12,675'

4/10/15---Unset PKR & start to POOH w/ 2⅜" Tbg, total of 180 stands so far, PKR depth was 10,436'

4/11/15---Finish POOH w/ Tbg, total of 195 stands (12,347' EOT). RIH w/ gauge ring to 12,630'. Pat @ BLM OK'd to set 5" CIBP @ 12,500' tomorrow

4/14/15---Set 5" CIBP @ 12,500'. RIH Tbg, kept getting behind liner @ 10,510'

4/15/15---Still cannot get inside liner, POOH. RIH w/ mule shoe, tag CIBP @ 12,500'. Spot 40sx H cmt @ 12,500' to CTOC 12,055'

4/16/15---POOH Tbg. RIH w/ 5" model R PKR & set @ 10,574'. RIH WL to perf @ 11,560' – WL stuck @ 11,500'

4/17/15---Still cannot get WL free. Set off perf charges @ 11,500'

4/20/15---Cut WL & POOH w/ 5000' line. Able to pump down line through Tbg – Sqz 80sx cmt @ 11,500' to CTOC 11,316'. SIW on slight vacuum.

4/21/15---Test below PKR, holding 750#. RIH WL & cannot get past 5,038'. Attempt to POOH w/ PKR, stuck inside 5" liner, worked pipe, still stuck.

4/23/15---Cut Tbg @ 5,044' & POOH. RIH w/ perf sub to 5,044', back off @ 8,250', POOH.

4/27/15---RIH PKR to 4,432', test well, holding 1300#, POOH

4/28/15---RIH w/ 2⅜" Tbg & corkscrew wireline catch to 8,105', tried retrieving wireline & Tbg parted @ 7,472'. POOH Tbg.

4/29/15---RIH 7" gauge ring to 2,281'. RIH w/ overshot – POOH w/ 77 jts of Tbg and overshot.

4/30/15---Tag w/ 2⅜ Tbg @ 4,793'

5/1/15---Cannot catch fish, POOH Tbg. RIH w/ new grapple – start pulling on Tbg, parted @ 37'

5/4/15---Cannot catch fish

5/5/15---Cannot catch fish. Got a fisherman on location, finally got onto fish

5/6/15---Backed off 3 jts below overshot @ 158', LD Tbg. RIH w/ OS & backed off @ 4505'. LD Tbg

5/7/15---Run tally on PH6 Tbg. RIH w/ 137 jts Tbg

5/8/15---Cannot get past 6,380'. POOH

5/11/15---RIH w/ 6¼" impression block to 6,388', wire on block, POOH

5/12/15---RIH w/ wire spear to 6,413', POOH w/ 1000' wire, start to RIH w/ overshot

5/13/15---TD @ 6,691', POOH w/ no fish. RIH w/ wire spear & POOH w/ 3000' wire

5/14/15---RIH w/ overshot to 7,450' – SD for weather

5/15/15---POOH, no fish. RIH w/ spear, POOH w/ 150'-200' of wire

5/18/15---RIH overshot to 7,485', POOH w/ no fish

5/19/15---RIH w/ impression block to 7,485'

5/20/15---POOH, block shows more wire. RIH w/ Cut Right w/ Diamond Cut inserts to 7,485' – POOH w/ no fish

5/21/15---RIH w/ wire spear to 7,485', POOH w/ no wire. Start RIH w/ overshot

5/22/15---Worked over fish w/ overshot, POOH w/ no fish

5/26/15---RIH w/ 6¼" concave mill to 7,485', milled 2-3 hrs, POOH w/ Tbg

5/27/15---RIH w/ overshot and Jars to 7,485', cannot get fish, POOH. RIH w/ new grapple

5/28/15---Overshot on fish, jarred on fish @ 7,485' for 5 hrs, made 1'. Jarred and bumped fish, worked up to 7,479'

6/1/15---RIH w/ washpipe to 7,479' & rotated on fish – made hole down to 7,505', cannot POOH. Jarred on Tbg all day

6/2/15---Freepoint shows 100% free @ 7,411'. Con't jarring – no success

6/3/15---Con't jarring – no success

6/4/15---Backed off below jars @ 7,418'. POOH w/ jars, leaving 1 jt of washpipe w/ bushing & shoe. RIH w/ PKR

6/5/15---Set PKR @ 6,979', test well, holding 1450#. Jim Amos OK to spot 40sx cmt. POOH w/ PKR

6/8/15---RIH w/ perf sub to 6,987' – Spot 40sx cmt @ 6,987' to CTOC 6,767'

6/9/15---Tag @ 6,738'. Perf @ 6,680' (per BLM - Jim Amos). Test well – held 1800# - Spot 40sx cmt @ 6,738' to CTOC 6,518'

6/10/15---Tag @ 6,397'. BLM – Jim Amos – says to go back to procedure. Perf @ 5,300' – Sqz 80sx cmt to 5,100'

6/11/15---Tag @ 5,094'. Pump 150bbl MLF. Spot 200sx cmt @ 4,102' to CTOC 3,533'

6/12/15---Tag @ 3,558'. Spot 90sx cmt @ 3,558' to CTOC 3,320' – Tag @ 3,486'. BLM – Pat ok'd to spot 70sx cmt @ 3,486' to CTOC 3,301'

6/15/15---Tag @ 3,442'. BLM ok'd to spot 45sx cmt @ 3,419' to CTOC 3,300' – Tag @ 3,305'. Spot 45sx cmt @ 1,899' to CTOC 1,780'

6/16/15---Tag @ 1,713'. Test well – held 1800#. Perf @ 690' – Sqz 85sx cmt to 540'

6/17/15---Tag @ 504'. Perf @ 100' – cannot est rate w/ 1500#. BLM – Pat OK'd to spot cmt to surface – RIH to 155' – pump 80sx cmt to surface inside 10¾". RDMO

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
May 27, 2004

Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

HOBBS OCD
JUN 19 2014
RECEIVED

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO.
30-025-26557

5. Indicate Type of Lease
STATE ☒ FEE ☐

6. State Oil & Gas Lease No.
LG 3340

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name
Pawnee Deep Unit

1. Type of Well: Oil Well ☒ Gas Well ☐ Other

8. Well Number 1

2. Name of Operator
Heritage Resources, Inc.

9. OGRID Number
289348

3. Address of Operator 3131 McKinney, Avenue, Suite 710
Dallas, Texas 75204

10. Pool name or Wildcat
Bone Spring

4. Well Location
Unit Letter F : 1650 feet from the North line and 2310 feet from the West line
Section 22 Township 26S Range 36E NMPM County LEA

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)*

Pit or Below-grade Tank Application ☐ or Closure ☐
Pit type_____ Depth to Groundwater_____ Distance from nearest fresh water well_____ Distance from nearest surface water_____
Pit Liner Thickness: _____ mil Below-Grade Tank: Volume _____ bbls; Construction Material _____

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

E-PERMITTING - CSNG_____

PERFORM (P&A) Kgz TA_____ ON ☐
TEMPORA COMP_____ NEW WELL_____ ☐
PULL OR LOC CHG_____ ☐

OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK	☐	ALTERING CASING	☐
COMMENCE DRILLING OPNS.	☐	P AND A	☒
CASING/CEMENT JOB	☐		

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

5/13/14- Spot 50sx Cmt @ 6340' POOH WOC & Tag @ 6338' Spoke w/ Mark RRC advised to spot 50sx more WOC & Tag. RIH w/ Tbg. Tag Cmt @ 6268' POOH

5/20/14- Perf @ 5000' RIH w/ Pkr to 4850' Sqz 75sx Cmt WOC & Tag @ 4785'

5/21/14- @ 2995' Load hole set Pkr & Pump fluid up to 2000 PSI. Did not Sqz down to 2230' Spot 65sx Cmt. POOH w/ Tbg WOC & Tag RIH w/ Tbg Cmt @ 2180' Spot 65sx more @ 2119' WOC & Tag @ 1956'

5/22/14- Perf @ 975' Set Pkr @ 847' Sqz 100sx Cmt WOC & Tag @ 838' POOH w/ Pkr. Pump fluid to backside up to 300 PSI. Advised to RBIH w/ Pkr to 260' Sqz 100sx Cmt. Pump fluid did not get Pres. RIH w/ Tbg. Did not Tag Cmt

5/23/14- 100sx Started pump Cmt Pres. to 1500 PSI. Was able to Sqz 35sx Co. Man advised to Disp to 302' Shut Tbg valve w/ 1000 PSI & SDFD

5/27/14- Perf @ 60' Try Sqz. Did not Inj. RIH w/ Tbg to 230' spot Cmt to Surf. Visual w/ 85sx Cmt. WOC & Tag @ 10'

I hereby certify that the information above is true and complete to the best of my knowledge and belief. **I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.**

SIGNATURE Wayne Pierce TITLE General Manager DATE 6-2-14

Type or print name E-mail address: Telephone No.

For State Use Only

APPROVED BY: Maley Brown TITLE Dist. Supervisor DATE 6/23/2014

Conditions of Approval (if any):

JUN 24 2014

HERITAGE RESOURCES, INC.

June 16, 2014

HOBBS OCD

JUN 19 2014

RECEIVED

New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division
1625 N. French Drive
Hobbs, New Mexico 88240

Re: OCD Form C-103
Pawnee Deep Unit #1
API #30-205-26557
Section 22, T-26-S, R-36-E,
Lea County, New Mexico

Gentlemen,

Enclosed please find OCD form C-103 on the plugging and abandonment of the referenced well for processing.

Should you have any questions regarding this issue, please contact the undersigned at (214) 526-8118.

Sincerely,

Gary L. Todd

GLT
Enc.

HERITAGE RESOURCES, INC.
3131 McKinney Avenue Suite 710 Dallas, Texas 75204 (214) 526-8118 Fax (214) 522-7182

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LAND OFFICE		
OPERATOR		

Form C-105
Revised 1-1-65

NEW MEXICO OIL CONSERVATION COMMISSION
WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5a. Indicate Type of Lease: State [X] Fee [ ]

5. State Oil & Gas Lease No.: L6379

1a. TYPE OF WELL: OIL WELL [ ] GAS WELL [X] DRY [ ] OTHER

b. TYPE OF COMPLETION: NEW WELL [ ] WORK OVER [ ] DEEPEN [ ] PLUG BACK [ ] DIFF. RESVR. [ ] OTHER Plug & Abandon

7. Unit Agreement Name: Horse Back- Pennsylvania Gas Pool

8. Farm or Lease Name: Horse Back

2. Name of Operator: Gifford, Mitchell & Wisenbaker

9. Well No.: 1

3. Address of Operator: P. O. Box 7040 Midland, Texas 79703

10. Field and Pool, or Wildcat: Wildcat

4. Location of Well: UNIT LETTER G LOCATED 1000 FEET FROM THE South LINE AND 1980 FEET FROM THE East LINE OF SEC. 33 TWP. 26S RGE. 36E NMPM

12. County: Lea

15. Date Spudded	16. Date T.D. Reached	17. Date Compl. (Ready to Prod.)	18. Elevations (DF, RKB, RT, GR, etc.)	19. Elev. Cashinghead
11/16/76	5/16/77	P/A	2898.70' GL	NA

20. Total Depth	21. Plug Back T.D.	22. If Multiple Compl., How Many	23. Intervals Drilled By	Rotary Tools	Cable Tools
21,750'	11,920'	NA	→	0-21,750'	

24. Producing Interval(s), of this completion — Top, Bottom, Name: P/A

25. Was Directional Survey Made: No

26. Type Electric and Other Logs Run: Dual Laterlog; GR-Sonic; Dipmeter

27. Was Well Cored: No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
20"	94#, 133#	1,295'	26"	2283 sks	0
13-3/8"	68#, 61#	3,936'	17-1/2"	2200 sks	0
9-5/8"	47#, 53.5#	13,500'	12-1/4"	2550 sks	4400'

29. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN
7-3/4"	13,265'	18,011'	800	

30. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
2-7/8"	12,898'	12,885'
2-7/8"	11,966'	11,950'

31. Perforation Record (Interval, size and number)
(1) 12,940'--12,994' 11 holes 0.41"
(2) 12,026'--12,076' 12 holes 0.36"
(3) 9,773'-- 9,962' 28 holes 0.41"

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
12,940'--12,994'	10,000 gal 20% HCL Acid
12,026'--12,076'	10,000 gal 20% HCL Acid
9,773'-- 9,962'	10,000 gal 15% HCL Acid

33. PRODUCTION

Date First Production	Production Method (Flowing, gas lift, pumping — Size and type pump)	Well Status (Prod. or Shut-in)
		P/A

Date of Test	Hours Tested	Choke Size	Prod'n. For Test Period →	Oil — bbl.	Gas — MCF	Water — Bbl.	Gas—Oil Ratio

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate →	Oil — Bbl.	Gas — MCF	Water — Bbl.	Oil Gravity — API (Corr.)

34. Disposition of Gas (Sold, used for fuel, vented, etc.)

Test Witnessed By

35. List of Attachments: Deviation Survey

36. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.

SIGNED E. K. West TITLE Drilling Consultant DATE 10/4/77

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Commission not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 30 through 34 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico				Northwestern New Mexico			
T. Anhy		T. Canyon		T. Ojo Alamo		T. Penn. "B"	
T. Salt		T. Strawn		T. Kirtland-Fruitland		T. Penn. "C"	
B. Salt		T. Atoka	14,254	T. Pictured Cliffs		T. Penn. "D"	
T. Yates		T. Miss	17,538	T. Cliff House		T. Leadville	
T. 7 Rivers		T. Devonian	18,440	T. Menefee		T. Madison	
T. Queen		T. Silurian		T. Point Lookout		T. Elbert	
T. Grayburg		T. Montoya	19,779	T. Mancos		T. McCracken	
T. San Andres		T. Simpson	20,281	T. Gallup		T. Ignacio Qtzte	
T. Glorieta		T. McKee		Base Greenhorn		T. Granite	
T. Paddock		T. Ellenburger	22,280	T. Dakota		T.	
T. Blinebry		T. Gr. Wash		T. Morrison		T.	
T. Tubb		T. Granite		T. Todilto		T.	
T. Drinkard		T. Delaware Sand	NP	T. Entrada		T.	
T. Abo		T. Bone Springs	8734	T. Wingate		T.	
T. Wolfcamp		T.		T. Chinle		T.	
T. Penn.		T.		T. Permian		T.	
T Cisco (Bough C)		T.		T. Penn. "A"		T.	

FORMATION RECORD (Attach additional sheets if necessary)

From	To	Thickness in Feet	Formation	From	To	Thickness In Feet	Formation

NO. COPIES RECEIVED		
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SANTA FE		
FILE		
U.S.G.S.		
LAND OFFICE		
OPERATOR		

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-103
Supersedes Old C-102 and C-103
Effective 1-1-65

5a. Indicate Type of Lease: State [X] Fee [ ]

5. State Oil & Gas Lease No.: L 6379

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT —" FOR SUCH PROPOSALS.)

1. OIL WELL [ ] GAS WELL [X] OTHER-

7. Unit Agreement Name: Horse Back-Pennsylvania Gas Pool

2. Name of Operator: Gifford, Mitchell & Wisenbaker

8. Farm or Lease Name: Horse Back

3. Address of Operator: P.O. Box 7040 Midland, Texas 79703

9. Well No.: 1

4. Location of Well: UNIT LETTER G, 1000 FEET FROM THE South LINE AND 1980 FEET FROM THE East LINE, SECTION 33 TOWNSHIP 26S RANGE 36E NMPM.

10. Field and Pool, or Wildcat: wildcat

15. Elevation (Show whether DF, RT, GR, etc.): 2898.7' GL

12. County: Lea

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK [ ]	PLUG AND ABANDON [ ]	REMEDIAL WORK [ ]	ALTERING CASING [ ]
TEMPORARILY ABANDON [ ]		COMMENCE DRILLING OPNS. [ ]	PLUG AND ABANDONMENT [X]
PULL OR ALTER CASING [ ]	CHANGE PLANS [ ]	CASING TEST AND CEMENT JOB [ ]	
OTHER [ ]		OTHER [ ]	

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

Plug #1 - 21,650'-21,000'(650')- 100 sacks Class H cement & 35% silica flour & 1.4% HR-12.
Halliburton - 5/21/77

Plug #2 - 19,350'-18,700'(650')-100 sacks Class H cement & 35% silica flour & 1.4% HR-12.
Halliburton - 5/21/77

Plug #3 - 18,074'-17,424'(650')-100 sacks Class H cement & 35% silica flour & 1.0% HR-12.
Halliburton - 5/21/77

Plug #4 - 13,265'-13,115'(150')-75 sacks Class H cement % 0.3% HR-7.
Halliburton - 5/21/77

Plug #5 - 9-5/8" cast iron bridge plug set at 12,800'.

Plug #6 - 9-5/8" cast iron bridge plug set at 11,940; 20' cement plug on top of bridge plug.

Plug #7 - Cement retainer at 9650'. 200 sacks Class H cement from 9650' to 9962'(312').
Dropped 4 bbls cement on top of cement retainer.
Halliburton - 10/3/77 (See additional plugs on attached sheet)

18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED E K West TITLE Drilling Consultant DATE 10/17/77

APPROVED BY Eddie W Seay TITLE OIL & GAS INSPECTOR DATE JAN 2 1980

CONDITIONS OF APPROVAL, IF ANY:

GIFFORD, MITCHELL & WISENBAKER

Horse Back #1

Unit Letter G, 1000' FSL & 1980' FEL
Section 33, 26S, 36E
Lea County, New Mexico

Plug #8 - 4397'-4293'(104')-100 sacks Class C cement. Baber Well Service 10/13/77.
Filled hole with 10 ppg mud laden fluid.

Plug #9 - 3986'-3886'(100')-150 sacks Class C cement. Baber Well Service 10/14/77.

Plug #10 - 1497'-1359'(138')-75 sacks Class C cement.
Baber Well Service 10/15/77

Plug #11 - 10'-Surface (10')-10 sacks Class C cement - Baber Well Service 10/15/77

Cut off 13-3/8" X 13-5/8" 5000# braden head. Installed New Mexico well marker.
Filled in cellar. Removed tie downs. Work has been started toward cleaning up reserve pits.

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR: HNG Oil Company

3. ADDRESS OF OPERATOR: P. O. Box 2267, Midland, Texas 79701

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 1980' FSL & 1980' FEL, Sec. 8, T26S, R36E, NMPM

5. LEASE DESIGNATION AND SERIAL NO.: NM18644

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME: Dogie Draw Federal

8. FARM OR LEASE NAME: Dogie Draw Federal

9. WELL NO.: 1

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 8, T26S, R36E, NMPM

12. COUNTY OR PARISH: Lea

13. STATE: New Mexico

14. PERMIT NO.:

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 2907.8'

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	X
REPAIR WELL	☐	CHANGE PLANS	☐				
(Other)				(Other)			

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

12-19-74 to 3-13-75: Spotted 42 sks Cl H cmt from 20,313 to 19,563'. Set CIBP at 19,000'. Squeezed Fusselman perfs 18,410-18,430' w/200 sks Cl H. Squeezed Fusselman perfs 18,029-18,051' w/150 sks Cl H. Squeezed Devonian perfs 17,248-17,260' w/150 sks Cl H. Squeezed Strawn perfs 12,576-12,617' w/100 sks Cl H. Squeezed Bone Springs perfs 10,646-10,655' w/200 sks Cl H. 4-24-75 - Shot 9-5/8" casing at 4300' & pulled 4280' of same.

4-26-75 - Spotted 100 sks Cl H cmt 6540' to 6820'; spotted 100 sks Cl H 4818 to 5100'; spotted 100 sks Cl H 4181 to 4317'.

4-27-75 - Spotted 100 sks Cl H 3218' to 3354'; spotted 100 sks 2536' to 2672'; spotted 100 sks Cl H 1611' to 1747'; Spotted 20 sks Cl H in top of surface and installed 4" well marker. Cleaned location.

18. I hereby certify that the foregoing is true and correct

SIGNED H. G. Livingston, Jr. TITLE Petroleum Engineer DATE 5-29-75

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

ACCEPTED FOR RECORD
JUL 30 1975
U. S. GEOLOGICAL SURVEY
HOBBS, NEW MEXICO

*See Instructions on Reverse Side

APPENDIX B

IDENTIFICATION OF OPERATORS, LESSEES, SURFACE OWNERS, AND OTHER INTERESTED PARTIES WITHIN ONE (1) MILE, SAMPLE NOTICE LETTER TO INTERESTED PARTIES, AND SAMPLE PUBLIC NOTICE OF HEARING

Figure B-1:	Map of surface ownership within one mile of Titan AGI #4
Figure B-2:	Map of lessees and active operators within one mile of Titan AGI #4
Table B-1:	Summary list of all persons and interested parties to be notified of the C-108 Application
Attachment 1:	Sample notice letter to be delivered to interested parties
Attachment 2:	Sample public notice of NMOCC hearing

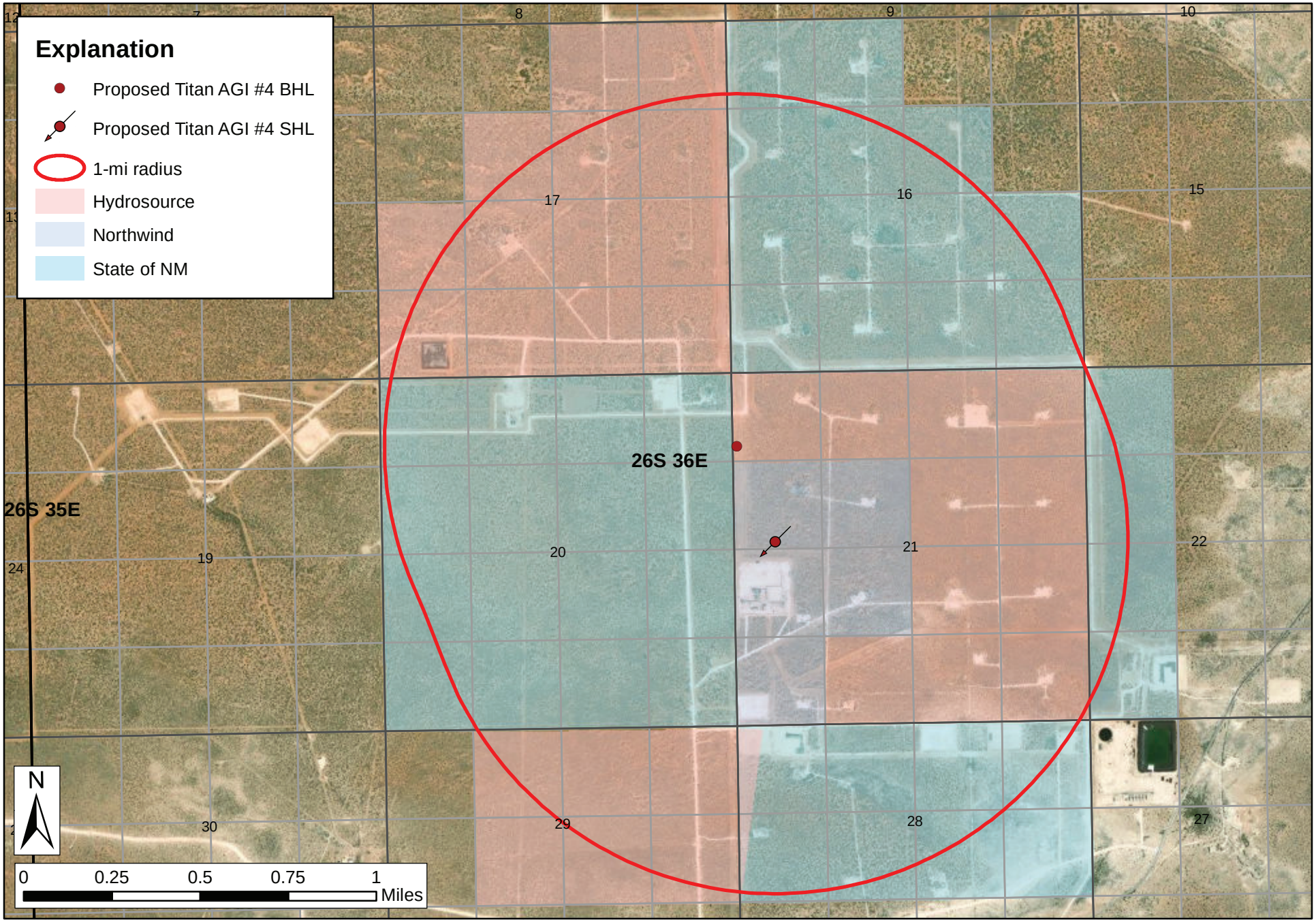


Figure B-1. Surface ownership within one mile of the proposed Titan AGI #4 well.

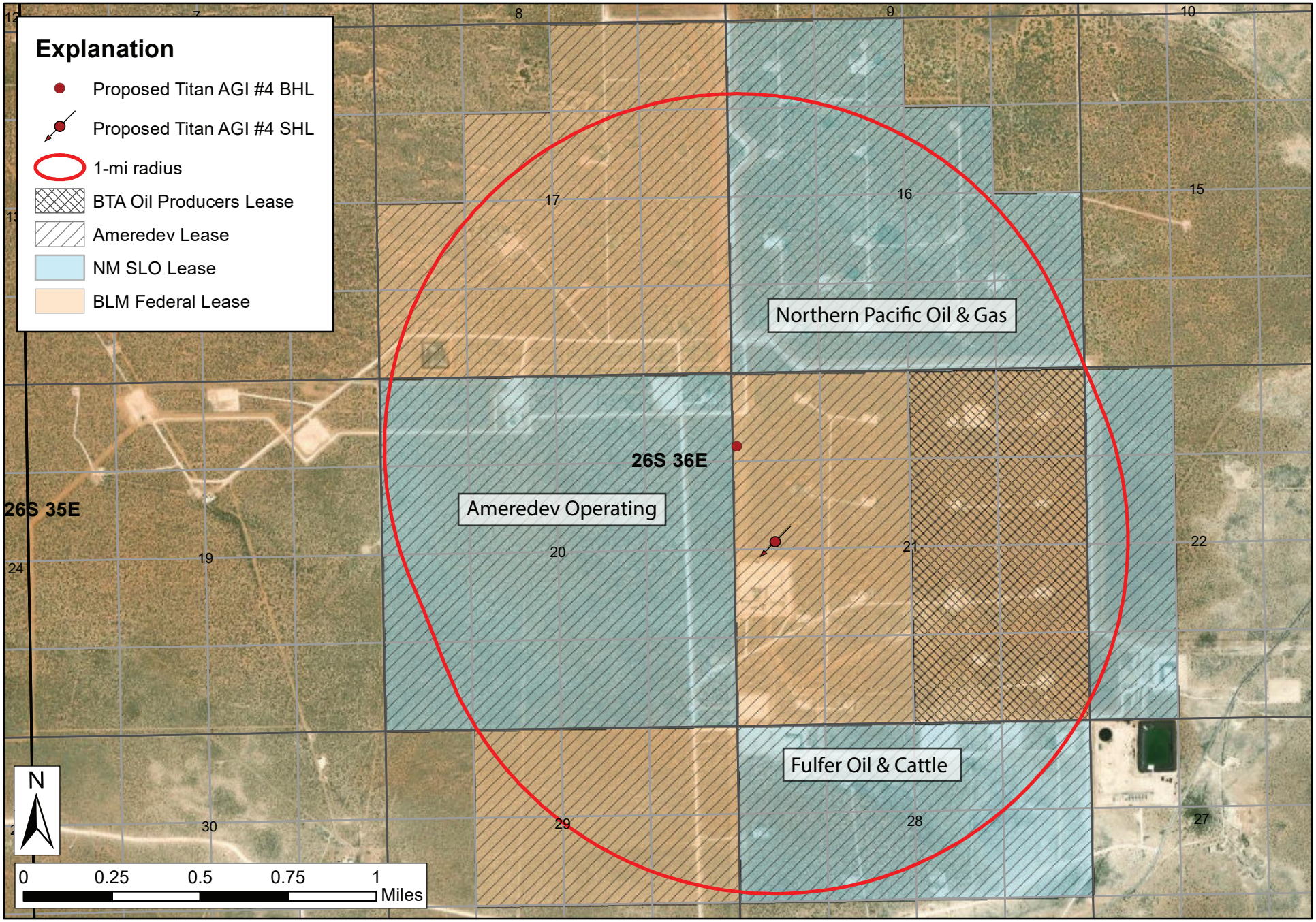


Figure B-2. Lessees, active operators, and other interested parties within one mile of the proposed Titan AGI #4 well.

TABLE B-1: INTERESTED PARTIES TO BE NOTIFIED OF C-108 APPLICATION

Surface Owners:

STATE OF NEW MEXICO
P.O. Box 1148
Santa Fe, NM 87504
(505) 827-5760

HYDROSOURCE LOGISTICS
600 N. Marienfeld St, Suite 800
Midland, TX 79701

Active Operators & Additional Leaseholders

AMEREDEV OPERATING, LLC
2901 Via Fortuna, Suite 600
Austin, TX 78746
(737) 300-4700

FULFER OIL & CATTLE, LLC
P.O. Box 1224
Jal, NM 88252
(505) 935-9970

NORTHERN PACIFIC OIL AND GAS INCORPORATED
9701 Wilshire Blvd., Suite 1000
Beverly Hills, CA 90212
(505) 738-3809

Lessees & Mineral Rights Owners

BUREAU OF LAND MANAGEMENT
301 Dinosaur Trail
Santa Fe, NM 87508
(505) 954-2000

ALLISON MARKS
New Mexico State Land Office
310 Old Santa Fe Trail
Santa Fe, NM 87504

BTA OIL PRODUCERS LLC
104 S. Pecos St
Midland, TX 79701
(432) 682-3753

AMEREDEV OPERATING, LLC
2901 Via Fortuna, Suite 600
Austin, TX 78746
(737) 300-4700

ATTACHMENT 1 – SAMPLE NOTICE LETTER

July XX, 2024

Example Notice Letter
Party to be notified
Address

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

RE: NORTHWIND MIDSTREAM PARTNERS, LLC PROPOSED TITAN AGI #4 (CASE NO. XXXXX)

This letter is to advise you that Northwind Midstream Partners, LLC (Northwind) filed the enclosed C-108 application (Application for Authorization to Inject) on XX/XX/XXXX with the New Mexico Oil Conservation Division (NMOCD) seeking authorization to drill and operate an acid gas injection (AGI) well, the Titan AGI #4 well, at their gas treatment facility in Lea County, New Mexico. The proposed Titan AGI #4 is intended to provide additional operational redundancy for acid gas injection operations and increase the total sour gas treatment capacity at the Titan Treatment Facility.

The proposed well will be drilled from a surface location of approximately 2,529 feet from the north line (FNL) and 617 feet from the west line (FWL), with a deviated wellbore and bottom-hole location approximately 1,532 feet northwest of the surface location in Section 21, Township 26 South, Range 36 East, in Lea County, New Mexico. As proposed, the Titan AGI #4 well will inject waste carbon dioxide and hydrogen sulfide into the Devonian through Fusselman geologic formations from approximately 17,570 feet to 19,130 feet. The maximum allowable surface pressure will not exceed 5,811 psig with a maximum daily injection volume of 28.8 million standard cubic feet (MMSCF) shared between Titan AGI #4 and the currently approved Salt Creek AGI #2.

This application (Case Number XXXXX) has been set for hearing before the New Mexico Oil Conservation Commission at 9:00 a.m. on XX/XX/XXXX, in the Wendell Chino Building at the NMOCD Santa Fe office located at 1220 South St. Francis Drive; Santa Fe, NM 87505. You are not required to attend this hearing, but as an interested party that may be affected by Northwind's 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 application at a later date.

A party appearing at the hearing is required by Division Rule 19.15.4.13 NMAC to file a Pre-Hearing Statement at least four (4) days in advance of the scheduled hearing, but in no event later than 5:00 p.m. Mountain Time on Thursday preceding the scheduled hearing date. This statement must be filed at the Division's Santa Fe office at the above-specified address and should include the names of the parties and their attorneys; a concise statement of the case; the names of all witnesses the party will call to testify at the hearing; the approximate time the party will need to present its case; and an identification of any procedural matters that need to be resolved prior to the hearing.

If you have any questions concerning this application, you may contact me at Geolex, Inc.®; 500 Marquette Avenue NW, Suite 1350; Albuquerque, New Mexico 87102; (505) 842-8000.

Sincerely,
Geolex, Inc.®

David A. White, P.G.
Vice President
Consultant to Northwind Midstream

Enclosure: C-108 Application for Authority to Inject

ATTACHMENT 2 – SAMPLE PUBLIC NOTICE OF HEARING

Northwind Midstream, LLC; 811 Louisiana St, Suite #2500; Houston, Texas 77022, filed Form C-108 (Application for Authorization to Inject) on XX/XX/2024, with the New Mexico Oil Conservation Division seeking authorization to drill, complete, and operate its proposed acid gas injection (AGI) well, the Titan AGI #4, which is intended to serve as a redundant well option and increase the sour-gas treatment capacity at the Titan Treatment Facility. Titan AGI #4 will be drilled as a deviated well from a surface hole located at approximately 2,529 feet FNL, 617 feet FWL and the bottom hole located approximately 1,532 feet northwest of the surface hole in Section 21, T26S, R36E in Lea County, New Mexico, approximately 7.5 miles southwest of Jal, New Mexico. Northwind seeks authorization to inject up to 28.8 million standard cubic feet (MMSCF) per day of treated acid gas at a maximum pressure of 5,811 psig into the Devonian to Fusselman formations through an open hole completion between approximately 17,570 feet and a total depth of approximately 19,130 feet. The proposed volume of 28.8 MMSCF per day reflects a proposed total capacity shared with the currently approved Salt Creek AGI #2 well.

This application (Case Number XXXXX) has been set for hearing before the New Mexico Oil Conservation Commission at XX:XX a.m. on XX/XX/2024, in the Wendell Chino Building at the New Mexico Oil Conservation Division's Santa Fe office located at 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505. Interested parties that may be affected by Northwind's application may appear and present testimony by filing a Pre-Hearing Statement with the Division's Santa Fe office at the above-specified address at least four days in advance of the scheduled hearing date. Additional information can be obtained from the applicant's agent, Geolex, Inc.®; 500 Marquette Avenue NW; Suite 1350; Albuquerque, New Mexico 87102; (505)842-8000.

APPENDIX C

REQUEST LETTERS FOR PERMISSION TO SAMPLE AND ANALYZE GROUNDWATER AND PROOF OF MAILING

GEOLEX®
INCORPORATED

David A. White, P.G.

July 8, 2024

NGL South Ranch, Inc. VIA CERTIFIED MAIL
Attn: Jim Winter
6120 S. Yale Avenue, Suite 1300
Tulsa, OK 74136

RE: WATER WELL (J00025 POD1) STATUS INQUIRY AND REQUEST FOR GROUNDWATER SAMPLE

To Whom it May Concern:

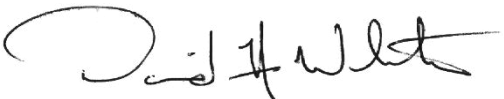
On behalf of Northwind Midstream Partners, LLC (Northwind), we (Geolex, Inc.®) are contacting you in the hopes that you may provide us with information regarding the current operational status of a water well in which you are documented as the owner of record. If the current state of the well permits, we respectfully request permission to collect and analyze a groundwater sample from this well.

As recorded in the files of the New Mexico Office of the State Engineer, the well file number is J 00025 POD 1 and the well has a recorded location within the NE/4 of the NE/4 of Section 29, Township 26 South, Range 36 East. The approximate geographic coordinates are 32.020951, -103.280668 (NAD83).

Northwind is requesting permission to sample and analyze groundwater from this well in order to provide the New Mexico Oil Conservation Division with required groundwater data in the area of their proposed Class II injection well, the Titan AGI #4. The proposed well is to be located in the SW/4 of the NW/4 in Section 21 of Township 26 South, Range 36 East.

If you have any questions concerning this inquiry or would like to further discuss our request, you may contact me at (505) 842-8000 at Geolex, Inc.®; 500 Marquette Avenue NW, Suite 1350; Albuquerque, New Mexico 87102.

Sincerely,
Geolex, Inc.®



David A. White, P.G.
Vice President – Consultant to Northwind Midstream

P:\24-011 Northwind Well Permitting AGI #4\C-108 Application\Appendices\Appendix C\GW_Sample_Request.docx

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS, FOLD AT DOTTED LINE

CERTIFIED MAIL®

7016 1970 0000 8250 7791

7016 1970 0000 8250 7791

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

OFFICIAL USE

Certified Mail Fee
$

Extra Services & Fees *(check box, add fee as appropriate)*
- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total Postage and Fees
$

Postmark Here

24-011

Sent To
NGL South Ranch, ATTN: Jim Winter

Street and Apt. No., or PO Box No.
6120 S. Yale Avenue, Suite 1300

City, State, ZIP+4®
Tulsa OK 74136

PS Form 3800, April 2015 PSN 7530-02-000-9047 — See Reverse for Instructions

---

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to: 24-011

NGL South Ranch, Inc
ATTN: Jim Winter
6120 S. Yale Avenue, #1300
Tulsa, OK 74136

9590 9402 7960 2305 2500 50

2. Article Number *(Transfer from service label)*
7016 1970 0000 8250 7791

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X
☐ Agent
☐ Addressee

B. Received by *(Printed Name)* | C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☒ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053 — Domestic Return Receipt