

**BEFORE THE OIL CONSERVATION COMMISSION
EXAMINER HEARING MARCH 20, 2025**

CASE No. 24881

TITAN AGI #4 WELL

LEA COUNTY, NEW MEXICO



**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. 24881
ORDER NO. R-20913-D, AS AMENDED**

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EXHIBIT A

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

APPLICATION OF NORTHWIND
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APPROVAL OF AN ADDITIONAL
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CASE NO. 24881
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: 

Michael H. Feldewert
Adam G. Rankin
Paula M. Vance
Post Office Box 2208
Santa Fe, New Mexico 87504-2208
(505) 988-4421
(505) 983-6043 Facsimile
mfeldewert@hollandhart.com
agrarkin@hollandhart.com
pmvance@hollandhart.com

**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

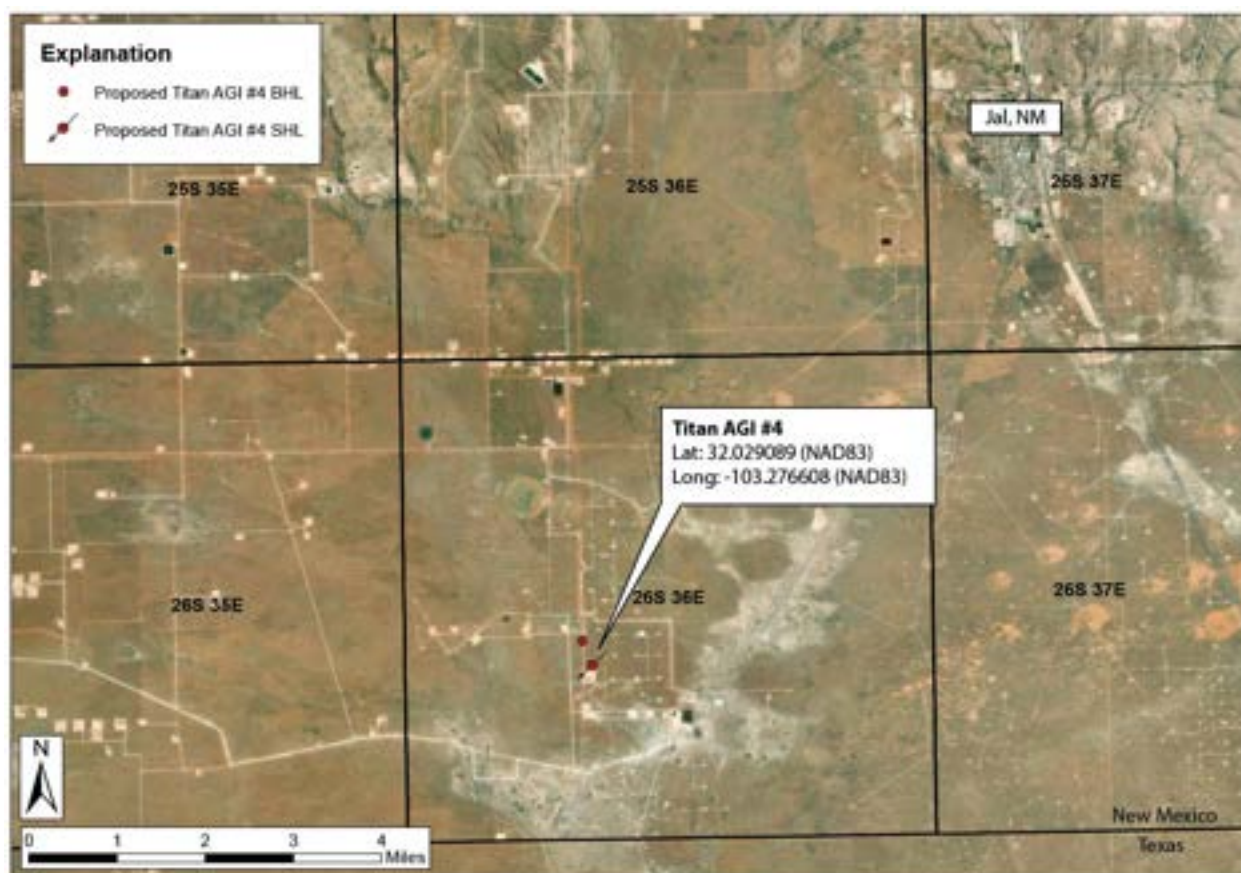


APPLICATION FOR UIC CLASS II AGI WELL

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:

Northwind Midstream Partners, LLC
811 Louisiana Street, Suite 2500
Houston, Texas 77002
(713) 351-0700

Prepared by:

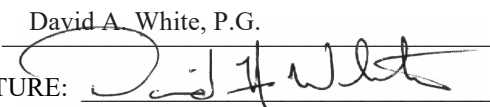
Geolex, Inc.[®]
500 Marquette Ave NW, Suite 1350
Albuquerque, New Mexico 87102
(505) 842-8000

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:
- Proposed average and maximum daily rate and volume of fluids to be injected; **Sections 1, 2, 3**
 - Whether the system is open or closed; **Sections 1, 2, 4**
 - Proposed average and maximum injection pressure; **Sections 1 & 3**
 - Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, **Sections 3 & 4**
 - 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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Appendix C: Request to Sample and Analyze Groundwater from Existing Water Well

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 (CO₂) and approximately 20% hydrogen sulfide (H₂S), with trace concentrations (less than 1%) of hydrocarbons (C₁-C₇). 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 (CO₂) and approximately 388 tons of hydrogen sulfide (H₂S) 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 CO₂ 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 overlie 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 NMOC 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.)
<i>Proposed Casing Schedule</i>							
Conductor	36	30	118	-	Welded	0	120
Surface	26	24	186.4	X-56	XLF	0	2,120
1 st Intermediate	22	18.625	137	Q125	BTC	0	3,660
2 nd Intermediate	17.5	13.625	88.2	Q-125HC	BTC	0	5,590
3 rd Intermediate	12.25	9.625	47	L-80HC	BTC	0	9,360
3 rd 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
<i>Proposed Injection Tubing</i>							
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'
1 st Intermediate	1	Lead: EconoCem HLC Tail: HalCem C	Lead: 1,332 Tail: 384	Lead: 12.9 Tail: 14.8	0' – 3,660'
2 nd 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	
3 rd 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 H₂S-CO₂ 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 H₂S and CO₂. 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 ₂ S) | 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% CO₂ and 20% H₂S. 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:

$$SG_{Tag} = 0.7381$$

$$D_{Top} = 17,570 \text{ feet}$$

Therefore:

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

$$PG = 0.3307$$

And

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

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

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 ₂ S	CO ₂	H ₂ S	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 ₂ S	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 Wrysten 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 CO₂ 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	<u>6.72</u>	-	207	233	73	-	336	7.3
W.D. Dinwiddie	26S-33E-3	180	<u>8.72</u>	-	306	110	57	-	436	7.3
City of Jal	25S-37E-19	500	<u>55</u>	170	376	280	71	0.4	338	-
City of Jal	25S-37E-19	450	<u>34</u>	175	264	286	54	0.5	262	-
El Paso Nat. Gas	25S-37E-20	70	<u>102</u>	77	150	145	168	7.6	386	-
El Paso Nat. Gas	25S-37E-20	47	<u>7.96</u>	-	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% H₂S and 80% CO₂ 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
<i>Stress</i>				
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
<i>Hydrologic</i>				
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
<i>Material properties</i>				
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 x 10 ⁻¹⁰	0	Pa ⁻¹	Standard Value
Rock Compressibility	1.08 x 10 ⁻⁹	0	Pa ⁻¹	Standard Value
<i>Acid gas @ 240 °F, 7,965 psi</i>				
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.

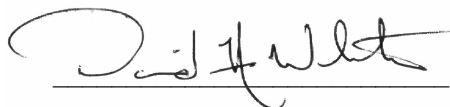
Upon issuance of an NMOCC hearing date to consider the matter of Northwind's application, all interested parties identified will be provided with written notice of the associated NMOCC hearing and will be provided complete copies of the Form C-108 application. Appendix B includes an example notification 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

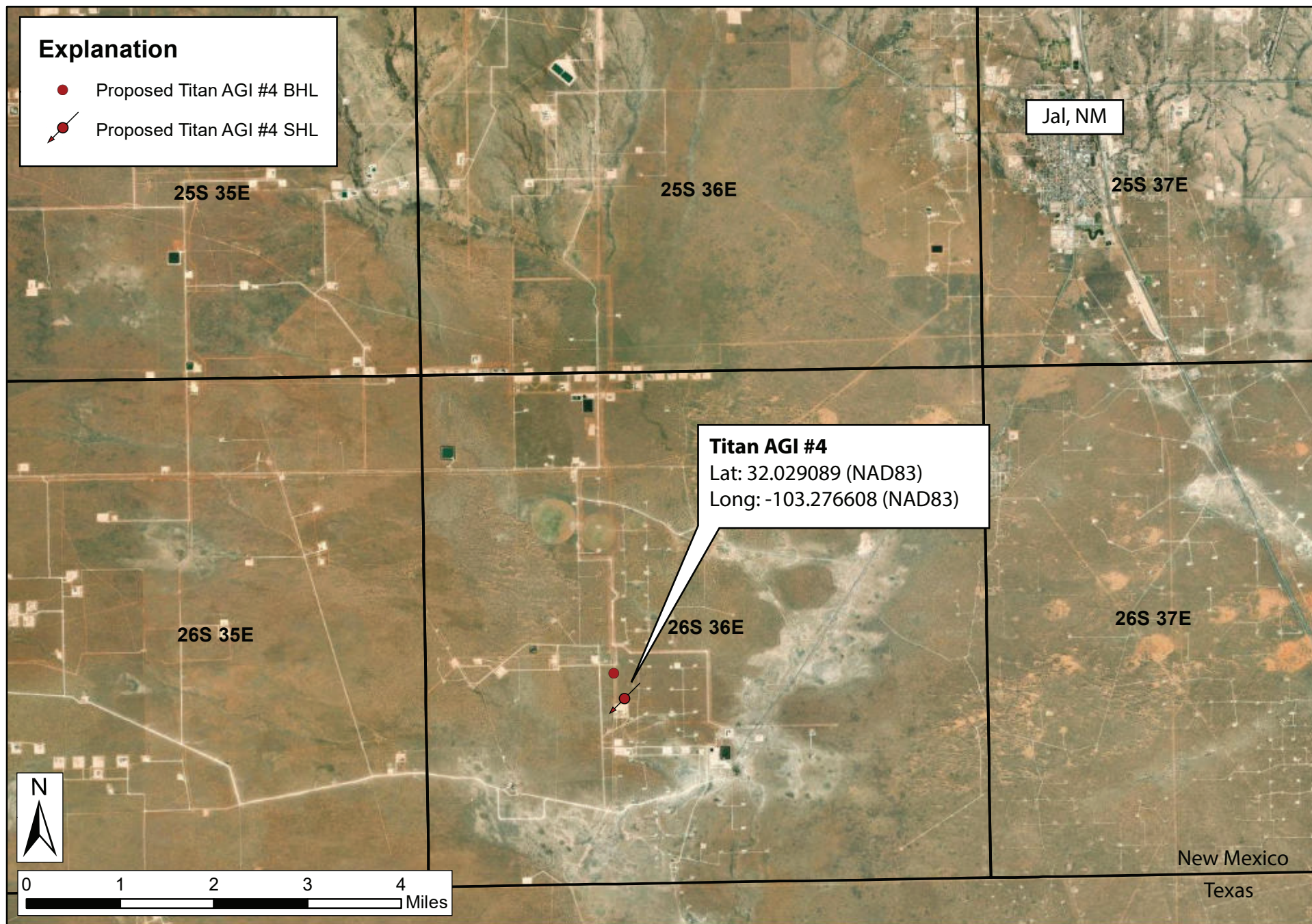


Figure 1. General location map for the proposed Titan AGI #4 well, approximately seven (7) miles southwest of Jal, NM.

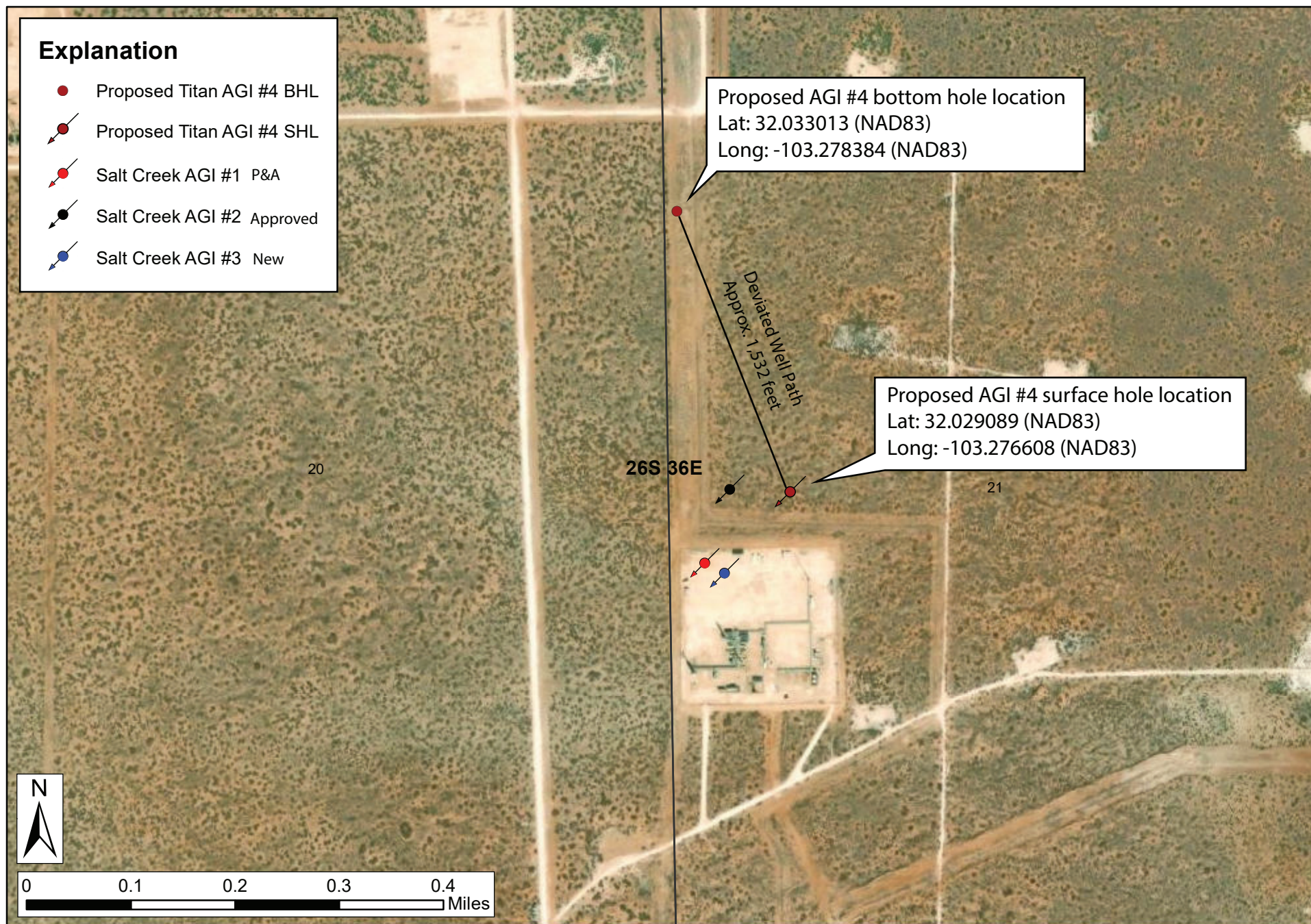


Figure 2. Aerial photographic location map showing Northwind facility, surface locations of the Titan Facility AGI wells, and the proposed surface and bottom-hole location of Titan AGI #4.

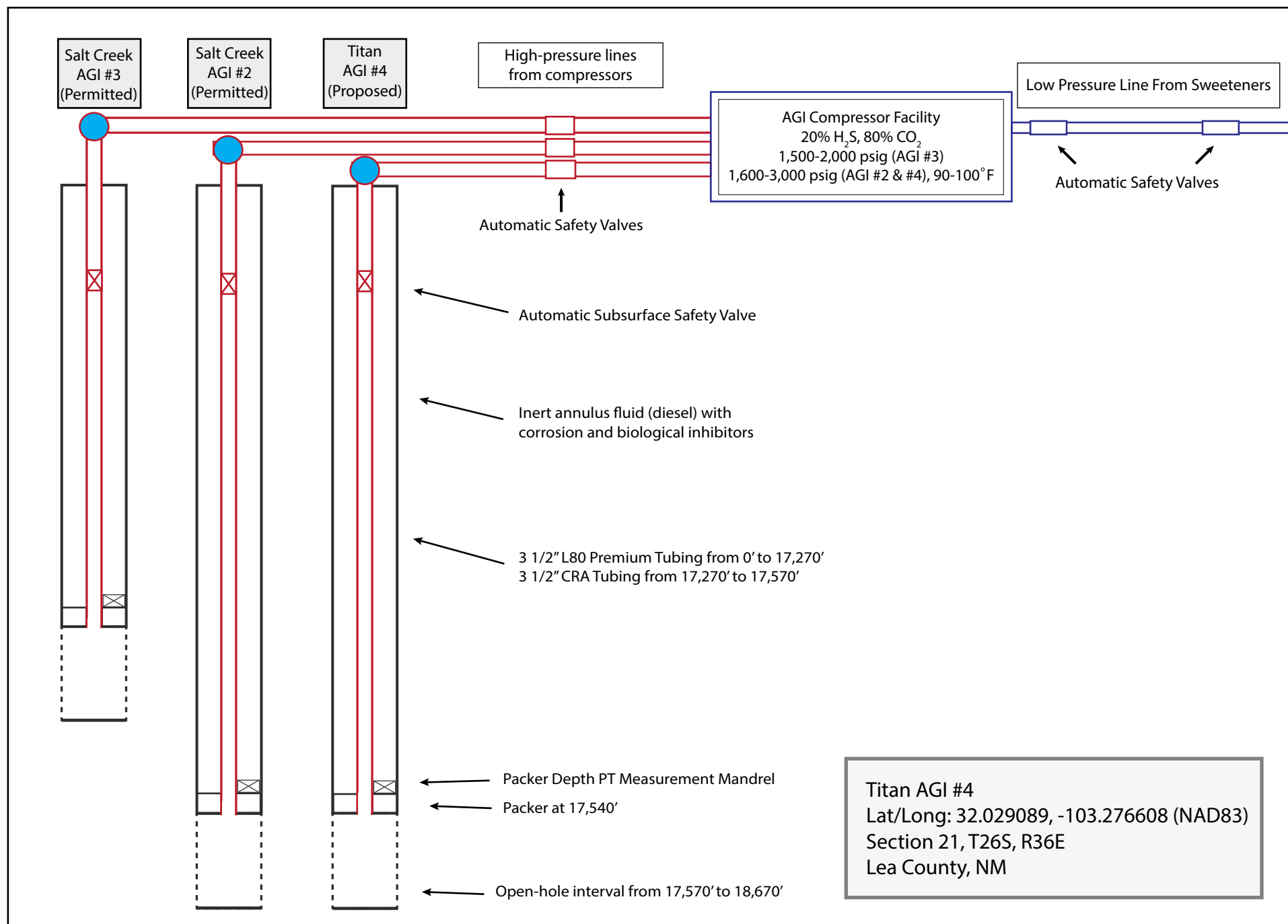


Figure 3. Schematic of Northwind surface facilities and associated AGI wells.



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

GEOLEX
INCORPORATED

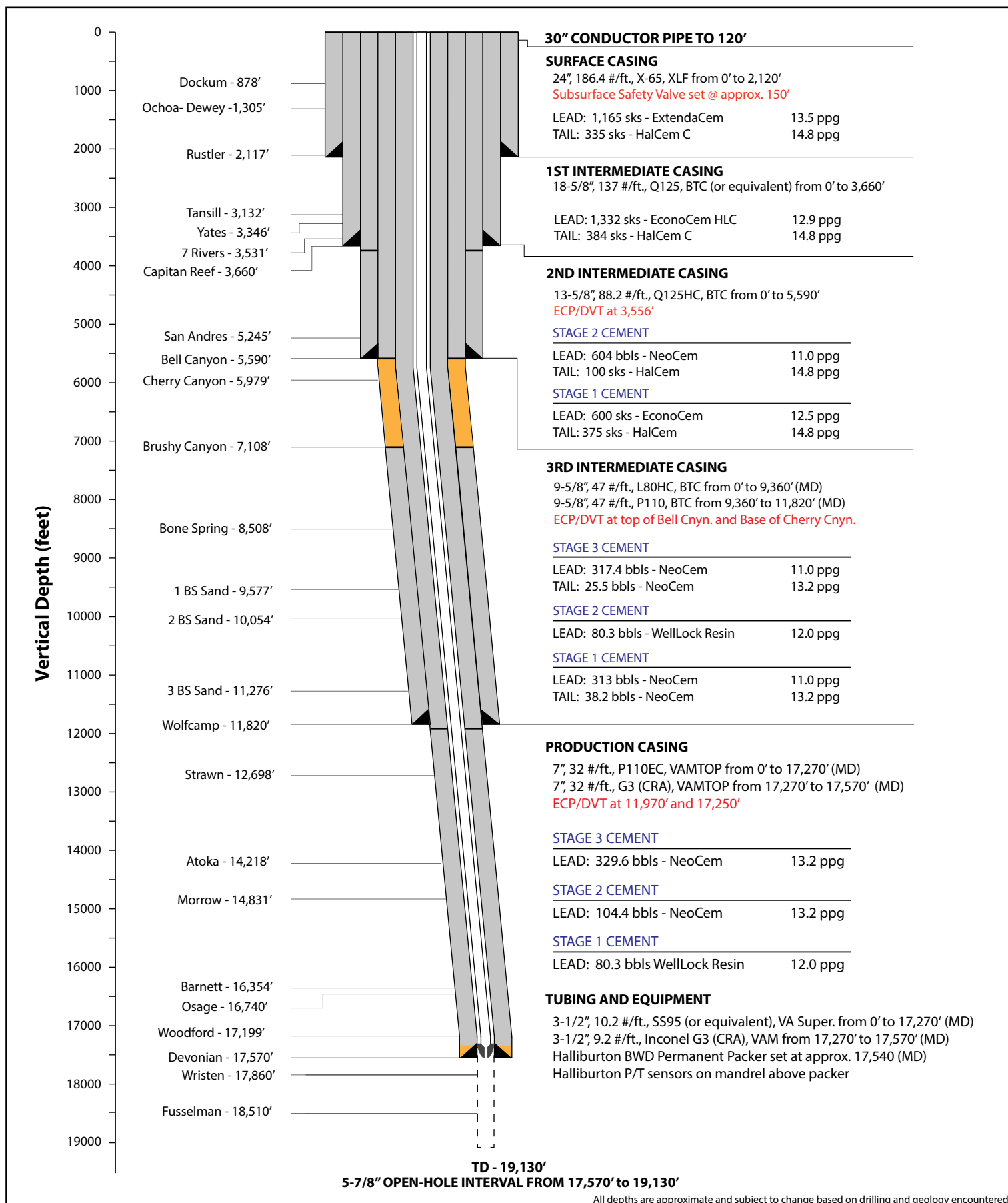


Figure 4. Proposed Titan AGI #4 well schematic.

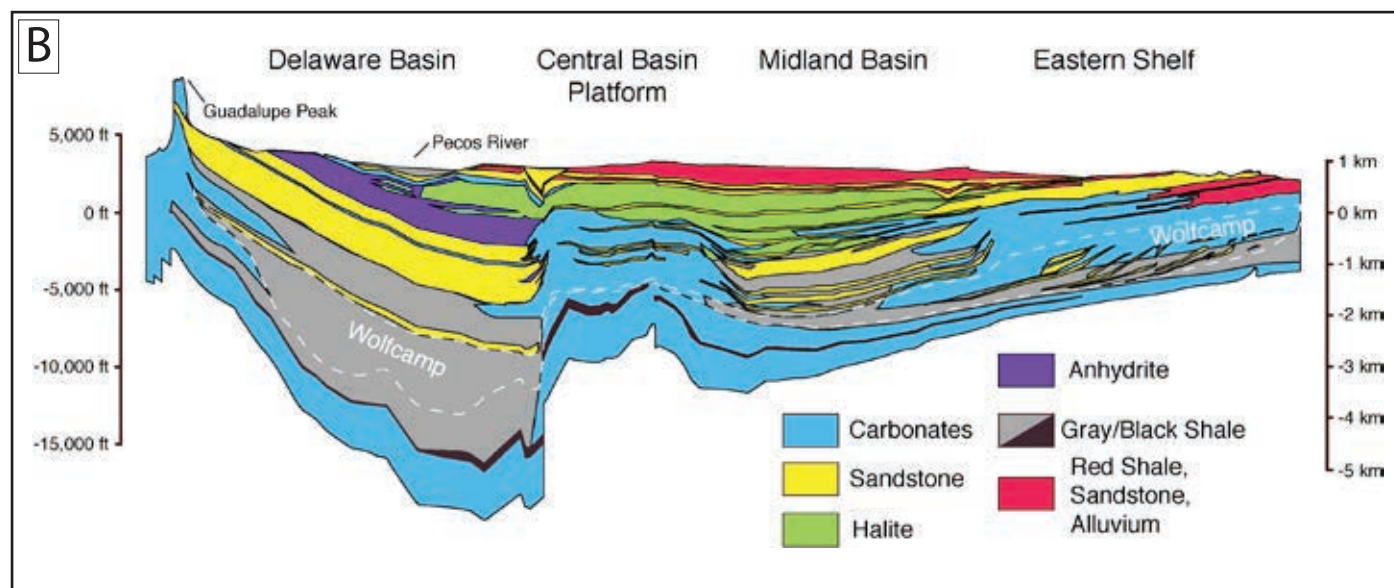
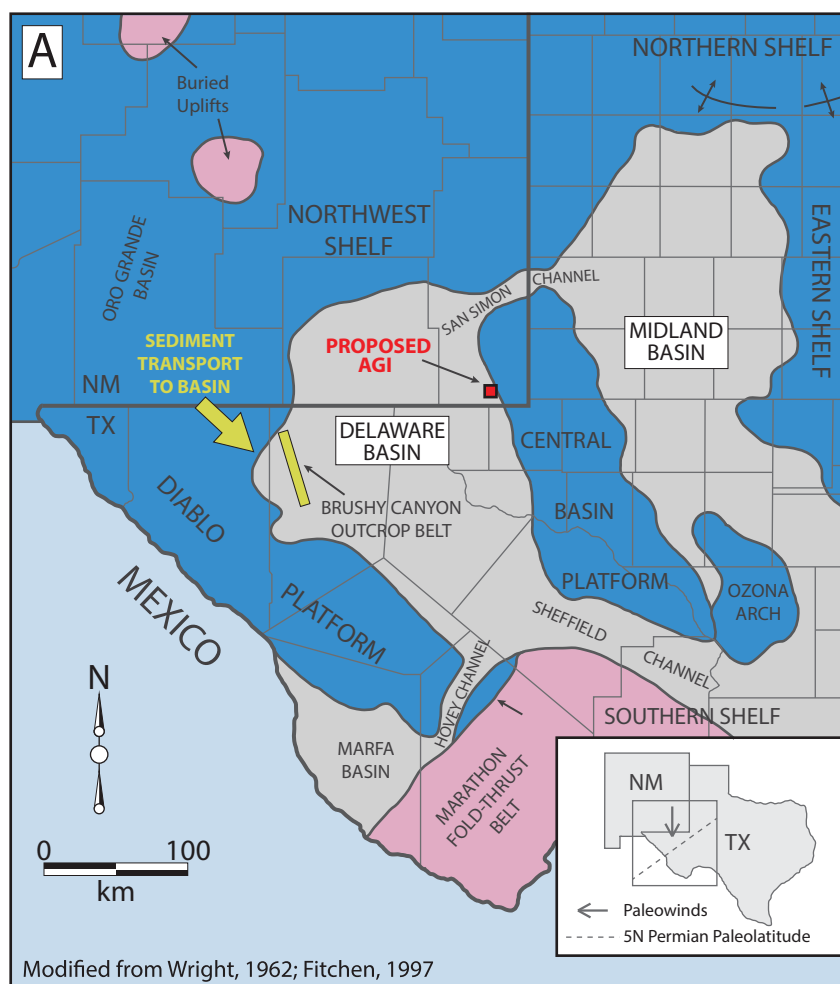


Figure 5. Structural setting (panel A) and general lithology (panel B) of the Permian Basin

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 CLEARFORK YESO WICHITA ABO	TANSILL YATES SEVEN RIVERS QUEEN GRAYBURG SAN ANDRES GLORIETA CLEARFORK WICHITA	TANSILL YATES SEVEN RIVERS QUEEN GRAYBURG SAN ANDRES SAN ANGELO LEONARD SPRABERRY, DEAN	DELAWARE MT. GROUP BELL CANYON CHERRY CANYON BRUSHY CANYON	TANSILL YATES SEVEN RIVERS QUEEN GRAYBURG SAN ANDRES
	LEONARDIAN				★ 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 — BEND —	(ABSENT) — BEND —	(ABSENT ?) — BEND —	★ MORROW — BEND —	(ABSENT)
MISSISSIPPIAN	CHESTERIAN MERAMECIAN OSAGEAN KINDERHOOKIAN	CHESTER MERAMEC OSAGE KINDERHOOK	CHESTER MERAMEC OSAGE "BARNETT"	CHESTER MERAMEC OSAGE "BARNETT"	CHESTER MERAMEC OSAGE "BARNETT"	MERAMEC OSAGE "BARNETT"
DEVONIAN		WOODFORD DEVONIAN	KINDERHOOK WOODFORD DEVONIAN	KINDERHOOK WOODFORD DEVONIAN	KINDERHOOK WOODFORD DEVONIAN	KINDERHOOK WOODFORD 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).

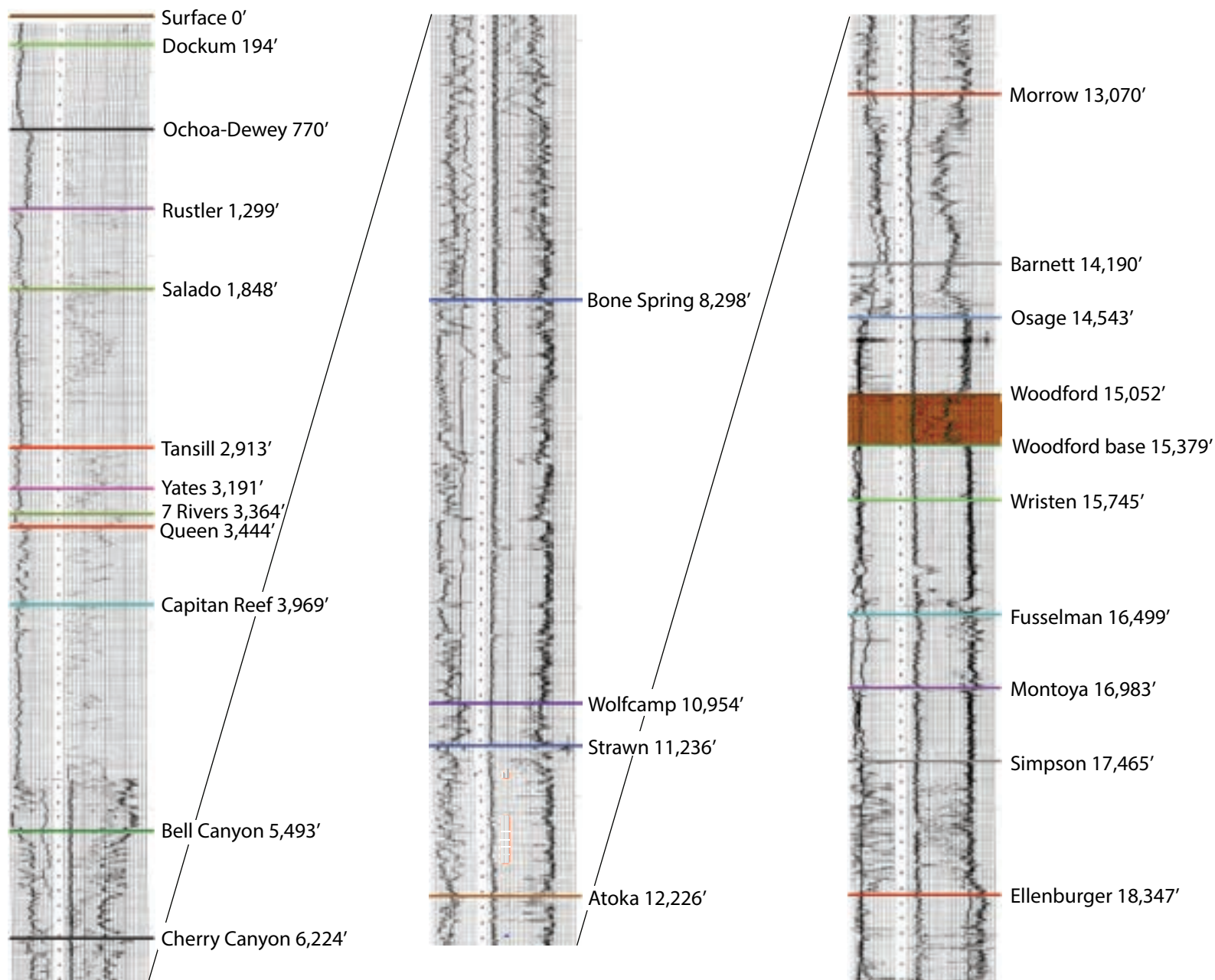


Figure 7. Interpreted type log from nearby index well (30-025-25046) showing anticipated formation tops in the area of the proposed Titan AGI #4.

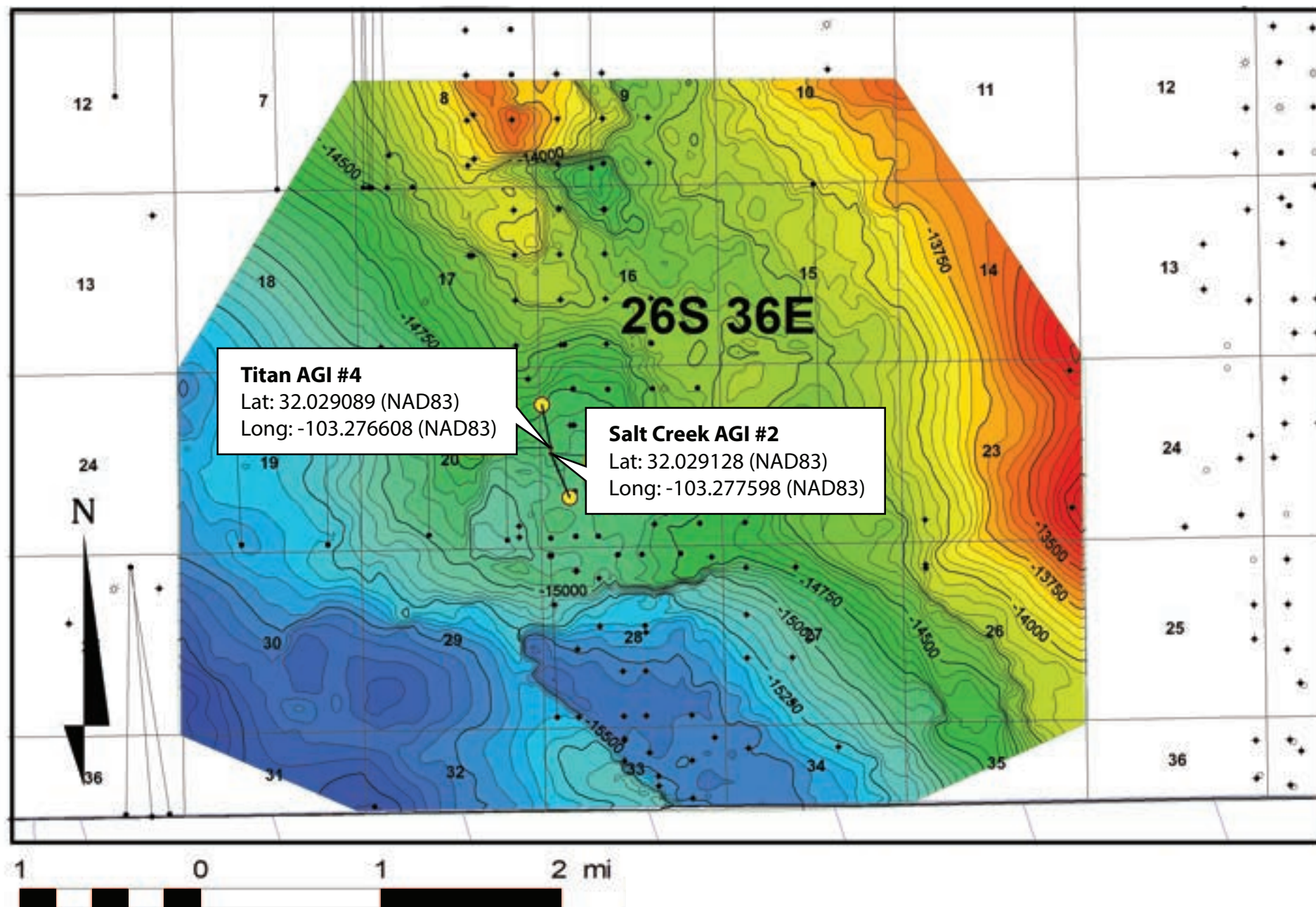


Figure 8. Structure contour map showing the top of the Siluro-Devonian target reservoir.

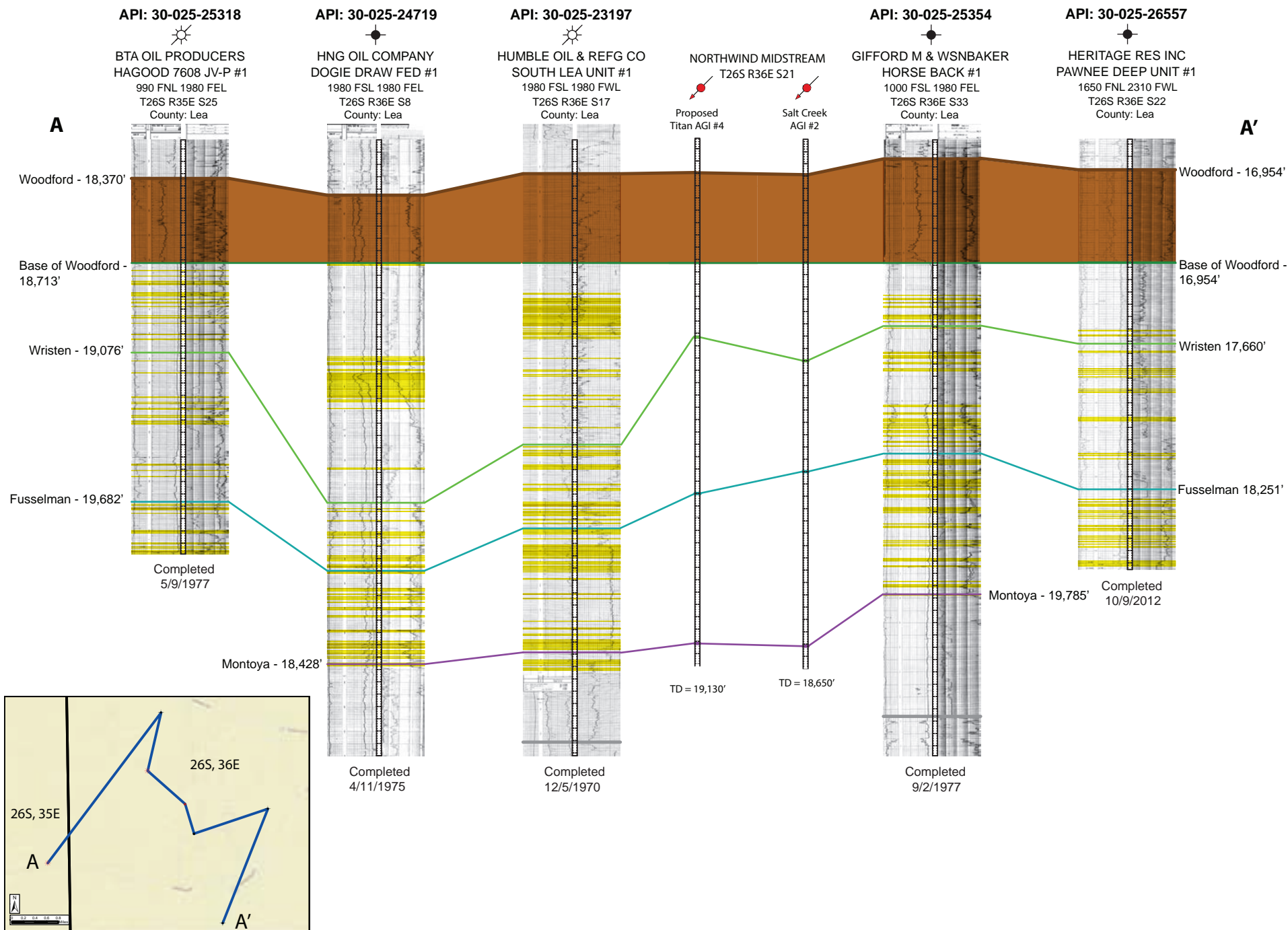


Figure 9. Structural cross section A-A' showing porosity zones correlated from nearby wells within the proposed injection interval.

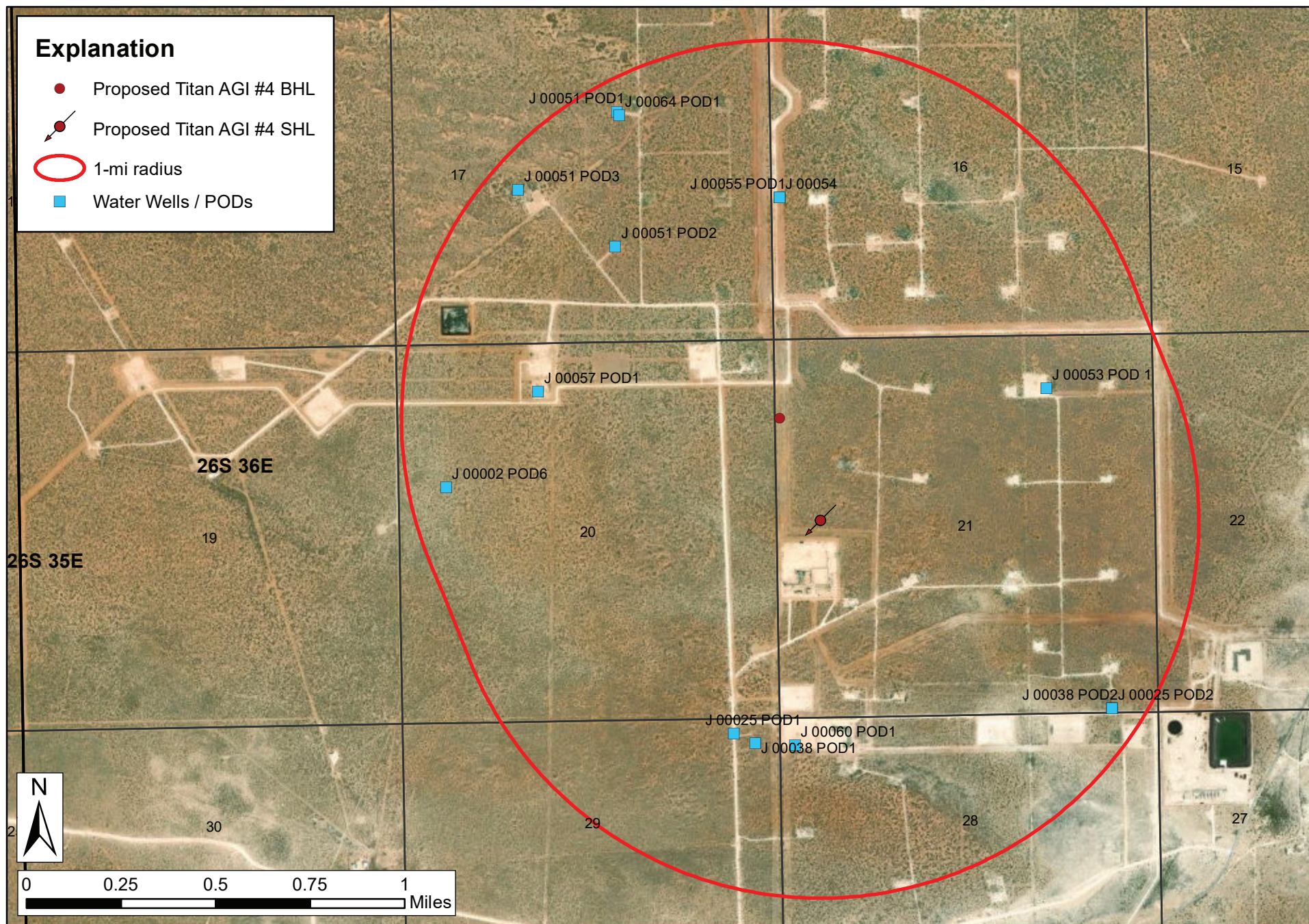


Figure 10. Water wells or points of diversion within one mile of the surface and bottom hole location of the proposed AGI #4 well.

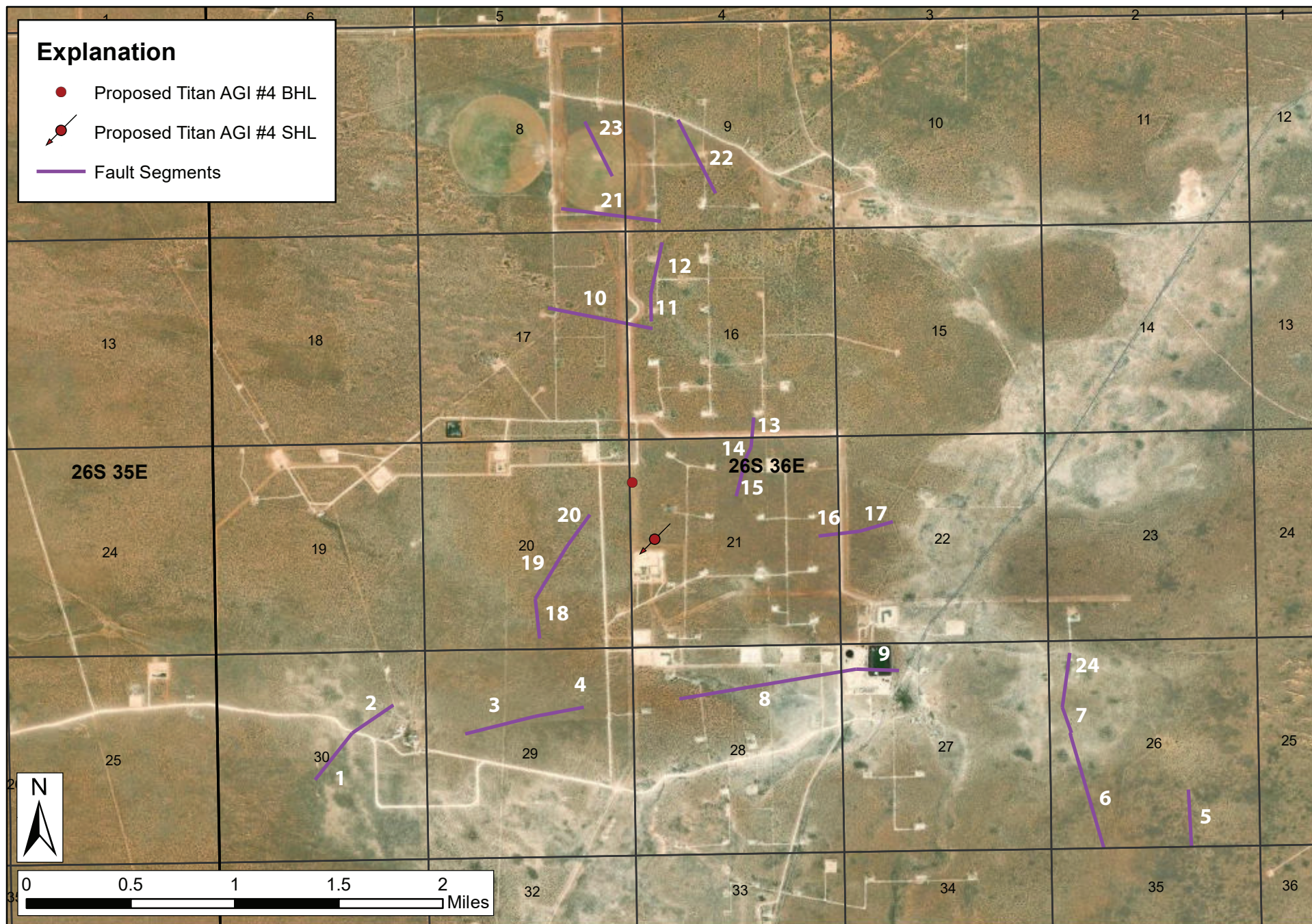


Figure 11. Subsurface fault features interpreted from 3D seismic survey data in the area of the proposed AGI well, comprised of 24 fault segments and are annotated for reference in ECD simulation results in Section 4.0 in the text.

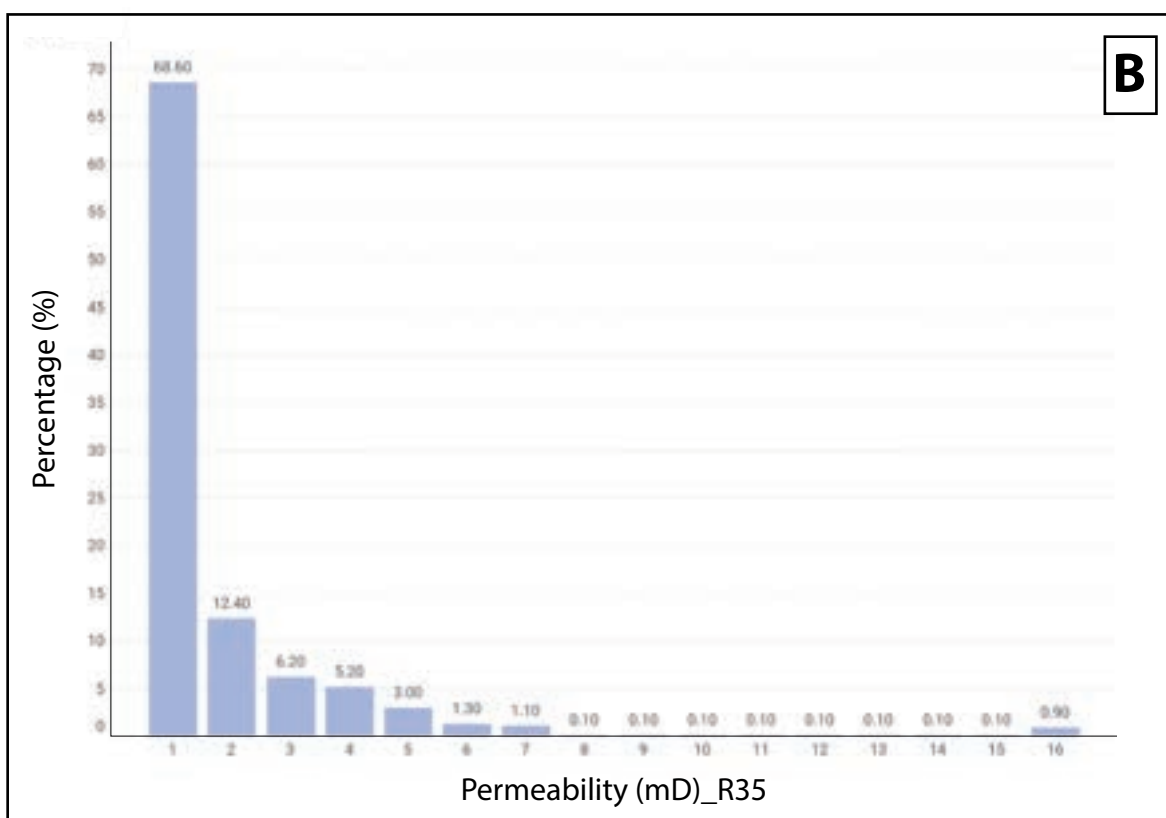
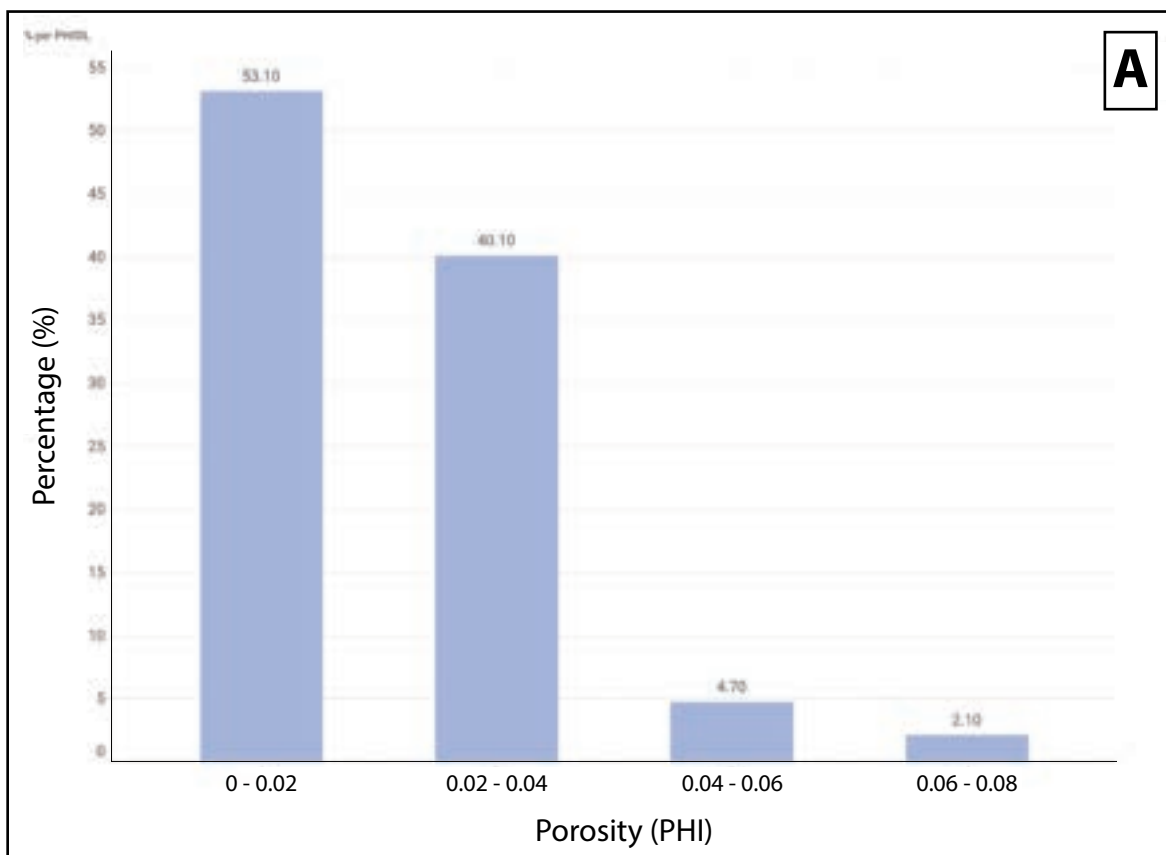


Figure 12. Petrel geomodel porosity (Panel A) and permeability (Panel B) distributions, generated from available offset well data and impedance distribution.

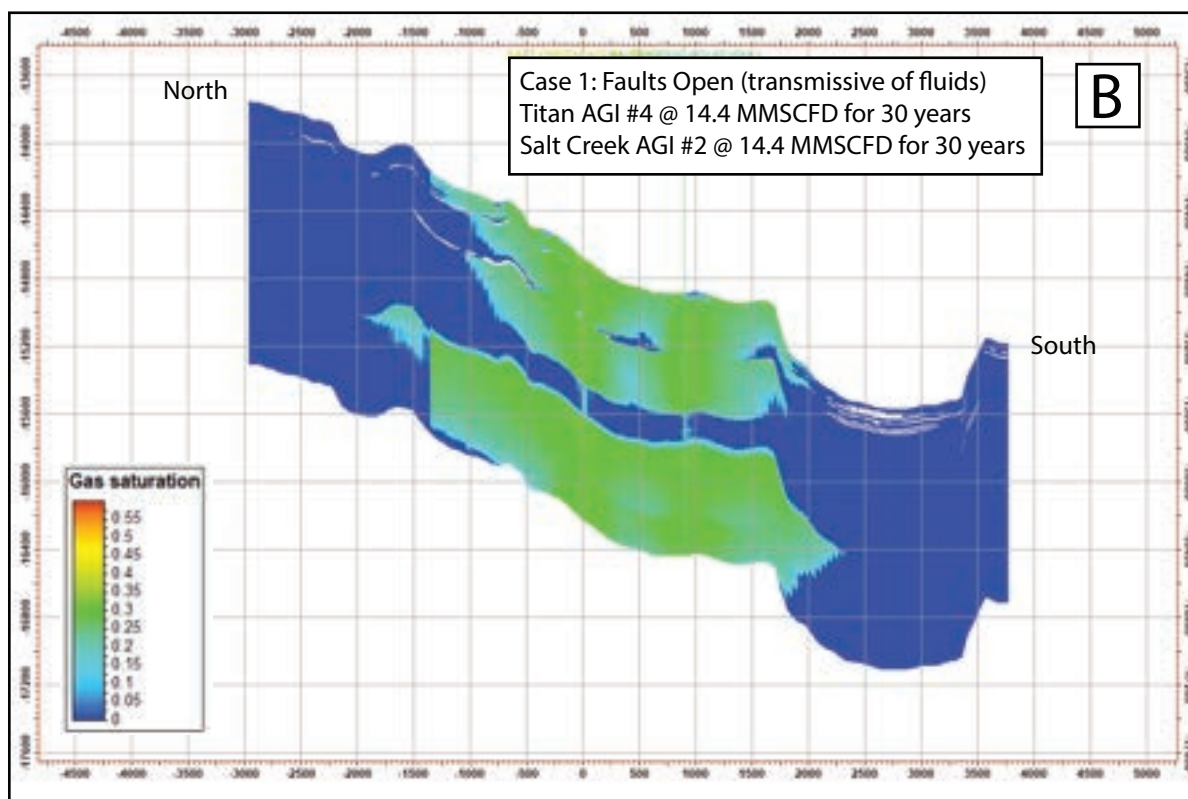
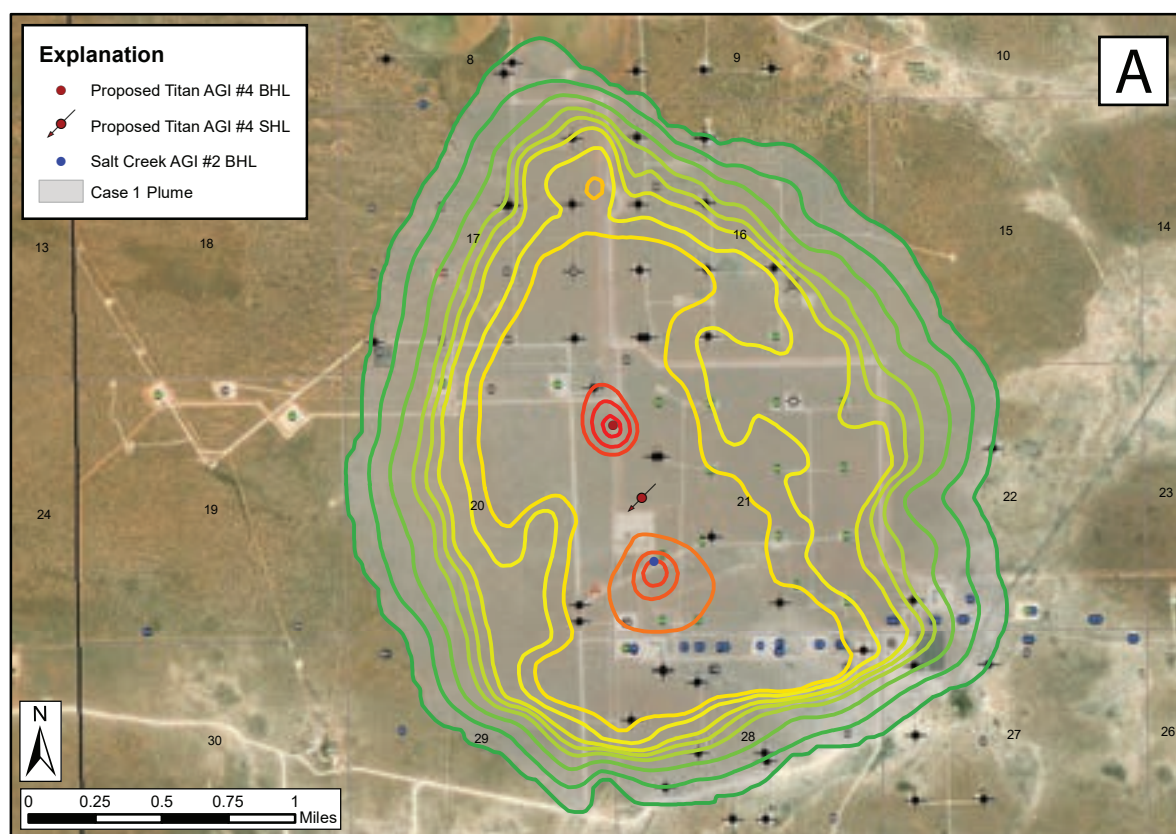


Figure 13. Summary of Eclipse simulation results for Case 1 (faults transmissive of fluids) showing gas saturation contours after 30 years of injection.

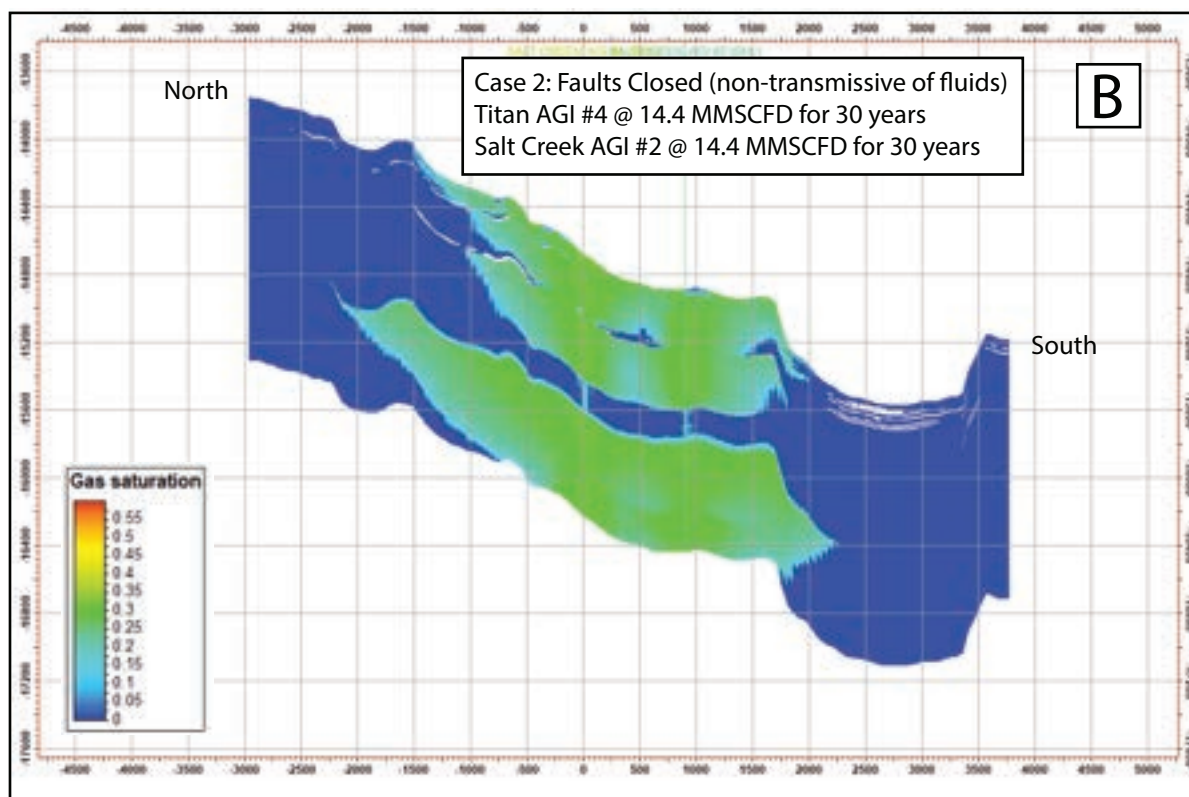
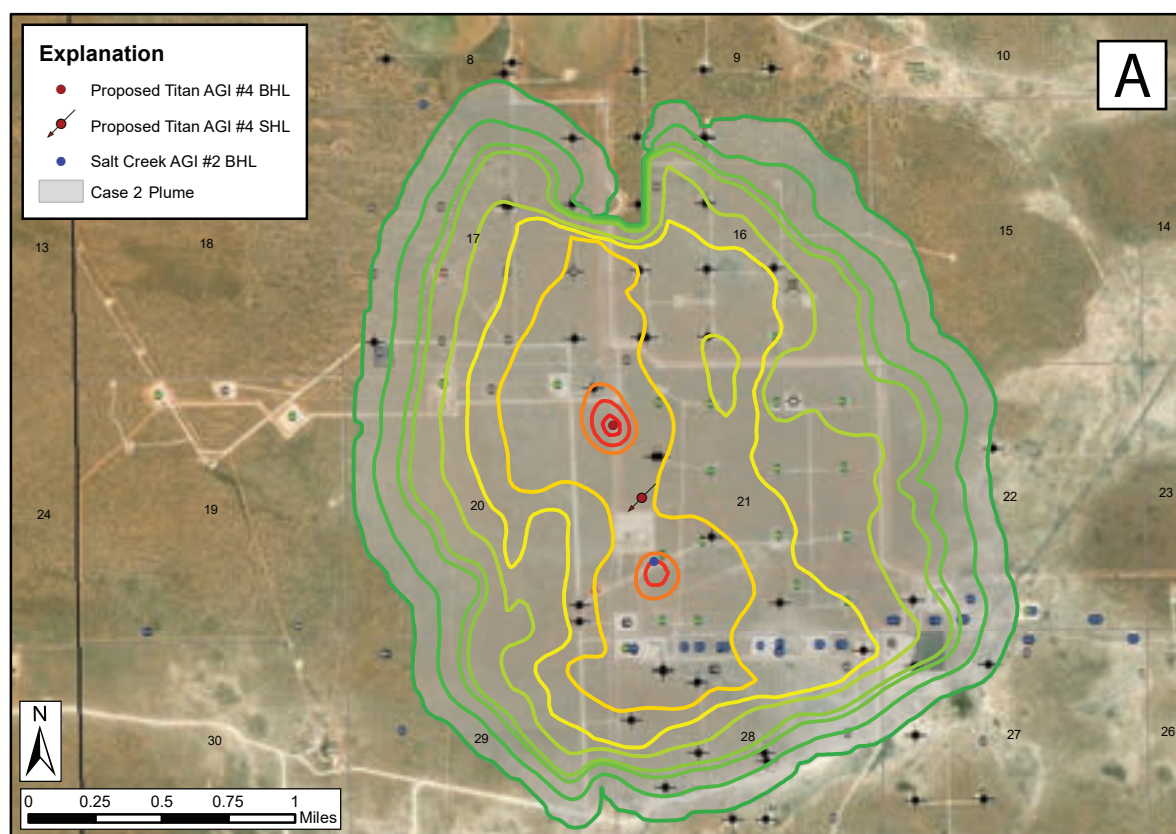


Figure 14. Summary of Eclipse simulation results for Case 2 (faults non-transmissive of fluids) showing gas saturation contours after 30 years of injection.

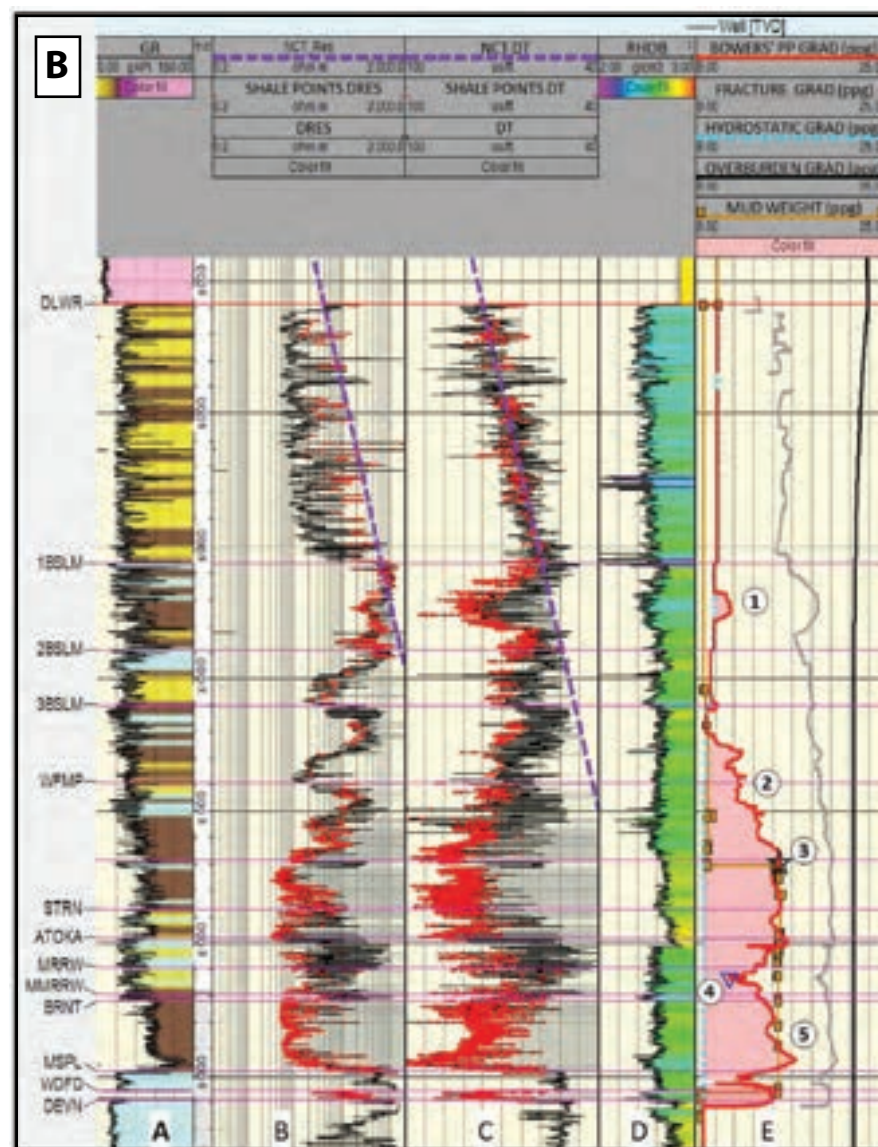
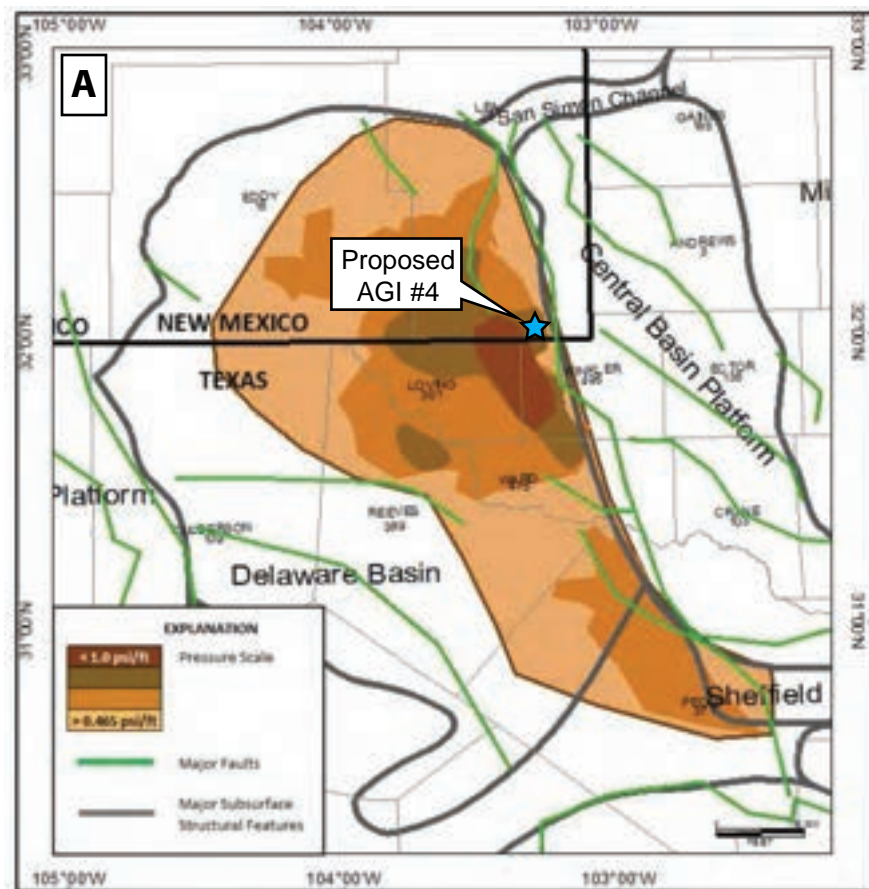


Figure 15. Mapped extent of present day overpressure in the Delaware Basin (Panel A) and example log response (Panel B) illustrating stratigraphic onset of over-pressured intervals and associated drilling fluid densities (modified from Rittenhouse et al., 2016).

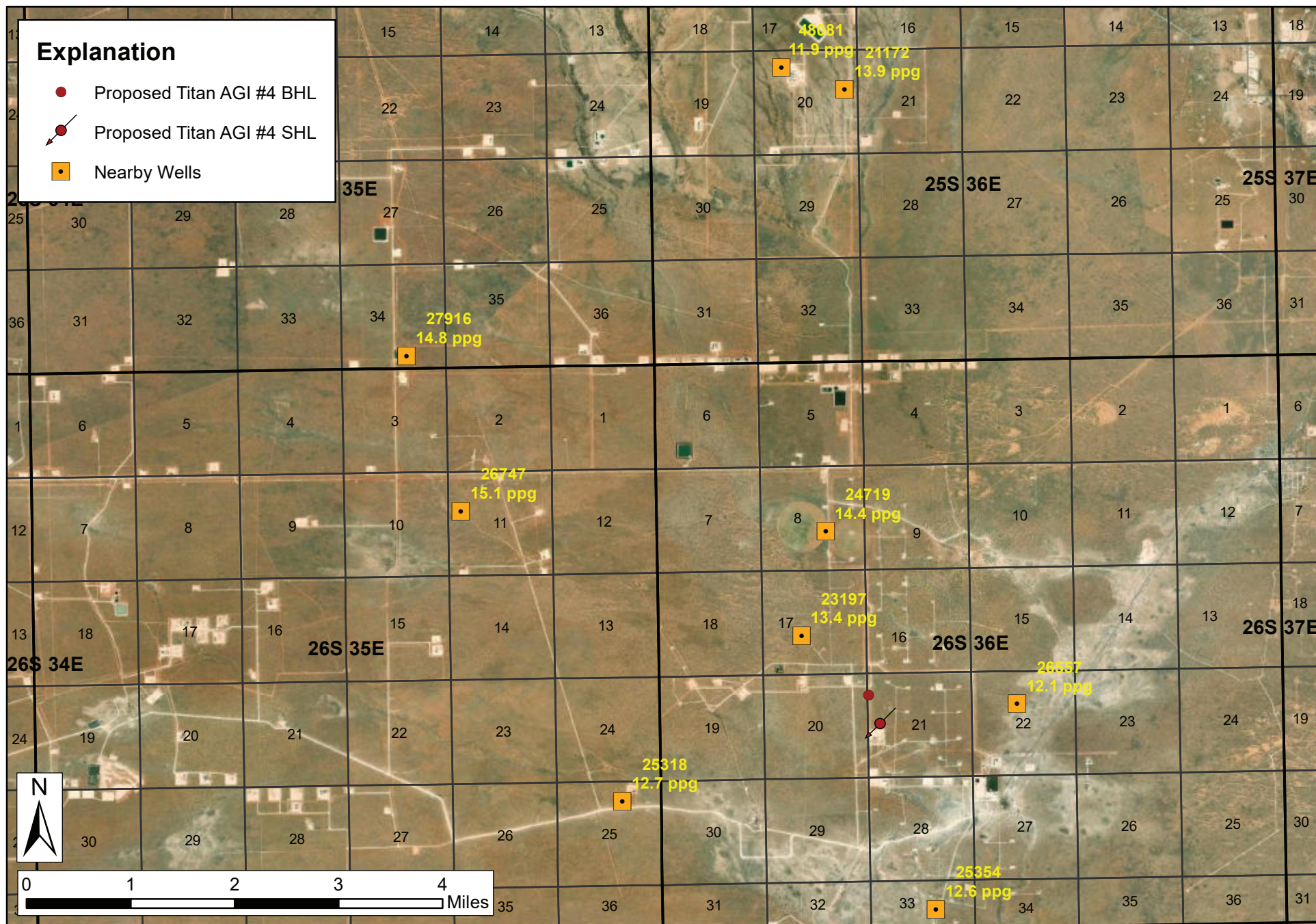


Figure 16. Location map summarizing drilling fluid weights utilized while drilling through overlying productive intervals and strata directly above the proposed injection zone. Labels denote the last five digits of API #30-025-XXXXX.

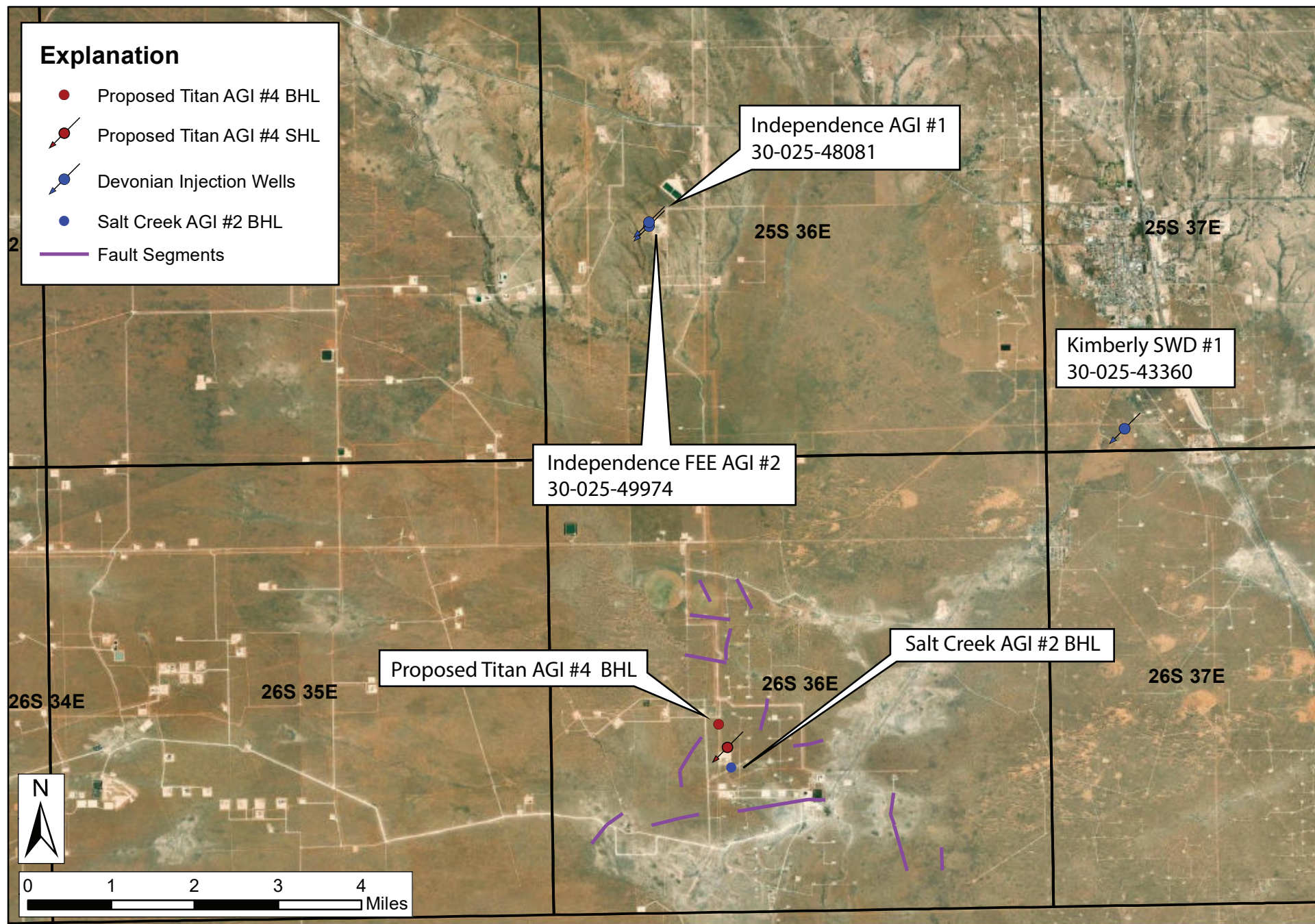


Figure 17. Siluro-Devonian injection wells and subsurface fault features in vicinity of the proposed Titan AGI #4 well.

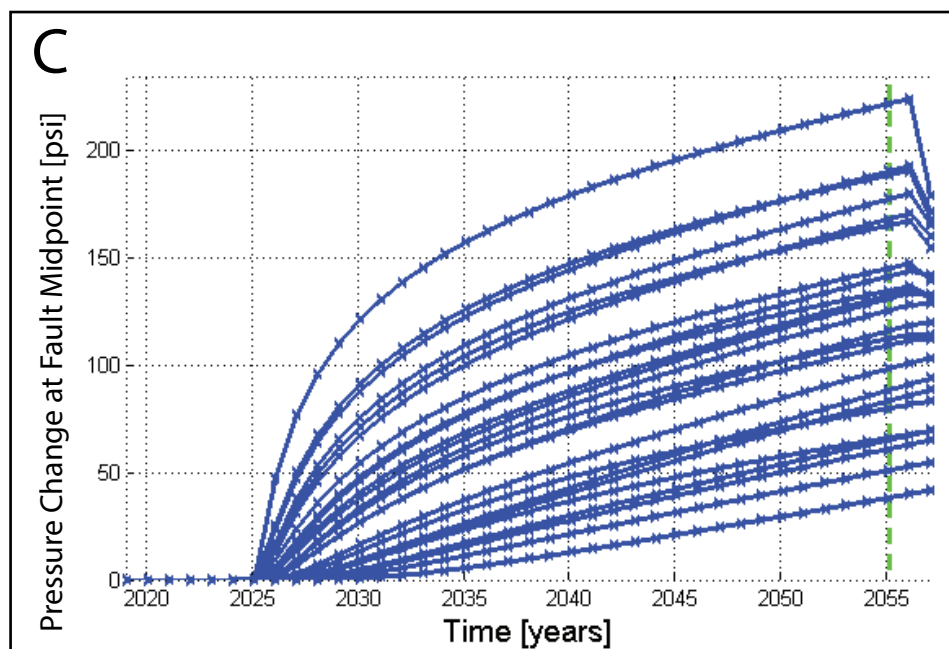
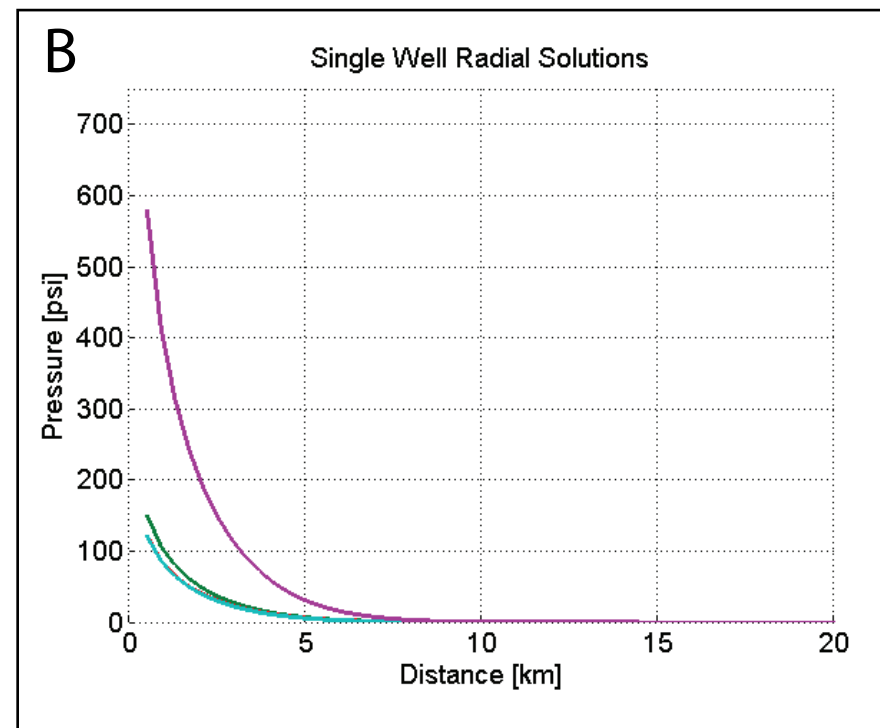
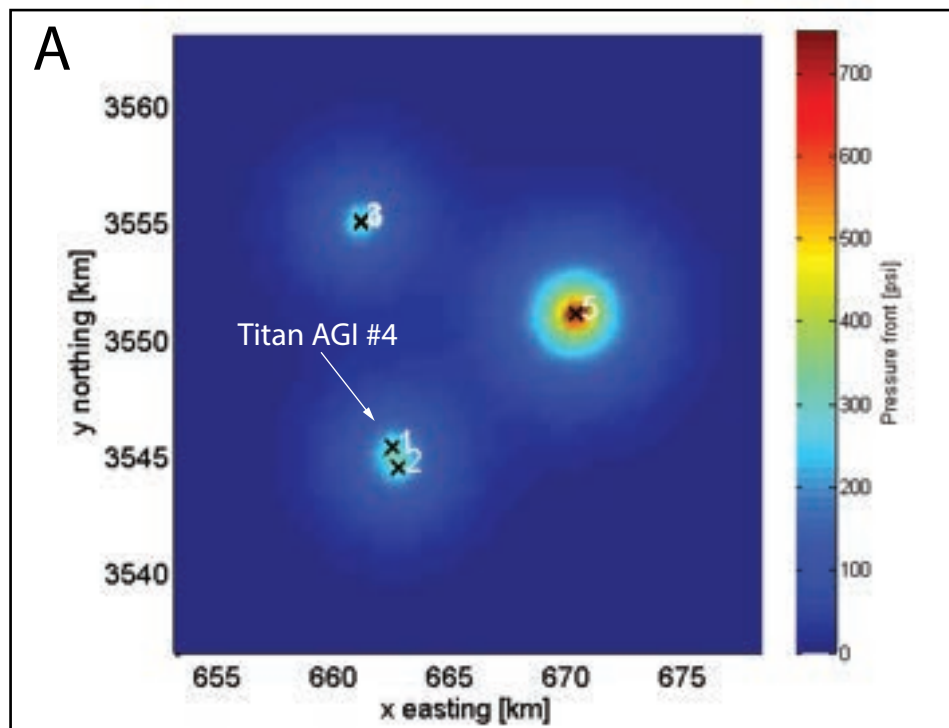


Figure 18. Summary of FSP model-predicted pressure front effects in the year 2055, resulting from injection activities of nearby wells that are actively injecting within the Siluro-Devonian formations.

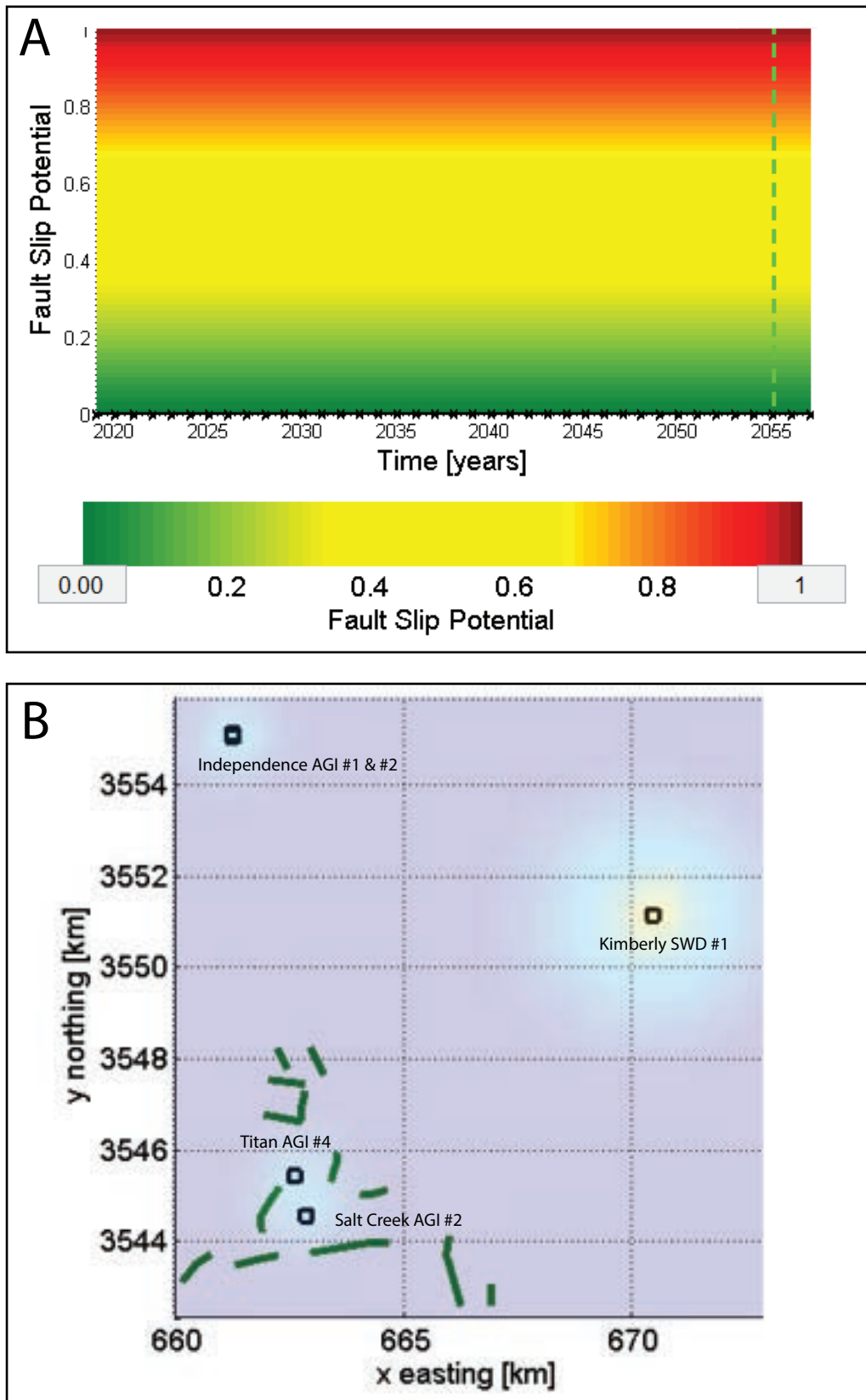


Figure 19. Model-predicted fault slip potential after 30 years of injection operations at maximum daily injection volume conditions (panel A). Proposed injection operations will have little impact on faults in the area and indicate no risk of increasing the likelihood of induced seismicity (panel B).

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

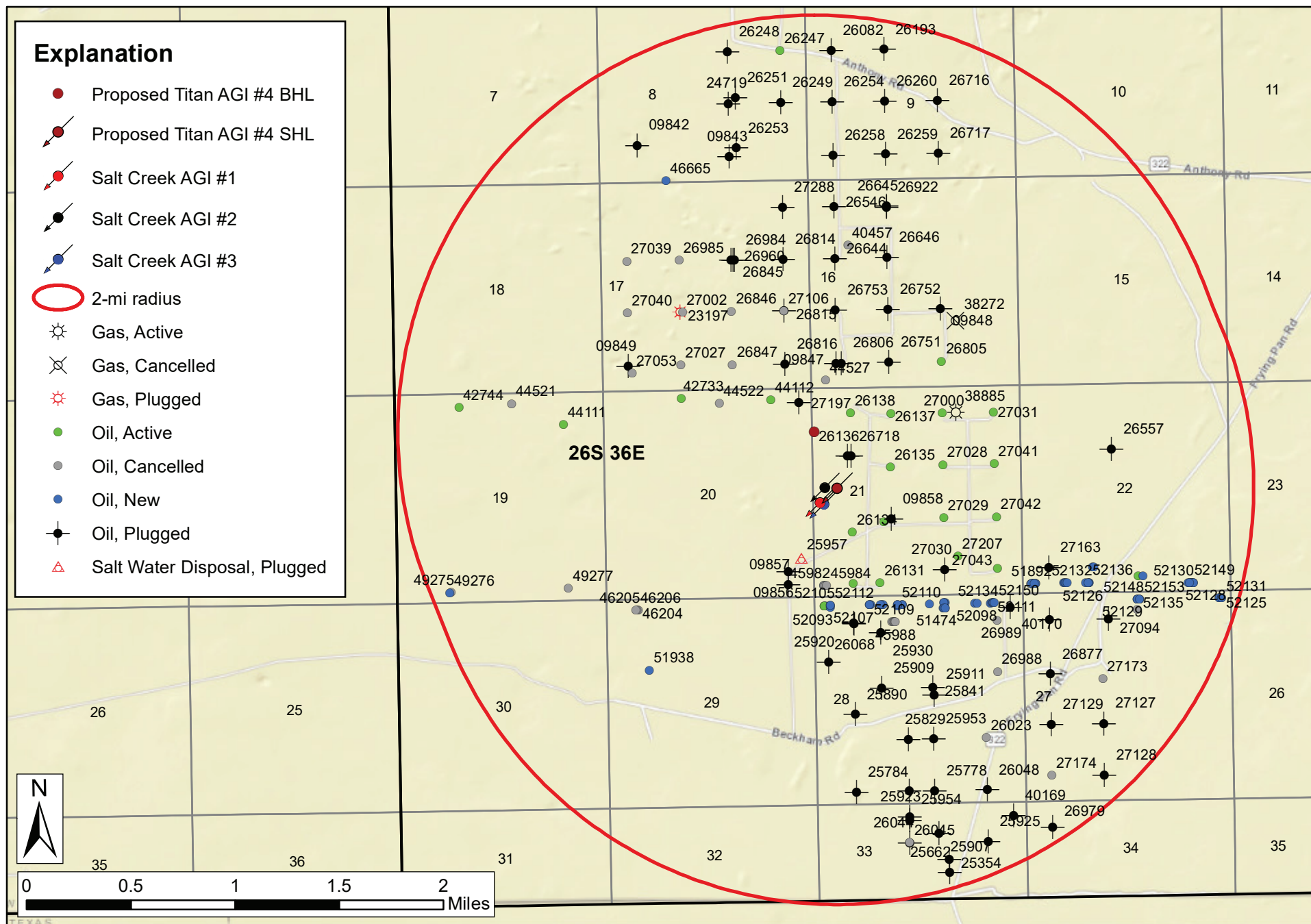


Figure A-1. All wells within two miles of the proposed Titan AGI #4 well.

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	8/23/2005
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.**

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. NMNM18644
2. Name of Operator ENERGEN RESOURCES CORPORATION Contact: BRENDA F RATHJEN Email: brenda.rathjen@energen.com		6. If Indian, Allottee or Tribe Name
3a. Address 3510 NORTH "A" STREET BLS A & B MIDLAND, TX 79705	3b. Phone No. (include area code) Ph: 432-688-3323	7. If Unit or CA/Agreement, Name and/or No.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 17 T26S R36E Mer NMP NESW 1980FSL 1980FWL		8. Well Name and No. SOUTH LEA FEDERAL 001
		9. API Well No. 30-025-23197
		10. Field and Pool, or Exploratory PAWNEE STRAWN; 97040
		11. County or Parish, and State LEA COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NAT

TYPE OF SUBMISSION	OTHER DATA		
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> INJECTION
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture	<input type="checkbox"/> RBDMS
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> TA
	<input type="checkbox"/> Change Plans	<input checked="" type="checkbox"/> Plug and Abandon	<input type="checkbox"/> CHG LOC
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> P&A R
		<input type="checkbox"/> 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 recompleate 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 recompleation 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.

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

12-17-15

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	
Approved By	Title
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.	Date
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.	Office

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

Form 3160-5
(April 2004)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB 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.

1. Type of Well Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/>		5. Lease Serial No. NMNM18644
2. Name of Operator Energen Resources Corporation		6. If Indian, Allottee or Tribe Name
3a. Address 3510 N. 'A' St, Bldg A&B Midland, TX 79705		7. If Unit of CA / Agreement, Name and/or No.
3b. Phone No. (Include area code) 432-688-3323		8. Well Name and No. South Lea Federal 001
4. Location of (Footage, Sec., T., R., or Survey Description) Sec 17 T26S R36E Mer NMP NESW 1980 FSL 1980FWL		9. API Well No. 30-025-23197
		10. Field and Pool, or Exploratory Area Pawnee Strawn; 97040
		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			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other _____
	<input type="checkbox"/> Change Plans	<input checked="" type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> 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 Frathen - Energen Resources - Regulatory Analyst - 7/13/15 432-688-3323	Title P&A Tech
Signature Greg Bryant	Date 6/20/15
THIS SPACE FOR FEDERAL OR STATE OFFICE USE	
Approved by	Title
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.	

ACCEPTED FOR RECORD

DEC 9 2015

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

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/ 2½" 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/ 2½" 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/ 2½" 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/ 6 1/2" 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 10%. RDMO

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

Energy, Minerals and Natural Resources

May 27, 2004

HOBBS OCD

JUN 19 2014

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO. 30-025-26557
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. LG 3340
7. Lease Name or Unit Agreement Name Pawnee Deep Unit
8. Well Number 1
9. OGRID Number 289348
10. Pool name or Wildcat Bone Spring

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.)

1. Type of Well: Oil Well ☒ Gas Well ☐ Other2. Name of Operator
Heritage Resources, Inc.3. Address of Operator 3131 McKinney, Avenue, Suite 710
Dallas, Texas 75204

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 ☒ TA _____
TEMPORARY ☒ NEW WELL _____
PULL OR LOC CHG _____ON ☐☐☐☐

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 NMOC guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.SIGNATURE Walter L. Brown TITLE General Manager DATE 6/2/14

Type or print name

E-mail address:

Telephone No.

For State Use Only

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

Conditions of Approval (if any):

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

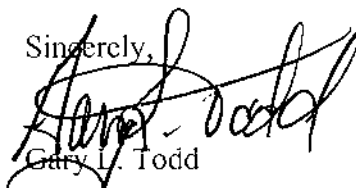
Re: OCD Form C-103
Pawnee Deep Unit #1
API #30-205-26557
Section 22, T-26-S, R-36-E,
Lea County, New Mexico

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,

A handwritten signature in black ink, appearing to read "Gary L. Todd", is written over the typed name.

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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OPERATOR	

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

Form C-105
Revised 1-1-65

5a. Indicate Type of Lease State <input checked="" type="checkbox"/> Fee <input type="checkbox"/>
5. State Oil & Gas Lease No. L6379

10. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> DRY <input type="checkbox"/> OTHER _____	
b. TYPE OF COMPLETION NEW WELL <input type="checkbox"/> WORK OVER <input type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/> DIFF. RESVP. <input type="checkbox"/> OTHER Plug & Abandon	

7. State & Section Horse Back- Pennsylvania Gas Pool
8. Form 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 <u>G</u> LOCATED <u>1000</u> FEET FROM THE <u>South</u> LINE AND <u>1980</u> FEET FROM THE <u>East</u> LINE OF SEC. <u>33</u> TWP. <u>26S</u> RGE. <u>36E</u> NMPM
--

11. County Lea

15. Date Spudded 11/16/76	16. Date T.D. Reached 5/16/77	17. Date Compl. (Ready to Prod.) P/A	18. Elevations (DP, RAB, RT, GR, etc.) 2898.70' GL
------------------------------	----------------------------------	---	---

19. Elev. Casinghead NA

20. Total Depth 21,750'	21. Plug Back T.D. 11,920'	22. If Multiple Compl., How Many NA	23. Intervals Drilled By Rotary Tools 10-21,750'	Cable Tools
----------------------------	-------------------------------	--	---	-------------

25. Was Directional Survey Made No

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 Cased 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'

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

29. LINER RECORD			
SIZE	TOP	BOTTOM	SACKS CEMENT
7-3/4"	13,265'	18,011'	800

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

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			
----------------	--	--	--

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)

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

Date of Test	Hours Tested	Choke Size	Prod'n. For Test Period	Oil - Bbl.	Gas - MCF	Water - Bbl.	Gas - Oil Ratio
Flow Taking Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - Api (Corr.)	

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

34. Disposition of Gas (Sold, used for fuel, vented, etc.)	Test Witnessed By
--	-------------------

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

35. List of Attachments Deviation Survey

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

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.	
---	--

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

SIGNED <u>E. K. West</u>	TITLE <u>Drilling Consultant</u>	DATE <u>10/4/76</u>
--------------------------	----------------------------------	---------------------

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

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.

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. Manees	T. McCracken
T. San Andres	T. Simpson 20,281	T. Gallup	T. Ignacio Qtzite
T. Glorieta	T. McKee	Base Greenhorn	T. Granite
T. Paddock	T. Ellenburger 22,280	T. Dakota	T.
T. Blinbry	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.

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

76

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NEW MEXICO OIL CONSERVATION COMMISSION

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

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR NOTICES TO OIL OR GAS PRODUCERS TO A DIFFERENT RESERVOIR. USE APPLICATION FOR PERMIT TO PRODUCE OIL OR GAS FROM A DIFFERENT RESERVOIR.)

1. ☐ OIL WELL ☒ GAS WELL ☐ OTHER

2. Name of Operator Gifford, Mitchell & Wisenbaker

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

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 N.M.P.M.

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

5a. Indicate Type of Lease
State ☒ Fee ☐

5. State Oil & Gas Lease No.
L 6379

7. Unit Agreement Name
Horse Back-Pennsylvania Gas Pool

6. Name of Lease Holder
Horse Back

9. Well No.
1

10. Field and Pool, or Wildcat
wildcat

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 <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	CASING TEST AND CEMENT JOBS <input type="checkbox"/>
OTHER <input type="checkbox"/>	OTHER <input type="checkbox"/>
PLUG AND ABANDON <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
CHANGE PLANS <input type="checkbox"/>	PLUG AND ABANDONMENT <input checked="" type="checkbox"/>

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 EK 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

Page 2
C-103

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 SURVEYSUBMIT IN TRIPLICATE*
(Other instructions on
reverse side)Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

NMI8644

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

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 ☒ OTHER2. NAME OF OPERATOR
HNG Oil Company3. ADDRESS OF OPERATOR
P. O. Box 2267, Midland, Texas 797014. 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

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, WT, GR, etc.)

2907.8'

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 AREASec. 8, T26S, R36E,
NMPM

12. COUNTY OR PARISH

Lea

13. STATE

New Mexico

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

PULL OR ALTER CASING

FRACTURE TREAT

MULTIPLE COMPLETE

SHOOT OR ACIDIZE

ABANDON*

REPAIR WELL

CHANGE PLANS

(Other)

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

REPAIRING WELL

FRACTURE TREATMENT

ALTERING CASING

SHOOTING OR ACIDIZING

ABANDONMENT*

(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 perms 18,410-18,430' w/200 sks Cl H. Squeezed Fusselman perms 18,029-18,051' w/150 sks Cl H. Squeezed Devonian perms 17,248-17,260' w/150 sks Cl H. Squeezed Strawn perms 12,576-12,617' w/100 sks Cl H. Squeezed Bone Springs perms 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

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

ACCEPTED FOR RECORD

JUL 30 1975

U. S. GEOLOGICAL SURVEY
HOBBS, NEW MEXICO

79

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

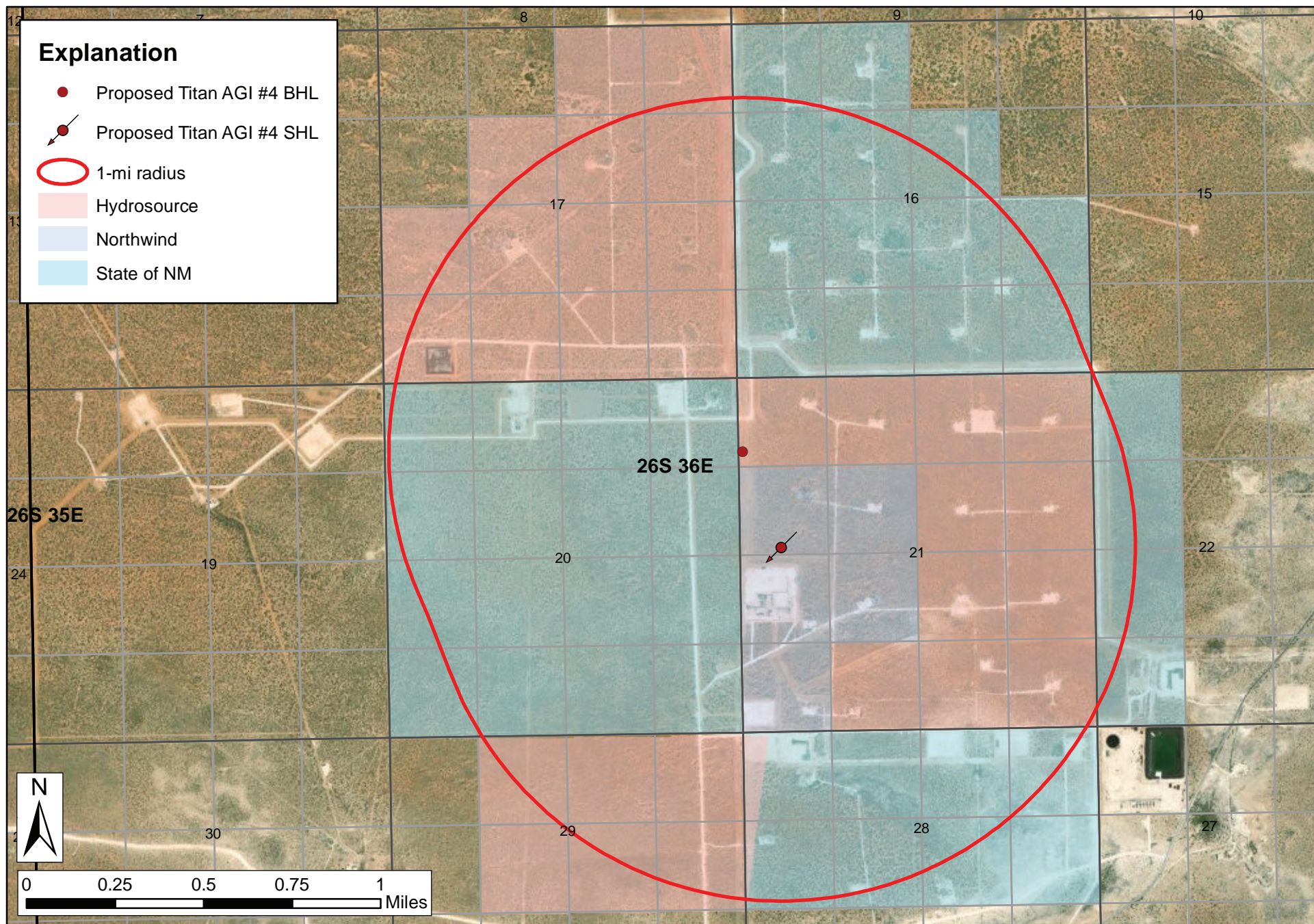


Figure B-1. Surface ownership within one mile of the proposed Titan AGI #4 well.

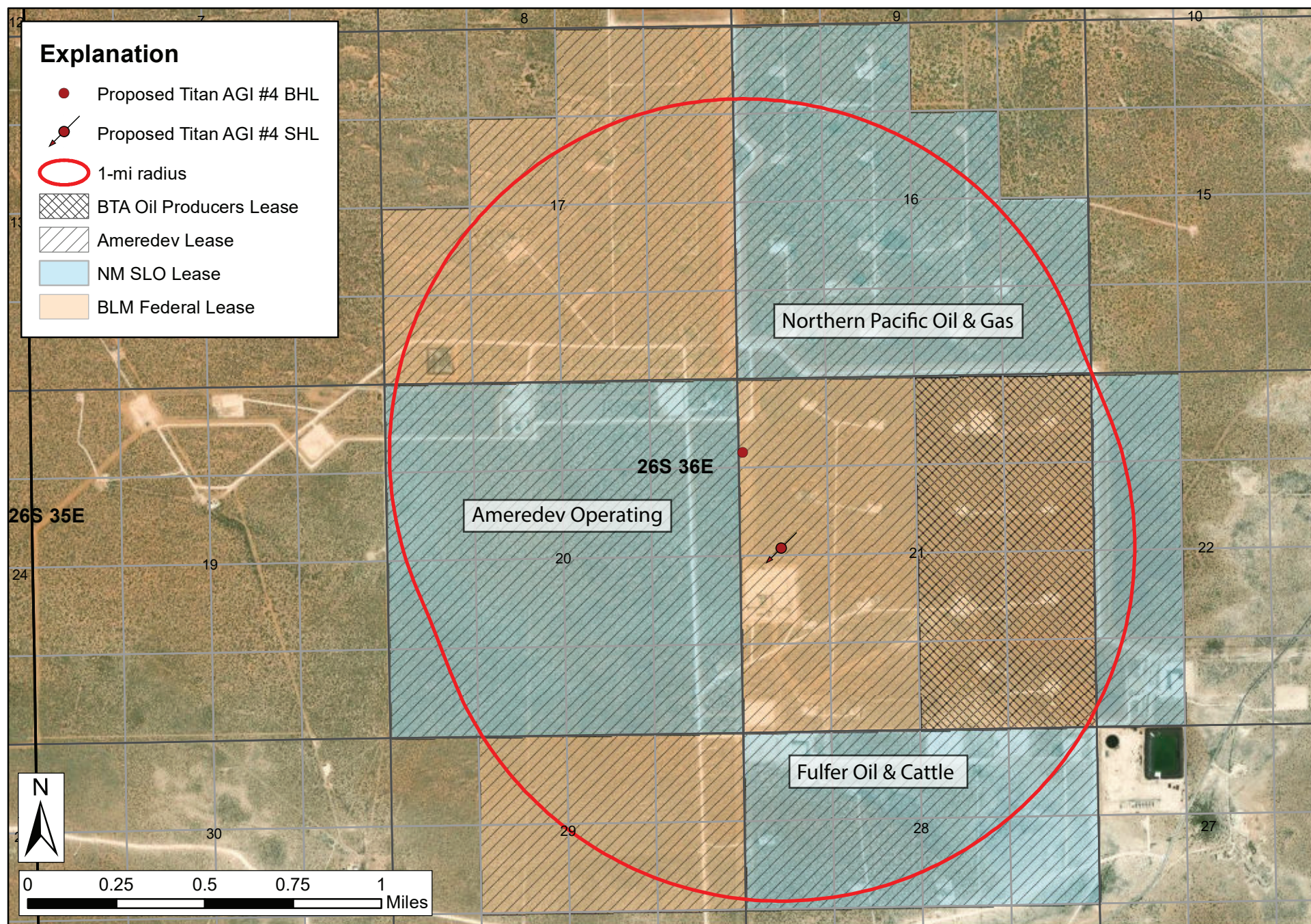


Figure B-2. Lessees, active operators, and other interested parties within one mile of the proposed Titan AGI #4 well.

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
AddressVIA 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



David A. White, P.G.

July 8, 2024

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

VIA CERTIFIED MAIL

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.®

A handwritten signature in black ink, appearing to read "David A. White", written over a horizontal line.

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

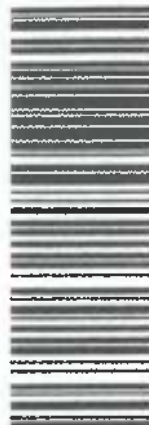
phone: 505-842-8000
fax: 505-842-7380

500 Marquette Avenue NW, Suite 1350
Albuquerque, New Mexico 87102

email: dwhite@geolex.com
web: www.geolex.com

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		Page 90 of 154
For delivery information, visit our website at www.usps.com ®.		
OFFICIAL USE		
Certified Mail Fee		Postmark Here
\$		
Extra Services & Fees (check box, add fee as appropriate)		
<input type="checkbox"/> Return Receipt (hardcopy)	\$	
<input type="checkbox"/> Return Receipt (electronic)	\$	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$	
<input type="checkbox"/> Adult Signature Required	\$	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$	
Postage		
\$		
Total Postage and Fees		
\$		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 THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> ■ 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. 	<p>A. Signature</p> <p>X <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name)</p> <p>C. Date of Delivery</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p>
<p>1. Article Addressed to: 24-011</p> <p>NGL SOUTH RANCH, INC ATTN: JIM WINTER 6120 S. YALE AVENUE, #1300 TULSA, OK 74136</p> <p>9590 9402 7960 2305 2500 50</p>	<p>3. Service Type</p> <p><input type="checkbox"/> Adult Signature <input type="checkbox"/> Priority Mail Express® <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Registered Mail™ <input checked="" type="checkbox"/> Certified Mail® <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Signature Confirmation™ <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Signature Confirmation Restricted Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Insured Mail <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)</p>
<p>2. Article Number (Transfer from service label)</p> <p>7016 1970 0000 8250 7791</p>	
PS Form 3811, July 2020 PSN 7530-02-000-9053 Domestic Return Receipt	

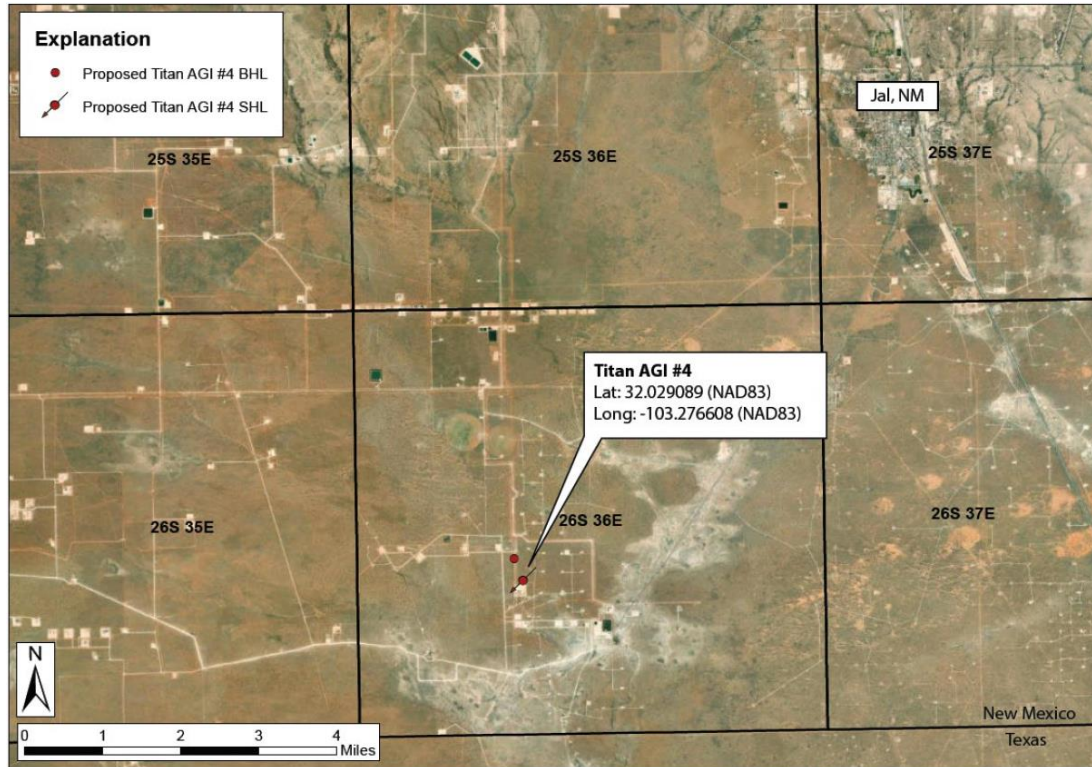


APPLICATION FOR AUTHORIZATION TO INJECT C-108 Application for Class II AGI Well

Northwind Midstream Partners, LLC
Proposed Titan AGI #4

Presented in Hearing Before the
New Mexico Oil Conservation Commission
Case #24881

March 20, 2025



WITNESSES AND PRESENTATION TOPICS

- ▶ **DAVID A. WHITE, P.G.** – Geolex, Inc.®
 - Registered Professional Geologist (P.G.)
 - M.S. Geology (University of New Mexico)
 - Extensive project management experience and geologic support for AGI projects
 - Expert in permitting design, construction, and operation of AGI wells; petroleum geology, seismic interpretation, and fault-slip probability modeling
 - Permitted, designed, constructed, and monitor AGI wells in Permian Basin

- ▶ Presentation topics will include description of relevant site geology and stratigraphy, AGI system design and operations, reservoir modeling and injection simulation, induced seismicity risk assessment, and all other components of C-108 application.

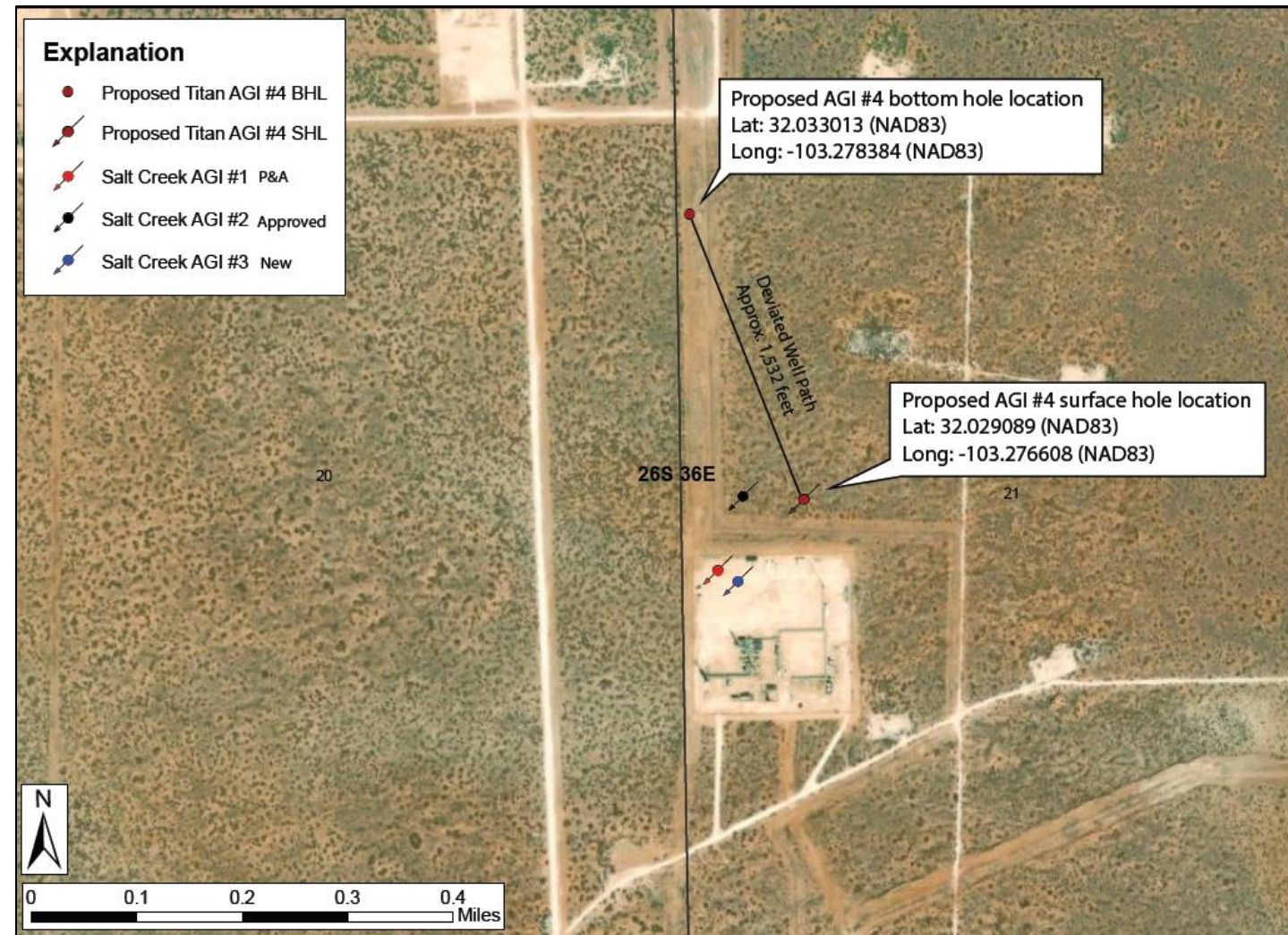
NORTHWIND'S REQUEST OF THE COMMISSION

Northwind Midstream Partners, LLC (OGRID #331501) is seeking approval of an additional acid gas injection (AGI) well and an increase to the daily volume limitation for Siluro-Devonian injection (relevant to Titan AGI #4 and Salt Creek AGI #2), which will provide additional redundancy and disposal capacity at their Titan Treating Facility in Lea County, New Mexico.

- ▶ Northwind's requested volume (up to 28.8 MMSCFD) is necessary to meet the anticipated acid gas disposal needs of oil and gas production operations in the area. At reservoir conditions, treated acid gas (TAG) will occupy a volume of approximately 13,760 barrels per day, significantly less than typical saltwater disposal (SWD) well daily injection volumes.
- ▶ All Form C-108 application materials necessary to support the request for a daily volume limitation of 28.8 MMSCFD were included in the original August 2024 application submitted to the New Mexico Oil Conservation Division (NMOCD).
- ▶ AGI wells are necessary to support the current and future production of sour gas and to minimize risks associated with hydrogen sulfide (H₂S). Furthermore, utilization of amine treatment and AGI wells at the facility substantially aids in the avoidance of field and treatment facility flaring, prevents waste and the atmospheric release of production-related carbon dioxide (CO₂), and ensures operational stability at the Northwind Treating Facility.

NORTHWIND FACILITY AND AGI WELL LOCATIONS

- ▶ The Titan Treating Facility and existing and proposed AGI wells are located in Section 21, (Twn. 26S, Rng. 36E), approx. 7.5 miles southwest of the city of Jal, NM
- ▶ At the Titan Treating Facility, Northwind currently operates the Salt Creek AGI #3 and has recently completed drilling and completion activities for Salt Creek AGI #2
- ▶ Salt Creek AGI #3 (API: 30-025-51865) was drilled as a vertical well at 2,329 FSL and 278 FWL and is authorized to inject into the Bell Canyon and Cherry Canyon members of the Delaware Mountain Group
- ▶ Salt Creek AGI #2 (API: 30-025-53388) was drilled as a deviated well with a surface location at 2,512 FNL and 311 FWL and was approved for acid gas injection into the Siluro-Devonian geologic interval.



General location map showing the Titan Treating Facility and AGI wells

EXHIBIT B

KEY ELEMENTS OF NORTHWIND'S C-108 APPLICATION

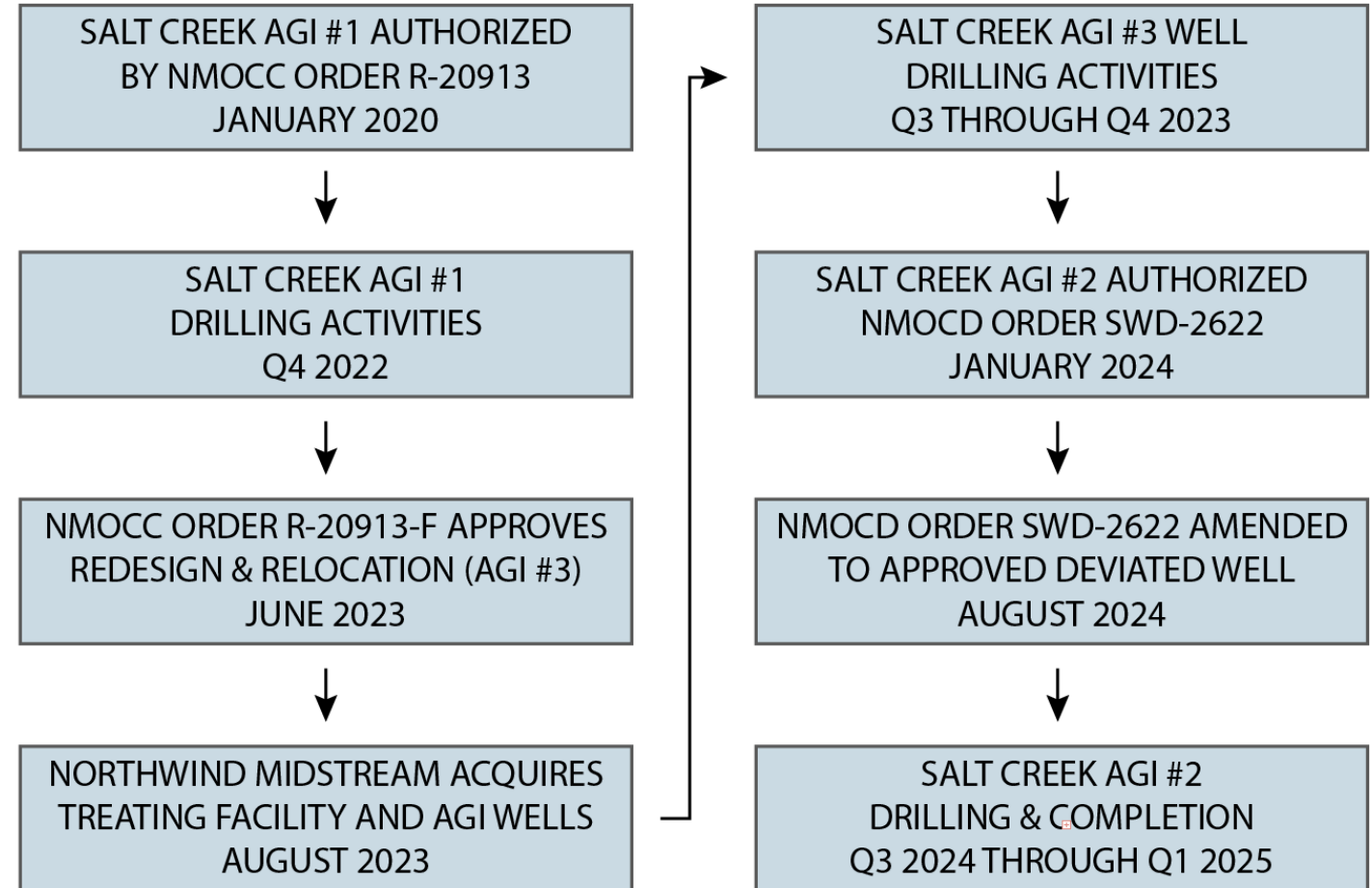
- ▶ The proposed AGI project has substantial environmental benefit of greenhouse gas reduction due to the permanent sequestration of CO₂, which otherwise would be released to atmosphere
- ▶ AGI project reduces waste and air emissions by eliminating flaring of acid gas or operation of a sulfur recovery unit as sulfur control measures
- ▶ Nearby oil and gas wells, water wells, and surface water in the area of the proposed Titan AGI #4 well are protected via a multiple casing well design and geologic factors
- ▶ Detailed interpretation of seismic and available logs has permitted the accurate delineation of the reservoir and development of a suitable reservoir characterization model, which are utilized to provide detailed forecasts and help to ensure that wells of nearby operators will be protected
- ▶ Fault-slip probability modeling demonstrates that the Titan AGI #4 well and existing AGI wells can be operated, as proposed, without an elevated risk for injection-induced seismic events

KEY ELEMENTS OF NORTHWIND'S C-108 APPLICATION (cont.)

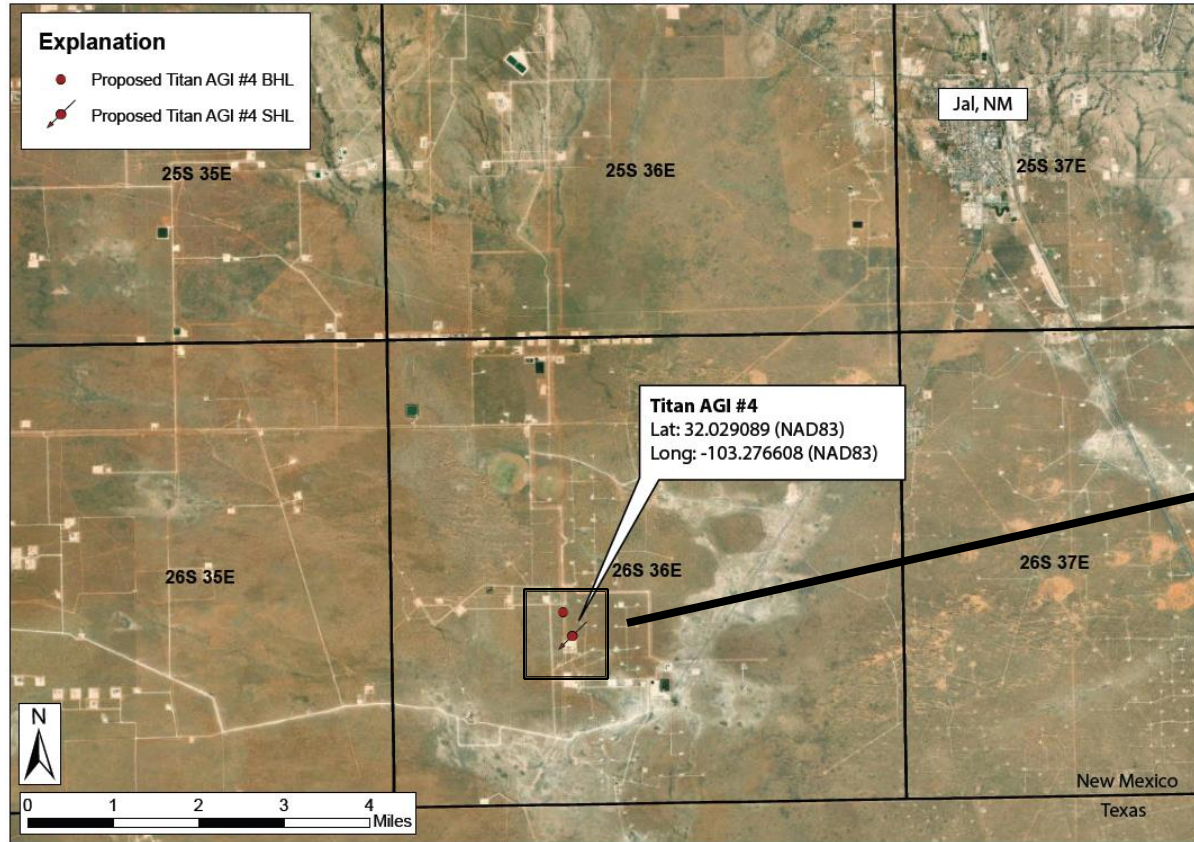
- ▶ Reservoir characterization and injection plume forecasts, developed utilizing Schlumberger Petrel and Eclipse platforms, demonstrate that after 30 years, the plume will extend approximately 1.8 miles north and east from the Titan Treating Facility. Gas saturation is expected to range from approximately 0 to 0.55 with the plume margins being characterized by diffuse (<10%) concentrations.
- ▶ Northwind's Form C-108 application includes all required information needed to approve the construction and authorize operation of the proposed AGI well.
- ▶ Northwind currently has an approved Rule 11 H₂S Contingency Plan (H2S-71), which covers the Titan Treating Facility and the associated Northwind gathering system. Upon approval of the Titan AGI #4 well, and in accordance with the anticipated construction and commissioning schedule, the existing plan will be updated and revised to reflect operation of the Titan AGI #4 well and will be submitted to NMED and NMOCD for review and approval, prior to the commencement of injection operations.
- ▶ All interested parties requiring notification have been provided complete copies of Northwind's Titan AGI #4 C-108 application.

NORTHWIND AGI WELL TIMELINE

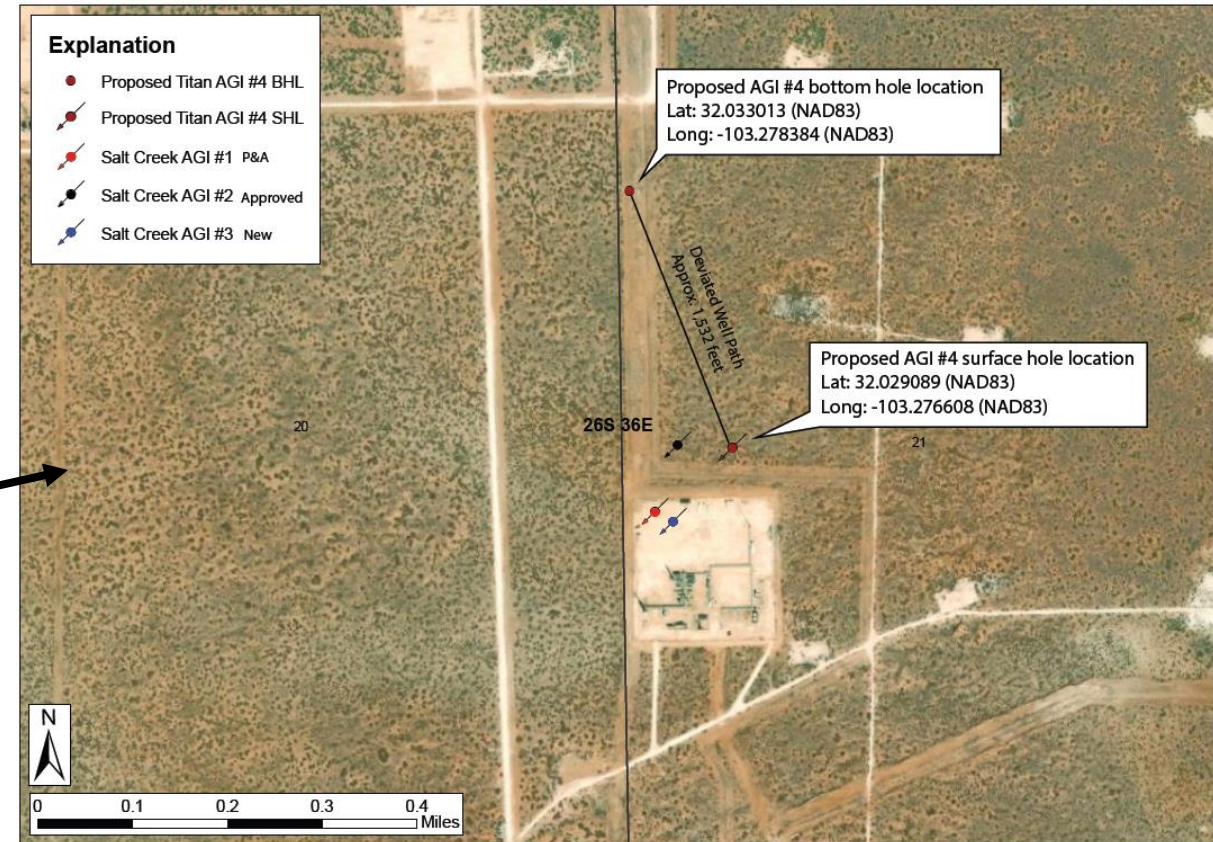
- ▶ Acid gas injection operations commenced, in Q3 2024, following the drilling and completion of Salt Creek AGI #3
- ▶ Since acquisition by Northwind, the Titan Facility solely relies on amine treatment and acid gas injection as the primary method for handling and disposal of CO₂ and H₂S wastes associated with gas-treatment activities.
- ▶ Salt Creek AGI #3 was authorized to inject up to eight (8) MMSCFD into the Delaware Mountain Group, with a maximum allowable surface injection pressure of 2,149 psig.
- ▶ Salt Creek AGI #2 was authorized to inject up to 12 MMSCFD into the Siluro-Devonian, with a maximum allowable surface injection pressure of 5,798 psig.



PROJECT LOCATION AND BACKGROUND



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



Detailed location map showing Titan Treating Facility, surface locations of existing AGI wells, and the proposed surface and bottom-hole location of Titan AGI #4

To ensure quality injection reservoir is accessed
Titan AGI #4 is proposed to be drilled as a deviated AGI well

MAXIMUM ALLOWABLE OPERATING PRESSURE

- ▶ In accordance with NMOCD-approved methods to determine maximum allowable operating pressure (MAOP), Northwind requests an MAOP of 5,811 psi for the Titan AGI #4 well.
- ▶ Anticipated acid gas characteristics (e.g., density) were determined utilizing AQUALibrium™ software, designed for use in mixed acid gas streams
- ▶ Following Titan AGI #4 drilling activities, injection testing will be completed to confirm the suitability of the proposed MAOP and to ensure operations do not exceed formation fracture pressure limits.

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:

$$SG_{Tag} = 0.7381$$

$$D_{Top} = 17,570 \text{ feet}$$

Therefore:

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

$$PG = 0.3307$$

And

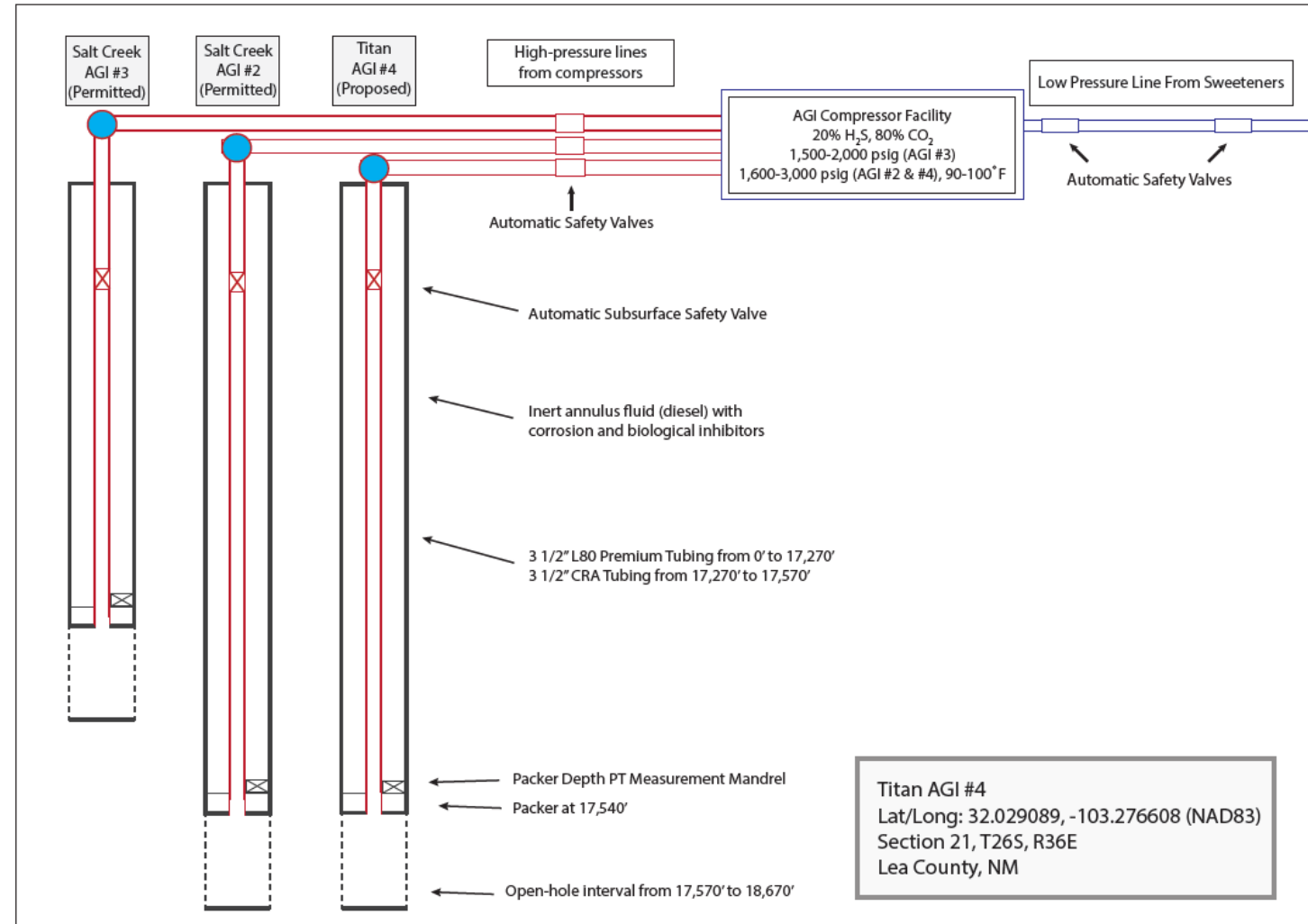
$$IP_{Max} = 0.3299 \frac{\text{psi}}{\text{ft}} \times 17,570 \text{ ft}$$

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

Determination of MAOP utilizing NMOCD-approved method

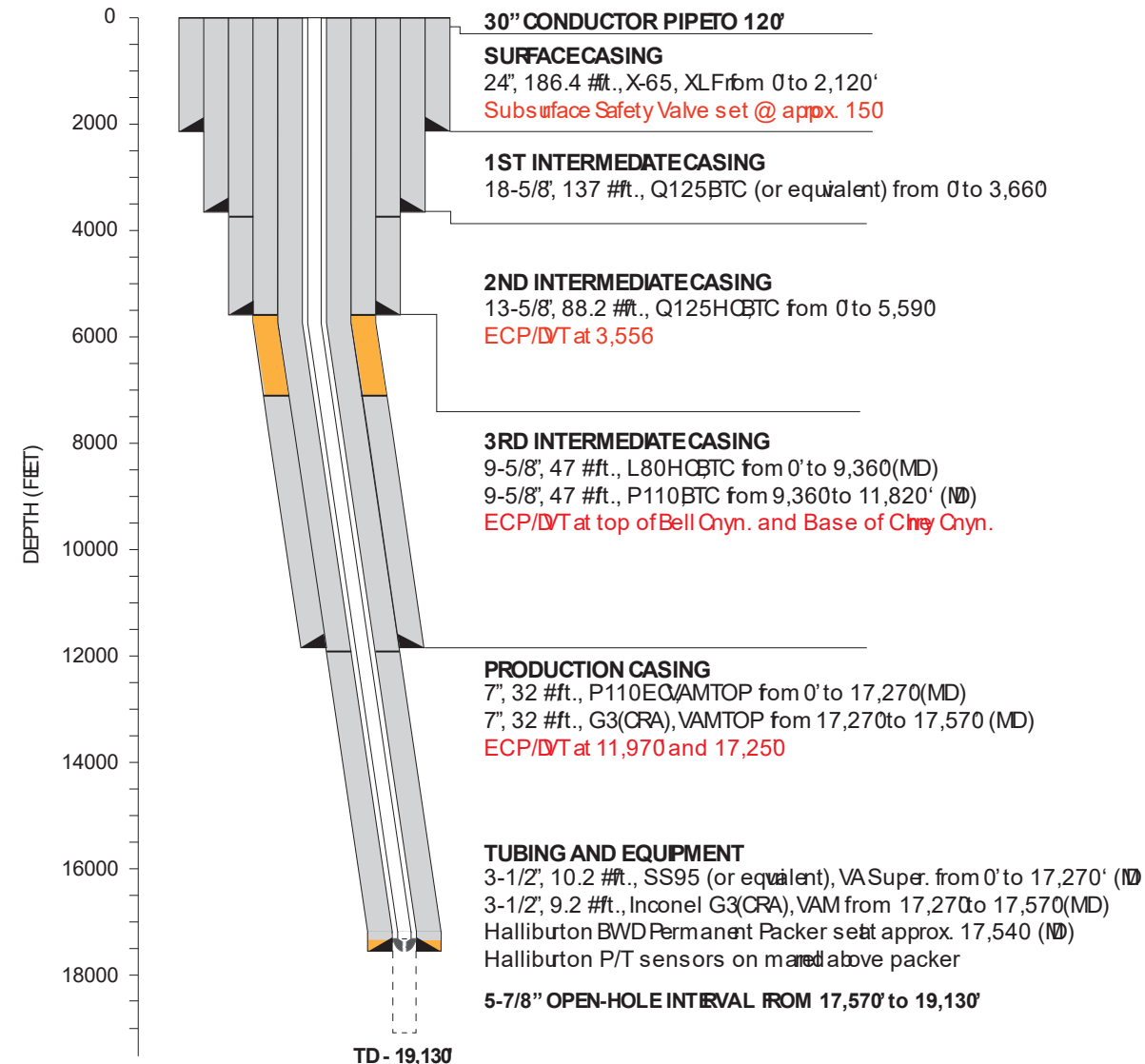
GENERAL DESIGN OF THE AGI SYSTEM

- ▶ Anticipated TAG Composition: CO₂ (80%), H₂S (20%), trace (less than 1%) nitrogen and hydrocarbons (C₁-C₇)
- ▶ TAG will be transmitted from the amine system to compressors on the well site via low-pressure pipelines, where it is compressed and dehydrated (via compression) to achieve dense/supercritical phase. TAG is then routed to the injection tree through corrosion-resistant tubing which incorporate automatic safety valves.
- ▶ The injection tree will be constructed utilizing corrosion-resistant alloys (CRA) and elastomers and will include automatic isolation valves. Furthermore, a subsurface safety valve (at approx. 150 ft.) will be installed to provide redundant down-hole isolation
- ▶ The permanent injection packer and the lower 300 feet of tubing and production casing will be constructed utilizing CRA materials (e.g., G3, Inconel 925, or equivalent)
- ▶ Bottom-hole pressure and temperatures sensors will be installed on a mandrel overlying the packer to provide real-time, continuous monitoring of the injection zone



DESIGN OF TITAN AGI #4

- ▶ Surface casing to 2,120' (Rustler top) to protect shallow groundwater resources of the Dockum Group
- ▶ First intermediate to 3,660' to isolate the interval overlying the Capitan Reef, which contain intervals of salt and anhydrite
- ▶ Second intermediate to 5,590' utilizing DV tools and cement to adequately isolate the Capitan, a known and confirmed interval of lost circulation
- ▶ Third intermediate to 11,820' to provide isolation of lower pressure Delaware Mountain Group (DMG). Acid resistant cement will be utilized to protect well through active acid gas injection zone within the DMG.
- ▶ Production casing to 17,570' utilizing conventional tubulars and 300' feet of corrosion-resistant alloy (CRA) casing from approx. 17,70' to 17,570' to protect lower-well components
- ▶ Open-hole completion from approximately 17,570' to 19,130'
- ▶ All strings will be cemented to surface and verified by 360° cement bond logs
- ▶ Final casing plan may be subject to material availability, however, any modification of the proposed casing plan will be coordinated with and approved by NMOCD

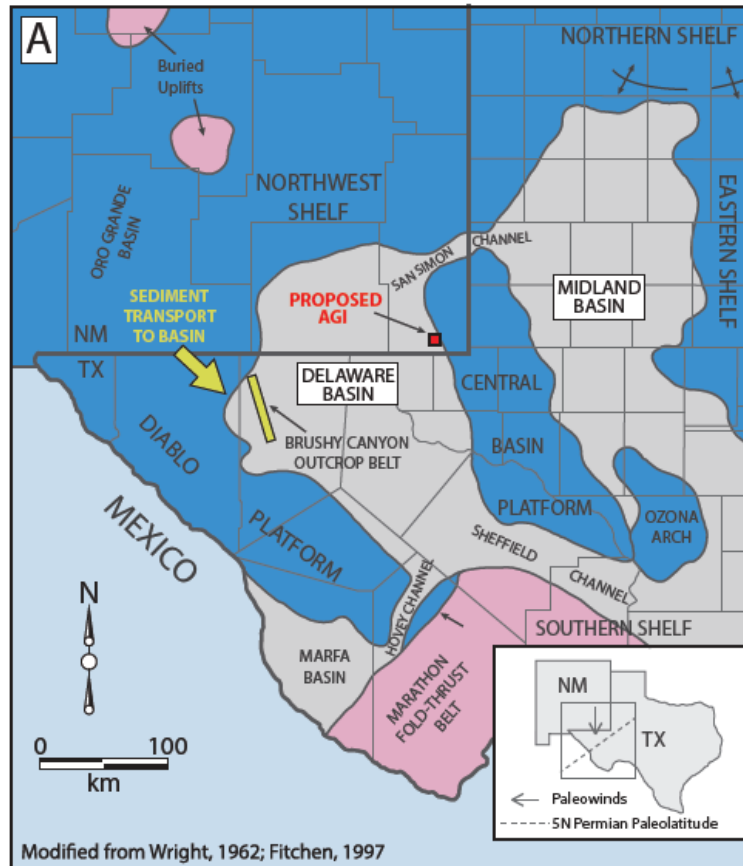


Proposed Titan AGI #4 well schematic including anticipated casing program

WELL LOGGING, RESERVOIR TESTING AND MONITORING

- ▶ Mud logging will commence below the 24-inch surface casing and will continue through the total depth of the well
- ▶ Open-hole geophysical logs will be collected from below the surface casing to total depth using gamma ray, density, resistivity, neutron porosity, and sonic tools. Dipole sonic logs will be recorded across the injection zone and overlying 3rd intermediate production casing interval, to aid in subsequent fracture gradient analyses.
- ▶ The injection zone and overlying caprock will also be logged using Fullbore Formation MicroImager (FMI), or equivalent logging tools suitable for the required drilling fluid program.
- ▶ Rotary sidewall cores from representative intervals of the caprock and injection zone will be collected for laboratory porosity and permeability tests should the condition of the borehole be suitable for these operations.
- ▶ Following an acid displacement in the injection zone, a work string and bottom-hole sensors (i.e., pressure and temperature) will be set within the injection zone and a step-rate injection test will be conducted, followed by a reservoir pressure fall-off and temperature warm-back observation period.
- ▶ In completing the AGI well, permanent pressure/temperature sensors will be installed overlying the permanent injection packer and will be utilized for long-term monitoring of reservoir behavior during normal injection operations

GEOLOGY OF THE PROJECT AREA



Structural setting (panel A) and general lithologies of the Permian Basin (panel B). Proposed Titan AGI #4 location is annotated in Panel A.

- ▶ The proposed Titan AGI #4 and treating facility are located on the eastern margin of the Delaware Basin, where surface geology includes aeolian/alluvial units and local exposures of Triassic redbeds.
- ▶ Approximately 11,000 feet of Permian strata, containing productive intervals, overly approx. 6,500 feet of older Paleozoic strata (Penn. – Fusselman)
- ▶ Woodford Shale (~370' thick) forms the primary confining strata (caprock) that seals the injection zone
- ▶ Targeted injection reservoir includes upper Devonian, Wristen, and Fusselman formations
- ▶ Analysis of seismic survey data interprets 13 faults, for which the magnitude of offset (or fault throw) is less than the thickness of the Woodford Shale confining strata. Faults are observed to strike approx. N-S or E-W

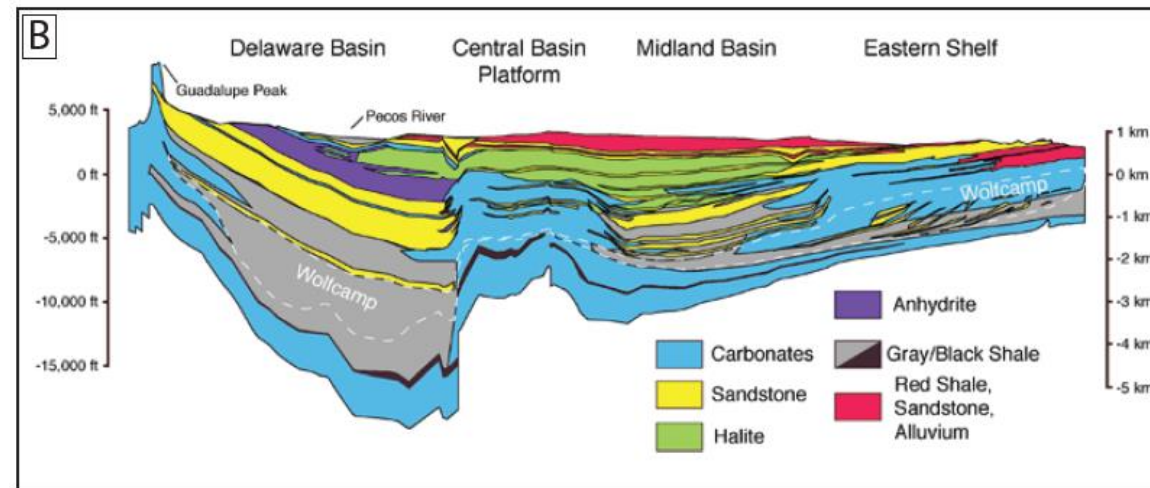


EXHIBIT B

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	ATOKA	ATOKA	★ ATOKA	(ABSENT)
	MORROWAN	MORROW	(ABSENT)	(ABSENT ?)	★ MORROW	(ABSENT)
MISSISSIPPIAN	CHESTERIAN MERAMECIAN OSAGEAN KINDERHOOKIAN	CHESTER MERAMEC OSAGE KINDERHOOK	CHESTER MERAMEC OSAGE "BARNETT"	CHESTER MERAMEC OSAGE "BARNETT"	CHESTER MERAMEC OSAGE "BARNETT"	MERAMEC OSAGE "BARNETT"
DEVONIAN		WOODFORD DEVONIAN	KINDERHOOK WOODFORD DEVONIAN	KINDERHOOK WOODFORD DEVONIAN	KINDERHOOK WOODFORD DEVONIAN	KINDERHOOK WOODFORD 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						

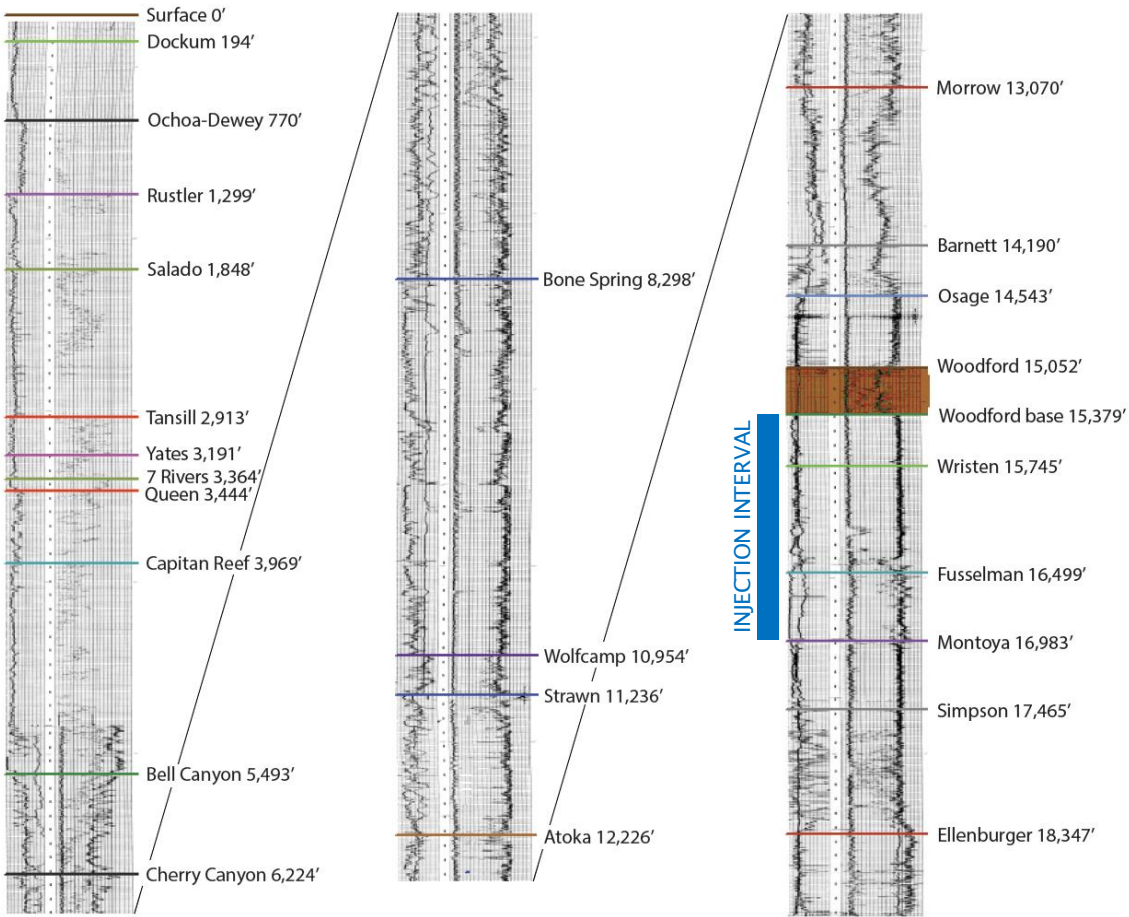
General stratigraphy and producing zones (red stars) in the immediate area of the proposed Titan AGI #4 (modified from Yang and Dorobek, 1995)

ANTICIPATED FORMATIONS

Stratigraphy of the subsurface underlying the proposed Titan AGI #4 location is demonstrated in nearby offset well logs (right). Proposed injection interval is annotated in the associated log (blue bar)

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		

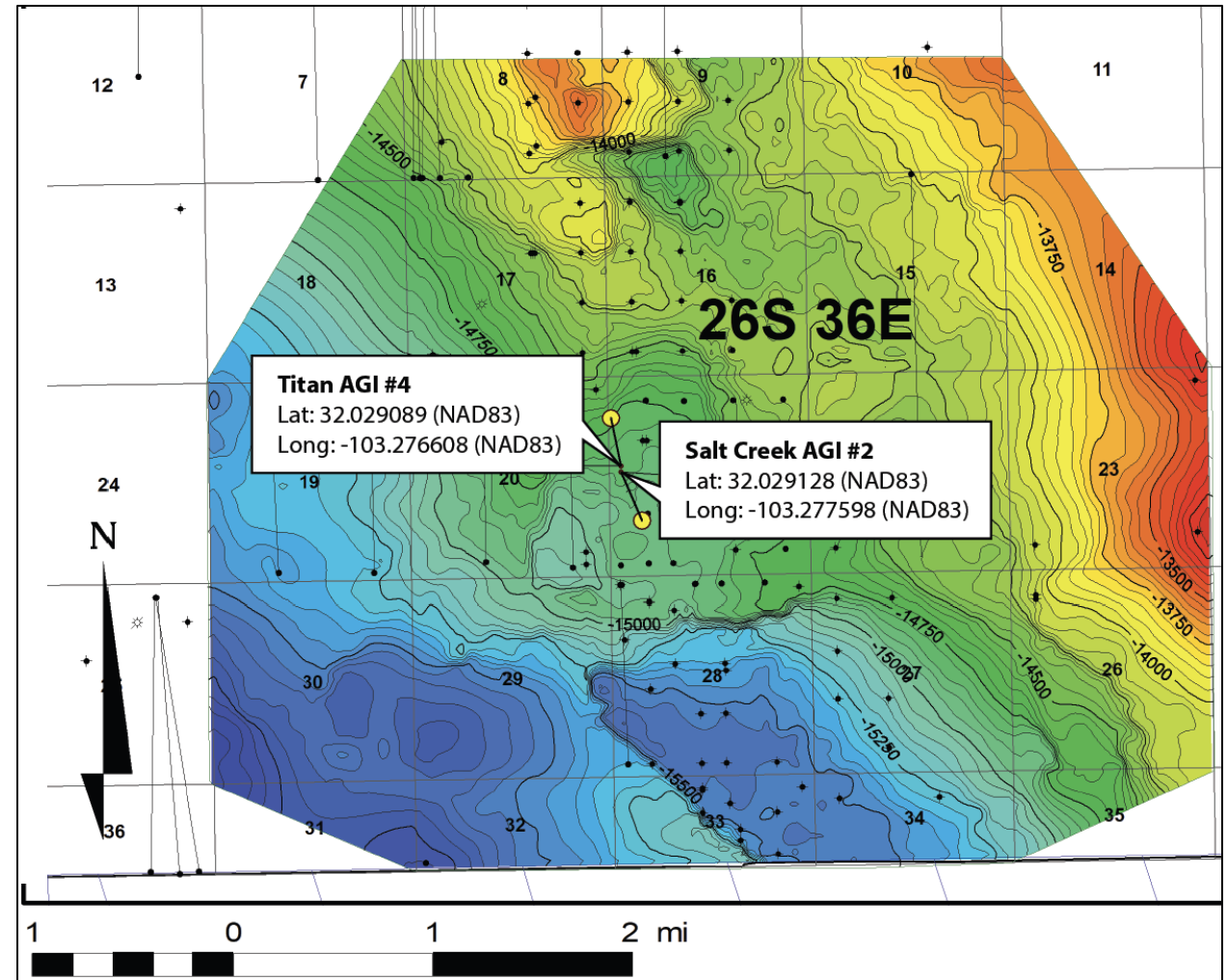
Anticipated formation tops at the proposed Titan AGI #4



Type log of nearby well (API #30-025-25046) illustrating identified formation tops and proposed injection interval

STRUCTURAL GEOLOGY OF THE AREA

- ▶ Subsea elevations of the top of the Devonian (proposed reservoir) are shown in the following map (see right).
- ▶ Generally, Devonian strata dip toward the southwest, with the proposed AGI location located greater than 2.5 miles down-dip of a local structural high to the northeast.
- ▶ In completing geologic analysis of the project area, Northwind licensed approximately 18 square miles of 3D seismic survey data.
- ▶ Cross section A-A', included on the following slide, demonstrates lateral continuity of the Woodford Shale confining strata, and porosity development observed in nearby offset wells.

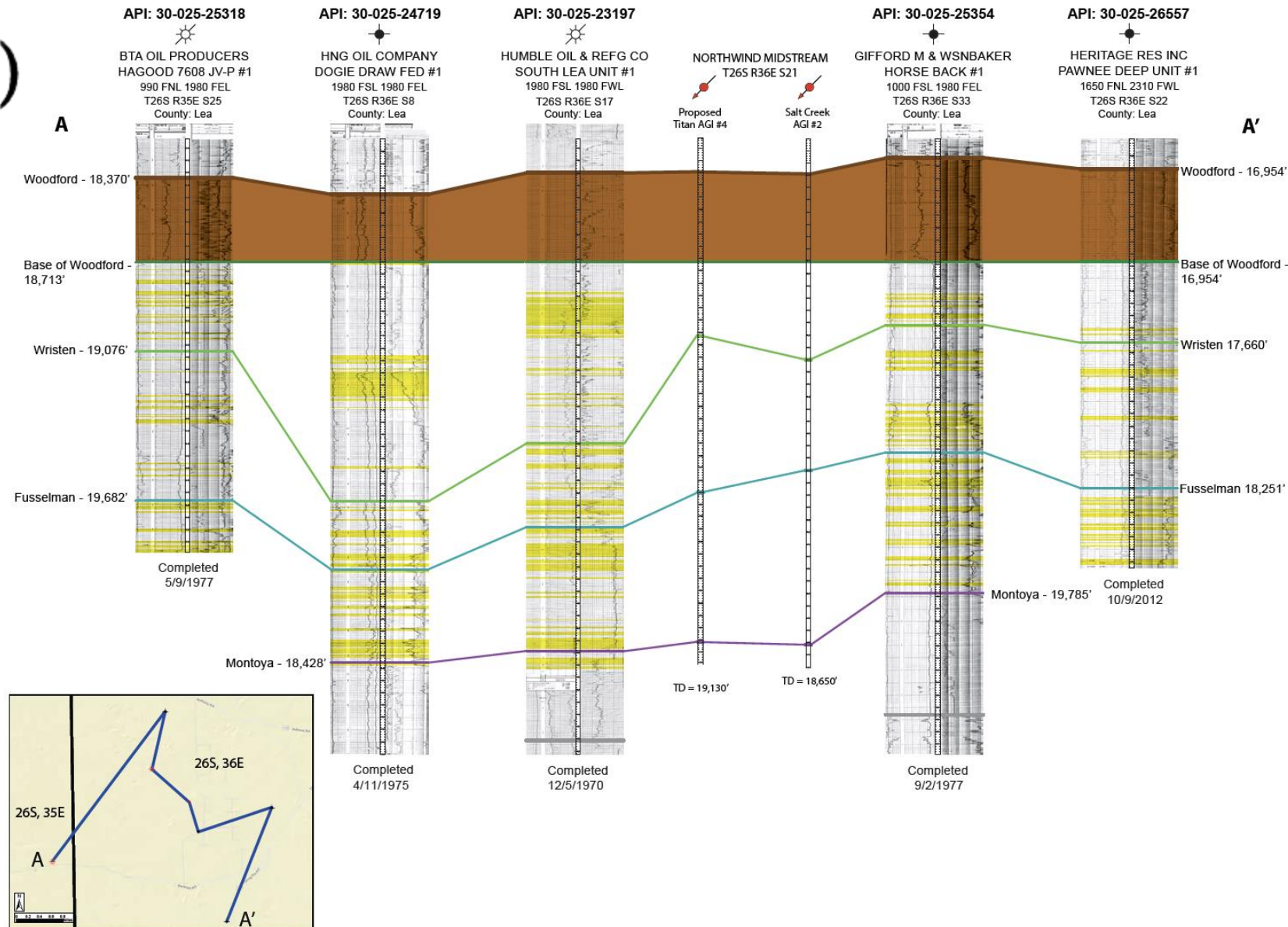


Structure contour map of subsea elevations of the top of the Devonian (proposed Titan AGI #4 injection reservoir)

EXHIBIT B

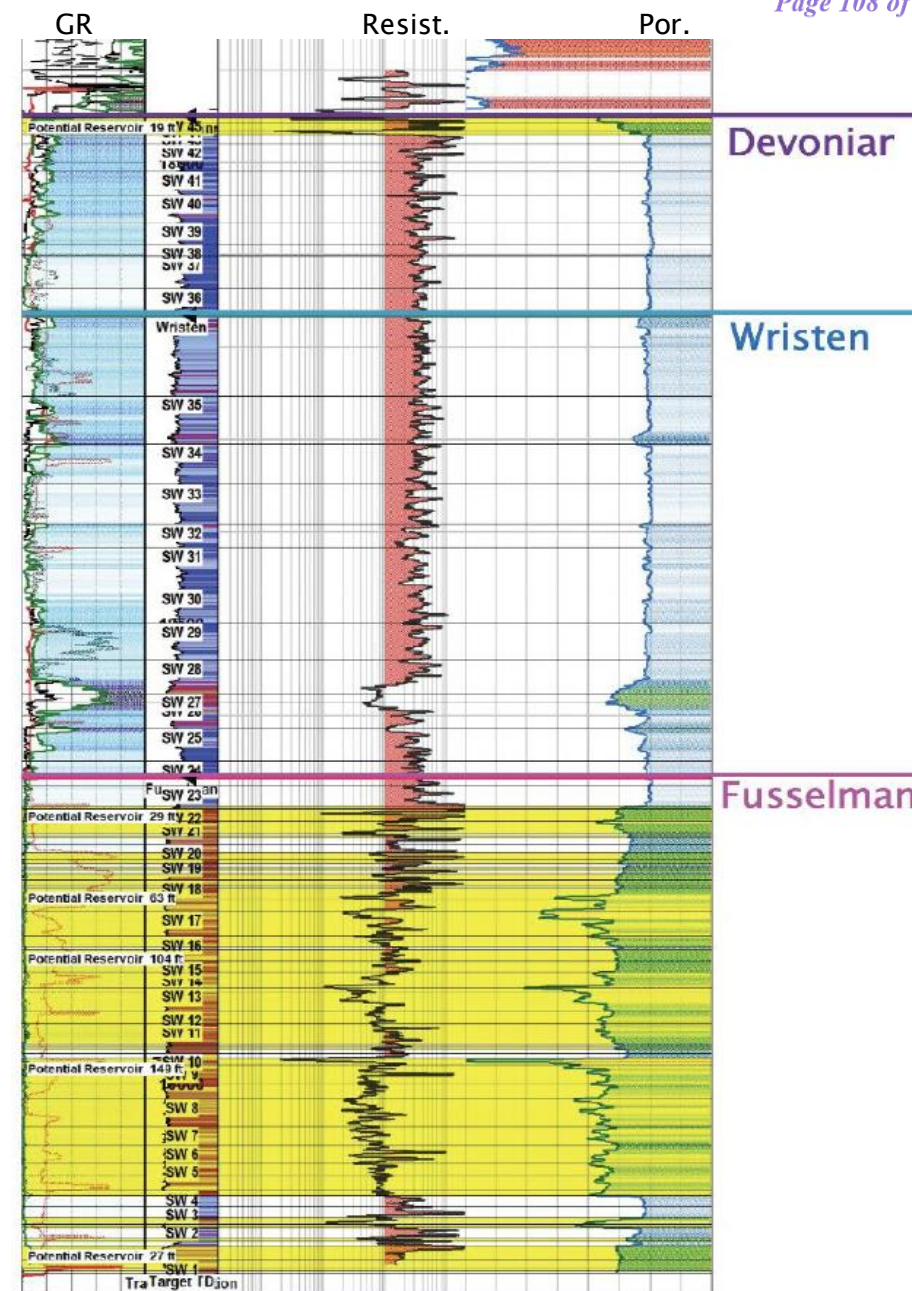
STRUCTURAL GEOLOGY (cont'd)

- ▶ Structural cross section A-A' illustrates porosity development observed in nearby offset wells penetrating the proposed injection zone.
- ▶ Proposed injection interval in the area of the Titan Treating Facility is overlain by approximately 370 feet of dense Woodford Shale and more than 845 feet of tight (low permeability) carbonates and shales of the Mississippian and Barnett Shale, respectively.
- ▶ Targeted injection interval (blue bar) includes porous intervals identified and well demonstrated within upper Devonian, Wristen, and Fusselman formation strata



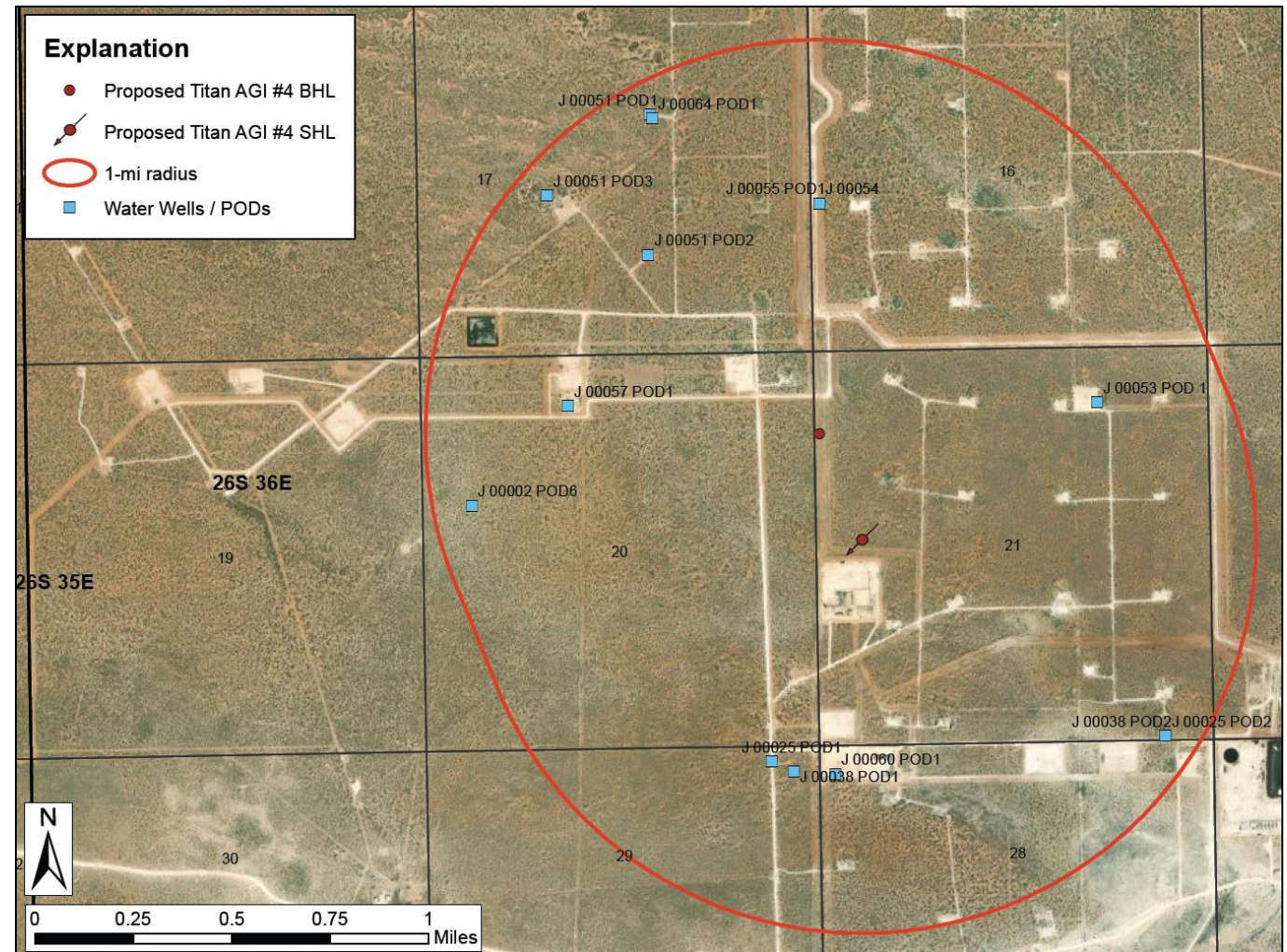
PROJECT AREA GEOLOGY

- ▶ As Northwind has recently completed drilling and completion activities for the Salt Creek AGI #2, additional data are now available for on-going reservoir evaluation. Note that these data were not available at the time of the original application submission, however, they are important in verifying the Titan AGI #4 well location and the overall suitability of the proposed injection reservoir.
- ▶ The Salt Creek AGI #2 log excerpt shown to the right highlights effective reservoir zones of 5% porosity, or greater. Net reservoir within the upper Devonian exhibits average porosity of approximately 4.65% and is comparable to upper Devonian reservoir quality in similar AGI wells.
- ▶ Fusselman net reservoir exhibits an average porosity of approximately 7.66%. In comparison to other Siluro-Devonian AGI wells, porosity development within the Fusselman at this location is significantly enhanced.
- ▶ The successful site-selection process utilized for Salt Creek AGI #2, which leveraged 3D seismic survey analysis, has also been employed for the Titan AGI #4 location in order to ensure quality Siluro-Devonian reservoir is targeted.



GROUNDWATER CONDITIONS IN THE AREA OF REVIEW

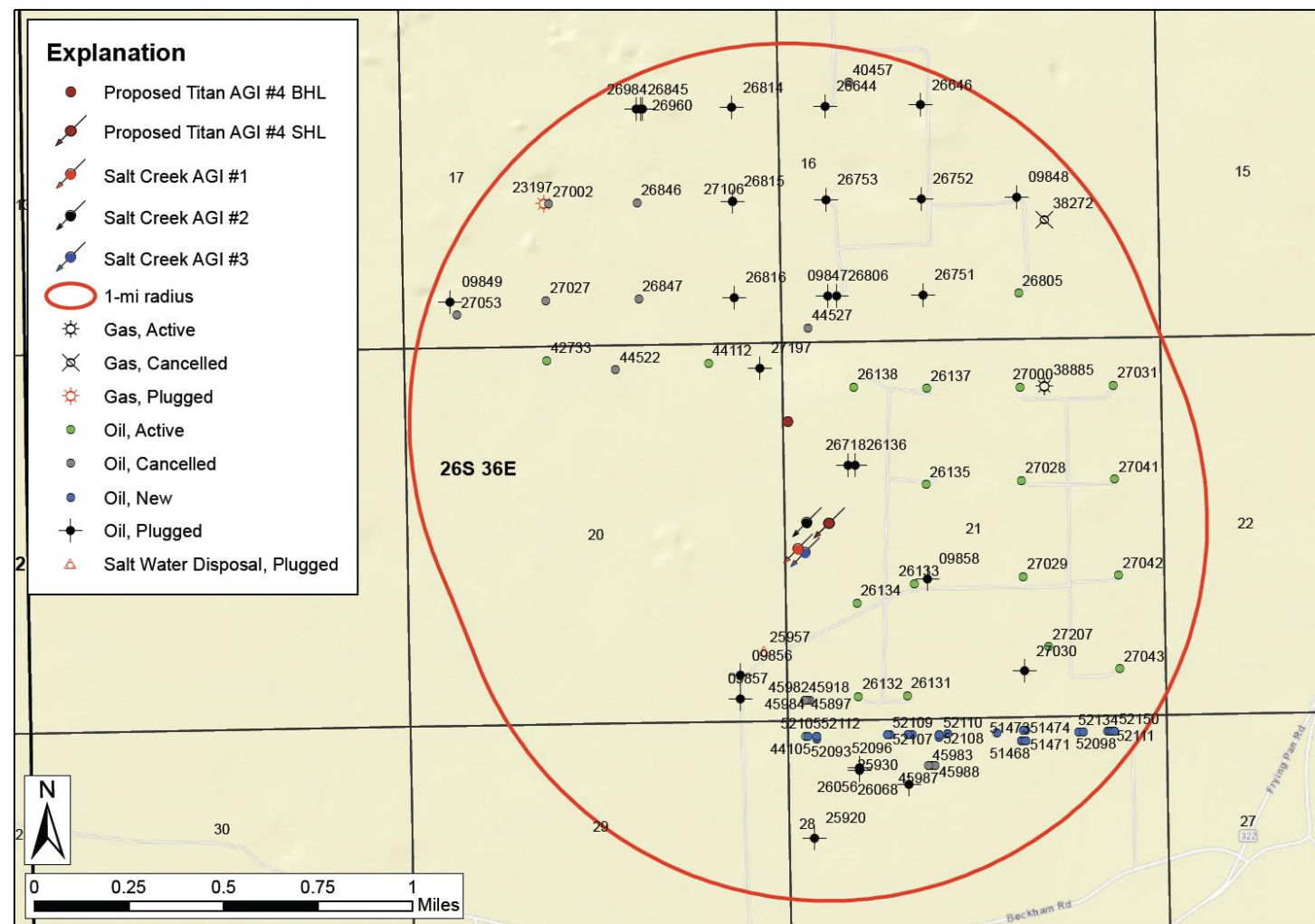
- ▶ Based on the New Mexico Water Rights Database (NMOSE), there are 14 water wells or points of diversion within one mile of the proposed AGI well
- ▶ The nearest well lies 0.61 miles south of the proposed Titan AGI #4 location
- ▶ All wells within the one-mile area of review (and within two miles) are shallow, with total depths ranging from approx. 100 to 1,000 feet in alluvium and Triassic redbeds.
- ▶ These water-bearing zones will be isolated by the Titan AGI #4 surface casing, which will extend to approx. 2,120 feet within Rustler Formation strata. Furthermore, shallow groundwater intervals will be isolated from the injection stream by multiple additional casing and cement barriers.



Water wells within one mile of the proposed Titan AGI #4, as recorded in the New Mexico Office of the State Engineer's records

WELLS WITHIN ONE MILE OF THE AGI

- There are 83 wells within one mile of the proposed AGI, including 22 active, 32 permitted locations, and 29 plugged wells
- Generally, wells within the area of review target shallow Tan-Yates-7Riv intervals, as well as the Lower Bone Spring and Wolfcamp pools.
- Within the area of review, there is one well which penetrated the proposed Siluro-Devonian injection zone.
- The South Lea Federal #1 (API #30-025-23197) is 1.1 miles from the proposed AGI well surface location and was most recently plugged and abandoned in 2015.
- During operation, South Lea Federal was recompleted to produce shallower intervals, and multiple CIBP and cement operations were completed to isolate Devonian perforations.



Identified wells within one mile of the proposed Titan AGI #4. Wells shown are annotated with the last 5 digits of the API number 30-025-XXXXX.

EXHIBIT B

REVIEW OF IDEAL CHARACTERISTICS OF A RESERVOIR FOR PERMANENT DISPOSAL OF ACID GAS (CO₂/H₂S)

1. Geologic seal to permanently contain injected fluid
2. Isolated from any fresh groundwater
3. No effect on existing or potential production
4. Laterally extensive, permeable, good porosity
5. Excess capacity for anticipated injection volumes
6. Compatible fluid chemistry

✓ **NORTHWIND'S PROPOSED TITAN AGI #4 MEETS ALL OF THESE CRITERIA**

EVALUATING FAULT SLIP POTENTIAL

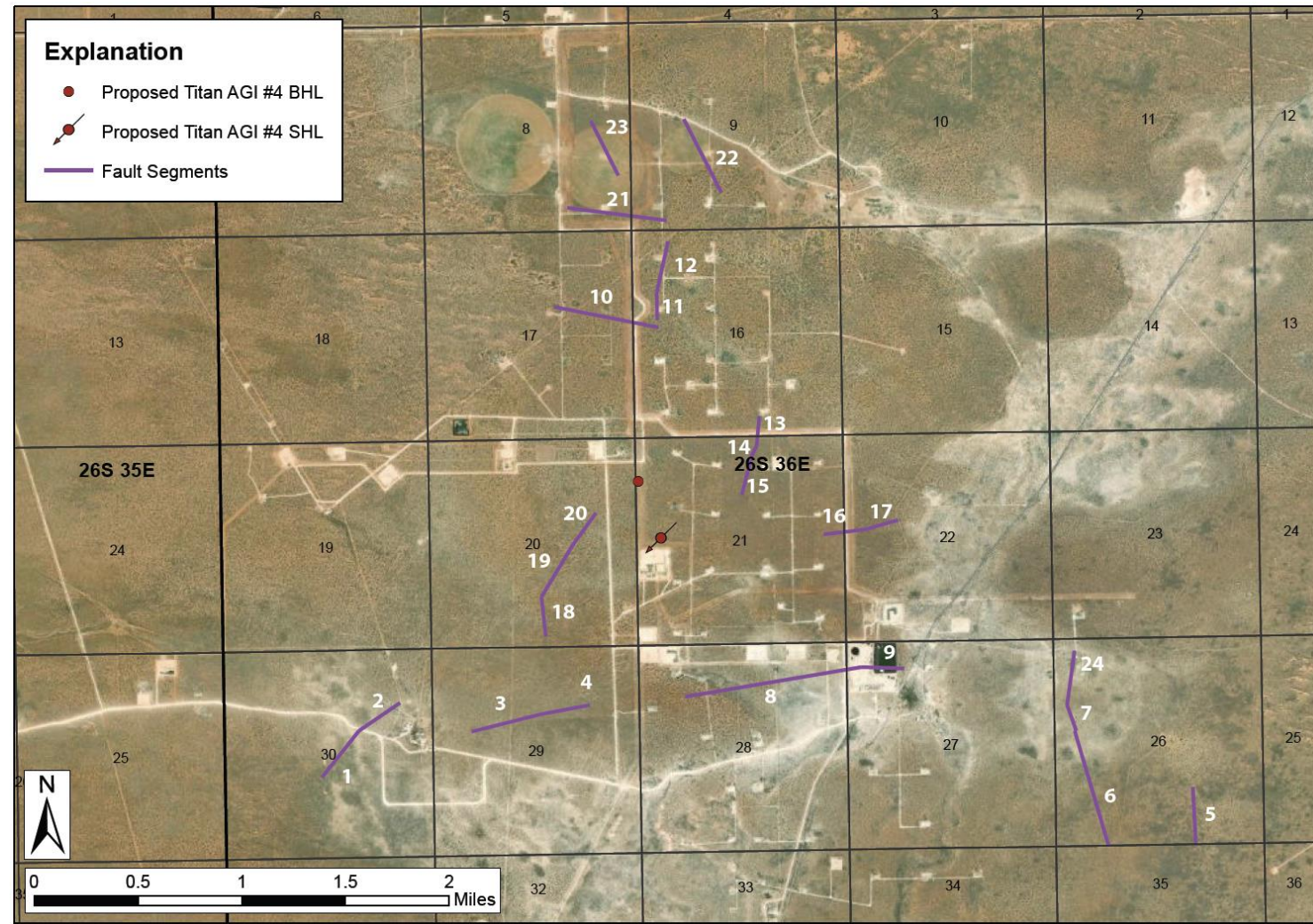
- ▶ To evaluate the potential for induced-seismic events in response to injected fluids, Geolex conducted an induced-seismicity risk assessment in the area of the proposed Titan AGI #4

- ▶ Components of Risk Assessment:
 1. Review and interpretation of licensed 3D seismic survey data to identify subsurface features in the area of the proposed AGI well

 2. Fault-slip probability modeling of a five-well, 30-year acid gas injection scenario that simulates operation of the proposed well and nearby SWD operations and predicts the associated risk of induced-seismic events (Assessment completed utilizing Stanford FSP model)

SEISMIC SURVEY REVIEW AND NEARBY INJECTION WELLS

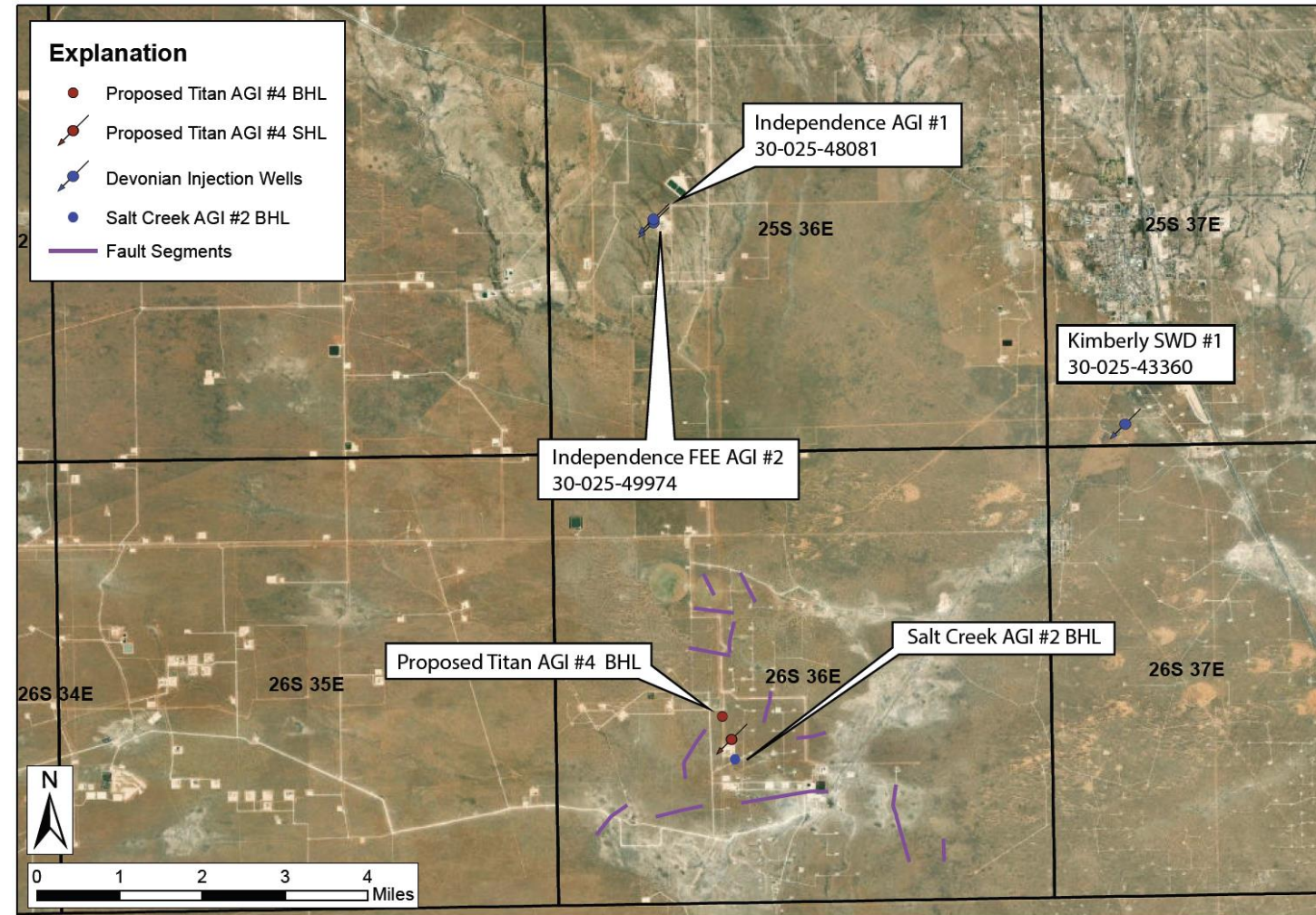
- ▶ Geolex evaluated and interpreted 3D seismic survey data to identify subsurface faults to be included in the FSP model evaluation
- ▶ Seismic data analysis identifies 13 faults within the project area, which typically trend N-S and E-W and do not offset overlying Woodford Shale confining strata.
- ▶ The nearest faults to the AGI location are observed to lie approximately 0.5 and 0.75 miles west and northeast, respectively, of the proposed well location



Identified faults in the area of the proposed Titan AGI #4 well

SEISMIC SURVEY REVIEW AND NEARBY INJECTION WELLS

- ▶ Wells included in model simulations reflect active, approved, and previously operated wells within the greater Titan AGI #4 project area
- ▶ As shown in the location map (shown right), the Titan Treatment Facility and existing and proposed AGI wells, are relatively isolated from offset Siluro-Devonian injection wells.
- ▶ Injection wells included in our analysis reflect those in which approved orders have been identified, and in all cases, maximum allowable injection volumes were utilized in simulations evaluating the potential for induced-seismicity risk.



Interpreted faults and nearby SWD wells included in slip-probability modeling simulations

MODEL INPUT PARAMETERS

- ▶ The FSP model first utilizes input parameters describing local stress conditions, fault geometry, and orientation to determine the required pressure increase to induce motion along each simulated feature
- ▶ Faults in the vicinity of the proposed Titan AGI #4 were observed to be steeply dipping and typically trending approximately N-S and E-W
- ▶ As shown in the previous slide 25, faults identified and included in FSP simulation have been subdivided into 24 fault segments, in order to capture variability in fault orientation

Modeled Parameter	Input Value	Variability (+/-)	UOM	Source
<i>Stress</i>				
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* Parameter	0.6	0.06	-	Lund Snee & Zoback, 2018
Reference Friction Coefficient (μ)	0.6	0.06	-	Standard Value
<i>Hydrologic</i>				
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
<i>Material properties</i>				
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 x 10 ⁻¹⁰	0	Pa ⁻¹	Standard Value
Rock Compressibility	1.08 x 10 ⁻⁹	0	Pa ⁻¹	Standard Value
<i>Acid gas @ 240 °F, 7,965 psi</i>				
Density	817.14	-	kg m ⁻³	AQUALibrium™
Dynamic Viscosity	0.0000804	-	Pa.s	AQUALibrium™

Input parameters and source material for FSP model simulations

REQUIRED CONDITIONS TO INDUCE SLIP

- ▶ As shown in the Table, pore pressure increases required to induce slip, as predicted by the FSP model, range from approximately 1,080 to 6,930 psi
- ▶ Faults generally striking closer to orientation of maximum horizontal stress direction (N75E) are predicted to require less pore-pressure increase to induce slip than those features striking approx. N-S
- ▶ Segments exhibiting lowest predicted pressure increase to induce slip correspond to faults 1, 2, 9, 10, and 21.

Segment #	ΔPP Required to Slip (PSI)	Segment #	ΔPP Required to Slip (PSI)
1	1444	13	5141
2	1219	14	2200
3	1654	15	3851
4	1615	16	1514
5	6303	17	1652
6	7398	18	6703
7	7162	19	1894
8	1595	20	1550
9	1282	21	1167
10	1153	22	6280
11	4053	23	6354
12	6020	24	4703

Model-estimated pore-pressure increase required to induced slip along each fault segment included in FSP model simulations

INJECTION WELLS IN THE VICINITY OF THE PROPOSED AGI

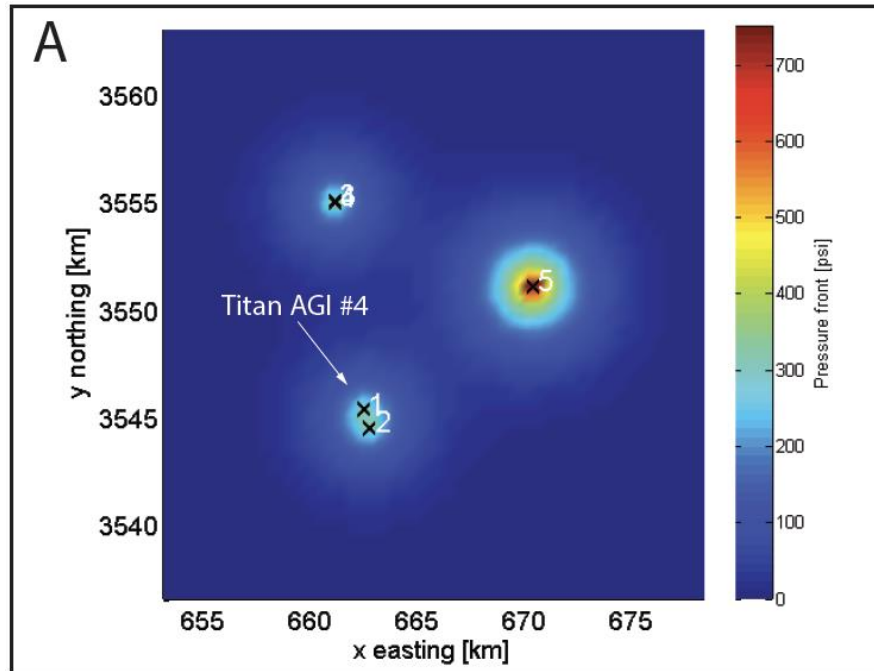
- ▶ Geolex identified five (5) Siluro-Devonian injection wells within the greater project area that were included in FSP simulations to predict the associated risk for injection-induced fault slip
- ▶ To ensure a conservative estimate of risk, all included SWD and the proposed AGI were operated at their maximum anticipated daily injection rate, as recorded in their respective C-108 applications and/or Orders authorizing injection.
- ▶ Daily injection volumes range from approximately 4,200 to 20,000 barrels per day
- ▶ Model limitations require simulation of the AGI utilizing injectate characteristics of produced water, which provides additional assurance that a conservative estimate of risk is produced as water exhibits greater viscosity and is significantly less compressible than acid gas

INJECTION WELLS INCLUDED IN FSP MODEL SIMULATIONS

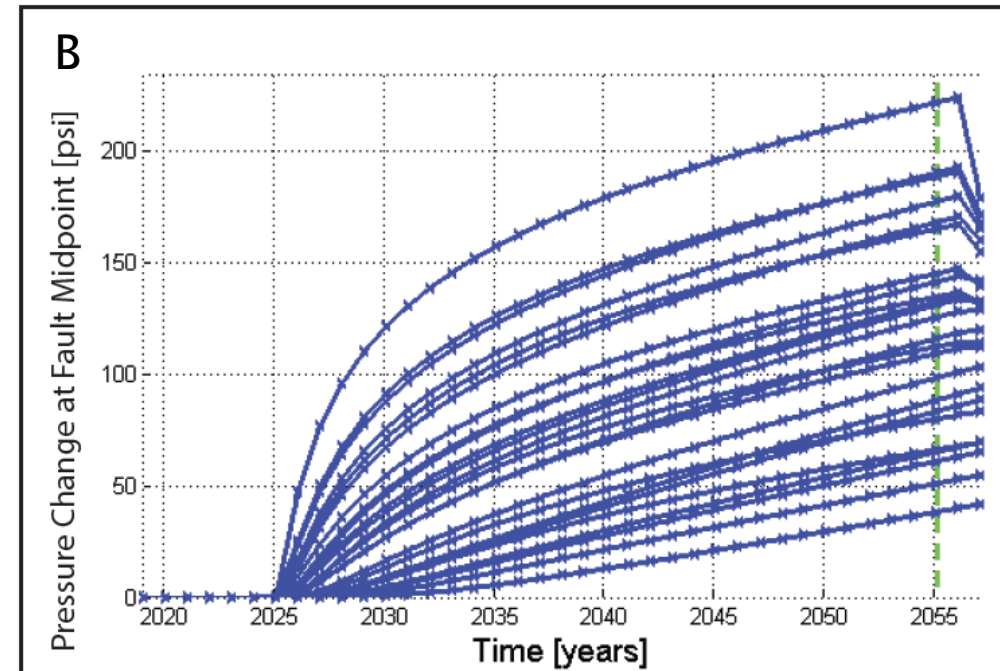
Well #	API	Well Name	Volume (bbls/day)	Start (year)	End (year)
1	-	Titan AGI #4	6880	2025	2055
2	3002553388	Salt Creek AGI #4	6880	2025	2055
3	3002548081	Independence AGI #1	4265	2021	2055
4	3002549974	Independence AGI #2	4265	2023	2055
5	3002543360	Kimberly SWD #1	20000	2019	2055

Note that wells include two additional AGI wells, which were simulated based on their maximum anticipated equivalent reservoir volume, in accordance with NMOCD records.

INJECTION SIMULATION RESULTS



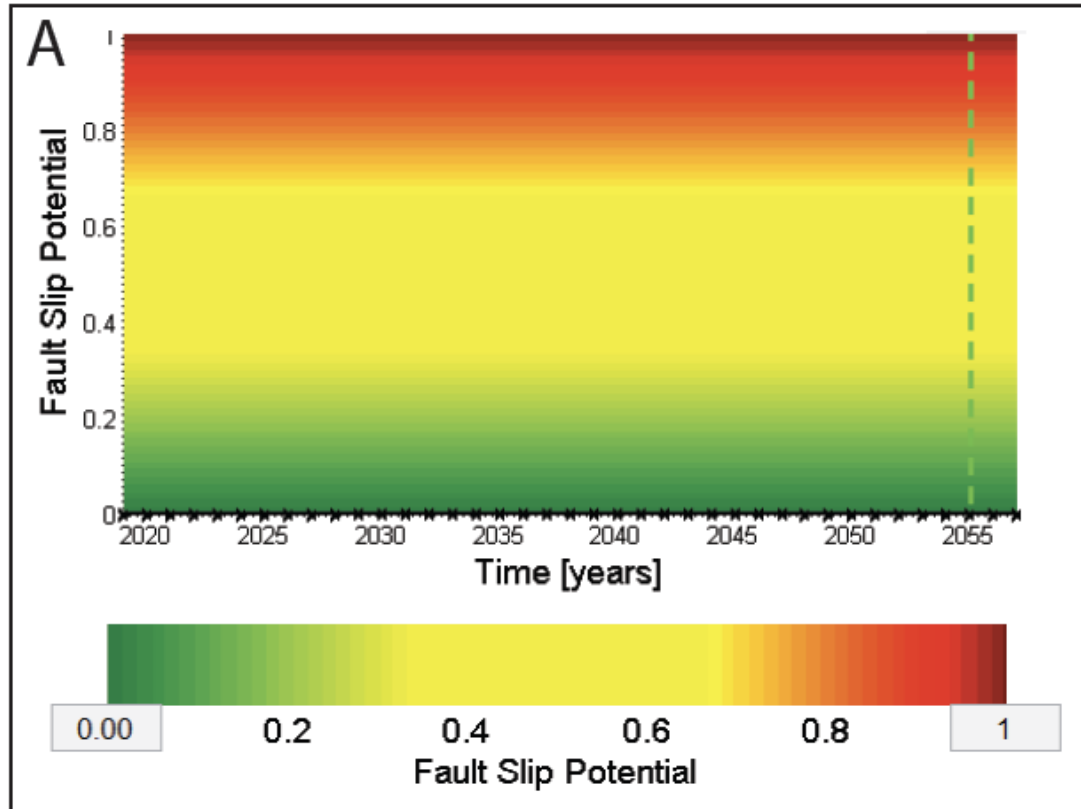
Panel A. Resultant pressure conditions after 33 years of Injection operations



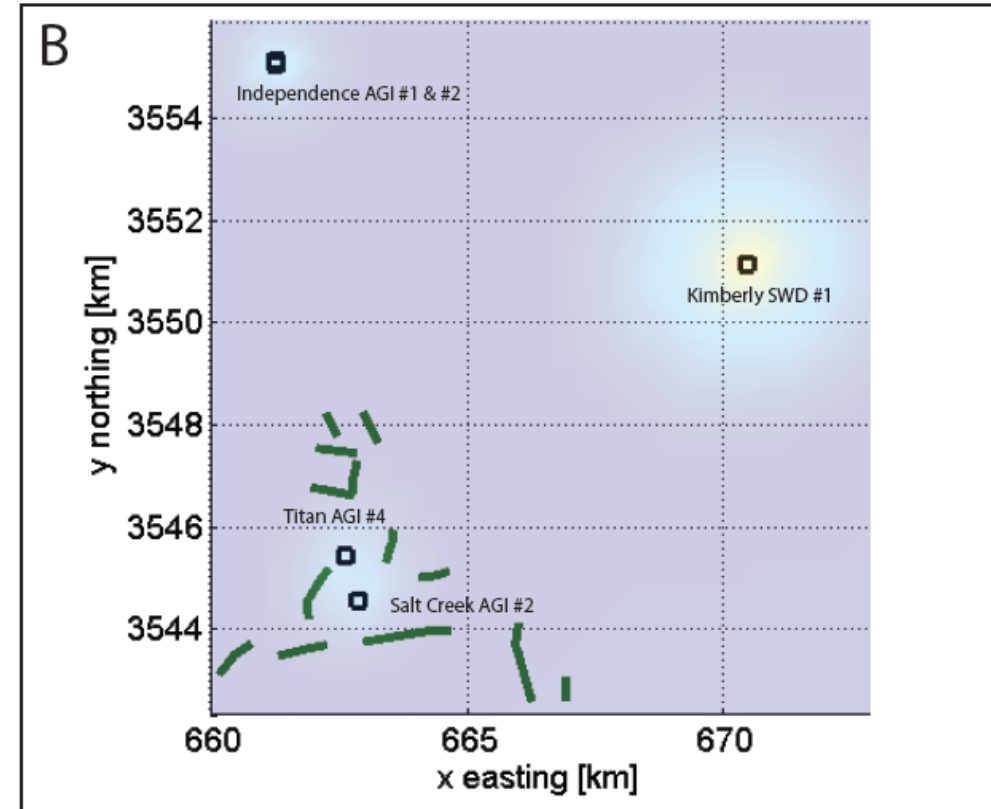
Panel B. Pressure change at each fault segment during simulation period.

- ▶ After 33 years of simulated injection, model-estimated pressure increase experienced at fault midpoints ranges from approximately 22-318 psi
- ▶ Predicted pressure changes resulting from the simulated injection scenario fall sufficiently short of the model-determined pressure required to induce slip along included faults
- ▶ Model-determined actual pressure increase experienced at fault midpoints range from less than 1% to 20% of pressure increase required to induce slip

FSP SIMULATION RESULTS



Fault Slip Potential through the simulated injection period (2023–2055)



FSP summary map illustrating slip probability and pressure impacts

In response to the simulated injection scenario, the FSP model predicts **zero probability** of slip for all faults considered in the assessment. As such, results indicate that Northwind's AGI wells can be operated, as proposed, without producing an elevated risk for induced-seismic events.

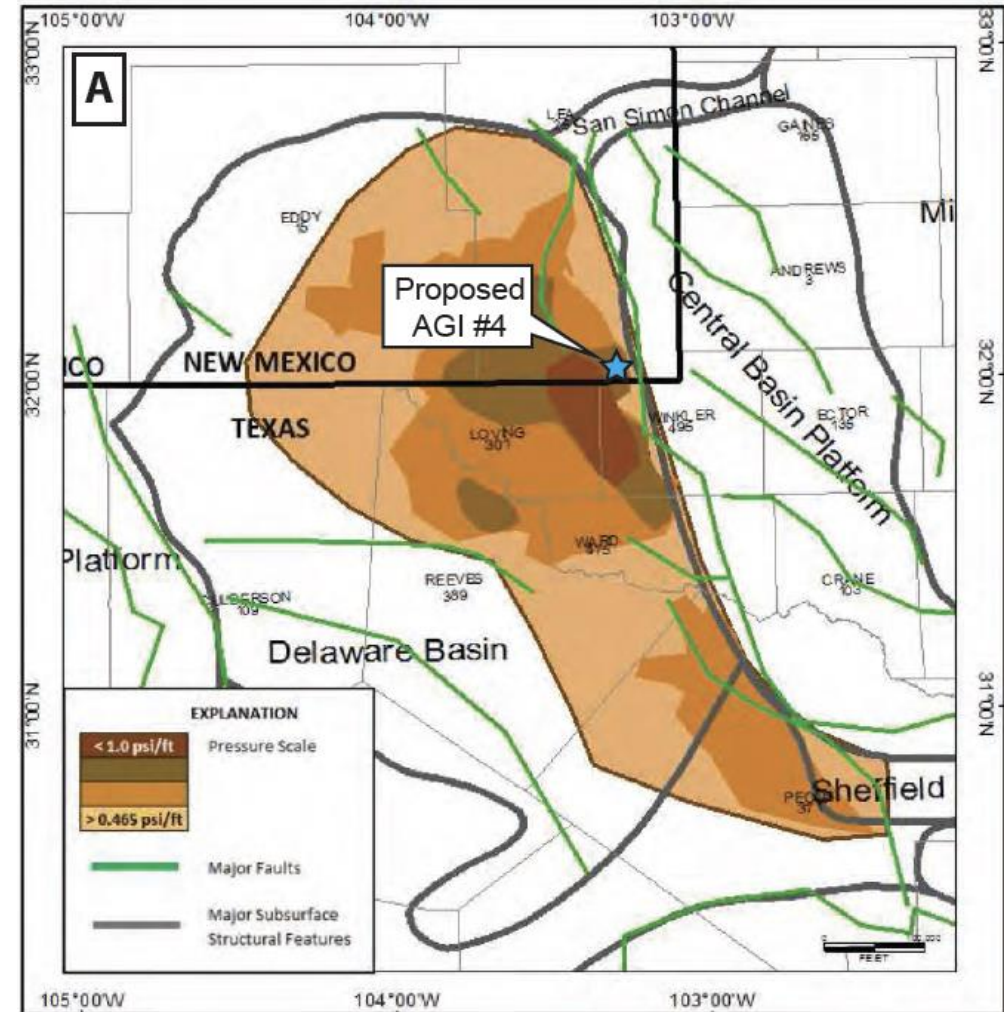
POTENTIAL FOR VERTICAL MIGRATION

Approximately 370 feet of dense Woodford Shale is anticipated to serve as the primary caprock for the Devonian reservoir, however, additional characterization of local pressure conditions was conducted to ensure acid gas has no potential to migrate vertically out of zone, including:

- Review of relevant studies characterizing regional pressure conditions in the Delaware Basin
- Compilation of drilling fluid records representing nearby wells to characterize local pressure conditions in the area of the proposed AGI
- Review of Salt Creek AGI #2 drilling records to confirm anticipated over-pressured conditions within the depth intervals of the Strawn, Atoka, and Morrow formations.

OVERPRESSURE CONDITIONS IN THE DELAWARE BASIN

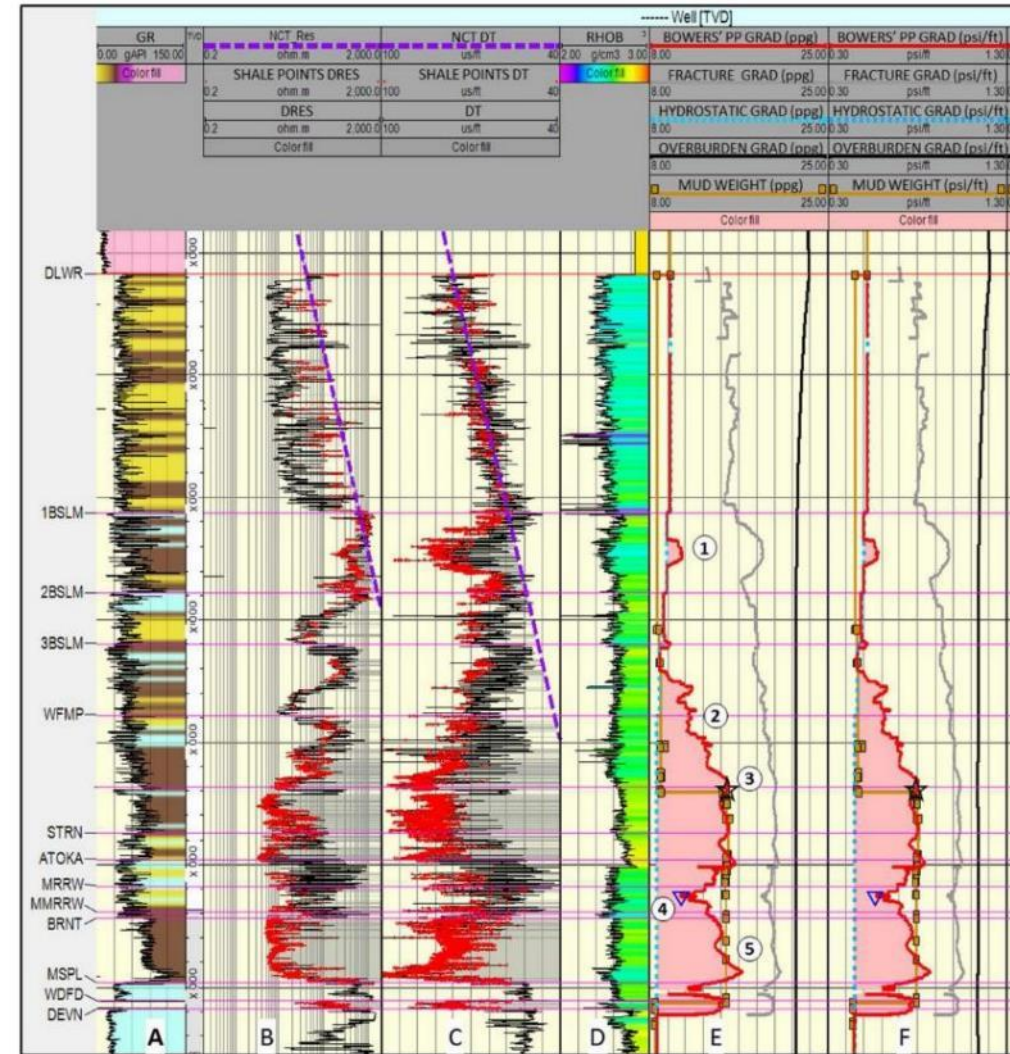
- ▶ Regional pore-pressure model of Delaware Basin generated by Rittenhouse et al. (2016), informed by:
 - >23,700 mud weight recordings
 - >4,000 DST and fracture injection tests
- ▶ Pore-pressure gradient increase observed from lower B. Springs to base of Woodford Shale
- ▶ Higher density mud weights required from Lower Wolfcamp to base of Woodford Shale
- ▶ Return to normal pressure conditions below Woodford Shale (proposed Titan AGI #4 injection zone)
- ▶ Results of this pore-pressure model indicate Devonian injection zone will be under-pressured relative to overlying producing zones



Mapped extent of present-day over-pressure conditions in the Delaware Basin (Rittenhouse et al., 2016). Proposed AGI location denoted by blue star.

OVERPRESSURE CONDITIONS IN THE DELAWARE BASIN

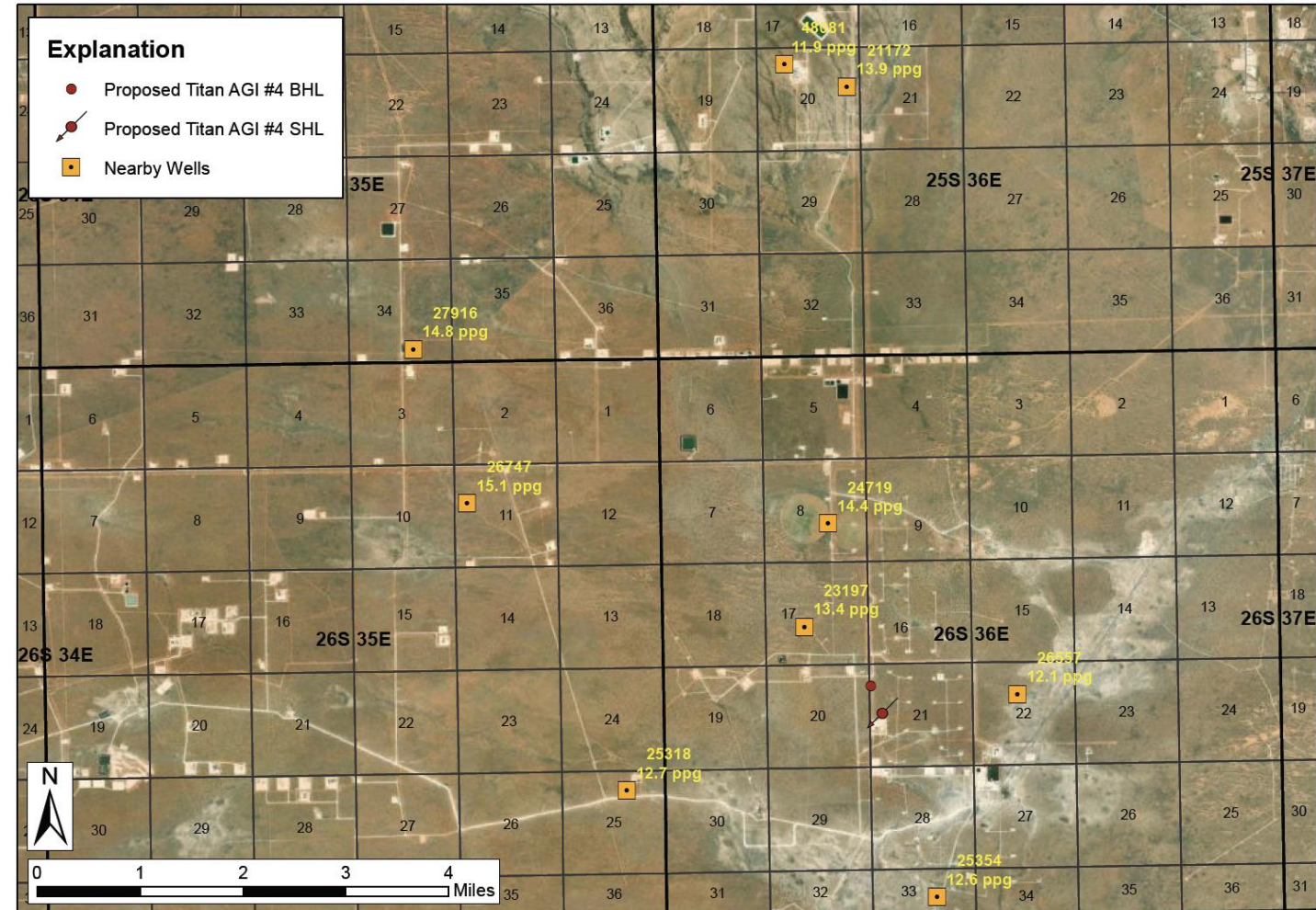
- ▶ Regional pore-pressure model of Delaware Basin generated by Rittenhouse et al. (2016), informed by:
 - >23,700 mud weight recordings
 - >4,000 DST and fracture injection tests
- ▶ Pore-pressure gradient increase observed from lower B. Springs to base of Woodford Shale
- ▶ Higher density mud weights required from Lower Wolfcamp to base of Woodford Shale
- ▶ Return to normal pressure conditions below Woodford Shale (proposed Titan AGI #4 injection zone)
- ▶ Results of this pore-pressure model indicate Devonian injection zone will be under-pressured relative to overlying producing zones



Example log response illustrating stratigraphic onset of over-pressure conditions and associated drilling-fluid densities in strata overlying the proposed Devonian injection zone

LOCAL DRILLING FLUID RECORDS

- ▶ To verify pressure conditions indicated by regional pore-pressure model (Rittenhouse et al., 2016), available drilling fluid records in the area of the proposed AGI well were compiled
- ▶ Well data (shown right) illustrates significantly high fluid densities utilized while drilling Atoka/Strawn through Mississippian intervals:
 - Mud Density Range – 11.9 to 15.1 PPG
 - Average Fluid Density – 13.4 PPG
- ▶ While drilling Salt Creek AGI #2 (most proximal offset), 13.1 ppg fluids were required to drill over-pressured Atoka/Strawn intervals, while low density fluids (approx. 8.4 were utilized through the Siluro-Devonian)
- ▶ Local drilling fluid records, and Salt Creek AGI #2 drilling activities, support the interpretation that the proposed injection reservoir is under-pressured relative to overlying producing zones



Annotated map illustrating drilling fluid densities utilized in zones overlying the target Siluro-Devonian reservoir in the area of the proposed AGI well

VERTICAL MIGRATION POTENTIAL

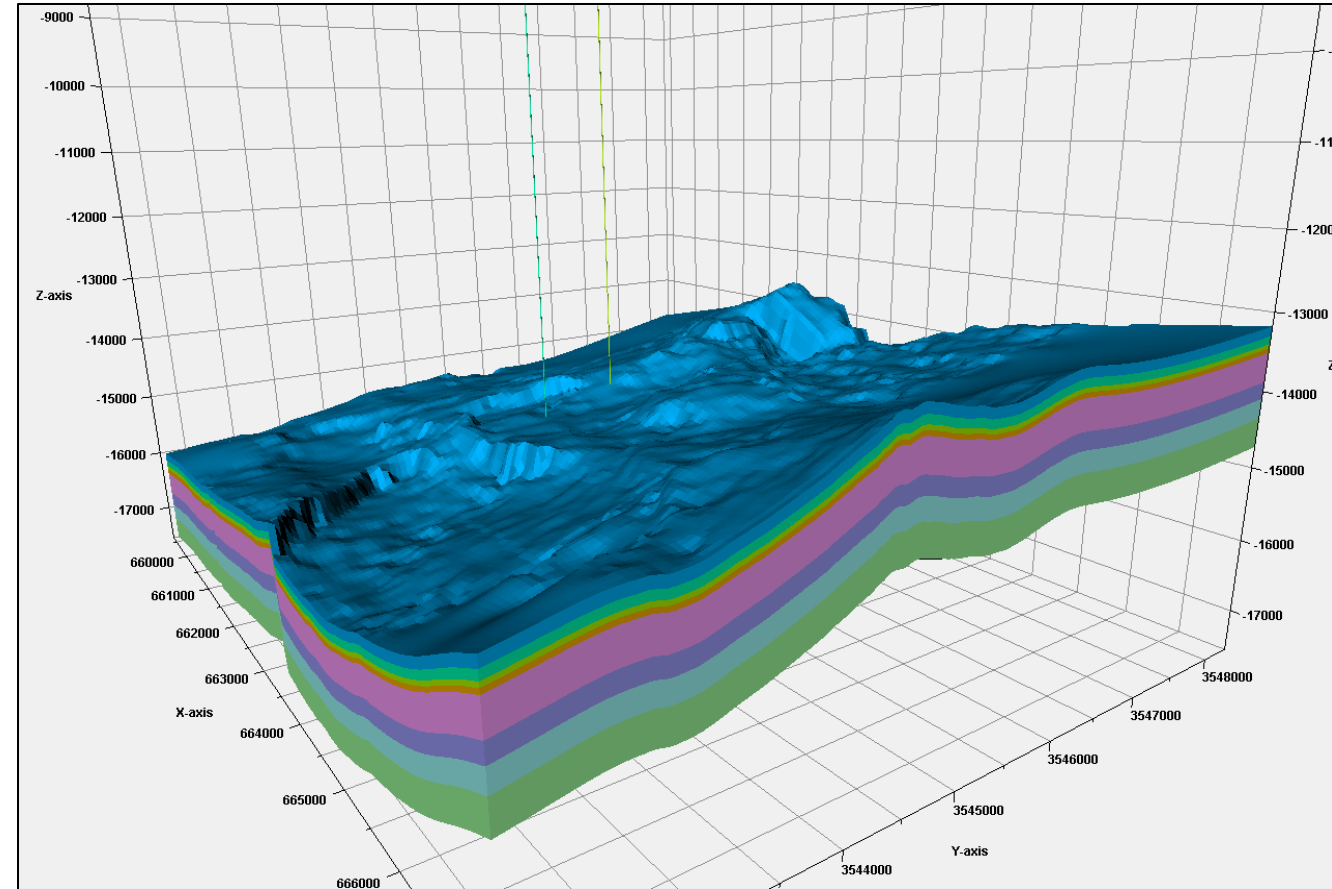
- ▶ Upon review of regional and local pore-pressure conditions, operation of the proposed AGI well is not anticipated to present any risk for vertical migration of acid gas out of the intended reservoir
- ▶ Records of drilling-fluid characteristics, specific drilling records from Northwind's Salt Creek AGI #2, and published literature demonstrate that the target Devonian injection reservoir is under-pressured relative to overlying producing zones
- ▶ Pressure differential between the target injection reservoir and competent overlying strata will aid in preventing vertical migration of acid gas out of the intended zone
- ▶ Furthermore, in the event open fluid conduits were present allowing for communication between zones, the pressure differential demonstrated by nearby drilling-fluid records would not be locally maintained

SIMULATING INJECTION OPERATIONS OF THE PROPOSED AGI WELL

- ▶ To characterize and predict the resultant acid gas plume after 30 years of operation, injection simulations were conducted utilizing Schlumberger modeling and simulation platforms
 - Schlumberger PETREL was utilized to construct a geologic simulation grid representing the subsurface strata
 - Injection simulations were conducted utilizing Schlumberger ECLIPSE and include relevant nearby wells with reasonable potential to affect the resultant AGI plume

GEOLOGIC SIMULATION MODEL

- ▶ A geologic characterization model, leveraging licensed 3D seismic survey data, was constructed to simulate operation of the proposed Titan AGI #4 and existing Salt Creek AGI #2 wells.
- ▶ Model attributes informed by available well log data and mapped acoustic impedance attributes (derived from seismic inversion analysis), which are directly related to porosity within the injection zone.
- ▶ Multiple case simulations were completed to consider operation of the proposed and existing Siluro-Devonian AGI wells under various reservoir conditions.



Three-dimensional render of the constructed geologic simulation grid representing eight discrete zones comprising the Siluro-Devonian injection reservoir.

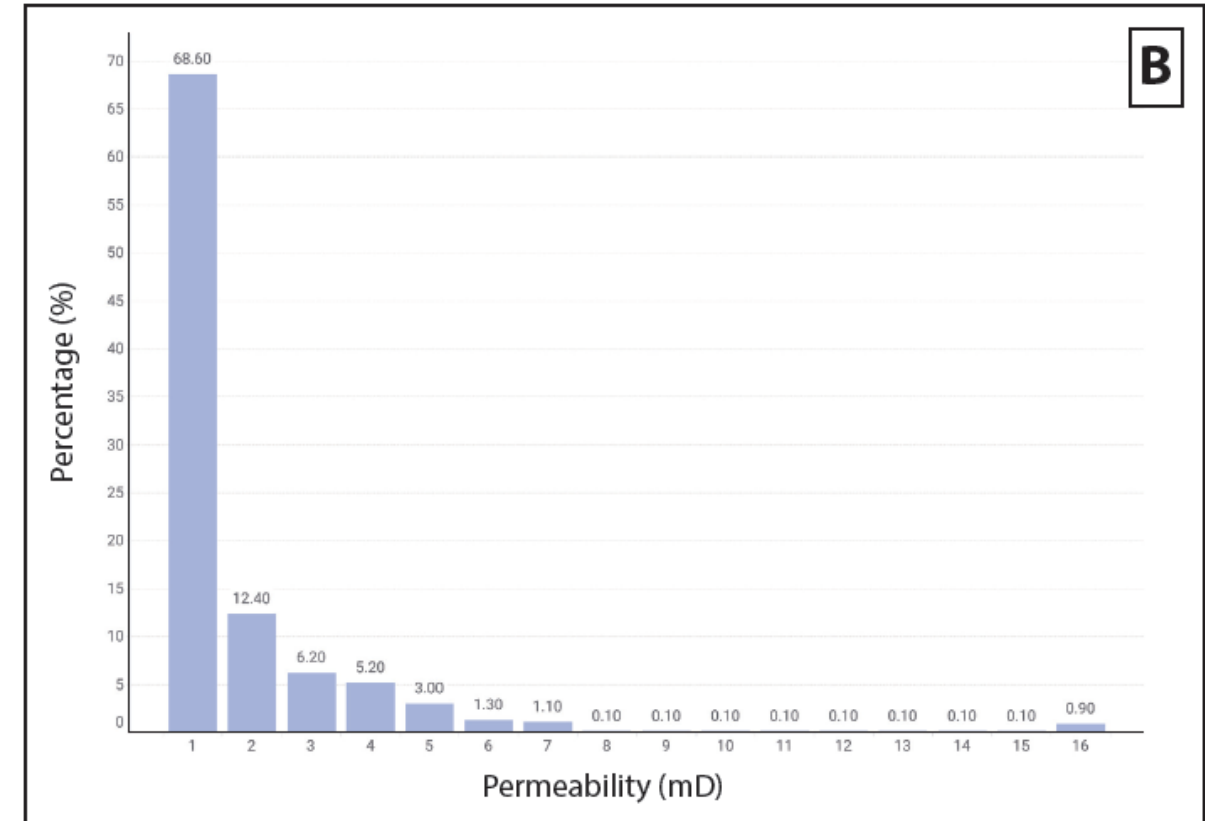
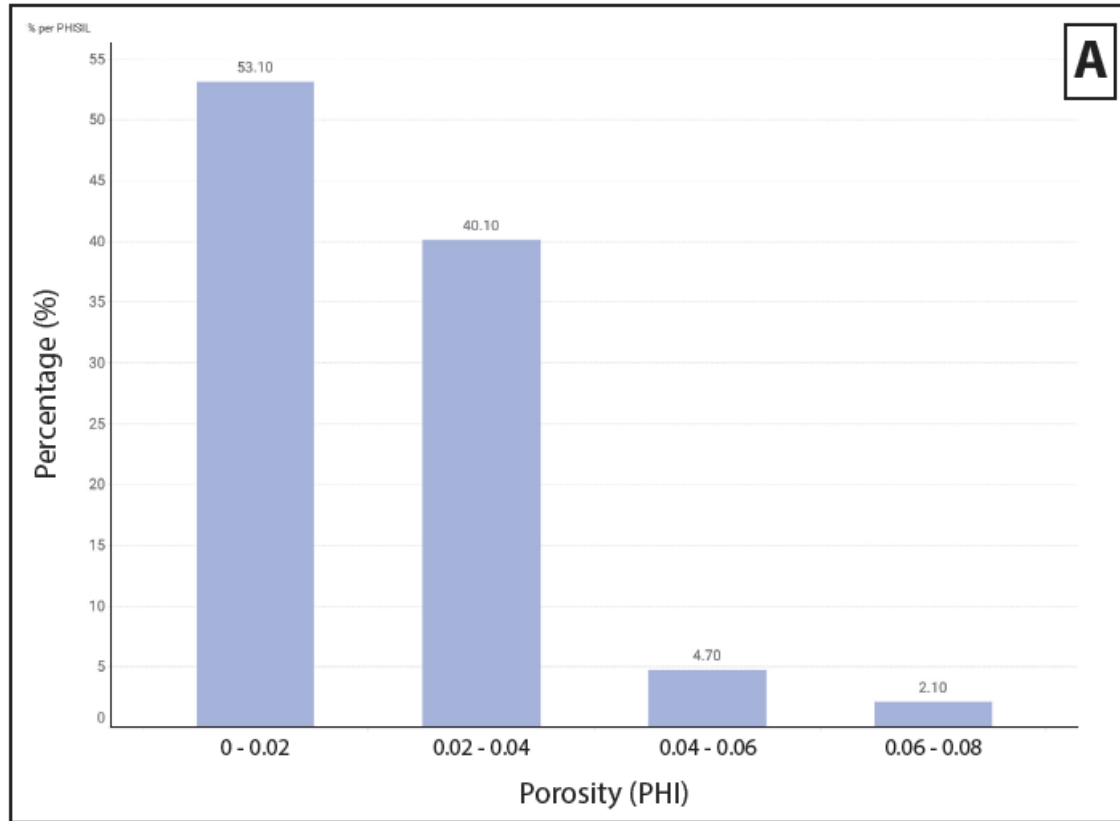
RESERVOIR MODEL CHARACTERISTICS

- ▶ Modeled injection reservoir is generally subdivided into eight (8) zones based on interpreted porosity and permeability characteristics
- ▶ The model grid is comprised of 151 simulation layers characterizing discrete depth intervals within the Siluro-Devonian reservoir. In total, 3,395,651 grid cells (165' x 165' x 10') comprise the model
- ▶ Average reservoir model porosity of approximately 2.1% and average model permeability of 5.1 mD.
- ▶ Permeability values defined based on available DST and injection test data, available sidewall core data, and published permeability studies e.g., Lucia et al. (1995)]

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

Identified zones within the injection reservoir delineated based on interpreted porosity and permeability characteristics

GEOLOGIC MODEL CHARACTERISTICS



Charts above illustrate geologic model porosity (Panel A) and permeability (Panel B) distributions, generated from offset well data and mapped impedance attributes derived from seismic survey analysis

INJECTION SIMULATION PARAMETERS AND CHARACTERISTICS (ECLIPSE)

- ▶ Simulation considers injection of a mixed acid gas stream of approximately 80% CO₂ and 20% H₂S for a total of 30 years
- ▶ NIST REFPROP utilized to determine gas properties for injection simulations (comparable to AQUAlibrium™ software)
- ▶ Proposed AGI operated at maximum anticipated injection rate continuously throughout simulation
- ▶ Simulation assumes reservoir is 100% saturated with brine in hydrostatic equilibrium upon commencement of injection simulation
- ▶ Multiple case simulations were conducted to evaluate resultant plume under conditions where faults are transmissive and non-transmissive to injected fluids

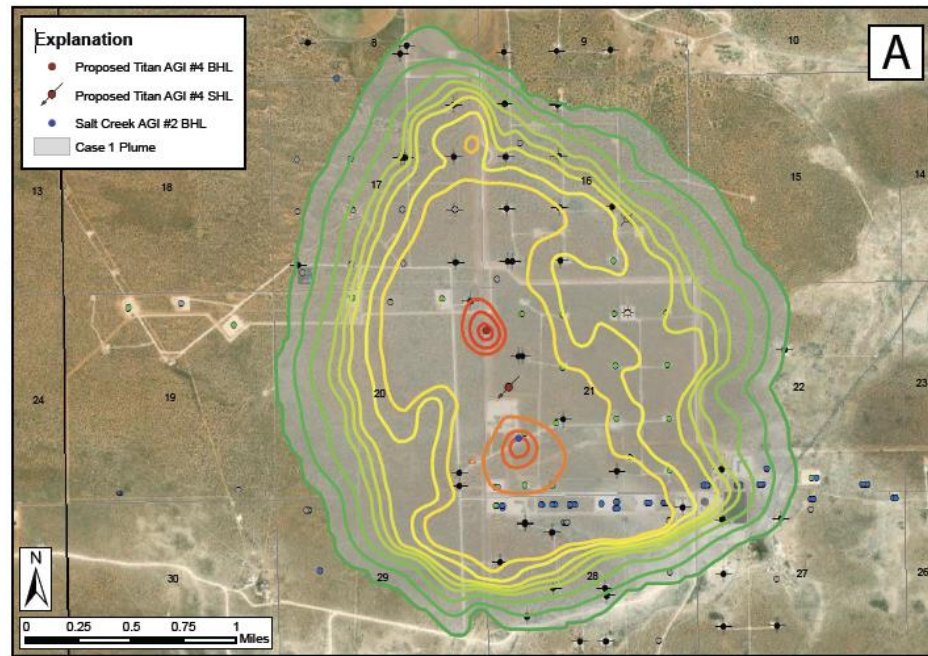
INJECTION CASE STUDIES

CASE #	TITAN AGI #4 INJECTION RATE	SALT CREEK AGI #2 INJECTION RATE	FAULT FLOW CONDITIONS
1	14.4 MMSCFD (6,880 BPD)	14.4 MMSCFD (6,880 BPD)	TRANSMISSIVE
2	14.4 MMSCFD (6,880 BPD)	14.4 MMSCFD (6,880 BPD)	NON- TRANSMISSIVE

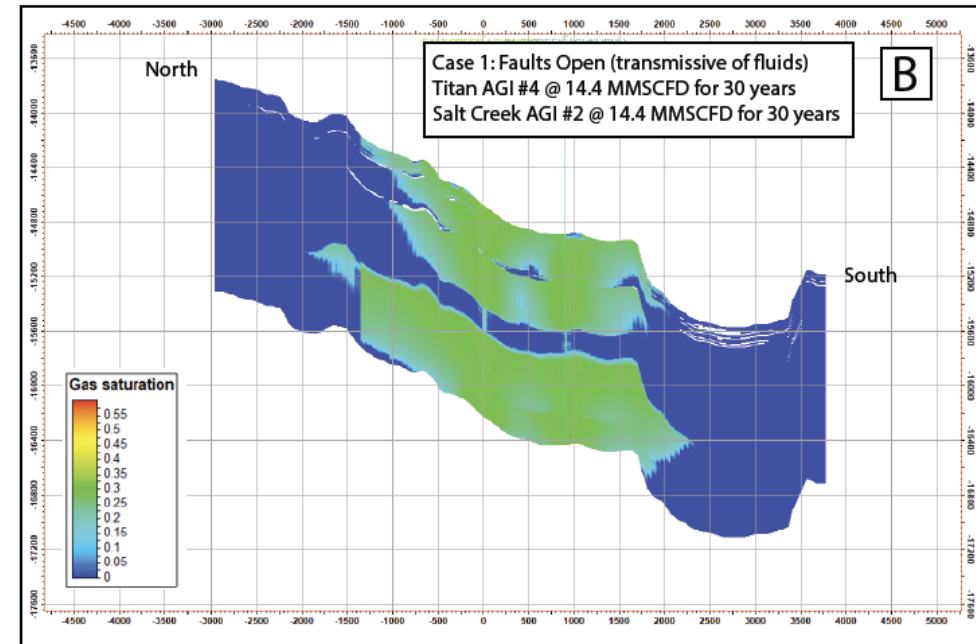
Summary of case simulations and associated injection well operating parameters

- ▶ In total, two case simulations were completed to evaluate the impacts of Titan AGI #4 and Salt Creek AGI #2 at a combined daily injection rate of 28.8 MMSCFD (13,760 bpd)
- ▶ Case 1 assumes faults in the project area are fully transmissive of fluids, while faults are barriers to flow in Case 2 simulation.

CASE 1 – SIMULATION RESULTS



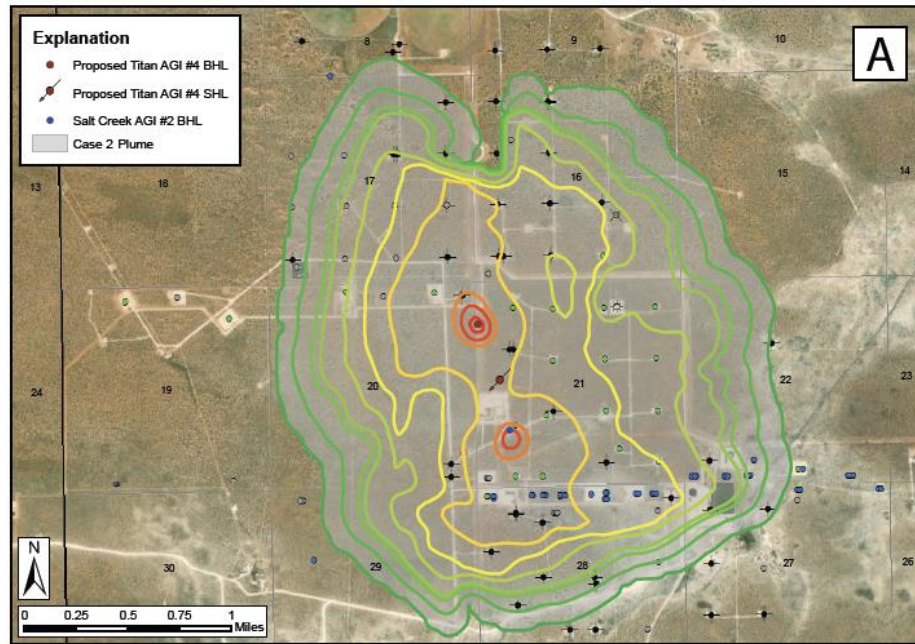
Plume contour map illustrating resultant gas saturation values



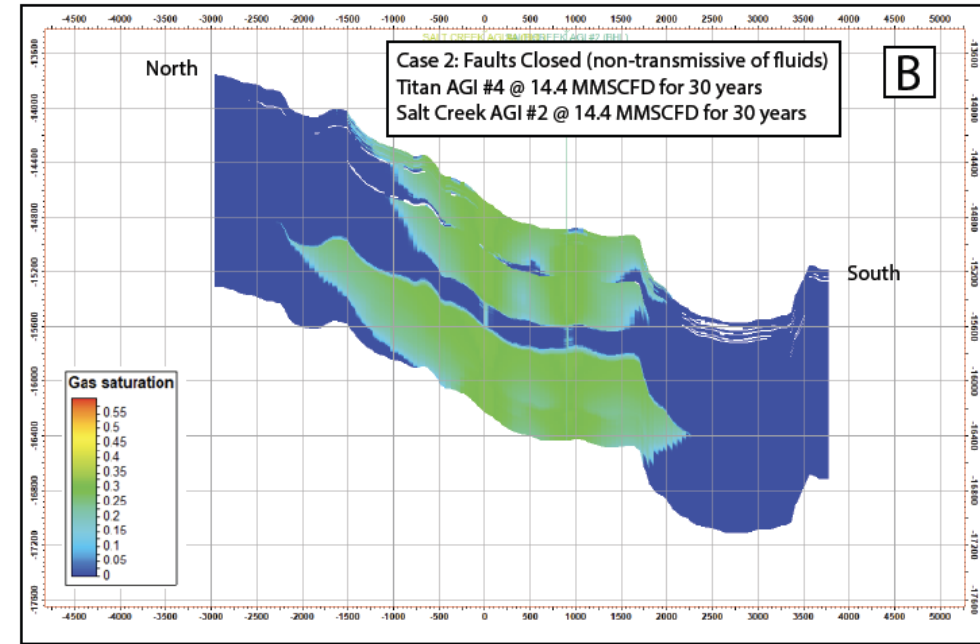
North-South cross-sectional view of resultant plume

- ▶ Maximum lateral dispersion distance of acid gas is predicted to be approximately 1.8 miles from the Titan Treating Facility
- ▶ Gas saturation mapping (Panel A) demonstrate that relatively low concentrations (less than approx. 10%) of acid gas reach this maximum extent of the plume
- ▶ Cross-sectional view of the injection reservoir (panels B) demonstrates that the interval of Fusselman Formation strata are predicted to receive the greatest volume of acid gas, which is consistent with geophysical log data collected while drilling the Salt Creek AGI #2 well.

CASE 2 – SIMULATION RESULTS



Plume contour map illustrating resultant gas saturation values

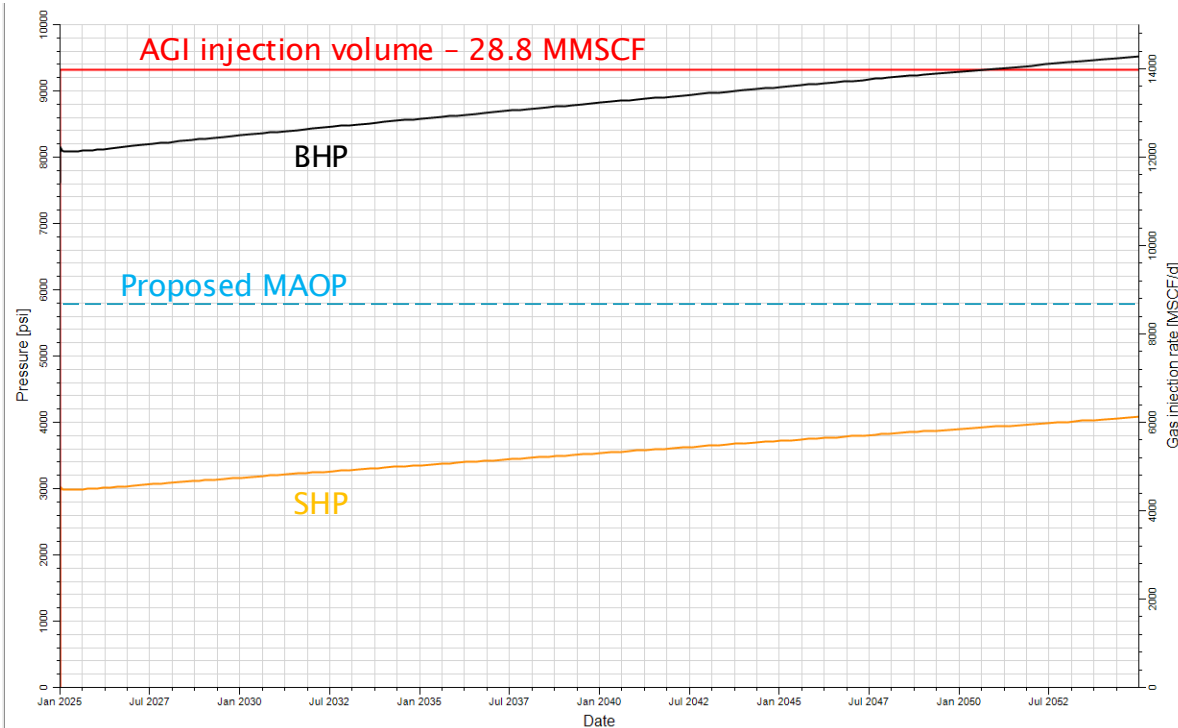


North-South cross-sectional view of resultant plume

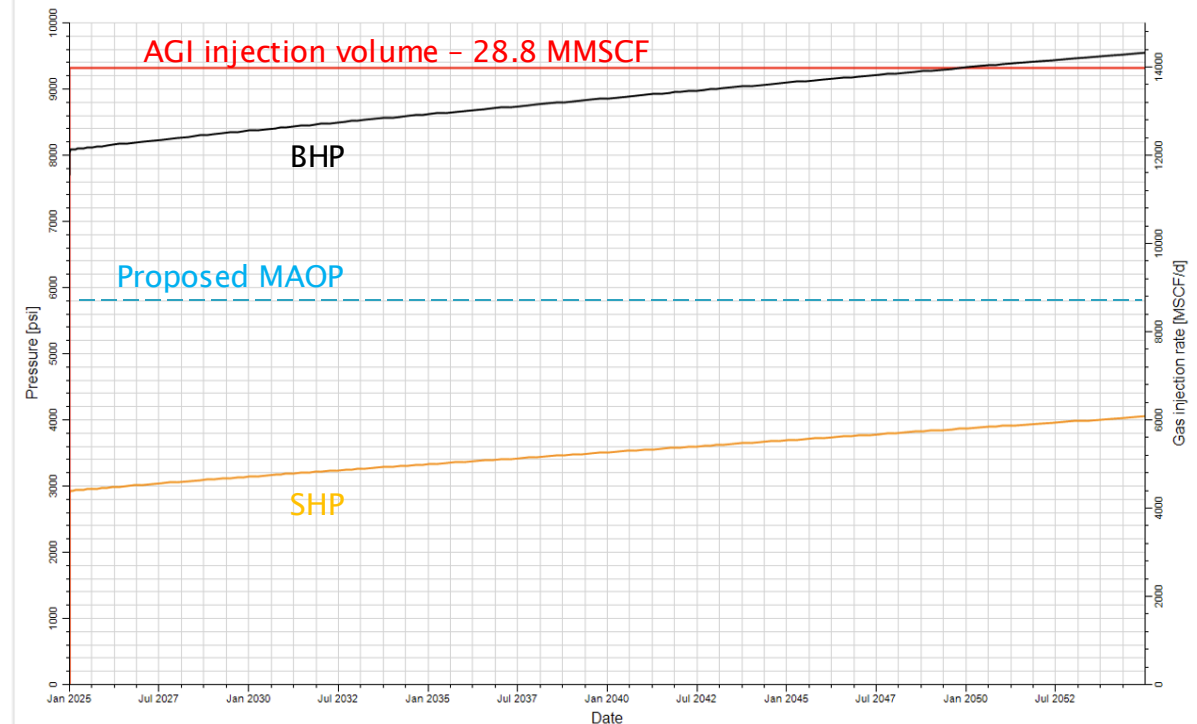
- Similar plume migration results are observed when faults are considered non-transmissive to fluids, with the plume extending predominantly northward and eastward from the Titan Treating Facility.
- Plume margins continue to be characterized by diffuse concentrations (less than approx. 10%) of acid gas. Gas saturation values in both cases range from less than 10% at the plume margin to approximately 50% in close proximity to the AGI wellbores.
- Cross-sectional view of the injection reservoir (panels B) demonstrates that the interval of Fusselman Formation strata are predicted to receive the greatest volume of acid gas, which is consistent with geophysical log data from the Salt Creek AGI #2.

CASE 1 & 2 – INJECTION RATE AND PRESSURE

CASE 1 – TRANSMISSIVE FAULTS



CASE 2 – NON-TRANSMISSIVE FAULTS



- ▶ In both case simulations 1 and 2, the reservoir is fully capable of accommodating the proposed acid gas volumes without exceeding the requested maximum allowable operating pressure. Furthermore, bottom-hole pressure forecasts remain sufficiently below anticipated formation fracture gradients. Acid gas injection rate, bottom-hole pressure, and surface injection pressure trends are shown in red, black, and orange, respectively.

SUMMARY – INJECTION SIMULATIONS

- ▶ **In summary, the Siluro-Devonian reservoir in this location is fully capable of receiving and sequestering the target 28.8 MMSCF per day of acid gas as proposed in Northwind's Titan AGI #4 C-108 application.**
- ▶ Injection simulations to characterize the resultant acid gas plume after 30 years of operation were conducted utilizing Schlumberger PETREL and ECLIPSE modeling and simulation platforms.
- ▶ All wells included were simulated at their maximum anticipated daily injection rates.
- ▶ Two case studies were simulated to estimate the resultant acid gas plume when interpreted faults were considered to be transmissive and non-transmissive to fluids.
- ▶ In all cases, the target 28.8 MMSCF per day can successfully be maintained for 30 years without exceeding the requested maximum allowable operating pressure. Furthermore, simulation results indicate a resultant bottom-hole pressure near the AGI wells which falls sufficiently below anticipated formation fracture gradients.
- ▶ Simulation results forecast a maximum lateral migration distance of approximately 1.8 miles north of the Titan Treatment Facility. While acid gas is predicted to be present near the AGI wells, generally, the resultant acid gas plume is anticipated to generally migrate north and east of the Titan Treating Facility.

ADJACENT OPERATORS AND SURFACE OWNER NOTIFICATION AND NOTICES

- ▶ Northwind's complete C-108 application was sent to adjacent operators and surface owners within the one-mile radius of the proposed well, via Certified Mail, return receipt requested
- ▶ Public notice of the hearing to consider the C-108 application was published by the New Mexico Oil Conservation Commission, as well as instructions regarding participation and attendance of the hearing.
- ▶ The AGI project will support local oil and gas operators by:
 - Allowing increased production capacity for sour gas resources
 - Increase royalties paid to the State of New Mexico
- ▶ The proposed well design and construction plan ensures the protection of groundwater resources and is fully protective of correlative rights.

C-108 APPLICATION SUMMARY

- ▶ Northwind is requesting authority to drill and operate an additional Siluro-Devonian AGI well and to increase the combined allowable volume for the existing Salt Creek AGI #2 well and the proposed Titan AGI #4 well up to 28.8 MMSCFD.
- ▶ The well and surface facilities have been designed to provide a safe and efficient injection system for the existing Titan Treatment Facility
- ▶ All identified surface and mineral owners and operators within one mile of the AGI have been properly notified.
- ▶ There is no current or anticipated production in the active Siluro-Devonian injection zone within at least two miles of the proposed injection site
- ▶ The Siluro-Devonian injection zone is capable of permanently containing the injected fluid due to low porosity and low permeability caprock above and below the injection zone and adequate capacity to sequester the anticipated volumes of acid gas
- ▶ Fresh groundwater resources are fully protected by the proposed well design, which includes installation of surface casing to a depth of approximately 2,120 feet within the Rustler Formation, and multiple additional casing strings to physically isolate the injection fluid from groundwater resources.

C-108 APPLICATION SUMMARY

- ▶ Only one well penetrates the proposed injection zone within the one-mile radius area of review, which includes the properly plugged South Lea Federal #1 well. The well was most recently plugged and abandoned in 2015, prior to which, it had been recompleted to produce from shallower depth intervals. Previously perforated Devonian intervals have been isolated by cement squeeze activities, placement of cement plugs, and placement of cast iron bridge plugs.
- ▶ Fault slip probability simulations were conducted to evaluate the potential for induced-seismic events in response to the proposed injection scenario, which demonstrate that the proposed Titan AGI #4 well can be operated without producing an elevated risk for injection-induced seismic events. Furthermore, FSP simulation results predict zero probability of slip for all faults considered.
- ▶ Injection simulation modeling to predict the resultant AGI plume after 30 years of injection at the maximum anticipated injection rate estimates the maximum extent of the TAG plume will extend approximately 1.8 miles from the Titan Treating Facility. Gas saturations are anticipated to range from approximately 50% nearest to the AGI wellbores to diffuse concentrations (less than 10%) at the outer plume margins.
- ▶ A review of regional Delaware Basin pressure conditions, compiled drilling-fluid records, and conditions experienced while drilling Salt Creek AGI #2, demonstrate that the targeted injection reservoir is under-pressured with respect to overlying producing strata. As such, this provides added assurance that injected acid gas will be contained as the pressure differential will impede and prevent vertical migration out of zone.

NORTHWIND'S REQUEST FROM THE NMOCC

- ▶ Northwind seeks approval to drill, test, complete, and operate the Titan AGI #4 well, as specified in their Form C-108 application, which will include a combined and shared daily injection rate of 28.8 MMSCFD for the existing Salt Creek AGI #2 and proposed Titan AGI #4 wells.
- ▶ The proposed 28.8 MMSCFD injection volume limitation is equivalent to approximately 13,760 barrels per day at reservoir pressure and temperature conditions, which is significantly less than daily injection volumes of typical SWD wells.
- ▶ Northwind requests permission to inject acid gas (CO₂, H₂S, trace hydrocarbons) into the well at a MAOP of 5,811 psig and maximum average daily injection rate of 28.8 MMSCF per day for at least 30 years
- ▶ As proposed, Northwind's Siluro-Devonian AGI wells (i.e., Titan AGI #4 and Salt Creek AGI #2) will increase the treating capacity for sour gas assets in the area, will prevent waste, and significantly reduce the potential for flaring (on-site and in producing fields), and will prevent the atmospheric release of significant volumes of production-related CO₂.
- ▶ As demonstrated by geologic modeling and simulation work, the AGI wells can be operated at the proposed combined rate of 28.8 MMSCFD without an elevated risk of producing induced-seismic events and can dispose of the required volumes of acid gas safely and effectively.
- ▶ This proposed well will dispose of acid gas safely and effectively and assures the protection of surface and groundwater resources and correlative rights

EXHIBIT C

LEA COUNTY, NM
 KEITH MANES, COUNTY CLERK
 57551
 Book 2231 Page 958
 1 of 5
 11/05/2024 04: 11 PM
 BY MADALYNHEREDIA

**RECORDING REQUESTED BY AND WHEN
 RECORDED RETURN TO:**

Northwind Midstream Partners LLC
 811 Louisiana St., Suite 2500
 Houston, Texas 77002
 Attn: General Counsel

THIS SPACE FOR RECORDER'S USE ONLY

SPECIAL WARRANTY DEED

STATE OF NEW MEXICO

§

COUNTY OF LEA

§

§

The undersigned, NGL SOUTH RANCH, INC., a New Mexico Corporation (hereinafter called "**Grantor**"), whose address is 600 N. Marienfeld, Suite 800, Midland, TX 79701, for good and valuable consideration from NORTHWIND MIDSTREAM PARTNERS LLC, a Delaware limited liability company (hereinafter called "**Grantee**"), whose address is 825 Town & Country Lane, Suite 700, Houston, Texas 77024, receipt of which is hereby acknowledged and confessed, does hereby grant, with special warranty covenants, unto the said Grantee, that certain tract of land lying and being situated in the County of Lea, State of New Mexico, being more particularly described on **Exhibit A** attached hereto and incorporated herein by reference (the "**Land**"), together with all improvements located thereon and all rights-of-way, easements, servitudes, licenses, tenements, roadways, easements, approaches, hereditaments, and appurtenances belonging or relating thereto (the Land, together with such other items, the "**Property**"); subject, however, to (i) the matters set forth in **Exhibit B** attached hereto and incorporated herein by reference (the "**Permitted Exceptions**");

TO HAVE AND TO HOLD the Property, together with, all and singular, the rights and appurtenances thereto in anywise belonging, unto the said Grantee, its successors and assigns forever, subject, however, to the matters set forth herein; and Grantor does hereby bind itself and its successors and assigns to WARRANT and FOREVER DEFEND, all and singular, the Property unto the said Grantee and its successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof by, through or under Grantor but not otherwise.

Witness Grantor's hand and seal this 30th day of October, 2024,

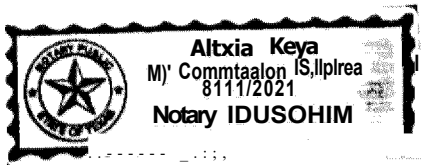
GRANTOR:

NGL SOUTH RANCH, INC.,
a New Mexico Corporation

By: [Signature]
Name: David Gregory Mabee
Title: Treasurer

THE STATE OF Texas §
COUNTY OF midland §
 §

This instrument was acknowledged before me on Oct 30, 2024, by David Gregory Mabee, as Treasurer of NGL South Ranch, Inc., a New Mexico Corporation.



My Commission Expires:
9/18/28

[Signature]
Notary Public, State of Texas

Alexis Keys
Printed/Typed Name of Notary

Exhibit A to Special Warranty Deed**Legal Description**

A tract of land located in Section 21, Township 26 South (T-26-S), Range 36 East (R-36-E), New Mexico Principal Meridian (N.M.P.M.), Lea County, New Mexico, and being part of a tract of land described in a deed to NGL South Ranch, Inc., as recorded in Book 2222, Page 685, Deed Records of Lea County, New Mexico (D.R.L.C.N.M.); said 140.00 acres being more particularly described as follows:

BEGINNING at a 1/2 inch pink capped iron rod stamped (PAPPAS #21209) set (New Mexico State Plane Coordinate System, NAD83, East Zone, grid coordinates; N: 374823.69, E: 869593.78) for the most southerly southwest corner of this tract and the southeast corner of a tract of land described as New Mexico Site in a deed to Northwind Midstream, as recorded in Book 2211, Page 830, D.R.L.C.N.M., from which a 2 inch brass capped iron pipe marked "U.S. GLO" found for the southwest corner of said Section 21 bears S 39° 44' 40" W, a distance of 2,137.84 feet;

THENCE with the common boundary line of this tract and said Northwest Midstream tract of land, over and across said Section 21, T-26-S, R-36-E, and said NGL South Ranch tract of land the following (2) two courses and distances:

1. N 01° 34' 37" E, a distance of **1741.39 feet** to a 1/2 inch yellow capped iron rod marked "DATAPOINT 10194585" found for the northeast corner of said Northwind Midstream tract of land;

2. N 89° 24' 32" W, a distance of **1,451.25 feet** to a 1/2 inch yellow capped iron rod marked "DATAPOINT 10194585" found on the West line of said Section 21, T-26-S, R-36-E, being the westerly southwest corner of this tract, and the northwest corner of said Northwest Midstream tract of land;

THENCE N 00° 33' 57" W, along said West line of Section 21, T-26-S, R-36-E, a distance of **1,161.50 feet** to a 1/2 inch pink capped iron rod stamped (PAPPAS #21209) set for the northwest corner of this tract, from which a 2 inch brass capped iron pipe marked "U.S. GLO" found for the northwest corner of said Section 21 bears N 00° 33' 57" W, a distance of 702.59 feet;

THENCE over and across said Section 21, T-26-S, R-36-E, and said NGL South Ranch tract of land the following (9) nine courses and distances:

1. N 89° 27' 47" E, a distance of **1,574.48 feet** to a 1/2 inch pink capped iron rod stamped (PAPPAS #21209) set;

2. S 79° 46' 36" E, a distance of **576.58 feet** to a 1/2 inch pink capped iron rod stamped (PAPPAS #21209) set;

3. S 88° 15' 02" E, a distance of **987.56 feet** to a 1/2 inch pink capped iron rod stamped (PAPPAS #21209) set for the northeast corner of this tract;

4. S 00° 49' 00" W, a distance of **2,609.15 feet** to a 1/2 inch pink capped iron rod stamped (PAPPAS #21209) set for the southeast corner of this tract;

5. N 90° 00' 00" W, a distance of **1,092.99 feet** to a 1/2 inch pink capped iron rod stamped (PAPPAS #21209) set;

6. N 17° 17' 50" W, a distance of **151.38 feet** to a 2 inch steel fence corner post found;

7. S 70° 22' 36" W, a distance of **214.14 feet** to a 2 inch steel fence corner post found;

8. S 19° 25' 57" E, a distance of **98.24 feet** to a 1/2 inch pink capped iron rod stamped (PAPPAS #21209) set;

9. S 65° 16' 55" W, a distance of **407.32 feet** to the point of beginning.

LEA COUNTY, NM
KEITH MANES, COUNTY CLERK
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11/05/2024 04: 11 PM
BY MADALYNHEREDIA

Exhibit B to Special Warranty Deed

Permitted Exceptions

1. Water rights, claims or title to water, whether or not disclosed by the Public Records.
2. Taxes for the year 2024, and thereafter, not yet due or payable.
3. Title to all the oil, gas and other minerals in, under and that may be produced from the land, together with all rights, privileges and immunities relating thereto heretofore reserved unto and or conveyed by predecessors in title.
4. Reservation Contained in Patent from United States of America recorded in Book 2, Page 355, Records of Lea County, New Mexico.
5. Right of Way and Easement granted to El Paso Natural Gas Company, filed June 1, 1982 in Deed Book 397, page 207, Records of Lea County, New Mexico.
6. Third Supplemental Conveyance, Assignment and Bill of Sale, by and between Texas-New Mexico Pipeline Company and Plains Pipeline, LP, dated October 1, 2003, filed March 6, 2006 in Book 1430, Page 643, Records of Lea County, New Mexico.
7. Recordation Notice of Memorandum of Surface Compensation Agreement dated May 1, 2008 executed by Beckham Ranch Inc and COG Operating, LLC recorded in Book 1586, Page 391, Records of Lea County, New Mexico.
8. Roadway Right of Way and Easement Granted to COG Operating, LLC, dated June 12, 2008, filed June 18, 2008, in Book 1586, Page 393, Records of Lea County, New Mexico.
9. Pipeline Right-of-Way and Easement dated May 22, 2009, from Beckham Ranch Inc to COG Operating, LLC recorded in Book 1639, Page 423, Records of Lea County, New Mexico and as referenced on the ALTA/NSPS Land Title Survey prepared by Tim C. Pappas, P.S. License No. 21209, dated September 18, 2024.
10. Electric Line Right-of-Way and Easement dated May 22, 2009, From Beckham Ranch Inc to COG Operating, LLC recorded in Book 1639, Page 427, Records of Lea County, New Mexico and as referenced on the ALTA/NSPS Land Title Survey prepared by Tim C. Pappas, P.S. License No. 21209, dated September 18, 2024.
11. Electric Line Right-of-Way and Easement, dated December 6, 2011, From Beckham Ranch, Inc To RMR Operating, LLC recorded in Book 1760, Page 134, Records of Lea County, New Mexico.
12. Terms, Conditions, Rights and Obligations under That certain Memorandum of Surface Use and Compensation Agreement, dated August 8, 2014, executed by Beckham Ranch Inc and Chevron Midcontinent, LP recorded in Book 1911, Page 380, Records of Lea County, New Mexico.
13. Terms, Conditions, Rights, Obligations under That certain Memorandum of Gas Purchase Agreement, dated February 14, 2018, By and Between Ameredeve New Mexico and Salt Creek Midstream, LLC, Filed March 16, 2018, recorded in Book 2130, Page 918, Records of Lea County, New Mexico.
14. Terms, Conditions, Rights and Obligations under the Memorandum of The Term Right-of-Way Agreement dated May 9, 2018, executed by Beckham Ranch, Inc. To Salt Creek Midstream, LLC, recorded in Book 2135, Page 115, First Amendment of Term Right-of-Way Agreement recorded in Book 2168, page 716, Second Amendment of Term Right-of-Way Agreement recorded in Book 2210, Page 191, and Third Amendment To Term Right-of-Way Agreement recorded in Book 2212, Page 830, Records of Lea County, New Mexico and as referenced on the ALTA/NSPS Land Title Survey prepared by Tim C. Pappas, P.S. License No. 21209, dated September 18, 2024.

15. Pipeline Right-of-Way and Easement Agreement dated June 6, 2019, executed by NGL South Ranch, Inc, a New Mexico Corporation and SCM Crude, LLC, a Delaware Limited Liability Company recorded in Book 2153, Page 678, Records of Lea County, New Mexico and as referenced on the ALTA/NSPS Land Title Survey prepared by Tim C. Pappas, P.S. License No. 21209, dated September 18, 2024.
16. Terms, Conditions, Rights, Obligations under that certain Memorandum of Surface Use and Compensation Agreement dated by and between NGL South Ranch, Inc and NGL Water Solutions, LLC, filed December 6, 2022 in Book 2203, page 757, Amendment recorded in Book 2211, page 786 and Book 2222, page 124, records of Lea County, New Mexico.
17. Pipeline Right-of-Way and Easement Agreement dated June 30, 2023, executed by NGL South Ranch, Inc, a New Mexico Corporation and NGL South Ranch, Inc., recorded in Book 2211, Page 831 and Book 2211, Page 832, Records of Lea County, New Mexico and as referenced on the ALTA/NSPS Land Title Survey prepared by Tim C. Pappas, P.S. License No. 21209, dated September 18, 2024.
18. Terms, Conditions, Rights and Obligations of that certain unrecorded Oral Grazing Lease Agreement by and between NGL South Ranch, Inc, a New Mexico corporation and Brad Beckham.

LEA COUNTY, NM
 KEITH MANES, COUNTY CLERK
 37448
 Book 2211 Page 830
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 06/30/2023 02:13 PM
 BY CRESLEY BARBRE

Notice of Confidentiality Rights: If you are a natural person, you may remove or strike the following information from this instrument before it is filed for record in the Public Records: Your social Security Number or Your Driver's License Number

SPECIAL WARRANTY DEED

**RECORDING REQUESTED BY AND WHEN
 RECORDED RETURN TO:**

Latham & Watkins LLP
 12670 High Bluff Drive
 San Diego, CA 92130
 Attention: Will Swanson

THIS SPACE FOR RECORDER'S USE ONLY

SPECIAL WARRANTY DEED

STATE OF NEW MEXICO §
 §
 COUNTY OF LEA §

The undersigned, NGL SOUTH RANCH, INC., a New Mexico corporation (collectively, hereinafter called "**Grantor**"), whose address is 865 N Albion Street, Suite 400, Denver, CO 80220, for good and valuable consideration from NORTHWIND MIDSTREAM PARTNERS LLC, a Delaware limited liability company (hereinafter called "**Grantee**"), whose address is 825 Town & Country Lane, Suite 700, Houston, Texas 77024, receipt of which is hereby acknowledged and confessed, does hereby grant, with special warranty covenants, unto the said Grantee, that certain tract of land lying and being situated in the County of Lea, State of New Mexico, being more particularly described on **Exhibit A** attached hereto and incorporated herein by reference (the "**Land**"), together with all improvements located thereon and all rights-of-way, easements, servitudes, licenses, tenements, roadways, easements, approaches, hereditaments, and appurtenances belonging or relating thereto (the Land, together with such other items, the "**Property**"); subject, however, to (i) the matters set forth in **Exhibit B** attached hereto and incorporated herein by reference (the "**Permitted Exceptions**"); and (ii) the Mineral Reservation (as such term is hereinafter defined).

Grantor excepts from the conveyance and reserves unto Grantor, Grantor's heirs, executors, administrators, successors and assigns, forever, all oil, gas, and other minerals in and under and that may be produced from the Land (the "**Mineral Reservation**"); provided, however, that Grantor, to the degree that Grantor has the legal right and authority to do so, hereby waives, relinquishes, releases and quitclaims unto Grantee the right of ingress and egress to, from, over and across the surface of the Land relating to the mineral estate owned by Grantor, including, without limitation, all rights of ingress and egress for the exploration, drilling, mining, production,

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BY CRESLEY BARBRE

development, transportation and/or storage of oil, gas, and other minerals. Nothing herein, however, shall restrict or prohibit Grantor or Grantor's heirs, executors, administrators, successors or assigns, as the owner of the Mineral Reservation or through lease of the mineral interest covered thereby, from developing or producing the oil, gas or other minerals in, on and under the Land (i) by pooling or unitization of the Land with other land or (ii) by drilling (utilizing directional or horizontal drilling methods) under the Land (at a depth of not less than five hundred feet (500') below the surface of the Land) from surface locations on other lands in accordance with all applicable ordinances, regulations and statutes, and in accordance with good drilling practices, provided that these operations in no manner interfere with the surface or subsurface support or use or operation of any improvements constructed or to be constructed on the Land.

The foregoing conveyance shall be subject to a perpetual restriction and covenant running with the land for the benefit of Grantor that no current or future owner of the Property may utilize the Property for: (i) the storage and/or injection of wastewater that is permitted to be injected into a well or wells in the State of New Mexico under applicable governmental regulations; (ii) the skimming, collection and/or sale of hydrocarbons skimmed, salvaged or otherwise received from or in conjunction with such wastewater; (iii) wastewater pipelines; or (iv) wastewater recycling; provided, however, nothing contained herein shall restrict Grantee or its successors or assigns from managing, treating, storing, injecting or transporting wastewater that is produced or used solely in connection with natural gas processing or acid gas injection activities located and occurring on the Property.

TO HAVE AND TO HOLD the Property, together with, all and singular, the rights and appurtenances thereto in anywise belonging, unto the said Grantee, its successors and assigns forever, subject, however, to the matters set forth herein; and Grantor does hereby bind itself and its successors and assigns to WARRANT and FOREVER DEFEND, all and singular, the Property unto the said Grantee and its successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof by, through or under Grantor but not otherwise; subject, however, to the Permitted Exceptions and the Mineral Reservation.

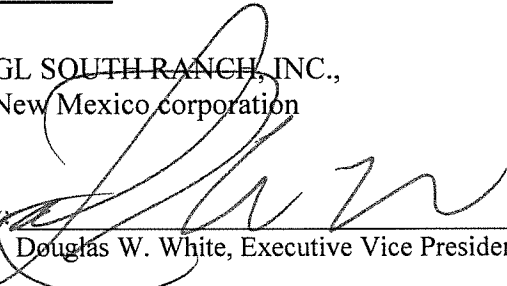
[Signature Page Follows]

LEA COUNTY, NM
KEITH MANES, COUNTY CLERK
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Book 2211 Page 830
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06/30/2023 02:13 PM
BY CRESLEY BARBRE

IN WITNESS WHEREOF, Grantor has executed this instrument effective as of June 30,
2023.

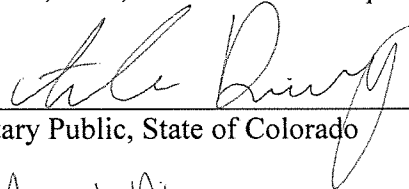
GRANTOR:

NGL SOUTH RANCH, INC.,
a New Mexico corporation

By: 
Douglas W. White, Executive Vice President

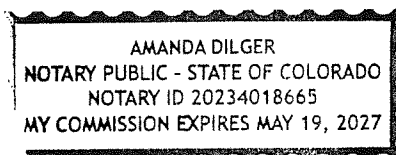
THE STATE OF COLORADO §
 §
COUNTY OF DENVER §

This instrument was acknowledged before me on June 27, 2023, by Douglas W. White,
Executive Vice President of NGL SOUTH RANCH, INC., a New Mexico corporation, on behalf
of said corporation.


Notary Public, State of Colorado

My Commission Expires:
May 19, 2027

Amanda Dilger
Printed/Typed Name of Notary



LEA COUNTY, NM
KEITH MANES, COUNTY CLERK
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BY CRESLEY BARBRE

Exhibit A

BEING A METES AND BOUNDS DESCRIPTION OF A TRACT OF LAND, BEING LOCATED IN THE SW/4 OF THE NW/4, THE SE/4 OF THE NW/4, THE NW/4 OF THE SW/4, THE NE/4 OF THE SW/4 AND THE SW/4 OF THE SW/4, SECTION 21, TOWNSHIP 26 SOUTH, RANGE 36 EAST, LEA COUNTY, NEW MEXICO; BEING OUT OF A TRACT OF LAND DESCRIBED DEED TO BECKHAM RANCH, INC., AS RECORDED IN VOLUME 386, PAGE 320, AND REFERENCED IN THE AFFIDAVIT OF NAME CHANGE TO NGL SOUTH RANCH, INC, AS RECORDED IN VOLUME 2183, PAGE 517 OF THE OFFICIAL PUBLIC RECORDS OF LEA COUNTY, NEW MEXICO SAID SITE BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT A POINT IN SAID SECTION 21, FROM WHICH A FOUND U.S.G.L.O. MONUMENT, FOR THE SOUTHWEST CORNER OF SAID SECTION 21 BEARS S00°37'39"E, A DISTANCE OF 857.37 FEET; THENCE N00°37'39"W, A DISTANCE OF 1,766.62 FEET TO A POINT; THENCE N00°33'57"W, A DISTANCE OF 775.87 FEET TO A POINT; THENCE S89°24'32"E, A DISTANCE OF 1,451.40 FEET TO A POINT; THENCE S01°34'37"W, A DISTANCE OF 1,741.39 FEET TO A POINT; THENCE N88°25'23"W, A DISTANCE OF 461.10 FEET TO A POINT; THENCE S01°34'37"W, A DISTANCE OF 336.63 FEET TO A POINT; THENCE S62°56'44"W, A DISTANCE OF 1,017.55 FEET TO THE POINT OF BEGINNING.

LEA COUNTY, NM
KEITH MANES, COUNTY CLERK
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BY CRESLEY BARBRE

Exhibit B

1. Taxes for the year 2023 and thereafter.
2. Water rights, claims, or title to water of record.
3. Easement, dated September 19, 1983, from Monty Beckham, both as authorized representative of Beckham Ranch, Inc. and individually, to BTA Oil Producers, recorded in Deed Book 407, Page 732, records of Lea County, New Mexico.
4. Recordation Notice of Memorandum of Surface Compensation Agreement, dated May 1, 2008, executed by Beckham Ranch Inc. and COG Operating, LLC, recorded in Book 1586, Page 391, records of Lea County, New Mexico.
5. Pipeline Right-of-Way and Easement, dated May 22, 2009, from Beckham Ranch Inc. to Cog Operating, LLC, recorded in Book 1639, Page 423, records of Lea County, New Mexico.
6. Bill of Sale, dated December 6, 2011, executed by Beckham Ranch Inc. to RMR Operating, LLC, recorded in Book 1760, Page 130, records of Lea County, New Mexico.
7. Electric Line Right-of-Way and Easement, dated December 6, 2011, from Beckham Ranch Inc. to RMR Operating, LLC recorded in Book 1760, Page 134, records of Lea County, New Mexico; Assignment; Assignment, Bill of Sale and Conveyance, filed May 29, 2015, in Book 1961, Page 482, Lea County Records, Lea County, New Mexico, executed by Black Rock Capital, Inc., to Black Shale Minerals, LLC
8. Memorandum of Surface Use and Compensation Agreement, dated August 8, 2014, executed by Beckham Ranch Inc. and Chevron Midcontinent, LP recorded in Book 1911, Page 380, records of Lea County, New Mexico.
9. Memorandum of Option Agreement, dated May 21, 2018, executed by Salt Creek Midstream, LLC and Lilis Energy, Inc. recorded in Book 2137, Page 386, records of Lea County, New Mexico.
10. Pipeline Right-of-Way and Easement Agreement, dated June 18, 2019, from NGL South Ranch, Inc. to Salt Creek Midstream, LLC, recorded in Book 2153, Page 677, records of Lea County, New Mexico.
11. Reservations contained in Patent from United States of America recorded in Book 2, Page 355, records of Lea County, New Mexico.
12. Right of Way and Easement, filed January 27, 1977, recorded in Book 356, Page 560, Records, Lea County, New Mexico, executed by Patricia Beckham Ainsworth, a married woman to El Paso Natural Gas Company.
13. Right of Way and Easement, filed September 10, 1979, recorded in Book 376, Page 321, Records, Lea County, New Mexico, executed by Beckham Ranch by Patricia Ainsworth to El Paso Natural Gas Company; Assignment filed November 15, 1991, in Book 478, Page 68, Miscellaneous Records, Lea County, New Mexico, executed by El Paso Natural Gas Company to LeaPartners, L.P.

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BY CRESLEY BARBRE

14. Right of Way and Easement, filed October 6, 1980, recorded in Book 384, Page 478, Records, Lea County, New Mexico, executed by Beckham Ranch, Inc. to El Paso Natural Gas Company; Assignment of Easements and Rights of Way dated February 27, 1990, effective March 1, 1990, filed March 8, 1990, in Book 460, Page 490, Deed Records, Lea County, New Mexico, executed by El Paso Natural Gas Company to LeaPartners, L.P.; Assignment filed November 15, 1991, in Book 478, Page 68, Miscellaneous Records, Lea County, New Mexico, executed by El Paso Natural Gas Company to LeaPartners, L.P.
15. Roadway and Right of Way and Easement, filed June 18, 2008, recorded in Book 1586, Page 393, Records, Lea County, New Mexico, executed by Beckham Ranch, Inc. to COG Operating, LLC.
16. Pipeline Right of Way and Easement, dated June 6, 2019, recorded in Book 2153, Page 678, Records, Lea County, New Mexico, executed by NGL South Ranch, Inc. to SCM Crude, LLC.
17. Terms, Conditions, Rights and Obligations under the Memorandum of the Term Right-of-Way Agreement dated May 9, 2018 executed by Beckham Ranch, Inc. to Salt Creek Midstream, LLC, recorded in Book 2135, Page 115 and Line of Credit Mortgage, Fixture Filing, Security Agreement and Financing Statement executed by Salt Creek Midstream, LLC, recorded in Book 2168, Page 765 and Book 2165, Page 766, Records of Lea County, New Mexico.
18. Terms, Conditions, Rights and Obligations under the Memorandum of the Term Right-of-Way Agreement dated May 9, 2018, executed by Beckham Ranch, Inc. to Salt Creek Midstream, LLC, recorded in Book 2135, Page 114, Records of Lea County, New Mexico.
19. Terms, Conditions, Rights, Obligations under that certain Memorandum of Gas Purchase Agreement, dated February 14, 2018 by and between Ameredev New Mexico and Salt Creek Midstream LLC, filed March 16, 2018 recorded in Book 2130, Page 918, records of Lea County, New Mexico.
20. Second Amendment of Term Right-of-Way Agreement, recorded in Book 2210, Page 191, Records Lea County, New Mexico, executed by NGL South Ranch, Inc. and Salt Creek Midstream, LLC.
21. Local, state and federal laws, ordinances or governmental regulations, including but not limited to building and zoning laws, ordinances and regulations, now or hereafter in effect.

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

**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. 24881
ORDER NO. R-20913-D, AS AMENDED**

**SELF-AFFIRMED STATEMENT OF
ADAM G. RANKIN**

1. I am attorney in fact and authorized representative of Northwind Midstream Partners LLC (“Northwind”), the Applicant herein. I have personal knowledge of the matter addressed herein and am competent to provide this self-affirmed statement.
2. The above-referenced application and notice of the hearing on this application was sent by certified mail to the locatable affected parties on the date set forth in the letter attached hereto.
3. The spreadsheet attached hereto contains the names of the parties to whom notice was provided.
4. The spreadsheet attached hereto contains the information provided by the United States Postal Service on the status of the delivery of this notice as of March 13, 2025.
5. I caused a notice to be published to all parties subject to this proceeding. An affidavit of publication from the publication’s legal clerk with a copy of the notice publication is attached herein.

6. I affirm under penalty of perjury under the laws of the State of New Mexico that the foregoing statements are true and correct. I understand that this self-affirmed statement will be used as written testimony in this case. This statement is made on the date next to my signature below.



Adam G. Rankin

March 13, 2025

Date



Adam G. Rankin
Phone (505) 988-4421
Fax (505) 983-6043
agrarkin@hollandhart.com

November 15, 2024

VIA CERTIFIED MAIL
CERTIFIED RECEIPT REQUESTED

TO: AFFECTED PARTIES

Re: 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.
Titan AGI #4 Well

Ladies & Gentlemen:

This letter is to advise you that Northwind Midstream Partners LLC has filed the enclosed application with the New Mexico Oil Conservation Commission. A status conference has been requested before the Commission on December 12, 2024, and the status of the hearing can be monitored through the Commission's website at <https://www.emnrd.nm.gov/ocd/occ-info/>.

The State of New Mexico Oil Conservation Commission meeting will be held in a hybrid format with both in-person and virtual participation options as set forth below. The meeting will be held at the Wendell Chino Building, 1220 S. Saint Francis Drive, Pecos Hall, First Floor, Santa Fe, New Mexico. To participate in the electronic hearing, see the instructions posted on the OCC Hearings website: <https://www.emnrd.nm.gov/ocd/occ-info/>.

You are not required to attend this hearing, but as an owner of an interest that may be affected by this application, you may appear and present testimony. Failure to appear at that time and become a party of record will preclude you from challenging the matter at a later date. Parties appearing in cases are required to file a Pre-hearing Statement four business days in advance of a scheduled hearing that complies with the provisions of NMAC 19.15.4.13.B.

If you have any questions about this matter please contact David A. White, P.G. at Geolex Incorporated at (505) 842-8000 or DWhite@geolex.com.

Sincerely,

A handwritten signature in blue ink, appearing to read 'A. Rankin', with a stylized flourish at the end.

Adam G. Rankin
NORTHWIND MIDSTREAM PARTNERS LLC

Northwind - Titan AGI #4 - Case no. 24881
Postal Delivery Report

9414811898765483323282	State of New Mexico	PO Box 1148	Santa Fe	NM	87504-1148	Your item was picked up at a postal facility at 7:56 am on November 18, 2024 in SANTA FE, NM 87501.
9414811898765483323275	Hydrosorce Logistics	600 N Marienfeld St Ste 800	Midland	TX	79701-4362	Your package will arrive later than expected, but is still on its way. It is currently in transit to the next facility.
9414811898765483323855	Ameredev Operating, LLC	2901 Via Fortuna Ste 600	Austin	TX	78746-7710	Your item was delivered to the front desk, reception area, or mail room at 1:40 pm on November 21, 2024 in AUSTIN, TX 78746.
9414811898765483323824	Fulfer Oil & Cattle, LLC	PO Box 1224	Jal	NM	88252-1224	Your item was picked up at a postal facility at 1:39 pm on November 21, 2024 in JAL, NM 88252.
9414811898765483323893	Northern Pacific Oil and Gas Incorporated	9701 Wilshire Blvd Ste 1000	Beverly Hills	CA	90212-2010	Your item was delivered to an individual at the address at 10:40 am on November 19, 2024 in BEVERLY HILLS, CA 90212.
9414811898765483323886	Northern Pacific Oil and Gas Incorporated	800 Town And Country Blvd Ste 300	Houston	TX	77024-4559	Your item was picked up at a postal facility at 2:02 pm on December 12, 2024 in SANTA FE, NM 87501.
9414811898765483323831	Bureau of Land Management	301 Dinosaur Trl	Santa Fe	NM	87508-1560	Your item was delivered to the front desk, reception area, or mail room at 12:19 pm on November 18, 2024 in SANTA FE, NM 87508.
9414811898765483323718	New Mexico State Land Office	310 Old Santa Fe Trl Attn Allison Marks	Santa Fe	NM	87501-2708	Your item was picked up at a postal facility at 7:50 am on November 19, 2024 in SANTA FE, NM 87501.
9414811898765483323725	BTA Oil Producers LLC	104 S Pecos St	Midland	TX	79701-5021	Your package will arrive later than expected, but is still on its way. It is currently in transit to the next facility.

Affidavit of Publication

STATE OF NEW MEXICO
COUNTY OF LEA

I, Daniel Russell, Publisher of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

Beginning with the issue dated
November 07, 2024
and ending with the issue dated
November 07, 2024.



Publisher

Sworn and subscribed to before me this
7th day of November 2024.



Business Manager

My commission expires

January 29, 2027
(Seal)
STATE OF NEW MEXICO
NOTARY PUBLIC
GUSSIE RUTH BLACK
COMMISSION # 1087526
COMMISSION EXPIRES 01/29/2027

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said publication has been made.

LEGAL**LEGAL****LEGAL NOTICE**
November 7, 2024

Case No. 24881: 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, to Authorize an Increased Shared Maximum Daily Injection Rate, Lea County, New Mexico. Notice to all affected interest owners, including all heirs, devisees and successors of: STATE OF NEW MEXICO; HYDROSOURCE LOGISTICS; AMEREDEV OPERATING, LLC; FULFER OIL & CATTLE, LLC; NORTHERN PACIFIC OIL AND GAS INCORPORATED; BUREAU OF LAND MANAGEMENT; NEW MEXICO STATE LAND OFFICE; BTA OIL PRODUCERS LLC. The State of New Mexico, Energy Minerals and Natural Resources Department, Oil Conservation Commission ("Commission") hereby gives notice that the Commission will hold a public hearing 9:00 a.m. on December 12, 2024, to consider this application. The hearing will be conducted in a hybrid fashion, both in-person at the Energy, Minerals, Natural Resources Department, Wendell Chino Building, Pecos Hall, 1220 South St. Francis Drive, 1st Floor, Santa Fe, NM 87505 and via the Microsoft Teams virtual meeting platform. To participate in the hearings electronically, see the instructions posted on the docket for the hearing date: <https://www.emnrd.nm.gov/ocd/occ-info/> or contact OCC.Hearings@emnrd.nm.gov. 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, 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. 30-025-49974) 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.

#00295820

67100754

00295820

HOLLAND & HART LLC
110 N GUADALUPE ST., STE. 1
SANTA FE, NM 87501