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

#### APPLICATION OF LEA MIDSTREAM, LLC FOR AUTHORIZATION TO INJECT, LEA COUNTY, NEW MEXICO.

#### CASE NO. 25413

#### THIRD NOTICE OF REVISED EXHIBITS

Lea Midstream, LLC, the applicant in the above-referenced case, gives notice that it is filing the attached revised exhibit packet to include the amended **Exhibit F**, pursuant

to the instruction of the Hearing Examiner at the July 15, 2025, hearing.

Respectfully submitted,

#### HOLLAND & HART LLP

By:

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ATTORNEYS FOR LEA MIDSTREAM, LLC

#### **CERTIFICATE OF SERVICE**

I hereby certify that on July 16, 2025, I served a copy of the foregoing document to the following counsel of record via Electronic Mail to:

Ari Biernoff, Esq. General Counsel New Mexico State Land Office 310 Old Santa Fe Trail P.O. Box 1148 Santa Fe, NM 87504-1148 *abiernoff@nmslo.gov* 

Attorney for Stephanie Garcia Richard, Commissioner of Public Lands of the State of New Mexico, and New Mexico State Land Office

Michael H. Feldewert

### **BEFORE THE OIL CONSERVATION DIVISION EXAMINER HEARING JULY 15, 2025**

# **CASE NO. 25413**

WHITE RUSSIAN AGI #1

LEA COUNTY, NEW MEXICO

# LEA MIDSTREAM, LLC

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

#### APPLICATION OF LEA MIDSTREAM, LLC FOR AUTHORIZATION TO INJECT, LEA COUNTY, NEW MEXICO.

CASE NO. 25413

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- Lea Midstream Exhibit B: Self-Affirmed Statement of Chris Halfast, Engineer
  - o Lea Midstream Exhibit B-1: Gathering System Map
  - o Lea Midstream Exhibit B-2: Uncompleted Wells List
  - Lea Midstream Exhibit B-3: OCD Recommended Conditions of Approval for Acid Gas Injection Wells from Case 24881
- Lea Midstream Exhibit C: Self-Affirmed Statement of David A. White, Geologist
- Lea Midstream Exhibit D: Self-Affirmed Statement of Notice
- Lea Midstream Exhibit E: Affidavit of Publication
- Lea Midstream Amended/Supplemental Exhibit F: Letter of Support

### **EXHIBIT A**



### **APPLICATION FOR UIC CLASS II AGI WELL**

#### LEA MIDSTREAM, LLC -- (OGRID 333151)

PROPOSED WHITE RUSSIAN AGI # 1 Section 17, Township 19 South, Range 35 East

Surface Latitude (NAD83): 32.657656 Surface Longitude (NAD83): -103.481600



#### MARCH 2025

#### **Prepared for:**

Lea Midstream, LLC 3500 Maple Ave, Suite 700 Dallas, TX 75219 (214) 238-5740

#### **Prepared by:**

Geolex, Inc.<sup>®</sup> 500 Marquette Ave NW, Suite 1350 Albuquerque, New Mexico 87102 (505) 842-8000

> BEFORE THE OIL CONSERVATION DIVISION Santa Fe, New Mexico Exhibit No. A Submitted by: Lea Midstream, LLC Hearing Date: July 15, 2025 Case No. 25413

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Appendix C: Request to Sample and Analyze Groundwater from Existing Water Well

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STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, New Mexico 87505

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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       Storage
II.	OPERATOR: Lea Midstream, LLC [OGRID #333151]
	ADDRESS: 3500 Maple Avenue, Suite 700; Dallas, Texas
	(806) 663-7735 CONTACT PARTY: <u>Steven Smith, Joseph Styer</u> PHONE: (405) 315-1978
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?YesYesNo 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:
	<ol> <li>Proposed average and maximum daily rate and volume of fluids to be injected; Sections 1, 2, 3</li> <li>Whether the system is open or closed; Sections 1, 2, 4</li> <li>Proposed average and maximum injection pressure; Sections 1 &amp; 3</li> <li>Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, Sections 3 &amp; 4</li> <li>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 &amp; 4</li> </ol>
*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.
XII.	Section 4 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.
	SIGNATURE: 1 AULT DATE: March 19, 2025
	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:

#### **1.0 EXECUTIVE SUMMARY**

On behalf of Lea Midstream Partners, LLC (Lea Midstream; OGRID #333151), Geolex, Inc.<sup>®</sup> (Geolex) has prepared and is hereby submitting a complete C-108 application for approval to drill, complete, and operate an acid gas (CO<sub>2</sub> and H<sub>2</sub>S) injection well in Section 17, Township 19 South, Range 3 East, approximately 20 miles southwest of the city of Hobbs, in Lea County New Mexico (Figure 1). The proposed well, White Russian AGI #1, will provide Lea Midstream the ability to safely dispose of acid gas in a manner proven to improve operational stability and minimize the potential for exposure to facility personnel.

The proposed White Russian AGI #1 well is designed to address the anticipated sour gas disposal needs of the Lea Midstream treating facility. In submitting this application, Lea Midstream seeks approval to dispose of up to twelve (12) million standard cubic feet (MMSCFD) per day (approximately 4,962 barrels per day) of treated acid gas (TAG) into the Siluro-Devonian formations for a period of at least 30 years. The TAG stream is anticipated to consist of approximately 70% carbon dioxide (CO<sub>2</sub>) and approximately 30% hydrogen sulfide (H<sub>2</sub>S), with trace concentrations (less than 1%) of hydrocarbons (C<sub>1</sub>-C<sub>7</sub>). When operating at full capacity, the White Russian AGI #1 well will permanently sequester approximately 487 tons of CO<sub>2</sub> and approximately 162 tons of H<sub>2</sub>S daily.

To minimize surface and sub-surface interference and ensure access to quality reservoir, White Russian AGI #1 will be drilled as a deviated injection well. The approximate geographic coordinates for the surface location are 32.657656, -103.481600 (NAD83), within Section 17 of Township 19 South, Range 35 East, and the AGI well will be directionally drilled to a bottom-hole location at approximately 32.661345, -103.487457 (NAD83) with the same section. To ensure adequate isolation of groundwater resources, producing intervals, and potential high-pressure depth intervals, the White Russian AGI #1 well 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 open-hole injection zone will target geologic formations of the Siluro-Devonian, including the Devonian, Wristen, and Fusselman formations, between depths of approximately 14,615 to 16,029 feet. Analyses of these geologic units confirm that they act as excellent closed-system reservoirs that will accommodate the anticipated and future needs of Lea Midstream for the disposal of acid gas and sequestration of  $CO_2$  from the future gas-treatment facility.

In the area of the proposed AGI #1 well, the Siluro-Devonian injection interval is overlain by the Woodford Shale, which serves as the primary upper confining layer, and is observed to be greater than 169 feet in thickness. Additionally, more than 945 feet of tight shale and carbonates of the Barnett and Osage formations, respectively, overlie the Woodford Shale and provide a significant interval of secondary confining strata. Combined with the low-permeability Woodford Shale, these units will provide more than 1,114 feet of confining strata that will sufficiently contain and prevent the upward migration of TAG. Within the project area, the closest overlying pay zone, the Bone Spring Formation, lies approximately 3,974 feet above the Siluro-Devonian. The vertical separation from active producing zones, as well as the significantly thick primary and secondary caprock intervals ensure overlying production activities will be isolated and unaffected by TAG injection within the Siluro-Devonian.

Underlying the Siluro-Devonian injection zone, low porosity and low permeability carbonates and shales of the Montoya Formation and Simpson Group provide excellent lower confinement for the injection zones. These confining strata, and geologic intervals underlying them (i.e., Ellenburger Formation), have no current or historical production in this area.

The proposed maximum allowable operating pressure (MAOP) requested for the White Russian AGI #1 is approximately 4,593 psig, which was determined by utilizing appropriate NMOCD-approved calculation methods that consider the specific gravity of the acid gas injection stream. At the anticipated bottom-hole conditions of 220°F and 7,309 psi, each MMSCF of TAG will occupy a reservoir volume of approximately 382 barrels.

As it is critical to verify that the proposed Siluro-Devonian injection reservoir can accommodate the requested 12 MMSCFD of TAG, within reasonable operating pressure limitations, a detailed geologic analysis of the project area has been completed. This analysis, which leverages geophysical logs and petrophysical analysis, 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 geophysical log analytical and mapping methods and regional, sidewall core data, 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, as proposed by Lea Midstream.

In accordance with the results of detailed geologic analyses, 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 White Russian AGI #1, the resultant TAG plume is anticipated to occupy a maximum area of approximately 3.24 square miles and would extend a maximum of approximately 1.47 miles northeast from the AGI #1 bottom-hole location. Gas saturation values are anticipated to range from approximately 0 to 0.48% 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 White Russian AGI #1 well.

To evaluate the potential for induced seismicity in response to injection operations, at the proposed rate of up to 12 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 Geolex structural mapping and published fault data (Horne et al. 2021), 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 within the maximal area of the TAG plume. Results of the FSP analysis, which considers operation of the White Russian AGI wells, as well as additional offset saltwater disposal (SWD) wells, demonstrates that operation of the deep AGI wells (i.e., White Russian AGI 1), 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 28 wells, which most commonly were completed to produce Queen, Bone Spring, and Wolfcamp Formation plays, and one salt water disposal well is injecting within Siluro-Devonian reservoirs. It should be noted that for the proposed White Russian AGI #1, the one-mile area of review (AOR) has been extended to include a one-mile buffer area comprising the surface location, bottom-hole location, and around the deviated well path. Of these 28 wells, 6 are

active, 7 are permitted, and 15 are plugged. Within a two-mile radius of the modified White Russian AGI #1 AOR, there is one (1) plugged well which penetrate the proposed Siluro-Devonian injection zone. This well has been properly plugged and is not anticipated to be impacted by operation of the proposed AGI #1 well, nor will it serve as a conduit for fluids to escape the proposed injection zone. All relevant plugging reports and documents for these wells have been reviewed and 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 Lea Midstream Facility and proposed White Russian AGI #1 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 White Russian AGI #1 surface location and has been plugged. All water wells within a two-mile radius are shallow and will be protected via the proposed White Russian AGI #1 casing design, which includes installation of surface casing from the surface to an approximately depth of 1,865 feet, which 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- and two-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 geologic review and mapping
- 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, Lea Midstream has determined that the proposed White Russian AGI #1 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 White Russian AGI #1 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)
- An analysis of susceptibility to formation breakdown during injection operations (Section 4.9)
- 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 WHITE RUSSIAN AGI #1

White Russian AGI #1 is intended to service Lea Midstream's Treatment Facility and will be constructed on the facility property in Section 17 of Township 19 South, Range 35 East, approximately 20 miles from the city of Hobbs in Lea County, New Mexico (Figure 1). The well will be drilled as a deviated well from the approximate surface geographic coordinates of 32.657656, -103.481600 (NAD83) to a bottomhole location approximately 2,222 feet to the northwest at 32.661345, -103.487457 (NAD83), as shown in Figure 2.

TAG to be injected via White Russian AGI #1 will be routed from the adjacent Lea Midstream 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 #1 injection tree via high-pressure, NACE-compliant piping for injection. Design details for the proposed AGI well are provided in the following Sections 3.1 and 3.2.

#### 3.1 PROPOSED DESIGN OF WHITE RUSSIAN AGI #1

The location of the proposed White Russian AGI #1 well is shown in Figure 2, and a general schematic of the injection system is shown in Figure 3. The White Russian AGI #1well will be drilled to a total depth of approximately 16,124 ft MD (measured depth) within the lower Fusselman Formation. The injection interval (approximately 14,710 to 16,124 ft MD) 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 Lea Midstream Treating Facility design and the proposed AGI #1 well will be the primary sour gas disposal method for the facility. The proposed well schematic for the White Russian AGI #1 is illustrated in Figure 4 and is designed to accommodate the injection of up to 12 MMSCFD per day of TAG for a design life of at least 30 years.

White Russian AGI #1 will utilize a five-string casing design to ensure the protection and isolation of shallow groundwater resources, potentially elevated hydrogen sulfide within reservoir waters (e.g. San Andres), 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 1,865 feet, within the Rustler Formation to isolate shallow groundwater resources of the Dockum Group and Ogallala Aquifer. The first intermediate casing string (20-inch) will be set at approximately 3,290 feet, to cement and isolate anhydrite- and salt-bearing units (i.e., Rustler Fm. and Salado) overlying the Artesia Group and the San Andres Formation The second intermediate casing string (13 5/8-inch) will provide isolation of lateral, back-reef stratigraphic equivalents of the Capitan Reef, a known and confirmed interval of lost circulation, and the San Andres Formation, a potential hazard for hydrogen sulfide. The base of this second intermediate section will be set at approximately 6.285 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 10,712 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 14,710 ft. The injection interval will be drilled as a 5 7/8-inch open hole interval to a depth of approximately 16,029 ft. in the lower Fusselman Formation.

As shown in Figures 3 and 4, the White Russian AGI #1 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 White Russian AGI #1 include: (1) Placement of a corrosionresistant subsurface safety valve to provide down-hole isolation and a CRA permanent injection 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.

In constructing the proposed White Russian AGI #1 well, 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 drilling operations 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 White Russian AGI #1 casing plan is summarized in Table 1.

Casing	Hole	Csg.	Pounds	Grade	Thread	Top (ft.)	Bottom (ft.)
	Size	Size (in.)	Per Foot				
	(in.)						
Proposed Casing Sch	hedule						
Conductor	36	30	118	-	Welded	0	120'
Surface	2	24	186.4	X-65	FJ	0	1865'
1 <sup>st</sup> Intermediate	22	20	169	L-80	BTC	0	3,290'
2 <sup>nd</sup> Intermediate	17.5	13.625	88.2	HCL-80	Mod. BTC	0	6285'
3 <sup>rd</sup> Intermediate	12.25	9.625	53.5	HCL-80	Mod. BTC	0	10,712'
Production	8.5	7	32	SS95	VA Superior	0	14,410'
Production (CRA)	8.5	7	32	G3 (CRA)	VAMTOP*	14,410'	14,710'
Proposed Injection Tubing							
Tubing	N/A	3.5	10.2	SS-95/T-95	VAMTOP*	0	14,360'
Tubing (CRA)	N/A	3.5	10.2	G3 (CRA)	VAM*	14,360'	14,660'

Table 1. White Russian AGI #1 proposed casing schedule

\*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 White Russian AGI #1 well, this includes the strategic use of acid resistant cement (e.g., Halliburton WellLock Resin, LockCem, or equivalent) across the San Andres Formation, to ensure well integrity across potential hydrogen sulfide-bearing formation fluids. Additionally, CRA casing, tubing, and acid-resistant cement will be utilized at the base of the 7-inch production casing to protect lower well components and ensure long-term 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 White Russian AGI #1 casing strings.

Casing String	Stage #	Cement Type	No. of Sacks	Density (#/gal)	Coverage Interval	
Conductor	1	Redimix	-	-	0' - 120'	
Surface	1	Lead: Extend Cem C Tail: HalCem	Lead:1050 Tail: 414	Lead: 13.5 Tail: 14.8	0' - 1,865'	
1 <sup>st</sup> Intermediate	1	Lead: NeoCem Tail: Versa Cem	Lead: 605 Tail: 580	Lead: 11.5 Tail: 13.5	0'-3,290'	
2 <sup>nd</sup> Intermediate	1	CorrosaCem	Lead: 395	13.5	0'-6,285'	
	2	Lead: NeoCem Tail: HalCem	Lead: 1410 Tail: 1200	Lead: 12.0 Tail: 13.5	0 - 0,283	
3 <sup>rd</sup> Intermediate 1		Lead: NeoCem Tail: VersaCem	Lead: 1640 Tail: 245	Lead: 11.5 Tail: 13.5	0'-10,712'	
Production 1 2 3		Lead: WellLock Resin (or equivalent)	Lead: 15.0*	12.5		
		Lead: HalCem Tail: CorrosaCem	Lead: 175 Tail: 110	Lead: 12.5 Tail: 13.5	0'-14,710'	
		Lead: NeoCem Tail: VersaCem	Lead: 695 Tail: 55	Lead: 11.5 Tail: 13.5		

Table 2. White Russian AGI #1 proposed cementing program

\*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, White Russian AGI #1 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, and will be routed through termination blocks on the injection tree 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 <sup>1</sup>/<sub>2</sub>-inch injection tubing at a depth of approximately 150 feet and connected to the surface wellhead via a <sup>1</sup>/<sub>4</sub>-inch Inconel 925 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 White Russian AGI #1 design (e.g., manual and automatic valves on injection tree), the SSSV is critical as it provides a subsurface isolation point, in the event physical damage to the wellhead or surface isolation points occurs.

The National Association of Corrosion Engineers (NACE) issues guidelines for metals exposed to various corrosive gases, such as those anticipated for this AGI well. For an H<sub>2</sub>S-CO<sub>2</sub> 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 White Russian AGI #1 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 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 (1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup>) and production casing strings, open-hole geophysical logging will be performed for the interval underlying the surface casing from approximately 1,865 to 16,029 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 will 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 14,710 feet. For long-term monitoring of down-hole conditions, White Russian AGI #1 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<sup>TM</sup>, NIST REFPROP, 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 White Russian AGI #1 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 White Russian AGI #1 well has been designed and will be constructed such that it can be safely operated as an acid gas injection well to dispose of a mixed stream of TAG containing  $H_2S$  and  $CO_2$ . Based on current gas-treatment forecasting, the TAG stream is anticipated to be comprised of the following constituents:

-	Carbon Dioxide (CO <sub>2</sub> )	70%
-	Hydrogen Sulfide (H <sub>2</sub> S)	30%
-	Trace Nitrogen and hydrocarbons (C <sub>1</sub> -C <sub>7</sub> )	Less than 1%

The maximum total volume of TAG to be injected daily will be approximately 12 MMSCF per day. 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 White Russian AGI #1 well using the AQUAlibrium<sup>TM</sup> 3.1 software, which employs the modified PR EOS model (Table 3).

We have modeled the proposed maximum daily injection rate of 12 MMSCF per day composed of 70%  $CO_2$  and 30% H<sub>2</sub>S. Specific gravities of TAG were determined for the conditions at the wellhead (2,500 psi, 120 °F), the total depth of the well (7,309 psi, 220°F), and under average reservoir conditions (see Table 3).

To determine the proposed maximum surface injection pressure, we utilize the following NMOCDapproved 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 4,593 psig, as determined by the following calculations:

#### MAXIMUM ALLOWABLE OPERATING PRESSURE (MAOP) DETERMINATION

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

WHERE:	IP <sub>Max</sub> = 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: $SG_{Tag} = Average specific gravity of treated acid gas in the tubing<br/>(SG_{Tag} at top = 0.75, and SG_{Tag} at bottom = 0.81; see Table 3)$ 

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

$$SG_{Tag} = 0.7762$$
  
 $D_{Top} = 14,615 feet$ 

THEREFORE:

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PG = 0.2 + 0.433 (1.04 - 0.7762)PG = 0.314

AND

$$IP_{Max} = 0.314 \frac{psi}{ft} \times 14615 \, ft$$

 $IP_{Max} = 4,593 \, psi$ 

Based on this determination, Lea requests approval for a surface injection MAOP of 4593 psig for the proposed White Russian AGI #1 well.

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

#### Proposed Injection Stream Characteristics

TAG	$H_2S$	$CO_2$	$H_2S$	$CO_2$	TAG
Gas Volume	Conc.	Conc.	Injection Rate	Injection Rate	Injection Rate
MMSCFD <sup>-1</sup>	Mol %	Mol %	lbs/day	lbs/day	lbs/day
12.0	30	70	323297	974126	1297422

#### Conditions at Wellhead

We	llhead				TAG				
Temp	Pressure	Gas Vol	Comp	Inject Rate	Density	SG	Density	Volume	Volume
F	psi	(MMSCFD) <sup>-1</sup>	CO <sub>2</sub> :H <sub>2</sub> S	lbs/day	kg/m <sup>3</sup>		lbs/gal	ft <sup>3</sup>	bbl
120.0	2500	12.0	70:30	1297422	745.7	0.75	6.23	27857	4962

#### Conditions at Bottom of Well

TD			TAG								
Temp F	Pressure psi	Depth <sub>Top</sub> ft	Depth <sub>Bot</sub> ft	Thickness ft	Density kg/m <sup>3</sup>	SG	Density lbs/gal	Volume ft <sup>3</sup>	Volume bbl		
220.1	7309	14615	16029	1414	806.67	0.81	6.74	25751	4586		

#### Conditions in Reservoir at Equilibrium

Reser	voir Mid		TAG						
Temp F	Pressure psi	Avg. Porosity	Density kg/m <sup>3</sup>	SG	Density lbs/gal	Volume ft <sup>3</sup>	Volume bbl		
213.3	6989	5.0	808.66	0.81	6.75	25751	4586		

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

#### 4.1 GENERAL GEOLOGIC SETTING AND SURFICIAL GEOLOGY

The proposed White Russian AGI #1 well location (S17, T19S, R35E, as shown in Figure 1)lies on the northeastern margin of the Central Basin Platform (Figure 5). Generally, the area is covered predominantly by stable or semi-stable sand dunes overlying Quaternary alluvium and, in some areas, a hard caliche surface where the sand forms topographic highs. The surface area is highly irregular with few drainage features except at the outer boundaries of playas further to the west of the area of interest. The area to the north and northwest contains shallow depressions and small sand dune reliefs to flat, treeless plains with extensive short prairie grass coverage. The proposed well site is underlain by recent Quaternary sediments. The thick sequences of Permian rocks that underly these deposits are generally described below.

#### 4.2 BEDROCK GEOLOGY

The Lea Midstream Treatment Facility and the proposed White Russian AGI #1 well are located along the northwestern margin of the Central Basin Platform, an uplifted sequence portion of geologic strata in the larger, encompassing Permian Basin (Figure 5), which covers a large area of southeastern New Mexico and west Texas. The Permian as we know 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 wellsite. The entire Lower Paleozoic interval (Ellenburger through Devonian) was periodically subjected to subaerial exposure and prolonged periods of karsting (i.e., dissolution of existing rock), most especially in the Fusselman, Wristen, 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. Within the local area of the White Russian AGI #1, carbonate buildups within the Wristen formation have been identified which are in turn, enhanced by the same karst-related secondary porosity mechanisms of the Fusseleman and Devonian intervals.

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 nearly one 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 proposed injection zone.

### 4.3 LITHOLOGIC AND RESERVOIR CHARACTERISTICS OF THE SILURO-DEVONIAN FORMATIONS

The proposed injection interval for the White Russian AGI #1 well includes the Devonian Thirtyone and Silurian Wristen and Fusselman formations (collectively referred to as Siluro-Devonian). These strata are comprised of carbonates with high permeability such as porous limestones or dolostones with moderate porosity that are well-demonstrated as capable injection reservoirs by numerous SWD and AGI wells in the basin. In evaluating the proposed White Russian AGI #1 location, Geolex determined that the Devonian and Silurian injection reservoirs exhibited sufficient porosity potential to accommodate the disposal needs of the Lea Midstream Treatment Facility. Additional discussion regarding the evaluation of Siluro-Devonian reservoir characterization is included in Section 4.6.

Based on the geologic analysis of the subsurface, acid gas injection and CO<sub>2</sub> sequestration is recommended between the depths of approximately 14,615 feet to 16,029 feet. The proposed injection zone consists of approximately 1,414 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 formation-top depths are included in Table 4.

The primary caprock for the Siluro-Devonian injection reservoir is the Woodford Shale, approximately 180 feet thick in this area. The Woodford Shale is overlain, in turn, by approximately 780 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 White Russian AGI #1 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 exhibiting significant porosity development and the anticipated low-porosity and low-permeability caprock is shown to be laterally continuous within the greater project area.

Formation Depth (MD)		Formation	Depth (MD)
Dockum Group	751	Wolfcamp	10,693
Ochoa-Dewey Lake	1,420	Strawn	12,086
Rustler	1,860	Atoka	12,433
Salado	2,148	Morrow	12,992
Tansill	3,286		
Yates	3,471	Barnett	13,747
Seven Rivers	3,986	Osage (Miss Lime)	13,875
Grayburg	5,242	Woodford	14529
San Andres	5,621	Devonian	14,700
Cherry Canyon	6,284	Wristen	14,999
Bone Spring	8,090	Fusselman	15,511

Table 4. Anticipated formation tops at the proposed White Russian AGI #1 location

#### 4.3.1 INJECTION RESERVOIR FRACTURE PRESSURE DETERMINATION

For previous AGI wells, New Mexico Oil Conservation Division (NMOCD) has requested analysis to empirically determine that permitted maximum surface injection pressures do not exceed formation breakdown pressure during AGI operations. The preferred empirical analysis by NMOCD follows methodology presented within Eaton, 1969 (*Eaton, B.A., 1969 Fracture gradient prediction and its application in oilfield operations*). For this empirical analysis (Eaton Method), the full suite of geophysical log, including sonic dipole, made available within the analog well of Zia AGI D #2 (API: 30-025-42207) has been utilized to calculate breakdown pressures within analogous (and proximal) reservoir of the Siluro-Devonian.

The Zia AGI D #2 is located approximately 18.9 miles to the west of the proposed White Russian AGI #1 and is characterized by similar Siluro-Devonian injection zone characteristics, including pressure conditions, lithology, and porosity and permeability attributes. Critically, the Zia AGI D #2 well data also include a sonic dipole log which allows the calculation of Poisson's ratio, a critical parameter of the calculation of fracture gradient within Eaton's methodology. Poisson's ratio (*v*) is calculated as follows:

$$v = \frac{\left[\left(\frac{Vp}{Vs}\right)^2 - 2\right]}{\left(2 \cdot \left[\left(\frac{Vp}{Vs}\right)^2 - 1\right]\right)}$$

Where:  $V_p$  = Compressional velocity (1,000,000/DTC) DTC = Compressional sonic log  $V_s$  = Shear Velocity (1,000,000/DTS) DTS = Shear sonic log

Assumptions for overburden pressure, pore pressure along with the calculated Poisson's ratio are utilized as parameters within Eaton's method and equation presented below:

Fracture Gradient = 
$$(OBG - PPG) \times \left(\frac{v}{(1-v)}\right) + PPG$$

Where:

OBG = Overburden Stress Gradient (assumed as 1.05 psi/ft) PPG = Pore Pressure Gradient (assumed as 0.456 psi/ft based upon offset wells) V = Poisson's Ratio (calculated from the Zia D AGI #2 Sonic Dipole)

Resultant Fracture Gradient calculations of the Siluro-Devonian injection reservoir are presented within Figure 11. Formation average fracture gradients range from a minimum of 0.668 psi/ft to a maximum of 0.706 psi/ft for an overall Siluro-Devonian average of 0.683 psi/ft. Based upon the proposed surface MAOP of 4,593 PSI, pressures at bottom hole (16,029' TVD) will have an absolute maximum 0.610 psi/ft at bottom hole pressure of 9,809 PSI. Under worst case operating conditions, injection pressures will not exceed breakdown pressure of the injected reservoir.

Currently, estimated fracture gradients and breakdown pressures are based upon geophysical logs of the Zia D AGI#2 and are anticipated to be reasonable estimates of breakdown pressures of the targeted reservoirs. However, after drilling of the proposed White Russian AGI #1, a full suite of geophysical logs, including sonic dipole, will be logged allowing a more precise calculation of breakdown pressure for the local area of White Russian AGI #1. In addition, following drilling and completion of the White Russian AGI #1, step-rate injection tests will evaluate and attempt to confirm that bottomhole pressures at MAOP will not exceed breakdown pressures of 0.683 psi/ft.

#### 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 24 wells with analyses from drill stem test fluids collected from the Devonian-Lower Devonian interval in wells within approximately 10 miles of the proposed White Russian AGI #1 Table 5 below summarizes the measured formation fluid characteristics.

API			Concentration	n (parts per	· · · · · · · · · · · · · · · · · · ·	1	
ALI	TDS	HCO <sub>3</sub>	Ca	Cl	Mg	Na	SO <sub>4</sub>
30-025-21647	25199	415	1210	14200	171	7903	1050
30-025-01661	21444	881	5090	11400	93	N/A	1537
30-025-01735	28696	808.4	1044	15135	189.07	9327	1926
30-025-20329	66549	159	13000	42600	3330	N/A	700
30-025-02424	29436	634	1550	16720	496	N/A	1142
30-025-20080	32222	855	1608	17810	244	N/A	1425
30-025-20382	31610	335	1810	17600	555	N/A	2000
30-025-20115	71593	155	15860	46430	4526	N/A	852
30-025-02431	33414	227	1775	18570	151	N/A	1961
30-025-02247	31145	183	1520	18200	292	N/A	950
30-025-03156	25800	830	1170	14100	134	8410	1120
30-025-20378	39874	545	1529	22440	258	13092	1529
30-025-20377	44825	761	2590	27970	2424	N/A	N/A
30-025-03137	28173	168	1408	15500	245	N/A	1856
30-025-03136	31047	722	1843	17610	304	N/A	1065
30-025-03130	28417	560	1306	15910	248	N/A	1244
30-025-03151	27740	247	1720	16180	442	N/A	926
30-025-03118	27719	392	1274	14870	148	N/A	1956
30-025-03114	28813	1207	1501	16520	432	N/A	362
30-025-03113	30255	562	1100	16500	73	N/A	1820
30-025-03978	20882	645	809	11190	185	N/A	1232
30-025-03977	30527	330.4	1826	18060	415.5	9234	661
30-025-04270	48300	1150	2080	26700	486	15600	2340

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

These analyses show Total Dissolved Solids (TDS) in the area of the proposed AGI well ranging from 20,882 to 71,593 parts per million (PPM) with an average of 34,073 PPM. The primary constituent in the sampled formation waters is the chloride ion, with an average concentration of 19,662 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 White Russian AGI #1 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 five (5) water wells or points of diversion located within a one-mile radius of the Lea AOI surface location. Of these wells, the closest is located approximately 0.61 miles to the south of the White Russian AGI #1 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 White Russian AGI #1 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 White Russian AGI #1 surface- and bottom-hole locations (Retrieved from the New Mexico Office of the State Engineer's Files on February 11, 2025)

POD	USE	Owner	Well Depth (ft)	Water Depth (ft)	Latitude (NAD83)	Longitude (NAD83)
L 08234	Commercial	Snyder Ranches Inc	120	90	32.659631	-103.480596
L 08234 S	Commercial	Snyder Ranches Inc	106	60	32.661439	-103.497823
L 08234 S2	Commercial	Snyder Ranches Inc	126	80	32.656775	-103.483832
L 09569	Dol	Klein Ranch	80	30	32.655014	-103.481643
L 14208 POD 1	Exp	Snyder Ranches Inc	78	0	32.667816	-103.489066

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 White Russian AGI #1 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 White Russian AGI #1 (Nicholson and Clebsch, 1961. *Geology and Ground-Water Conditions in Southern Lea County, New Mexico*)

Historical	Location	Depth	Ca	Na+K	HCO <sub>3</sub>	SO <sub>4</sub>	Cl	NO <sub>3</sub>	Hardness	pН
Owner	(T-R-S)	(ft)	(eq)							
Scharbauer Cattle Co.	19S-34E-9	33	430	675	189	1680	560	139	1340	7.1
Tom Green	19S-36E-35	43	-	-	-	212	31	-	-	-
S.P. Jordan	19S-36E-32	32	84	158	261	225	79	6.8	222	-
H.S. Record	20S-36E-15	50	-	-	304	1840	1080	-	-	-

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 12 MMSCFD of TAG, within anticipated surface operating pressure limitations, Geolex has

completed detailed reservoir characterization, reservoir modeling, and injection simulation evaluations, which leverage all available, local Siluro-Devonian well logs, including raster logs and LAS data. Analysis of these data has allowed for the development of a reservoir characterization model, structural mapping, and fault interpretations. Furthermore, through petrophysical analysis calibrated to an internal Geolex proprietary rock database, a detailed characterization of Siluro-Devonian porosity development and the interconnectivity of porous strata has been completed. Subsequent injection simulations clearly demonstrate the proposed Siluro-Devonian injection reservoir is capable of accommodating TAG injection up to 12 MMSCFD.

From petrophysical, stratigraphic, and reservoir analysis, significant porosity development produced from karst dissolution processes is apparent and is highly interconnected across the greater project area. Porosity development is most significant in the depth intervals of the upper Devonian, lower Wristen, and Fusselman formations strata. Based on mapped average effective porosity and net effective reservoir, Siluro-Devonian porosity attributes were determined to range from less than 1% to approximately 15%, with an average porosity of 5.0% within two miles of the White Russian AGI 1 location. Siluro-Devonian petrophysical models for offset logs and subsequent mapping were calibrated to an internal rock database and lithologies observed in mudlogs.

Figure 11 includes a map of fault features interpreted through the analysis of Lea Midstream AGI well project area. Generally, faults within the project area trend northwest to southeast, or less frequently, approximately northeast to southwest. In total, eight (8) faults are interpreted, which have been further subdivided into 31 fault segments, for the purpose 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 all available geologic data, a reservoir characterization model was developed to be utilized for injection simulation investigations that assess the feasibility of TAG injection up to 12 MMSCFD. 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 Lea Midstream.

#### 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 12 MMSCFD, Geolex collaborated with Sproule to develop a reservoir characterization model and complete injection plume forecasts, informed by and incorporating the geologic and petrophysical analysis and resultant mapped porosity of the proposed injection reservoir. This modeling evaluation was completed utilizing Schlumberger Petrel to construct a geologic simulation grid informed by available well log data and derived petrophysical analysis, and rock data from analog wells, whereas, Schlumberger's Eclipse platform was then utilized to complete injection simulations representative of the injection scenario proposed for the White Russian AGI #1.

The reservoir characterization model is comprised of 171 simulation layers characterizing seven discrete depth intervals identified within the Siluro-Devonian reservoir. In total, the model grid is comprised of 4,099,896 cells. Based upon available and accessible data, faults are not interpreted or publicly reported within the immediate area of the White Russian AGI #1 (e.g. within the 2-mile radius of review). Within the greater project area, the reservoir characterization model includes subsurface fault features interpreted with well logs and literature, located 4.5 miles or greater from the White Russian AGI #1 (i.e., Horne et

al. 2021 Basement-Rooted Faults of the Delaware Basin and Central Basin Platform, Permian Basin, West Texas and Southeastern New Mexico).

As described previously in Section 4.0, utilizing this method, Siluro-Devonian reservoir porosity was determined to range from less than 1% to approximately 15%, with an average porosity of 5.0%. 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, sidewall core porosity and permeability data, and published core-analysis data (e.g., Lucia et al., 1995). Permeability within the reservoir model, averaged by zone, ranges from 0.02 to 17.88 millidarcies (mD), with an average model permeability of 8.7 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.

Zone #	Thickness	Average Porosity (%)	Avg. Permeability (mD)
1 - upper Devonian	230	3.7	7.7
2 - lower Devonian	96	1.5	5.8
3 - upper Wristen	200	3.0	7.1
4 - lower Wristen	187	6.7	21.9
5 - Wristen-Fusselman Seal	151	1.9	0.02
6 - upper Fusselman	319	4.2	0.59
7 - lower Fusselman	255	4.8	17.88

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

With the constructed geologic model, injection operations for the proposed White Russian AGI #1 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 30% H<sub>2</sub>S and 70% CO<sub>2</sub> at a constant rate of 12 MMSCFD. Reservoir pressure conditions initially reflect a normally pressured system (0.456 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 White Russian AGI #1 well at a shared daily injection volume of up to 12 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 3.24 square miles generally extending up to 1.4 miles from the Lea Midstream Treatment Facility. For all case simulations, results indicate that injection operations, up to 12.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 no fraction of acid gas injectate will exhibit a dispersion pattern such that gas reaches local fault features to the northeast. In the unlikely event that acid gas injectate could migrate to the northeastern, prominent fault system, an existing Devonian oil field (greater than 4.4 miles from the proposed AGI well location) shows structural trapping with a three-way closure geometry. Three-way closure necessitates either sealing faults or laterally adjacent sealing lithologies. Therefore, migrating fluids will not encounter vertical conduits beyond the caprock into overlying strata. Based on this analysis, we determined these sealed faults could not result in an escape of TAG from the injection zone.

In the local area of the White Russian AGI #1 well, wells and associated drilling fluid density data are sparse within Barnett to deeper strata. With the offset Siluro-Devonian SWD well, the Wildrye #1 SWD #1, mud weights utilized range from 9.0 to 12.3 pounds per gallon (ppg) above the proposed Siluro-Devonian injection reservoir. For those wells identified that penetrate the proposed injection reservoir, available fluid records (i.e., mudlogs, well headers, and scout tickets) indicate utilization of less dense fluids (commonly at 8.3 ppg) while drilling the Siluro-Devonian section. These records support the interpretation that overlying Wolfcamp to Woodford zones in this area are generally over-pressured with respect to the normally pressured 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 underpressured 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 underpressured 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 White Russian AGI #1 well. This estimate (1) identifies all known Siluro-Devonian fault systems within approximately 8 miles of the White Russian AGI #1 BHL, (2) models the impact of eight injection wells over a 30-year injection period during proposed AGI operations and includes prior historical SWD injections, and (3) estimates the fault slip probability associated with the eight-well injection scenario. The analysis was completed utilizing the Stanford Center for Induced and Triggered Seismicity's (SCITS) Fault Slip Potential (FSP) modeling platform.

Based on the detailed review of internal work (described previously in Section 4.6), Geolex identified eight (8) faults, located within approximately eight (8) miles of the White Russian AGI #1, and generally striking northwest to southeast, and northeast to southwest (Figure 11). Due to the low number of injection wells in close proximity to these features, substantial distance to known faults (greater than four

miles), and considering the relatively small injection volume proposed for the White Russian AGI #1 well (equivalent to approximately 4,962 barrels per day), operation of the White Russian AGI #1 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 eight-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<sup>™</sup>, are shown in Table 9.

Modeled Parameter	Input Value	Variability (+/-)	UOM	Source
Stress				
Vertical Stress Gradient	1.05	0.105	psi ft <sup>-1</sup>	Nearby well estimate
Max Horizontal Stress Direction	N70E	0	Deg.	Lund Snee & Zoback, 2018
Reference Depth	11,500	0	ft	Nearby well evaluation
Initial Res. Pressure Gradient	0.456	0.0456	psi ft <sup>-1</sup>	Nearby Well Evaluation
$A_{\Phi}$ Parameter	0.65	0.065	-	Lund Snee & Zoback, 2018
Reference Friction Coefficient (µ)	0.6	0.06	-	Standard Value
<i>Hydrologic</i> Aquifer Thickness Porosity Average Permeability Average	1,414 6.0 0.2	155 1 0.0	ft % mD	Nearby well evaluation Nearby well evaluation Petrophysical analysis of nearby well data, calibrated to analog core data
Material properties Density (Water) Dynamic Viscosity (Water) Fluid Compressibility (water)	1,050 0.0008 3.6 x 10 <sup>-10</sup>	20 0.0001 0	kg m <sup>-3</sup> Pa.s Pa <sup>-1</sup>	Adjusted to reported salinities Standard Value Standard Value

 Table 9. Input parameters and source material for FSP simulation

Rock Compressibility	1.08 x 10 <sup>-9</sup>	0	Pa <sup>-1</sup>	Standard Value
Acid gas @ 213 °F, 6,986 psi				
Density	806.80	-	kg m <sup>-3</sup>	AQUAlibrium™
Dynamic Viscosity	0.0000804	-	Pa.s	AQUAlibrium™

Daily maximum injection volumes utilized in the FSP model range from 916 to 25,000 bpd (Table 10). In submission of this application, Lea is requesting approval to operate the proposed White Russian AGI #1 well for a period of at least 30 years. This simulation includes a history matching period of thirty-one additional years to ensure the simulation results also consider the historical impact of injection wells that have been operating since 1994. Figure 19 shows the resultant pressure front, single well radial solutions, and the predicted pressure change at the fault segment midpoints; Figure 20 (scenario 1) shows the model-predicted fault slip potential for all wells operating at maximum capacity, including the White Russian AGI #1. Figure 21 (scenario 2) shows the model-predicted fault slip potential risk created by the proposed White Russian AGI #1 injection operations. For both scenarios 1 and 2, the predicted pressure change along each fault segment, model-derived pressure change required to induce slip, and model-predicted actual pressure change are summarized in Table 10 below. Scenario 1 and 2 generated identical results for all results of fault slip potential, demonstrating the negligible impact operation of the proposed AGI well has on total induced-seismicity risk.

#	API	Well Name	Latitude	Longitude	Volume	Start	End
			(NAD83)	(NAD83)	(bbls/day)	Year	Year
1	TBD	White Russian AGI	32.033013	-103.278384	4592	2025	2055
		#1					
2	30-025-51764	Wildrye Fee SWD	32.652154	-103.471636	25,000	2025	2055
		#1					
3	30-025-42461	Wild Cobra 1 State	32.695237179	-103.517073	3634	2015	2055
		#2					
4	30-025-03137	Reeves 26 #4	32.7157784	-103.431290	2490	2008	2023
5	30-025-03142	State Section 27 #2	32.7203751	-103.438820	9225	1994	2024
6	30-025-03150	South Vacuum Unit	32.7057762	-103.425850	4449	2005	2055
		#351					
7	30-025-29021	Arco State SWD #2	32.7415695	-103.459976	916	1994	2024
8	30-025-37122	South Vacuum #274	32.7138824	-103.4389191	4878	2014	2055

Table 10. Location and opera	ating parameters of in	jection wells modeled in FSP assessment
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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. Results for Scenario 1 and Scenario 2 are identical in model results.			

Fault Segment #	$\Delta$ Pressure necessary	Actual $\Delta$ Pressure at fault	Fault Slip Potential at
	to induce fault slip	midpoint at year 2055	year 2055
1	2179	7	0.00
2	3465	37	0.00
3	4102	301	0.00
4	3054	1146	0.06
5	1498	1094	0.34
6	4336	1052	0.00
7	2757	568	0.00
8	3072	2	0.00
9	4454	0	0.00
10	4160	0	0.00
11	2681	0	0.00
12	2437	0	0.00
13	3535	0	0.00
14	1292	0	0.00
15	3060	0	0.00
16	4115	0	0.00
17	3980	0	0.00
18	1624	0	0.00
19	1116	0	0.00
20	1177	0	0.00
21	1117	0	0.00
22	4520	0	0.00
23	3920	0	0.00
24	3939	0	0.00
25	4514	0	0.00
26	2322	0	0.00
27	4420	0	0.00
28	1015	0	0.00
29	4490	0	0.00
30	4525	0	0.00
31	4391	0	0.00

Generally, faults considered in this assessment are predicted by the FSP model to have very low to one moderate potential probability for injection-induced slip and the proposed White Russian AGI #1 operations are not predicted to contribute significantly to the total resultant pressure front and resultant fault slip probabilities. As per a recently released report on February 11th of 2025 by New Mexico Oil Conservation Division, limited seismic activity was observed near the South Vacuum fault system approximately 5.8 to 8 miles to the northeast in respect to the proposed White Russian AGI #1 BHL. This reported seismic activity was of limited magnitude, typically less than 2.5 to a maximum of 3.3 and of a very limited, discrete time window of June 27<sup>th</sup> to June 30<sup>th</sup> of 2020. No prior or additional seismic

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events for the South Vacuum fault system or within the area of the proposed AGI well have been reported by USGS or the New Mexico Seismological Network.

Within both modeled scenarios, there is minor potential for fault slip near an interpreted, mapped fault bend (i.e., fault segments 4 and 5) immediately adjacent to active SWD wells. The northeastern basement faults, including interpreted fault bends or potential fault en-echelon 'steps' (i.e., fault segments 4, 5, and 6 of the South Vacuum fault), are based upon well control only. No 2D or 3D seismic data has been made available to evaluate the precise fault geometries of the northeastern South Vacuum basement fault system, however, when comparing scenarios 1 and 2 (Figures 19 and 20), the model results clearly demonstrate that proposed volumes and duration of White Russian AGI #1 are inconsequential to any risk for slip probability through the 30-year scenario. Furthermore, radial pressure solutions calculated for each injection well illustrate that the operation of the proposed White Russian AGI #1 well will have little impact to pressure conditions near any identified or interpreted faults. Therefore, there is no foreseen risk for seismic activity both for the limited, historical activity nor any other known faults within the region of the proposed White Russian AGI #1.
# 5.0 OIL AND GAS WELLS IN THE WHITE RUSSIAN AGI #1 AREA OF REVIEW AND PROJECT AREA

In support of this application, Geolex conducted, on behalf of Lea Midstream, a detailed review of the area within one-mile and two-miles of the proposed White Russian AGI #1 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 White Russian AGI #1 well, and along the deviated wellbore path of White Russian AGI #1.

### 5.1 OIL AND GAS WELLS IN THE WHITE RUSSIAN AGI #1 AREA OF REVIEW

Appendix A summarizes in detail all NMOCD recorded wells within a one- and two-mile radius of the proposed deviated White Russian AGI #1. 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 of the proposed AGI well are included in Table 14 below.

In total, there are 37 wells within a one-mile radius of the proposed White Russian AGI #1 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, 13 are active and 14 have been plugged. Additionally, there are no 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.

API	Well Name	Associated Pools	Well Type	Well Status	Lat (NAD83)	Long (NAD83	Depth (ft)
3002541152	Airstrip Fee Com #001H	Bone Spring	Oil	Active	32.6684	-103.4897	10586
3002551344	Beefalo 7 6 ST COM #401H	Bone Spring; Wolfcamp	Oil	New	32.6668	-103.4959	0
3002551345	Beefalo 7 6 ST COM #404H	Bone Spring	Oil	New	32.6668	-103.4957	0
3002551346	Beefalo 7 6 ST COM #408H	Bone Spring	Oil	New	32.6668	-103.4956	0
3002551347	Beefalo 7 6 ST COM #713H	Bone Spring; Wolfcamp	Oil	New	32.6668	-103.4958	0
3002551348	Beefalo 7 6 ST COM #716H	Bone Spring	Oil	New	32.6668	-103.4957	0
3002542751	Cuatro Hijos Fee #002C	Bone Spring	Oil	Cancelled	32.654	-103.4773	0
3002542276	Cuatro Hijos Fee #003H	Bone Spring	Oil	Active	32.6538	-103.4817	10797
3002541752	Cuatro Hijos Fee #004H	Bone Spring	Oil	Active	32.6539	-103.4865	10833
3002542468	Cuatro Hijos Fee #008H	Bone Spring	Oil	Active	32.6538	-103.4849	9785
3002545332	Hereford 20 29 B2AH ST COM #001H	Bone Spring	Oil	New	32.6525	-103.4756	10972
3002550170	Mariner E2w2 07 06 W1 ST COM #001H	Wolfcamp	Oil	Cancelled	32.6668	-103.4957	0
3002550171	Mariner W2e2 07 06 W1 ST COM #001H	Wolfcamp	Oil	Cancelled	32.6668	-103.4956	0
3002526735	Mescalero Ridge #001	Bone Spring	Oil	P&A	32.6587	-103.4817	13420
3002528507	Mescalero Ridge #002	Bone Spring	Misc.	P&A	32.6661	-103.483	11200
3002528526	Mescalero Ridge #008	Bone Spring	Oil	P&A	32.6551	-103.486	10267
3002529945	Amoco "E" Fee	Queen	Oil	P&A	32.6582	-103.4903	10370
3002523030	Hooper "A" #1	Bone Spring	Oil	P&A	32.6737	-103.4908	10148
3002529145	Richardson #1	Bone Spring	Oil	P&A	32.6519	-103.4812	10170
3002528945	Mescalero Ridge C #1	Bone Spring	Oil	P&A	32.6555	-103.4813	10142
3002503167	Gulf Roberts #1-J	No Data	Oil	P&A	32.6587	-103.4774	5350
3002529894	Mobile Mescalero Ridge #1	Wolfcamp	Oil	P&A	32.6621	-103.4777	11097
3002528677	Mescalero Ridge B Com #1	Bone Spring	Oil	P&A	32.6555	-103.4769	10100
3002529136	Bell State #1	Bone Spring	Oil	P&A	32.6556	-103.4728	10200
3002528561	Mescalero Ridge A Com #1	Bone Spring	Oil	P&A	32.6587	-103.4731	11191
3002528623	Mescalero Ridge Unit A #3	No Data	Oil	Cancelled	32.666	-103.4731	0
3002528676	Mescalero Ridge #4	No Data	Oil	Cancelled	32.6624	-103.4774	0
3002528640	Mescalero Ridge #9	No Data	Oil	Cancelled	32.6514	-103.4736	0
3002521149	Reddy Gulf State #001	Queen	Oil	P&A	32.6661	-103.5032	10950
3002529041	Reddy Gulf State #002	Queen	Oil	Active	32.6661	-103.4989	10270
3002529568	Reddy Gulf State #003	Queen; Grayburg	Oil	Active	32.6634	-103.5042	5950
3002551764	Wildrye Fee SWD #001	Devonian- Silurian	SWD	New	32.6522	-103.4716	0
3002525804	Scharb Com #001	Queen; Bone Spring	Oil	P&A	32.6733	-103.4946	10220
3002528616	Lea UA State #2 Unit K	No Data	Oil	Cancelled	32.6592	-103.4644	0
3002529626	Serendipity State #1-N	No Data	Oil	Cancelled	32.6697	-103.4983	0
3002535054	Toro 16 State #001	Bone Spring; San Andres	Oil	Cancelled	32.6554	-103.4683	11200

Table 12. Wells located within one mile of proposed White Russian AGI #1

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Within two miles of the White Russian AGI #1 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 two wells within two miles of the White Russian AGI #1 that penetrate the proposed Siluro-Devonian injection interval (Table 13). These wells are located greater than one mile from the proposed White Russian AGI #1 bottom-hole location and include the Toro 21 State Com #001Y (API: 30-025-34492) and the Wildrye Fee SWD #001 (API: 30-025-51764). Although the Toro 21 State well was drilled such that it penetrated the proposed injection zone, the well was plugged back to shallower depth intervals before being plugged and abandoned. The Toro 21 State well was properly cemented through the injection zone and is not anticipated to be negatively affected by the operation of the White Russian AGI #1 well. The Wildrye Fee SWD #1 is located greater than 1.1 miles to the southeast in reference to the proposed White Russian AGI #1 bottom hole and based upon injection modeling, is not expected to inhibit or complicate White Russian AGI #1 operations. All relevant plugging reports have been included in Appendix A.

Table 13. Wells located within two miles of the White Russian AGI #1 well that penetrate the proposed injection interval

API	Well Name	Pool	Status	Latitude (NAD 83)	Longitude (NAD 83)	Total Depth (ft)	Mi. from BHL
3002534492	Toro 21 ST COM #001Y	Wolfcamp, Devonian	Plugged	32.6469	-103.4561	13960	2.05
3002551764	Wildrye Fee SWD #001	Devonian- Silurian	Active	32.6522	-103.4716	0	1.12

# 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 Lea County 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 White Russian AGI #1 location.

Upon issuance of an NMOCC hearing date to consider the matter of Lea Midstream'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 White Russian AGI #1 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 no 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.<sup>®</sup> Consultant to Lea Midstream, LLC

( Jeit Wilt

Date: March 19, 2025





**Figure 1.** General location map of the proposed White Russian AGI #1 well in Section 17 (T19S, R35E), approximately 20 miles west of Hobbs, NM



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**Figure 2.** Detailed location map showing the proposed White Russian AGI #1 well and the surface area in which the Lea Midstream Facility is being constructed



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### White Russian AGI #1 Lea Midstream -- S17, T19S, R3E





Figure 4. Well Schematic for Proposed White Russian AGI #1 Deviated Well.









Figure 5. Structural setting (Panel A) and general lithology and schematic (Panel B) of the Perian 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
	OCHOAN	DEWEY LAKE RUSTLER SALADO	DEWEY LAKE RUSTLER SALADO	DEWEY LAKE RUSTLER SALADO	DEWEY LAKE RUSTLER SALADO CASTILE	RUSTLER SALADO
PERMIAN	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 ANDRES	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
	VIRGILIAN	CISCO	CISCO	CISCO	CISCO	CISCO
	MISSOURIAN	CANYON	CANYON	CANYON	CANYON	CANYON
PENNSYLVANIAN	DESMOINESIAN	STRAWN	STRAWN	STRAWN	🛧 STRAWN	STRAWN
	ATOKAN	ATOKA BEND	ATOKA BEND	ATOKA BEND	ATOKA BEND	(ABSENT)
	MORROWAN	MORROW	(ABSENT)	(ABSENT ?)	★ MORROW	(ABSENT)
MISSISSIPPIAN	CHESTERIAN MERAMECIAN OSAGEAN	CHESTER MERAMEC OSAGE	CHESTER MERAMEC OSAGE	CHESTER MERAMEC OSAGE	CHESTER MERAMEC OSAGE	MERAMEC <sup>"BA</sup> RNETT"
	KINDERHOOKIAN	KINDERHOOK	KINDERHOOK	KINDERHOOK	KINDERHOOK	KINDERHOOK
DEVONIAN			WOODFORD	WOODFORD	WOODFORD	WOODFORD DEVONIAN
SILURIAN		SILURIAN (UNDIFFERENTIATED)	SILURIAN SHALE FUSSELMAN	SILURIAN SHALE FUSSELMAN	MIDDLE SILURIAN FUSSELMAN	MIDDLE SILURIAN FUSSELMAN
	UPPER	MONTOYA	MONTOYA	SYLVAN MONTOYA	SYLVAN MONTOYA	SYLVAN MONTOYA
ORDOVICIAN	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 the proposed White Russian AGI #1 well (Yang and Dorobek, 1995)





## Type Log of White Russian AGI #1









Figure 8. Local Devonian structure contour map (TVD) of the White Russian AGI #1 showing the top of the Siluro-Devonian target injection reservoir. Cross section A-A' is shown in Figure 9. Note contour intervals (CI) are equal to 50 ft.







**Figure 9.** Structural Cross Section - Demonstration of TAG Injection Geologic System. A - A' showing regional structural profile and distance to well control and northeastern reverse thrust fault system (approximately 4.4 miles updip to northeast). White Russian AGI #1 is projected into cross-section as shown in inset map (B).







**Figure 10.** Stratigraphic Correlation Section - Siluro-Devonian Target Injection Reservoirs. Effective reservoirs are notated. Siluro-Devonian petrophysical model for effective porosity are shown on logs, and effective reservoir is observed within upper Devonian, lower and upper Wristen, and lower and upper Fusselman. Net effective reservoir is defined as greater than or equal to 5% effective porosity.





Figure 11. Fracture pressure gradient calculated from the Zia AGI D #2 (red trace). Average fracture gradient estimates range from 0.676 to 0.706 psi/ft. for Devonian through Montoya geologic strata.

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Figure 12. Water wells and points of diversion within one-mile of the proposed White Russian AGI #1 well. Note that the AGI one-mile area of review has been modified to reflect a combined one-mile buffer zone Released to Imaging: 7/16/2025 the AGI surface and bottom-hole locations, and the anticipated deviation path of the well.







Figure 13. Subsurface fault features interpreted from well control and published literature in the vicinity of the proposed White Russian AGI #1. Fault segments are annotated for reference in FSP simulation results regarding induced seismicity risk. Fault segments anticipated to have risk for slip are annotated in yellow.







Figure 14. Distribution of porosity (panel A) and permeability (panel B) for all geo-model layers.







Figure 15. Summary of Eclipse simulation results for Case 1. This map displays the simulated plume of 30 years of injection. Contours of gas saturation are depicted ranging from 0 to 48% gas saturation. Offset wells are identified by API (Last 5 digits).







Figure 16. Summary of Eclipse simulation results for Case 2. This map displays the simulated acid gas plume following 30 years of injection at the maximum proposed rate. Contours of gas saturation are depicted ranging from 0 to 48%. Offset wells are identified by last five digits of their respective API numbers.









Figure 17. 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 18. Injection wells and subsurface features in the vicinity of the proposed White Russian AGI #1 well











**Figure 19.** 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 20. Scenario 1: Model-predicted fault slip potential after 30 years (Panel A) of maximum injection by proposed AGI and offset SWD activities. Minor fault slip potential is observed at interpreted fault segments 4 and 5, due to the proximity to Siluro-Devonian SWD wells.







Figure 21. Scenario 2: Model-predicted fault-slip potential after 30 years (Panel A) for injection operations only reflective of nearby SWD wells. This scenario exludes the proposed White Russian AGI #1 well and demonstrates that the proposed activities for the AGI #1 well are inconsequential with respect to the risk for fault slip.

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Figure 22. All wells of record within one-mile of the proposed White Russian AGI #1 well. Note that the one-mile radius area of review has been modified to include a buffer zone around the AGI #1 surface-hole and bottom-hole locations, and along the anticipated well deviation path.

# **APPENDIX** A

### INFORMATION ON ALL WELLS WITHIN TWO MILES OF THE PROPOSED WHITE RUSSIAN AGI #1 WELL

Figure A-1:	All wells located within two miles of the proposed AGI #1
Table A-1:	Tabulated summary of all wells within two miles of the proposed White Russian AGI #1 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 AGI well, labeled according to the last five digits of their API number (30-025-XXXXX).



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Table A1 -- All wells within two-miles of the proposed White Russian AGI #1 well. Area of review includes the AGI surface and bottom-hole location and anticipated deviated well path

API	Well Name	Well Type	Well Status	Operator Name	Latitude (NAD83)	Longitude (NAD83)	Associated Pools		Vertical Depth (ft)	Plug Date	SPUD Date
			Plugged (site				[55610] SCHARB, BONE				
30-025-26735	MESCALERO RIDGE #001	Oil	released)	SOUTHWEST ROYALTIES INC	32.65875	-103.48172	SPRING	13,420	13,420	4/11/2002	-
			Plugged (site								
30-025-29945	PRE-ONGARD WELL #001	Oil	released)	PRE-ONGARD WELL OPERATOR	32.65824	-103.4903	[50450] QUAIL, QUEEN	0	10,370		
			Plugged (site				[55610] SCHARB, BONE				
30-025-28526	MESCALERO RIDGE #008	Oil	released)	FOREST OIL CORPORATION	32.65514	-103.486	SPRING	10,267	10,267	11/21/2005	
			Plugged (site				[55610] SCHARB, BONE				
30-025-28945	PRE-ONGARD WELL #001	Oil	released)	PRE-ONGARD WELL OPERATOR	32.6555	-103.48125	SPRING	0	10,142		
							[55610] SCHARB, BONE				
30-025-42468	CUATRO HIJOS FEE #008H	Oil	Active	MATADOR PRODUCTION COMPANY	32.65384	-103.48491	SPRING	13,667	9,785	-	4/2/2015
							[55610] SCHARB, BONE				
30-025-41752	CUATRO HIJOS FEE #004H	Oil	Active	MATADOR PRODUCTION COMPANY	32.65385	-103.48652	SPRING	15,268	10,833	-	6/21/2014
			Plugged (site				[55610] SCHARB, BONE				
30-025-28507	MESCALERO RIDGE #002	Miscellaneous	released)	FOREST OIL CORPORATION	32.66606	-103.48303	SPRING	11,200	11,200	12/5/2005	
			Plugged (site								
30-025-29894	PRE-ONGARD WELL #001	Oil	released)	PRE-ONGARD WELL OPERATOR	32.66213	-103.47774		0	11,097		
			Plugged (site								
30-025-03167	PRE-ONGARD WELL #001	Oil	released)	PRE-ONGARD WELL OPERATOR	32.65872	-103.47738		0	5,353		
							[55610] SCHARB, BONE				
30-025-42276	CUATRO HIJOS FEE #003H	Oil	Active	MATADOR PRODUCTION COMPANY	32.65382	-103.48168	SPRING	15,390	10,797	-	1/10/2015
30-025-28676	PRE-ONGARD WELL #004	Oil	Cancelled	PRE-ONGARD WELL OPERATOR	32.66242	-103.47742		0	0	-	-
			Plugged (site				[55610] SCHARB, BONE				
30-025-28677	PRE-ONGARD WELL #001	Oil	released)	PRE-ONGARD WELL OPERATOR	32.65548	-103.47691	SPRING	0	10,100		
			Plugged (site				[55610] SCHARB, BONE				
30-025-29145	PRE-ONGARD WELL #001	Oil	released)	PRE-ONGARD WELL OPERATOR	32.65187	-103.48124	SPRING	0	10,170		
							[55610] SCHARB, BONE				
30-025-41152	AIRSTRIP FEE COM #001H	Oil	Active	MATADOR PRODUCTION COMPANY	32.66841	-103.48967	SPRING	17,759	10,586	-	6/14/2014
30-025-42751	CUATRO HIJOS FEE #002C	Oil	Cancelled	COG OPERATING LLC	32.654	-103.4773	[55610] SCHARB, BONE	0	0	-	-
			Plugged (site				[55610] SCHARB, BONE				
30-025-28561	PRE-ONGARD WELL #001	Oil	released)	PRE-ONGARD WELL OPERATOR	32.6587	-103.47309		0	11,191		
	BEEFALO 7 6 STATE COM						[55610] SCHARB, BONE				
30-025-51346		Oil	New	MEWBOURNE OIL CO	32.66675	-103.4956	SPRING	0	0	-	-
	MARINER W2E2 07 06 W1										
30-025-50171	STATE COM #001H	Oil	Cancelled	Franklin Mountain Energy 3, LLC	32.66675	-103.49561	[55640] SCHARB, WOLFCAMP	0	0	-	-
	BEEFALO 7 6 STATE COM						[55610] SCHARB, BONE				
30-025-51348	#716H	Oil	New	MEWBOURNE OIL CO	32.66675	-103.49566	SPRING	0	0	-	-
	MARINER E2W2 07 06 W1										
30-025-50170	STATE COM #001H	Oil	Cancelled	Franklin Mountain Energy 3, LLC	32.66675	-103.49567	[55640] SCHARB, WOLFCAMP	0	0	-	-
	BEEFALO 7 6 STATE COM						[55610] SCHARB, BONE				
30-025-51345	#404H	Oil	New	MEWBOURNE OIL CO	32.66675	-103.49572		0	0	-	7/9/2023
	BEEFALO 7 6 STATE COM						SPRING; [55640] SCHARB,				
30-025-51347	#713H	Oil	New	MEWBOURNE OIL CO	32.66675	-103.49579	WOLFCAMP	0	0	-	-
	BEEFALO 7 6 STATE COM						SPRING; [55640] SCHARB,				
30-025-51344		Oil	New	MEWBOURNE OIL CO	32.66675	-103.49585	WOLFCAMP	0	0	-	6/14/2023
	HEREFORD 20 29 B2AH						[55610] SCHARB, BONE				
30-025-45332	STATE COM #001H	Oil	New	MEWBOURNE OIL CO	32.65246	-103.47565		21,385	10,972	-	2/16/2019
			Plugged (site				[55610] SCHARB, BONE				
		Oil	released)	PRE-ONGARD WELL OPERATOR	32.65555	-103.47279	SPRING	0	10,200		
30-025-28623	PRE-ONGARD WELL #003	Oil	Cancelled	PRE-ONGARD WELL OPERATOR	32.66604	-103.47312	1	0	0	-	-

		1					[37585] LEA, SAN ANDRES;				
30-025-29041	REDDY GULF STATE #002	Oil	Active	YATES ENERGY CORP	32.66611	-103 49892	[50450] QUAIL, QUEEN	10,270	10,270	_	11/30/1984
	PRE-ONGARD WELL #009	Oil	Cancelled	PRE-ONGARD WELL OPERATOR	32.65144	-103.47358		10,270	10,270	-	-
30-023-20040	TRE-ONOARD WELL #003	Salt Water	Cancelleu		52.05144	-103.47330	[97869] SWD, DEVONIAN-	0	0	-	-
30-025-51764	WILDRYE FEE SWD #001	Disposal	New	Permian Oilfield Partners, LLC	32.65215	-103.47164		0	0	_	9/4/2024
30-023-31704		Disposat	Plugged (site		52.05215	-103.47104	[55610] SCHARB, BONE	0	0	-	3/4/2024
30-025-23030	PRE-ONGARD WELL #001	Oil	released)	PRE-ONGARD WELL OPERATOR	32.67373	-103.49078		0	10,148		
	PRE-ONGARD WELL #001	Oil	Cancelled	PRE-ONGARD WELL OPERATOR	32.66974	-103.49889		0	10,148	-	-
30-023-23020			Cancelleu		32.00374	-103.49009	[55610] SCHARB, BONE	0	0	-	-
			Plugged (site				SPRING; [96666] PEARL, SAN				
30-025-35054	TORO 16 STATE #001	Oil	released)	MARSHALL & WINSTON INC	32.65547	-103 /6831	ANDRES, NORTH	11,200	11,200	5/26/2017	6/27/2000
30-023-33034	1010 1031ATE #001		Plugged (site	PARSHALL & WINSTON INC	52.05547	-105.40051	[55610] SCHARB, BONE	11,200	11,200	5/20/2017	0/2//2000
20 025 25904	SCHARB COM #001	Oil	released)	READ & STEVENS INC	32.67335	-103.49461		10,220	10,220	1/31/2022	1/20/1978
30-023-23804	SCHARD COM #001	Oit	,	READ & STEVENSING	32.07333	-103.49401	SERING	10,220	10,220	1/31/2022	1/20/19/0
20 025 21140	REDDY GULF STATE #001	Oil	Plugged (site released)	YATES ENERGY CORP	32.66613	102 5022	[50450] QUAIL, QUEEN	10,950	10,950	2/10/2004	
30-023-21149	REDDI GOLF STATE #001	Oit	Teleaseu)	TATES ENERGY CORF	32.00013	-103.5032	[50445] QUAIL, GRAYBURG;	10,950	10,950	2/10/2004	-
30-025-29568	REDDY GULF STATE #003	Oil	Active	YATES ENERGY CORP	32.66341	102 50407	[50445] QUAIL, GRATBURG, [50450] QUAIL, QUEEN	5,950	5,950		_
30-025-29566	REDDI GULF STATE #003	UIL		TATES ENERGY CORP	32.00341	-103.50427		5,950	5,950	-	-
20.005.00070		01	Plugged (site		00.07701	100 40004	[55610] SCHARB, BONE	0	10.010		
30-025-20878	PRE-ONGARD WELL #001	Oil	released)	PRE-ONGARD WELL OPERATOR	32.67701	-103.48604		0	10,310		
00 005 00005		0.1	Plugged (site		00 00007	400 40040	[55610] SCHARB, BONE	0.000	0.000	7/00/4000	0/7/4004
30-025-28835	SCHARB 9 #005	Oil	released)	DALLAS PRODUCTION	32.66967	-103.46818		9,900	9,900	7/26/1996	9/7/1984
00.005.00504		0.1	Plugged (site		00.07007	400 40005	[55610] SCHARB, BONE		10.000	0/0/0000	4/40/4000
	GUY HOOPER COM #001	Oil	released)	READ & STEVENS INC	32.67337	-103.49895		0	10,223	2/8/2022	4/12/1968
30-025-28616	PRE-ONGARD WELL #002	Oil	Cancelled	PRE-ONGARD WELL OPERATOR	32.65924	-103.46448		0	0	-	-
	BELCHER 19 35 9 STATE	0.1			00.00704						
30-025-45649	#001C	Oil	Cancelled	Catena Resources Operating, LLC	32.66731	-103.4663	[55640] SCHARB, WOLFCAMP	0	0	-	-
		0.1	Plugged (site			400 50070		~~~~~	10.005		
30-025-23093	HOOPER B #001	Oil	released)	READ & STEVENS INC	32.67014	-103.50278	[50450] QUAIL, QUEEN	99,999	10,235	8/19/1992	-
		0.1	Plugged (site			100 10150	[55610] SCHARB, BONE		10.010		
30-025-28589	PRE-ONGARD WELL #004	Oil	released)	PRE-ONGARD WELL OPERATOR	32.66296	-103.46452		0	10,940		
	CABLE 19 35 16 STATE	0.1			00.00704	400 40500	[55650] SCHARB,				
30-025-45647	#001C	Oil	Cancelled	Catena Resources Operating, LLC	32.66731		WOLFCAMP, SOUTHEAST	0	0	-	-
30-025-27784	PRE-ONGARD WELL #001	Oil	Cancelled	PRE-ONGARD WELL OPERATOR	32.67698	-103.47744		0	0	-	-
			Plugged (site				[55610] SCHARB, BONE				
30-025-28158	PRE-ONGARD WELL #001	Oil	released)	PRE-ONGARD WELL OPERATOR	32.66603	-103.46453		0	9,900		
			Plugged (site				[55610] SCHARB, BONE				
30-025-31219	JFG 7 FEE #001	Oil	released)	HARVEY E YATES CO	32.67704	-103.49462		99,999	10,209	2/21/1992	5/29/1991
			Plugged (site				[55610] SCHARB, BONE				
30-025-35263	CHARLES S ALVES #005	Oil	released)	MACK ENERGY CORP	32.67775	-103.49377		10,305	10,305	3/26/2002	12/19/2000
			Plugged (site				[55610] SCHARB, BONE				
30-025-28378	SCHARB 9 #003	Oil	released)	DALLAS PRODUCTION	32.67371	-103.46883		9,920	9,920	7/22/1996	10/3/1983
	SUPER COBRA STATE COM						[55610] SCHARB, BONE				
30-025-41987	#001H	Oil	Active	MATADOR PRODUCTION COMPANY	32.65371	-103.50748		15,298	10,738	-	11/4/2014
	SUPER COBRA STATE COM						[55610] SCHARB, BONE				
30-025-42544	#002C	Oil	Cancelled	COG OPERATING LLC	32.65372	-103.50759	SPRING	0	0	-	-
			Plugged (site								
30-025-27988	SNYDER RANCHES #001	Oil	released)	ELK OIL CO	32.67698	-103.47312	[55640] SCHARB, WOLFCAMP	10,750	10,750	4/23/2003	-
		1	Plugged (site								
30-025-03168	PRE-ONGARD WELL #001	Oil	released)	PRE-ONGARD WELL OPERATOR	32.64054	-103.49021		0	5,185		
			Plugged (site				[55610] SCHARB, BONE				
30-025-29137	ELKAN #004	Oil	released)	ELK OIL CO	32.66928	-103.46407	SPRING	0	10,000		

30-025-38898	GO STATE #002	Oil	Active	PRIDE ENERGY COMPANY	32.66621	-103.50855	[50445] QUAIL, GRAYBURG	5,800	5,800	-	11/9/2008
			Plugged (site								
30-025-02393	PRE-ONGARD WELL #001	Oil	released)	PRE-ONGARD WELL OPERATOR	32.65138	-103.50748		0	6,200		
			Plugged (site								
	PRE-ONGARD WELL #001	Oil	released)	PRE-ONGARD WELL OPERATOR	32.68064	-103.48605		0	11,015		
30-025-28207	GO STATE #001	Oil	New	PRIDE ENERGY COMPANY	32.66644	-103.50857	[50450] QUAIL, QUEEN	5,800	5,800	-	5/6/1983
		<b>C</b> <sup>11</sup>	Plugged (site			100 10170	[55610] SCHARB, BONE		10.055		
30-025-20234	ORA JACKSON A #002	Oil	released)	BIG 6 DRILLING CO	32.68063	-103.48176	SPRING	0	10,255		
20.005.02171		01	Plugged (site		20,02001	100 40050		0	F 100		
30-025-031/1	PRE-ONGARD WELL #001	Oil	released)	PRE-ONGARD WELL OPERATOR	32.63961	-103.48056		0	5,100		
20.005.00145		01	Plugged (site		22 00005	100 40000	[55610] SCHARB, BONE	0	10.005		
30-025-20145	PRE-ONGARD WELL #001	Oil	released)	PRE-ONGARD WELL OPERATOR	32.68065	-103.49033	[55650] SCHARB,	0	10,225		
20.005.00404		0.1	Plugged (site	MARKS AND GARNER PRODUCTION LTD CO	22.05.000	100 400 40		10.004	10.004	7/1/0000	11/17/1000
30-025-28484	LEA UA STATE #001	Oil	released)	LIDCO	32.65898	-103.46046	WOLFCAMP, SOUTHEAST	10,864	10,864	7/1/2009	11/17/1983
30-025-03170	WEST PEARL QUEEN UNIT #101	Oil	Plugged (site released)	XERIC OIL & GAS CORP	32.6396	102 47042	[49780] PEARL, QUEEN	5,051	5,051	9/8/2003	
30-025-03170	#101	Οi	Teleaseu)	XERIC OIL & GAS CORP	32.0390	-103.47642		5,051	5,051	9/6/2003	-
20 025 41714		Oil	Activo		22 691 42	-103.48572	[55610] SCHARB, BONE	15 160	10 704		7/20/2014
30-025-41714	TOMCAT FEE #001H	Oil	Active	MATADOR PRODUCTION COMPANY	32.68143	-103.48572		15,160	10,794	-	7/30/2014
20.005.00040		Oil	Plugged (site		22 00000	100 47007	[55610] SCHARB, BONE	10.000	10.000	8/1/1996	0/10/1004
30-025-28848	SCHARB 8 #002	OIL	released)	DALLAS PRODUCTION	32.68062	-103.47807	[55610] SCHARB, BONE	10,200	10,200	8/1/1996	9/18/1984
30-025-28323		Oil	Plugged (site released)		22 66282	-103.46018		0	0.000		
30-025-28323	PRE-ONGARD WELL #003 SANTA VACA 19 18 B2PA FEE	OIL	released)	PRE-ONGARD WELL OPERATOR	32.66282	-103.46018	[55610] SCHARB, BONE	0	9,800		
20 025 50241	#001H	Oil	New		32.6393	-103.49217		0	0		7/3/2022
30-025-50241	SANTA VACA 19 18 B3PA FEE	Oit	INEW	MEWBOURNE OIL CO	32.0393	-103.49217	[49553] PALMILLO, BONE	0	0	-	11312022
30-025-50326	#001H	Oil	New	MEWBOURNE OIL CO	32.6393	-103 40226	SPRING, EAST	0	0	_	8/5/2022
30-023-30320	HOLSTEIN 19 18 B3PA FEE	OR	INCW	MEWBOOKINE OIL CO	52.0555	-103.43220	[55610] SCHARB, BONE	0	0		0/3/2022
30-025-46802	#001C	Oil	Cancelled	MEWBOURNE OIL CO	32.6393	-103.49226		0	0	_	_
00 020 40002	SANTA VACA 19 18 B10B FEE	Oit	Guneetteu	HEWBOONNE DIE 00	02.0000	100.40220	[49553] PALMILLO, BONE	0	0		
30-025-50324	#001H	Oil	New	MEWBOURNE OIL CO	32.6393	-103 /9233	SPRING, EAST	0	0	_	8/25/2022
00 020 00024	HOLSTEIN 19 18 B3OB FEE		New		02.0000	100.40200	[55610] SCHARB, BONE	0	0		0/20/2022
30-025-46801	#001C	Oil	Never Drilled	MEWBOURNE OIL CO	32.6393	-103.49236		0	0	-	-
00 020 10001	SANTA VACA 19 18 B2OB FEE	<u>o</u> n	itere billed		0210000	100110200	[55610] SCHARB, BONE		5		
30-025-50325	#001H	Oil	New	MEWBOURNE OIL CO	32.6393	-103.49239		0	0	-	9/19/2022
	SANTA VACA 19 18 B3OB FEE						[55610] SCHARB, BONE				
30-025-50242	#001H	Oil	New	MEWBOURNE OIL CO	32.6393	-103.49246		0	0	-	10/21/2022
	FOXTAIL 193505 STATE COM						[55610] SCHARB, BONE				
30-025-46714	#001C	Oil	Cancelled	Catena Resources Operating, LLC	32.68145	-103.48058		0	0	-	-
			Plugged (site								
30-025-30182	PRE-ONGARD WELL #001	Oil	released)	PRE-ONGARD WELL OPERATOR	32.64397	-103.50288		0	60		
			Plugged (site				[55610] SCHARB, BONE				
30-025-25840	CHARLES S ALVES #004	Oil	released)	MACK ENERGY CORP	32.68067	-103.49404		10,230	10,230	3/29/2002	3/3/1978
			Plugged (site				[55610] SCHARB, BONE				
30-025-20531	PRE-ONGARD WELL #001	Oil	released)	PRE-ONGARD WELL OPERATOR	32.68067	-103.49463		0	10,206		
			Plugged (site				[55610] SCHARB, BONE				
30-025-28241	PRE-ONGARD WELL #002	Oil	released)	PRE-ONGARD WELL OPERATOR	32.66658	-103.46018		0	9,795		
			Plugged (site				[55610] SCHARB, BONE				
30-025-27766	ELKAN #001	Oil	released)	ELK OIL CO	32.67329	-103.46389		10,421	10,421	6/26/1996	3/27/1982
			Plugged (site								
30-025-24413	PRE-ONGARD WELL #001	Oil	released)	PRE-ONGARD WELL OPERATOR	32.64775	-103.5078		0	10,350		

		1									1
20 005 52244		01	New	Frenklin Meuntein Frenze 2, LLO	20,00050	100 40000	[55610] SCHARB, BONE	0	0		
30-025-53241	FOXTAIL STATE COM #501H	Oil	New	Franklin Mountain Energy 3, LLC	32.68258	-103.48229		0	0	-	-
30-025-53242	FOXTAIL STATE COM #502H	Oil	New	Frenklin Mountain Energy 2, LLC	22 69259	-103.4822	[55610] SCHARB, BONE	0	0		
30-025-53242	FUNTAIL STATE COM #502H	Oit	INEW	Franklin Mountain Energy 3, LLC	32.68258	-103.4622	[55610] SCHARB, BONE	0	0	-	-
20 025 52227	FOXTAIL STATE COM #301H	Oil	New	Franklin Mountain Energy 3, LLC	32.68258	-103.4821		0	0		
30-023-33237	FONTAIL STATE COM #301H	Oit	INEW	Franktin Hountain Energy 3, LEC	32.08238	-103.4621	[55610] SCHARB, BONE	0	0	-	-
20 025 52245	FOXTAIL STATE COM #601H	Oil	New	Franklin Mountain Energy 3, LLC	32.68258	-103.482		0	0		
30-023-33243	HEFEWEIZEN STATE COM	Oit	INEW	Franktin Hountain Energy 3, LEC	32.08238	-103.482	SERING	0	0	-	-
30-025-52341	#302H	Oil	Active	MARATHON OIL PERMIAN LLC	32.63806	-103 /9218	[37570] LEA, BONE SPRING	20,603	9,714	_	1/3/2024
00 020 02041	MARATHON STATE COM	OIL	Plugged (site	HARAMON OLE LENMAN LEO	02.00000	100.40210	[55610] SCHARB, BONE	20,000	5,714		1/0/2024
30-025-22791		Oil	released)	READ & STEVENS INC	32.67708	-103.5032		10,200	10,200	6/7/1993	_
00 020 22/01	1001	OR	receasedy		02.07700	100.0002		10,200	10,200	0///1000	
30-025-53249	FOXTAIL STATE COM #801H	Oil	New	Franklin Mountain Energy 3, LLC	32.68258	-103 4819	[55640] SCHARB, WOLFCAMP	0	0	_	_
00 020 00210	HEFEWEIZEN STATE COM	<u>o</u> n		1141141111041141112110185 0,220	02100200	10011010	[97983] WC-025 G-08				
30-025-52328		Oil	Active	MARATHON OIL PERMIAN LLC	32.63806	-103.49227	S203506D, BONE SPRING	20,779	9,770	-	1/1/2024
								,	-,		
30-025-53247	FOXTAIL STATE COM #701H	Oil	New	Franklin Mountain Energy 3, LLC	32.68258	-103.48181	[55640] SCHARB, WOLFCAMP	0	0	-	-
30-025-53248	FOXTAIL STATE COM #702H	Oil	New	Franklin Mountain Energy 3, LLC	32.68258	-103.48171	[55640] SCHARB, WOLFCAMP	0	0	-	-
	GONG WORTHY STATE COM	-					[55650] SCHARB,				
30-025-52327	#601H	Oil	Active	MARATHON OIL PERMIAN LLC	32.63806	-103.49237	WOLFCAMP, SOUTHEAST	22,501	10,900	-	12/31/2023
							[55610] SCHARB, BONE				
30-025-53238	FOXTAIL STATE COM #302H	Oil	New	Franklin Mountain Energy 3, LLC	32.68258	-103.48161		0	0	-	-
			Plugged (site				[55610] SCHARB, BONE				
30-025-22984	BUSH STATE #001	Oil	released)	MANZANO OIL CORP	32.67315	-103.50749		10,290	10,290	8/10/1995	2/1/1969
			, i i i i i i i i i i i i i i i i i i i								
30-025-53250	FOXTAIL STATE COM #803H	Oil	New	Franklin Mountain Energy 3, LLC	32.68113	-103.47473	[55640] SCHARB, WOLFCAMP	0	0	-	-
	SUPER COBRA STATE COM						[55610] SCHARB, BONE				
30-025-41989	#002C	Oil	Cancelled	COG OPERATING LLC	32.6537	-103.51147	SPRING	0	0	-	-
30-025-53251	FOXTAIL STATE COM #804H	Oil	New	Franklin Mountain Energy 3, LLC	32.68113	-103.47463	[55640] SCHARB, WOLFCAMP	0	0	-	-
	FOXTAIL E2 05 32 W1 STATE										
30-025-50168	COM #001H	Oil	New	Franklin Mountain Energy 3, LLC	32.68113	-103.47457	[55640] SCHARB, WOLFCAMP	0	0	-	7/25/2022
							[55610] SCHARB, BONE				
30-025-53244	FOXTAIL STATE COM #504H	Oil	New	Franklin Mountain Energy 3, LLC	32.68113	-103.47454	SPRING	0	0	-	-
			Plugged (site	DOMINION OKLAHOMA TEXAS EXPL.			[55650] SCHARB,				
30-025-29287		Oil	released)	& PROD INC	32.65145	-103.46019	WOLFCAMP, SOUTHEAST	11,500	11,500	10/23/2002	6/15/1985
	FOXTAIL E2 05 32 W1 STATE										
30-025-50169	COM #002H	Oil	New	Franklin Mountain Energy 3, LLC	32.68113	-103.4745	[55640] SCHARB, WOLFCAMP	0	0	-	7/23/2022
							[55610] SCHARB, BONE				
30-025-53239	FOXTAIL STATE COM #303H	Oil	New	Franklin Mountain Energy 3, LLC	32.68113	-103.47444		0	0	-	-
			Plugged (site				[55610] SCHARB, BONE				
30-025-27270	SCHARB 8 #001	Oil	released)	DALLAS PRODUCTION	32.68061	-103.47313		10,800	10,800	7/9/1996	3/7/1981
							[55610] SCHARB, BONE				
30-025-53246	FOXTAIL STATE COM #602H	Oil	New	Franklin Mountain Energy 3, LLC	32.68259	-103.47871	SPRING	0	0	-	-
30-025-53410	FOXTAIL STATE COM #802H	Oil	New	Franklin Mountain Energy 3, LLC	32.68259	-103.47861	[55640] SCHARB, WOLFCAMP	0	0	-	-
							[55610] SCHARB, BONE				
30-025-53243	FOXTAIL STATE COM #503H	Oil	New	Franklin Mountain Energy 3, LLC	32.68259	-103.47852	SPRING	0	0	-	-

			Diversed (site		-			I			
20.005.07015		Oil	Plugged (site		22 00000	-103.46018	[55610] SCHARB, BONE	0	10.000		
30-025-27915 30-025-53281	RAMBO FEE COM #302H	Oil Oil	released) New	ELK OIL CO Franklin Mountain Energy 3, LLC	32.66966 32.68286	-103.46018	[55610] SCHARB, BONE	0	10,900	-	-
	RAMBO FEE COM #302H RAMBO STATE COM #503H	Oil	New	Franklin Mountain Energy 3, LLC	32.68286	-103.47871	[55610] SCHARB, BONE	0	0	-	-
	RAMBO FEE COM #802H	Oil	New	Franklin Mountain Energy 3, LLC	32.68286	-103.47871	[55640] SCHARB, WOLFCAMP	0	0	-	
	RAMBO FEE COM #802H	Oil	New	Franklin Mountain Energy 3, LLC	32.68286	-103.47852	[55610] SCHARB, BONE	0	0	-	-
30-025-53282	RAMBU FEE COM #0020	Oit		Flankun Mountain Energy 3, LLC	32.00200	-103.47652	[55610] SCHARB, BONE	0	0	-	-
20.025.24012	CHARLES S ALVES #003	Oil	Plugged (site released)	MACK ENERGY CORP	32.68073	-103.49895		10,195	10,195	4/30/2002	8/8/1974
30-025-24613	CHARLES S ALVES #003	Oit	Plugged (site	MACKENERGICORP	32.00073	-103.49695	[55610] SCHARB, BONE	10,195	10,195	4/30/2002	0/0/19/4
20 025 20702		Oil			22 69107	102 409 44		0	10 205		
30-025-20703	PRE-ONGARD WELL #002	Oil	released)	PRE-ONGARD WELL OPERATOR	32.68107	-103.49844	SPRING	0	10,205		
20.025.02160		Oil	Plugged (site		22 64154	102 50210		0	10.267		
30-025-03169	PRE-ONGARD WELL #001 CABLE 19 35 16 STATE	Oil	released)	PRE-ONGARD WELL OPERATOR	32.64154	-103.50318	SPRING; [55610] SCHARB,	0	10,367		
20.005 45040		Oil	Concelled		20.00704	100 4505		0	0		
30-025-45648	#002C	UIL	Cancelled	Catena Resources Operating, LLC	32.66724	-103.4585	BONE SPRING	0	0	-	-
00.005.500.40		0.1	N	Frendrik Manutain Franks 0, 110	00.00140	400 47047	[55610] SCHARB, BONE	0			
-	FOXTAIL STATE COM #304H	Oil	New	Franklin Mountain Energy 3, LLC	32.68113	-103.47217		0	0	-	-
	SANTA VACA 19 18 B1NC	0.1					[55610] SCHARB, BONE				
	STATE COM #001H	Oil	New	MEWBOURNE OIL CO	32.63931	-103.4998		0	0	-	10/29/2022
	WEST PEARL QUEEN UNIT		Plugged (site				[49820] PEARL, SAN ANDRES,				
	#102	Oil	released)	GULF OIL CORP	32.63599	-103.48593		0	5,128		
	SANTA VACA 19 18 B1MD						[55610] SCHARB, BONE				
30-025-50368	STATE COM #001H	Oil	New	MEWBOURNE OIL CO	32.63931	-103.49986	SPRING	0	0	-	9/29/2022
	WEST PEARL QUEEN UNIT		Plugged (site								
30-025-03176	#100	Oil	released)	GULF OIL CORP	32.6405	-103.46877	[49780] PEARL, QUEEN	0	4,990		
		Salt Water	Plugged (site								
30-025-20394	ORA JACKSON A #001	Disposal	released)	BIG 6 DRILLING CO	32.68427	-103.48605	[96095] SWD, BONE SPRING	10,166	10,166	8/1/1989	10/4/1963
	ANCHOR 193528 STATE						[96989] KLEIN RANCH,				
30-025-45631	COM #001C	Oil	Cancelled	Catena Resources Operating, LLC	32.63983	-103.46955	WOLFCAMP	0	0	-	-
	CHAROLAIS 28 21 B2OB										
	STATE COM #001C	Oil	Cancelled	MEWBOURNE OIL CO	32.65274	-103.45804	[49680] PEARL, BONE SPRING	0	0	-	-
	WEST PEARL QUEEN UNIT		Plugged (site								
	#103	Oil	released)	XERIC OIL & GAS CORP	32.63598	-103.48164	[49780] PEARL, QUEEN	5,039	5,039	3/13/2013	-
	CHAROLAIS 28 21 B2PA										
	STATE COM #001C	Oil	Cancelled	MEWBOURNE OIL CO	32.65274	-103.45794	[49680] PEARL, BONE SPRING	0	0	-	-
	SANTA VACA 19 18 B2NC						[55610] SCHARB, BONE				
30-025-49154	STATE COM #001H	Oil	Active	MEWBOURNE OIL CO	32.63931	-103.50051		20,836	10,206	-	10/22/2021
							[55650] SCHARB,				
-	KLEIN 16 STATE #001	Oil	Active	Franklin Mountain Energy 3, LLC	32.65455	-103.45733	WOLFCAMP, SOUTHEAST	11,019	11,019	-	7/28/2009
	SANTA VACA 19 18 B3NC						[55610] SCHARB, BONE				
30-025-49155	STATE COM #001H	Oil	New	MEWBOURNE OIL CO	32.63931	-103.50061		0	0	-	10/7/2021
			Plugged (not				[55610] SCHARB, BONE				
	SCHARB 9 #002	Oil	released)	BXP Operating, LLC	32.67695	-103.46454		9,850	9,850	2/7/2023	4/28/1983
	SANTA VACA 19 18 B2MD						[55610] SCHARB, BONE				
30-025-46804	STATE COM #001H	Oil	New	MEWBOURNE OIL CO	32.63931	-103.50071		0	0	-	9/22/2021
			Plugged (site				[55650] SCHARB,				
	PRE-ONGARD WELL #005	Oil	released)	PRE-ONGARD WELL OPERATOR	32.66292	-103.45667	WOLFCAMP, SOUTHEAST	0	10,920		
	SANTA VACA 19 18 B3MD						[55610] SCHARB, BONE				
30-025-46803	STATE COM #001H	Oil	New	MEWBOURNE OIL CO	32.63931	-103.5008		0	0	-	8/23/2021
	AIRSTRIP 6 STATE COM						[55610] SCHARB, BONE				
30-025-40409	#003C	Oil	Cancelled	COG OPERATING LLC	32.68428	-103.48985	SPRING	0	0	-	-
30-025-53284	RAMBO STATE COM #303H	Oil	New	Franklin Mountain Energy 3, LLC	32.683	-103.47515	[55610] SCHARB, BONE	0	0	-	-

20.025.52205	RAMBO STATE COM #304H	Oil	New	Franklin Mountain Energy 3, LLC	32.683	102 47505	[55610] SCHARB, BONE	0	0		
30-025-53285		Oil	New		32.683			0	0	-	-
				Franklin Mountain Energy 3, LLC			[55610] SCHARB, BONE	0	0	-	-
30-025-53288		Oil	New	Franklin Mountain Energy 3, LLC	32.683		[55640] SCHARB, WOLFCAMP	0	0	-	-
30-025-53289	RAMBO STATE COM #804H	Oil	New	Franklin Mountain Energy 3, LLC	32.683	-103.47476	[55640] SCHARB, WOLFCAMP	0	0	-	-
		e	Plugged (site				[55610] SCHARB, BONE	10.171	10.171		
		Oil	released)	O'NEIL PROPERTIES LTD	32.68464	-103.48222		10,171	10,171	3/13/1992	12/17/1982
30-025-48907		Oil	New	PRIDE ENERGY COMPANY	32.66666		[55610] SCHARB, BONE	0	0	-	6/15/2021
30-025-48905		Oil	New	PRIDE ENERGY COMPANY	32.66666	-103.51367	[55610] SCHARB, BONE	0	0	-	6/18/2021
	RAMBO E2 08 17 STATE COM										
30-025-49535		Oil	New	Franklin Mountain Energy 3, LLC	32.68327		[55640] SCHARB, WOLFCAMP	0	0	-	11/17/2021
30-025-48909		Oil	New	PRIDE ENERGY COMPANY	32.66666	-103.51373	[55610] SCHARB, BONE	0	0	-	6/21/2021
	RAMBO E2 08 17 STATE COM										
30-025-49536	#002H	Oil	New	Franklin Mountain Energy 3, LLC	32.68327	-103.47492	[55640] SCHARB, WOLFCAMP	0	0	-	11/15/2021
			Plugged (site				[55610] SCHARB, BONE				
30-025-27377	SCHARB 9 #001	Oil	released)	DALLAS PRODUCTION	32.68059	-103.46883	SPRING	10,841	10,841	8/9/1996	7/20/1981
30-025-48906	GO STATE COM #203H	Oil	New	PRIDE ENERGY COMPANY	32.66666	-103.5138	[55610] SCHARB, BONE	0	0	-	6/24/2021
30-025-48904	GO STATE COM #101H	Oil	New	PRIDE ENERGY COMPANY	32.66666	-103.51386	[55610] SCHARB, BONE	0	0	-	6/27/2021
30-025-48908	GO STATE COM #305H	Oil	New	PRIDE ENERGY COMPANY	32.66665	-103.51393	[55610] SCHARB, BONE	0	0	-	6/30/2021
	WEST PEARL QUEEN UNIT		Plugged (site								
30-025-03246	#104	Injection	released)	XERIC OIL & GAS CORP	32.63625	-103.47628	[49780] PEARL, QUEEN	99,999	99,999	7/27/2000	-
				DOMINION OKLAHOMA TEXAS EXPL.							
30-025-34709	TORO 21 #002	Oil	Cancelled	& PROD INC	32.64691	-103.46022		0	0	-	-
			Plugged (site				[55610] SCHARB, BONE				
30-025-28370	ELKAN #003	Oil	released)	ELK OIL CO	32.67329	-103.46019		11,000	11,000	6/28/1996	9/15/1983
		-	Plugged (site				[55610] SCHARB, BONE	,	,		
30-025-20305	SMITH 5 #002	Oil	released)	SOUTHLAND ROYALTY CO	32.68425	-103.47742		10,179	10,179	11/18/1993	4/1/1984
00 020 20000	0		Plugged (site		02100120	100117712		10,170	10,170	11,10,1000	
30-025-21171	MAGNUM STATE #001	Oil	released)	PRIMERO OPERATING INC	32.68402	-103.49431		10,207	10,207	11/7/1995	3/7/1964
00 020 211/1	WEST PEARL QUEEN UNIT		Plugged (site		02100102	100110101		10,207	10,207	11,7,1000	0,772001
30-025-03255	-	Oil	released)	GULF OIL CORP	32.63687	-103 /7355	[49780] PEARL, QUEEN	0	5,117		
00 020 00200	#105	Oit	releasedy		02.00007	100.47000	[49680] PEARL, BONE	Ű	5,117		
							SPRING; [55650] SCHARB,				
30-025-35788	TORO 21 #002	Oil	Active	North Fork Operating, LP	32.64504	-103 /6126	WOLFCAMP, SOUTHEAST	11,200	11,200	-	12/26/2001
30-023-33788	HIBISCUS 08 19 35 RN STATE	Oit	Active	Noruri ork Operating, Li	32.04304	-103.40120	[55610] SCHARB, BONE	11,200	11,200		12/20/2001
30-025-42502		Oil	Active	MATADOR PRODUCTION COMPANY	32.68296	-103.47213		15,187	10,185		10/7/2015
30-023-42302	COM #124H	Oit	Plugged (site	MATADOR PRODUCTION COMPANY	32.08290	-103.47213	SERING	15,167	10,165	-	10///2015
00 005 00157	PRE-ONGARD WELL #001	Oil	released)		32.68071	-103.50319		0	0.510		
			,	PRE-ONGARD WELL OPERATOR				0	6,510		_
30-025-35613		Oil	Cancelled	MACK ENERGY CORP	32.6834	-103.49779		0	0	-	-
00.005.00475	EAST PEARL QUEEN UNIT	1	Plugged (not		00.0405	100 10110		4 6 6 6	1.000	40/0/0040	0/00/4050
30-025-03175	#011	Injection	released)	XERIC OIL & GAS CORP	32.6405	-103.46449	[49780] PEARL, QUEEN	4,960	4,960	10/8/2013	3/22/1958
		e	Plugged (site				[55610] SCHARB, BONE			0.05	
30-025-27109		Oil	released)	DALLAS PRODUCTION	32.68451	-103.47314		10,806	10,806	6/25/1996	1/9/1981
	KLEIN 16 STATE #002H	Oil	Active	Franklin Mountain Energy 3, LLC	32.66603		[55610] SCHARB, BONE	13,940	9,517	-	12/4/2012
30-025-53165		Oil	New	Franklin Mountain Energy 3, LLC	32.68152		[55610] SCHARB, BONE	0	0	-	-
30-025-53167		Oil	New	Franklin Mountain Energy 3, LLC	32.68152	-103.46615	[55640] SCHARB, WOLFCAMP	0	0	-	-
	WEST PEARL QUEEN UNIT		Plugged (site								
30-025-03244		Injection	released)	XERIC OIL & GAS CORP	32.63326	-103.48166	[49780] PEARL, QUEEN	5,030	5,030	4/17/2014	-
	CABLE 19 35 9 STATE COM						[55610] SCHARB, BONE				
30-025-46139	#002C	Oil	Cancelled	Catena Resources Operating, LLC	32.68229	-103.46723		0	0	-	-
			Plugged (site				[55610] SCHARB, BONE				
30-025-28656	SCHARB 9 #004	Oil	released)	DALLAS PRODUCTION	32.68029	-103.4642	SPRING	9,900	9,900	7/16/1996	4/6/1984

30-025-53166	ALPHA STATE COM #601H	Oil	New	Franklin Mountain Energy 3, LLC	32.68152	-103.46596	[55610] SCHARB, BONE	0	0	-	-
30-025-53168		Oil	New	Franklin Mountain Energy 3, LLC	32.68152	-103.46586		0	0		
30-023-33100	WEST PEARL QUEEN UNIT		Plugged (site	Trankin Flountain Energy 3, EEC	52.00152	-103.40300		0	0	-	-
30-025-03233	#106	Oil	released)	GULF OIL CORP	32.63687	-103 /6877	[49780] PEARL, QUEEN	0	5,000		
30-025-03233	CABLE STATE COM #501H	Oil	New	Franklin Mountain Energy 3, LLC	32.68179	-103.46677	[55610] SCHARB, BONE	0	5,000	_	_
30-025-53163	CABLE STATE COM #502H	Oil	New	Franklin Mountain Energy 3, LLC	32.68179		[55610] SCHARB, BONE	0	0		
30-025-53103	CABLE STATE COM #302H	Oit	Plugged (site	LYNX PETROLEUM CONSULTANTS	32.08179	-103.40011	[55610] SCHARB, BONE	0	0	-	-
30-025-28157	GOVERNMENT 9 #001	Oil	released)	INC	32.67694	-103.46019		10,000	10,000	8/23/1996	2/21/1983
		Oil	New	Franklin Mountain Energy 3, LLC	32.67694	-103.46019	[55610] SCHARB, BONE	10,000	10,000	8/23/1996	2/21/1983
30-025-53069	ALPHA W2W2 04 33 W1	UIL	New	Flankun Mountain Energy 3, LLC	32.00179	-103.46601	[55610] SCHARB, BONE	0	U	-	-
20.005 50702		Oil	Concelled	Frenklin Meuntain Frenze 2, 11,0	32.68159	102 40500		0	0		
		Oil	Cancelled Active	Franklin Mountain Energy 3, LLC CIMAREX ENERGY CO.			[55640] SCHARB, WOLFCAMP	15,292	10,750	-	- 8/7/2014
30-025-41858	TEAL 12 STATE COM #002H	OIL	Active	CIMAREX ENERGY CO.	32.66858	-103.51603	[55610] SCHARB, BONE	15,292	10,750	-	8/7/2014
00 005 50750	ALPHA E2W2 04 33 W1	0.1	0	Freedric Manustain Freedow 0, 110	00.00450	400 40500		0	0		
30-025-50758	STATE COM #001H	Oil	Cancelled	Franklin Mountain Energy 3, LLC	32.68159	-103.46563	[55640] SCHARB, WOLFCAMP	0	0	-	-
							WOLFCAMP; [55650]				
							SCHARB, WOLFCAMP,				
30-025-53090		Oil	New	Franklin Mountain Energy 3, LLC	32.68179	-103.46591	SOUTHEAST	0	0	-	-
	CABLE 19 35 9 STATE COM										
30-025-46140		Oil	Active	Franklin Mountain Energy 3, LLC	32.68294	-103.46756	[55640] SCHARB, WOLFCAMP	21,383	11,072	-	7/16/2019
	WEST PEARL QUEEN UNIT		Plugged (site								
30-025-03245	#111	Oil	released)	XERIC OIL & GAS CORP	32.63325	-103.47736	[49780] PEARL, QUEEN	5,028	5,028	9/8/2003	-
			Plugged (site								
30-025-23634		Oil	released)	PRE-ONGARD WELL OPERATOR	32.6808	-103.50703		0	10,257		
	WEST PEARL QUEEN UNIT		Plugged (site								
30-025-03252	#113	Oil	released)	GULF OIL CORP	32.63236	-103.48488	[49780] PEARL, QUEEN	0	5,126		
			Plugged (site				[55610] SCHARB, BONE				
30-025-27858	ORA JACKSON #001	Oil	released)	O'NEIL PROPERTIES LTD	32.6879	-103.48607	SPRING	10,902	10,902	1/19/1996	7/4/1982
	WEST PEARL QUEEN UNIT		Plugged (site								
30-025-03259	#114	Injection	released)	PYRAMID ENERGY INC	32.63237	-103.48917	[49780] PEARL, QUEEN	4,805	4,805	7/28/1994	-
			Plugged (site				[55610] SCHARB, BONE				
30-025-26891	SCHARB 4 #001	Oil	released)	LINN OPERATING, LLC.	32.68422	-103.46884	SPRING	10,706	10,706	10/17/2012	7/18/1980
			Plugged (site				[55610] SCHARB, BONE				
30-025-20296	PRE-ONGARD WELL #001	Oil	released)	PRE-ONGARD WELL OPERATOR	32.68789	-103.48177	SPRING	0	10,200		
							WOLFCAMP, SOUTHEAST;				
			Plugged (not				[96874] WC G-10 S193521H,				
30-025-34492	TORO 21 STATE COM #001Y	Oil	released)	WPX Energy Permian, LLC	32.64692	-103.45615	DEVONIAN	13,960	13,960	8/31/2020	8/27/1998
	MEAT PIE 9 STATE COM						[55610] SCHARB, BONE				
30-025-52724	#501H	Oil	New	MARSHALL & WINSTON INC	32.68187	-103.46461	SPRING	0	0	-	-
							[55610] SCHARB, BONE				
30-025-40875	AIRCOBRA 12 STATE #001H	Oil	Active	MATADOR PRODUCTION COMPANY	32.68132	-103.507	SPRING	15,130	10,755	-	4/28/2013
	MEAT PIE 9 STATE COM					-	[55610] SCHARB, BONE				
30-025-52723	#301H	Oil	New	MARSHALL & WINSTON INC	32.68187	-103.46455	SPRING	0	0	-	-
		T	T				WOLFCAMP; [55650]	Ì			
	MEAT PIE 9 STATE COM						SCHARB, WOLFCAMP,				
		1	1	MARSHALL & WINSTON INC	32.68187	-103.46448	SOUTHEAST	0	0	-	-
30-025-52897	#701H	Oil	New	MARSHALL & WINSTON INC							
30-025-52897		Oil		LYNX PETROLEUM CONSULTANTS	02.00107		[55610] SCHARB. BONE				
	#701H		Plugged (site	LYNX PETROLEUM CONSULTANTS			[55610] SCHARB, BONE SPRING	10.050	10.050	8/3/1994	8/6/1963
	#701H	Oil Oil	Plugged (site released)	LYNX PETROLEUM CONSULTANTS INC	32.68791	-103.49036	SPRING	10,050	10,050	8/3/1994	8/6/1963
30-025-20144	#701H GENE DALMONT #001	Oil	Plugged (site released) Plugged (site	LYNX PETROLEUM CONSULTANTS INC DOMINION OKLAHOMA TEXAS EXPL.	32.68791	-103.49036	SPRING [96838] DRY AND				
	#701H GENE DALMONT #001		Plugged (site released)	LYNX PETROLEUM CONSULTANTS INC		-103.49036	SPRING	10,050 4,276	10,050 4,276	8/3/1994 8/21/1998	8/6/1963 8/3/1998
				L							1
--------------	---------------------------	-----------	---------------	---------------------------------	----------	------------	--------------------------	--------	--------	-----------	-----------
		Oil	New	Franklin Mountain Energy 3, LLC	32.68151		[55610] SCHARB, BONE	0	0	-	-
30-025-53087	ALPHA STATE COM #302H	Oil	New	Franklin Mountain Energy 3, LLC	32.68151	-103.46352	[55610] SCHARB, BONE	0	0	-	-
30-025-53088	ALPHA STATE COM #702H	Oil	New	Franklin Mountain Energy 3, LLC	32.68151	-103.46342	[55640] SCHARB, WOLFCAMP	0	0	-	-
30-025-53210	ALPHA STATE COM #502H	Oil	New	Franklin Mountain Energy 3, LLC	32.68151	-103.46333	[55610] SCHARB, BONE	0	0	-	-
30-025-53211	ALPHA STATE COM #602H	Oil	New	Franklin Mountain Energy 3, LLC	32.68151	-103.46323	[55610] SCHARB, BONE	0	0	-	-
			Plugged (site				[55610] SCHARB, BONE				
30-025-28922	ORA JACKSON #003	Oil	released)	O'NEIL PROPERTIES LTD	32.68842	-103.48161	SPRING	10,183	10,183	4/3/1991	-
							WOLFCAMP; [55650]				
							SCHARB, WOLFCAMP,				
30-025-53091	CABLE STATE COM #802H	Oil	New	Franklin Mountain Energy 3, LLC	32.68179	-103.46352	SOUTHEAST	0	0	-	-
30-025-53169	ALPHA STATE COM #802H	Oil	New	Franklin Mountain Energy 3, LLC	32.68151	-103.46313	[55640] SCHARB, WOLFCAMP	0	0	-	-
							[55610] SCHARB, BONE				
30-025-37842	AIRSTRIP 6 STATE COM #001	Oil	Active	MATADOR PRODUCTION COMPANY	32.68433	-103.50318	SPRING	11,450	11,450	-	5/25/2006
			Plugged (site								
30-025-28713	MCINTOSH #001	Oil	released)	MANZANO OIL CORP	32.65547	-103.45206	[49780] PEARL, QUEEN	10,950	10,950	3/8/1995	4/30/1984
30-025-53161	CABLE STATE COM #302H	Oil	New	Franklin Mountain Energy 3, LLC	32.68179	-103.46342	[55610] SCHARB, BONE	0	0	-	-
30-025-28840	PRE-ONGARD WELL #005	Oil	Cancelled	PRE-ONGARD WELL OPERATOR	32.68787	-103.47747		0	0	-	-
30-025-53164	CABLE STATE COM #602H	Oil	New	Franklin Mountain Energy 3, LLC	32.68179	-103.46333	[55610] SCHARB, BONE	0	0	-	-
	PERLA NEGRA FEDERAL										
30-025-42577	COM #004H	Oil	Active	XTO ENERGY, INC	32.63778	-103.50676	[37570] LEA, BONE SPRING	16,064	10,814	-	7/12/2015
	PERLA NEGRA FEDERAL										
30-025-43813	COM #008H	Oil	Cancelled	XTO ENERGY, INC	32.63779	-103.50693	[37570] LEA, BONE SPRING	0	0	-	-
	WEST PEARL QUEEN UNIT		Plugged (site								
30-025-03254	#110	Injection	released)	XERIC OIL & GAS CORP	32.63324	-103.47307	[49780] PEARL, QUEEN	4,920	4,920	5/13/2014	-
	EAST PEARL QUEEN UNIT		Plugged (not								
30-025-03174		Oil	released)	XERIC OIL & GAS CORP	32.64051	-103.46019	[49780] PEARL, QUEEN	4,950	4,950	10/3/2013	10/2/1959
			Plugged (site				[55610] SCHARB, BONE	,,	,,		
30-025-20322	PRE-ONGARD WELL #001	Oil	released)	PRE-ONGARD WELL OPERATOR	32.68793	-103.49464		0	10,214		
					12.50700			v	10,211		

### Attachment A

All relevant plugging documents for wells that penetrate the Siluro-Devonian interval within two miles of the proposed White Russian AGI #1 well

Toro 21 State Com #001 (30-025-34492)

Office Example 1	of New Mexico	Form 5-103 Revised July 18, 2013				
1625 N. French Dr., Hobbs, NM 88240	rals and Natural Resources	WELL API NO. 30-025-34492				
811 S. First St., Artesia, NM 88210   OIL CONST     District III – (505) 334-6178   1220 Sc	ERVATION DIVISION outh St. Francis Dr.	5. Indicate Type of Lease STATE FEE				
1000 Rio Brazos Rd., Aztec, NM 87410   Sant <u>District IV</u> – (505) 476-3460   Sant     1220 S. St. Francis Dr., Santa Fe, NM   Sant	a Fe, NM 87505	6. State Oil & Gas Lease No. 303293				
87505 SUNDRY NOTICES AND REPORT	S ON WELLS	7. Lease Name or Unit Agreement Name				
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" ( PROPOSALS.)	DEEPEN OR PLUG BACK TO A	TORO 21 STATE COM				
1. Type of Well: Oil Well 🔳 Gas Well 🗌 Other		8. Well Number 001Y				
2. Name of Operator WPX Energy I	Permian, LLC	9. OGRID Number 246289				
3. Address of Operator <sub>3500 ONE</sub> WILLIAMS CENTER MD 35 TULSA, OK 74172		10. Pool name or Wildcat SCHARB; WOLFCAMP, SOUTHEAST				
4. Well Location Unit LetterH <u></u>	the NORTH line and	735 EAST				
Section 21 Township		NMPM LEA County				
11. Elevation (Show	w whether DR, RKB, RT, GR, etc., 3,752' GR					
12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data   NOTICE OF INTENTION TO:   SUBSEQUENT REPORT OF:   REFORM REMEDIAL WORK PLUG AND ABANDON CHANGE PLUE ORALLER CASING COMMENCE DRILLING OPNS.   PULL OR ALTER CASING MULTIPLE COMPL COMMENCE DRILLING OPNS.   DOWNHOLE COMMINGLE COMMENCE DRILLING OPNS.   CLOSED-LOOP SYSTEM 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 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.   08/24/20 MIRU plugging equipment. Pressure tested tbg. To 1500 psi. Bled off pressure. POH with rods, rods parted.   08/25/20 RIH w/ 7' CIBP and set @ 10560'. Circulate 400 bbls MLF. Pressured up on csg to 600 psi. Bled of pressure off. Spotted 25 sx C;ass H @ 10560-10437. Spotted 35 sx class H xz@ 7790-7575. POH to 5100'.   08/28/20 RIH w/ 7'' CIBP and set @ 10560'. Circulate 400 bbls MLF. Pressured up on csg to 600 psi. Bled of pressure off. Spotted 25 sx C;ass H @ 10560-10437. Spotted 35 sx class H xz@ 7790-7575. POH to 5100'.   08/28/20 Tagged plug @ 4845'. Perf'd & Sqz'd 65 sx (alss C @ 3250-3050. WOC.   08/28/20 Tagged plug @ 3000'. Perf'd & Sqz'd 65 sx (alss C @ 3250-3050. WOC.   08/28/20 Tagged plug @ 3000'. Perf'd & Sqz'd 55 s						
Spud Date: 08/27/1998	Rig Release Date: 02/2	28/1999				
I hereby certify that the information above is true and con	plete to the best of my knowledg	e and belief.				
SIGNATURE With O'Han	TITLE Regulatory Spec	cialist <sub>DATE</sub> 09/02/2020				
Type or print name Caitlin O'Hair	E-mail address:caitlin.ohair@w					
	TTLE Compliance Officer A	DATE1/21/21				

.

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District I 1625 N. French Dr., Hobbs, NM 88240

Phone:(575) 393-6161 Fax:(575) 393-0720

District II 811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

Phone:(505) 334-6178 Fax:(505) 334-6170

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

District III 1000 Rio Brazos Rd., Aztec, NM 87410

District IV

Action 13511

#### State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 S. St Francis Dr. Santa Fe, NM 87505

#### CONDITIONS OF APPROVAL

Operator	r:				OGRID:	Action Number:	Action Type:
	WPX ENERGY PERMIAN, LLC	3500 One Williams Center	Tulsa, OK74172		246289	13511	C-103P
						•	
OCD Rev	viewer			Condition			
plmartin	ez			None			

Submit 3 Copies	State of New Mex Energy, Minerals and Natural Res	tico jources Department	Form C-103 Revised 1-1-89
District Office <u>DISTRICT I</u> P.O. Box 1980, Hobbs, NM 88240	OIL CONSERVATIO P.O. Box 2089	8	WELL API NO. 30-025-34492
DISTRICT II P.O. Drawer DD, Artesia, NM 88210	DISTRICT II P.O. Drawer DD, Artesia, NM 88210 Santa Fe, New Mexico 87504-2088		5. Indicate Type of Lease STATE FEE X
DISTRICT III 1000 Rio Brazos Rd., Aztec, NM 87410			6. State Oil & Gas Lease No.
	CES AND REPORTS ON WELL	LS	())))))))))))))))))))))))))))))))))))
( DO NOT USE THIS FORM FOR PRO	OPOSALS TO DRILL OR TO DEEPEN ( AVOIR. USE "APPLICATION FOR PER 101) FOR SUCH PROPOSALS.)	UN FLUG BROR TO T	7. Lease Name or Unit Agreement Name Toro 21 State Com.
1. Type of Well: OIL GAS WELL WELL X	OTHER		
2 Name of Operator			8. Well No.
LOUIS DREYFUS NATURAL	L GAS CORP.		9. Pool name or Wildcat
3. Address of Operator		01 OV 7313/	Wildcat Morrow
14000 Quail Springs	Parkway, #600, Oklahoma	UILY, UK 7515	
4. Well Location Unit Letter <u>H</u> : <u>2</u>	310 Feet From The North	Line and $\frac{7}{4}$	735 15 Feet From The <u>East</u> Line
Section 21	Township 198 Rar	35E	NMPM Lea County
	3752'GR		
	Appropriate Box to Indicate N	Vature of Notice, R	leport, or Other Data
NOTICE OF IN	TENTION TO:	SUE	SEQUENT ALL ON ON
		REMEDIAL WORK	
	CHANGE PLANS	COMMENCE DRILLIN	
PULL OR ALTER CASING		CASING TEST AND C	
OTHER:		OTHER: Plug-I	Back using estimated date of starting any proposed

12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertine

Work commenced 1/19/99. Set CIBP @ 13,750'. Tested csg. & CIBP to 3000 psi. Dump baled 40' of cement on plug, new PBTD 13,710'. Perf Lower Morrow f/12,638'-12,648 w/61 shots. Swabbed well. Perf Upper Morrow f/12,606'-12,598' and 12,542'-12,538' w/4 spf. Set 7" CIBP @ 12,628' over Lower Morrow perfs. Dump baled 5' of cement on CIBP. Swabbed well. Acidized Upper Morrow perfs w/3000 gal 10% acetic acid (25% methanol used to dilute), foamed w/7T CO2 & 75 ball sealers. Well shut in for evaluation on 2/4/99.

-	I hereby certify that the information above is type and complete to the best of my knowledge SIGNATURE	e and belie	<i>t.</i> Regulatory	Technician	DATE 2/23/99 (405)
	TYPE OR PRINT NAME Terrye D. Bryant				(405) TELEPHONE NO. 749-5287
5	(This space for State Use) Control of Contro				DATE
	CONDITIONS OF APPROVAL, IF ANY:	- mie 2 <i>4</i>	A Wildo	al Dec	vonian CT 9/20/99

## **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 AGI #1
Figure B-2:	Map of lessees and active operators within one mile of AGI #1
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





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



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Figure Bproposed Released to Imaging: 7/16/2025 4:05:47 PM

Figure B-2. Lessees, active operators, and mineral ownership within one mile of the proposed White Russian AGI #1 well



#### TABLE B-1: INTERESTED PARTIES IN THE AREA OF THE PROPOSED AGI WELL

#### **Surface Owners:**

State of New Mexico Allison Marks New Mexico State Land Office 310 Old Santa Fe Trail Santa Fe, NM 87504 Bureau of Land Management 301 Dinosaur Trail Santa Fe, NM 87508

Snyder Ranches LTD PO Box 2158 Hobbs, NM 88241

#### Active Operators, Lessees, and Mineral Owners

Bureau of Land Management 301 Dinosaur Trail Santa Fe, NM 87508

COG Operating, LLC One Concho Center 600 W Illinois Avenue Midland, TX 79701

Franklin Mountain Energy 3, LLC 6001 Deuville Blvd., Suite 300N Midland, TX 79706

Matador Production Company One Lincoln Centre 5400 LBJ Freeway, Suite 1500 Dallas, TX 75240

MRC Permian Company 5400 LBJ Freeway, Suite 1500 Dallas, TX 75240

Ranger Water Midstream, LLC 1008 Southview Circle Center, TX 75935

State of New Mexico Allison Marks New Mexico State Land Office 310 Old Santa Fe Trail Santa Fe, NM 87504 Chevron USA, Inc. 1400 Smith Street Houston, TX 77002 832-854-1000

Coterra Energy Operating Co. 6001 Deauville Blvd, Suite 300N Midland, TX 79706

Marshall & Winston PO Box 50880 Midland, TX 79710

Mewbourne Oil Company PO Box 5270 Hobbs, NM 88241

North Fork Operating 1000 W. Wilshire Boulevard, Suite 311 Nichols Hills, OK 73116

Read & Stevens, Inc. 300 N. Marienfeld St., Suite 1000 Midland, TX 79701

Yates Energy Corporation PO Box 2323 Roswell, NM 88202

P:\24-022 Producers Midstream\GIS\DW\_Files\Table B-1\_Corrected.docx

#### ATTACHMENT 1 – SAMPLE NOTICE LETTER

March XX, 2025

Example Notice Letter
Party to be notified
Address

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

#### RE: LEA MIDSTREAM, LLC PROPOSED WHITE RUSSIAN AGI #1 (CASE NO. XXXXX)

This letter is to advise you that Lea Midstream, LLC (Lea Midstream) 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 White Russian AGI #1, at their gas treatment facility in Lea County, New Mexico. The proposed AGI #1 is intended to be the primary method for disposing of sour gases associated with oil and gas treatment activities at the facility.

The proposed well will be drilled from a surface location of approximately XXX feet from the north line (FSL) and XXX feet from the west line (FWL), with a deviated wellbore and bottom-hole location approximately XXX feet northwest of the surface location in Section 17, Township 19 South, Range 35 East, in Lea County, New Mexico. As proposed, the White Russian AGI #1 well will inject waste carbon dioxide and hydrogen sulfide into the Devonian through Fusselman geologic formations from approximately XXX to XXX feet. The maximum allowable surface pressure will not exceed XXX psig with a maximum daily injection volume of 12.0 million standard cubic feet (MMSCF)

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 Lea Midstream'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.<sup>®</sup>

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

Enclosure: C-108 Application for Authority to Inject

# **APPENDIX C**

# REQUEST TO SAMPLE AND ANALYZE GROUNDWATER FROM EXITING WATER WELL



David A. White, P.G.

March 19, 2025

VIA CERTIFIED MAIL

Klein Ranch Attn: Faye Klein PO Box 1503 Hobbs, NM 88240

# RE: WATER WELL (L-09569) STATUS INQUIRY AND REQUEST FOR GROUNDWATER SAMPLE

To Whom it May Concern:

On behalf of Lea Midstream, LLC (Lea Midstream), 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 L-09569 and the well has a recorded location within the SE/4 of the SW/4 of Section 17, Township 19 South, Range 35 East. The approximate geographic coordinates are 32.655, -103.4817 (NAD83).

Lea Midstream 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 White Russian AGI #1. The proposed well is to be located in the NE/4 of the SW/4 in Section 17 of Township 19 South, Range 35 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.<sup>®</sup>

Jest

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

P:\24-022 Producers Midstream\C-108 Application\Appendices\Appendix C\GW\_Sample\_Request.docx

phone: 505-842-8000

500 Marquette Avenue NW, Suite 1350 Albuquerque, New Mexico 87102 web: www.geolex.com email: dwhite@geolex.com

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

#### APPLICATION OF LEA MIDSTREAM, LLC FOR AUTHORIZATION TO INJECT, LEA COUNTY, NEW MEXICO.

#### CASE NO. 25413

#### SELF AFFIRMED STATEMENT OF CHRIS HALFAST

1. My name is Chris Halfast and I am the Vice President of Engineering and Construction for Producers Midstream II, LLC. The applicant in this matter, Lea Midstream, LLC, is a subsidiary of Producers Midstream and the bonded operator for the proposed injection well.

2. I am familiar with the application filed by Lea Midstream, the acid gas gathering and treatment facilities associated with the proposed injection well, and the status of the lands in the subject area.

3. Lea Midstream seeks approval to drill, complete, and operate the proposed White Russian AGI #1 well to inject treated acid gas into the Siluro-Devonian formations, including the Devonian, Wristen, and Fusselman formations, between depths of approximately 14,615 to 16,029 feet. The treated acid gas will be comprised of approximately 70 percent carbon dioxide and 30 percent hydrogen sulfide obtained from oil and gas producing wells in the area. When operating at full capacity, we expect the White Russian AGI #1 well will permanently sequester approximately 487 tons of carbon dioxide and approximately 162 tons of hydrogen sulfide daily.

4. The proposed White Russian AGI #1 well will be drilled as a deviated well with a surface location of approximately 1,607 feet from the south line (FSL) and approximately 1,991 feet from the west line (FWL) of Section 17, to a bottom hole location at approximately 2,338 from the north line (FNL) and 188 feet FWL in said Section 17, within Township 19 South, Range

35 East, Lea County, New Mexico. The surface location of the White Russian AGI #1 well will be on acreage owned by Lea Midstream. The bottom-hole location is expected to be located under surface acreage currently owned by Snyder Ranches but under a purchase contract with Lea Midstream and expected to close on July 11<sup>th</sup>, 2025. Lea Midstream has been in contact with adjacent property owners to obtain permission to utilize the pore space with the proposed plume model.

5. **Exhibit B-1** is a map of the gathering system and related treatment facility that Lea Midstream operates. The proposed White Russian AGI #1 well will be the primary sour gas disposal method for these facilities and will be constructed on the facility property owned by Lea Midstream.

6. There is critical and immediate need for acid gas disposal options in this area. The natural gas produced by oil wells in this area often contains elevated concentrations of hydrogen sulfide (H<sub>2</sub>S) and carbon dioxide (CO<sub>2</sub>). The ability to safely and effectively manage and dispose of these acid gas components is essential to the responsible development and ongoing operation of assets in the region. Currently, there are over 100 wells drilled on state, federal and fee lands in our service area that are not completed due to the lack of reliable acid gas takeaway and disposal capacity. A list of the uncompleted wells awaiting approval of our injection well and the operators affected is contained in **Exhibit B-2**.

7. Due to the immediate need for acid gas disposal in this area, we request that the Division expedite consideration of this application and approve the proposed injection as soon as possible.

8. I have reviewed the stipulated permit conditions titled "OCD's Recommended Conditions of Approval for Gas Injection Wells" referenced in Order R-20913-H issued in Case

24881on May of 2025 by the New Mexico Oil Conservation Commission. A copy of these conditions is attached hereto as **Exhibit B-3**. My company is familiar with these conditions and stands ready to abide by the conditions applicable to this matter.

9. Within one year after commencement of injection operations in the White Russian AGI #1, the company will file an application with the Division for approval of a redundant AGI well in the Siluro-Devonian formation. This time frame will allow the company to obtain information about the disposal zone in this area for an effective and efficient location of the redundant disposal well.

10. I provided the law firm of Holland & Hart with the names and addresses of the surface owners, operators, and lessees in the one-mile area of review reflected on Table B-1 to the Revised Form C-108 filed with the Division and instructed that they be notified of this hearing.

11. 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.

> <u>Chris Halfast</u> Chris Halfast

\_\_\_\_7/8/2025\_\_\_\_\_ Date



**GRAYLING 14 FEDERAL COM** 

506H

				Submitted by: Lea Hearing Date: J Case No.
Well Name	Well Number	<b>Operator Company Name</b>	County/Parish	DI Basin
THUNDERBIRD 3 10 FEDERAL COM	101H	3R OPERATING, LLC	LEA (NM)	DELAWARE
THUNDERBIRD 3 10 FEDERAL COM	406H	3R OPERATING, LLC	LEA (NM)	DELAWARE
BOX ELDER 22115 24 13 12 STATE COM	003H	BTA OIL PRODUCERS	LEA (NM)	DELAWARE
BOX ELDER 22115 23 14 11 STATE COM	004H	BTA OIL PRODUCERS	LEA (NM)	DELAWARE
MANILA 8408 19 30 31 STATE COM	004H	BTA OIL PRODUCERS	LEA (NM)	DELAWARE
MANILA 8408 19 30 31 STATE COM	003H	BTA OIL PRODUCERS	LEA (NM)	DELAWARE
CAPITAN 22301 33 4 STATE COM	012H	BTA OIL PRODUCERS	LEA (NM)	DELAWARE
CAPITAN 22301 33 4 STATE COM	011H	BTA OIL PRODUCERS	LEA (NM)	DELAWARE
VINDICATOR CANYON STATE UNIT	091H	BTA OIL PRODUCERS	LEA (NM)	DELAWARE
VINDICATOR CANYON STATE UNIT	152H	BTA OIL PRODUCERS	LEA (NM)	DELAWARE
CABLE 19 35 9 STATE COM	002C	CATENA RESOURCES OPERATING LLC	LEA (NM)	DELAWARE
EAGLECLAW 5 8 FEDERAL COM	008H	CAZA PETROLEUM	LEA (NM)	DELAWARE
EAGLE CLAW 5 8 FEDERAL COM	007H	CAZA PETROLEUM	LEA (NM)	DELAWARE
EAGLE CLAW FEDERAL	002C	CAZA PETROLEUM	LEA (NM)	DELAWARE
DOUBLE STAMP FEDERAL COM	174H	CIVITAS RESOURCES	LEA (NM)	DELAWARE
DOUBLE STAMP FEDERAL COM	126H	CIVITAS RESOURCES	LEA (NM)	DELAWARE
DOUBLE STAMP FEDERAL COM	125H	CIVITAS RESOURCES	LEA (NM)	DELAWARE
DOUBLE STAMP FEDERAL COM	124H	CIVITAS RESOURCES	LEA (NM)	DELAWARE
DOUBLE STAMP FEDERAL COM	123H	CIVITAS RESOURCES	LEA (NM)	DELAWARE
DOUBLE STAMP FEDERAL COM	121H	CIVITAS RESOURCES	LEA (NM)	DELAWARE
DOUBLE STAMP FEDERAL COM	116H	CIVITAS RESOURCES	LEA (NM)	DELAWARE
DOUBLE STAMP FEDERAL COM	115H	CIVITAS RESOURCES	LEA (NM)	DELAWARE
DOUBLE STAMP FEDERAL COM	113H	CIVITAS RESOURCES	LEA (NM)	DELAWARE
DOUBLE STAMP FEDERAL COM	111H	CIVITAS RESOURCES	LEA (NM)	DELAWARE
WAR EAGLE FEDERAL COM	601H	CONOCOPHILLIPS	LEA (NM)	DELAWARE
RAGNAR FEDERAL COM	025C	CONOCOPHILLIPS	LEA (NM)	DELAWARE
ROYAL OAK 25 FEDERAL COM	512H	COTERRA ENERGY	LEA (NM)	DELAWARE
ROYAL OAK 25 FEDERAL COM	513H	COTERRA ENERGY	LEA (NM)	DELAWARE
ROYAL OAK 25 FEDERAL COM	503H	COTERRA ENERGY	LEA (NM)	DELAWARE
ROYAL OAK 25 FEDERAL COM	304H	COTERRA ENERGY	LEA (NM)	DELAWARE
ROYAL OAK 25 FEDERAL COM	303H	COTERRA ENERGY	LEA (NM)	DELAWARE
ROYAL OAK 25 FEDERAL COM	009H	COTERRA ENERGY	LEA (NM)	DELAWARE

**COTERRA ENERGY** 

LEA (NM)

DELAWARE

Received by OCD: 7/16/2025 2:50:34 PM

GRAYLING 14 FEDERAL COM	503H	COTERRA ENERGY	LEA (NM)	DELAWARE
GRAYLING 14 FEDERAL COM	606H	COTERRA ENERGY	LEA (NM)	DELAWARE
GRAYLING 14 FEDERAL COM	605H	COTERRA ENERGY	LEA (NM)	DELAWARE
GRAYLING 14 FEDERAL COM	604H	COTERRA ENERGY	LEA (NM)	DELAWARE
GRAYLING 14 FEDERAL COM	603H	COTERRA ENERGY	LEA (NM)	DELAWARE
GRAYLING 14 FEDERAL COM	602H	COTERRA ENERGY	LEA (NM)	DELAWARE
GRAYLING 14 FEDERAL COM	601H	COTERRA ENERGY	LEA (NM)	DELAWARE
ROYAL OAK 25 FEDERAL COM	511H	COTERRA ENERGY	LEA (NM)	DELAWARE
ROYAL OAK 25 FEDERAL COM	502H	COTERRA ENERGY	LEA (NM)	DELAWARE
ROYAL OAK 25 FEDERAL COM	501H	COTERRA ENERGY	LEA (NM)	DELAWARE
ROYAL OAK 25 FEDERAL COM	302H	COTERRA ENERGY	LEA (NM)	DELAWARE
ROYAL OAK 25 FEDERAL COM	301H	COTERRA ENERGY	LEA (NM)	DELAWARE
EXPLORER 15 STATE COM	301H	COTERRA ENERGY	LEA (NM)	DELAWARE
ALPHA WOLF 36 FEDERAL COM	603H	COTERRA ENERGY	LEA (NM)	DELAWARE
ALPHA WOLF 36 FEDERAL COM	602H	COTERRA ENERGY	LEA (NM)	DELAWARE
ALPHA WOLF 36 FEDERAL COM	601H	COTERRA ENERGY	LEA (NM)	DELAWARE
ALPHA WOLF 36 FEDERAL COM	503H	COTERRA ENERGY	LEA (NM)	DELAWARE
ALPHA WOLF 36 FEDERAL COM	502H	COTERRA ENERGY	LEA (NM)	DELAWARE
ALPHA WOLF 36 FEDERAL COM	501H	COTERRA ENERGY	LEA (NM)	DELAWARE
ALPHA WOLF 36 FEDERAL COM	303H	COTERRA ENERGY	LEA (NM)	DELAWARE
ALPHA WOLF 36 FEDERAL COM	302H	COTERRA ENERGY	LEA (NM)	DELAWARE
ALPHA WOLF 36 FEDERAL COM	301H	COTERRA ENERGY	LEA (NM)	DELAWARE
MESCALERO RIDGE 21 FEDERAL	002H	COTERRA ENERGY	LEA (NM)	DELAWARE
STATE 25	001C	COTERRA ENERGY	LEA (NM)	DELAWARE
ALPHA STATE COM	502H	COTERRA ENERGY OPERATING E LLC	LEA (NM)	DELAWARE
SATELLITE STATE COM	504H	COTERRA ENERGY OPERATING E LLC	LEA (NM)	DELAWARE
SATELLITE STATE COM	502H	COTERRA ENERGY OPERATING E LLC	LEA (NM)	DELAWARE
SATELLITE STATE COM	704H	COTERRA ENERGY OPERATING E LLC	LEA (NM)	DELAWARE
SATELLITE STATE COM	702H	COTERRA ENERGY OPERATING E LLC	LEA (NM)	DELAWARE
TREBLE STATE COM	601H	COTERRA ENERGY OPERATING E LLC	LEA (NM)	DELAWARE
IGGLES STATE COM	244H	MATADOR RESOURCES	LEA (NM)	DELAWARE
IGGLES STATE COM	243H	MATADOR RESOURCES	LEA (NM)	DELAWARE
IGGLES STATE COM	242H	MATADOR RESOURCES	LEA (NM)	DELAWARE
IGGLES STATE COM	241H	MATADOR RESOURCES	LEA (NM)	DELAWARE

IGGLES STATE COM	124H	MATADOR RESOURCES	LEA (NM)	DELAWARE
IGGLES STATE COM	123H	MATADOR RESOURCES	LEA (NM)	DELAWARE
IGGLES STATE COM	122H	MATADOR RESOURCES	LEA (NM)	DELAWARE
EAGLE 2 STATE COM	131C	MATADOR RESOURCES	LEA (NM)	DELAWARE
AIRSTRIP 31 18 35 RN STATE COM	132H	MATADOR RESOURCES	LEA (NM)	DELAWARE
ELAND 32 18 33 RN STATE COM	123H	MATADOR RESOURCES	LEA (NM)	DELAWARE
HIGH SEA 8 20 FEDERAL COM	522H	MEWBOURNE OIL	LEA (NM)	DELAWARE
PICANHA 23 14 STATE COM	523H	MEWBOURNE OIL	LEA (NM)	DELAWARE
SEAFOOD TOWER 22 15 STATE COM	527H	MEWBOURNE OIL	LEA (NM)	DELAWARE
STONE COLD 23 14 B2OB FED COM	001H	MEWBOURNE OIL	LEA (NM)	DELAWARE
STONE COLD 23 14 B2PA FED COM	001H	MEWBOURNE OIL	LEA (NM)	DELAWARE
BONDURANT 1 12 FEDERAL COM	528H	MEWBOURNE OIL	LEA (NM)	DELAWARE
BONDURANT 1 12 FEDERAL COM	525H	MEWBOURNE OIL	LEA (NM)	DELAWARE
FLYING DUTCHMAN 7 31 STATE COM	528H	MEWBOURNE OIL	LEA (NM)	DELAWARE
BLACK PEARL 7 19 FEDERAL COM	528H	MEWBOURNE OIL	LEA (NM)	DELAWARE
DEEP ELLUM 25 26 FEDERAL COM	513H	MEWBOURNE OIL	LEA (NM)	DELAWARE
DEEP ELLUM 25 26 FEDERAL COM	613H	MEWBOURNE OIL	LEA (NM)	DELAWARE
DEEP ELLUM 25 26 FEDERAL COM	611H	MEWBOURNE OIL	LEA (NM)	DELAWARE
DEEP ELLUM 25 26 FEDERAL COM	511H	MEWBOURNE OIL	LEA (NM)	DELAWARE
GOAT ROPE 7 18 STATE COM	523H	MEWBOURNE OIL	LEA (NM)	DELAWARE
GOAT ROPE 7 18 STATE COM	521H	MEWBOURNE OIL	LEA (NM)	DELAWARE
BUSHWOOD 21 16 FEDERAL COM	523H	MEWBOURNE OIL	LEA (NM)	DELAWARE
BUSHWOOD 21 16 FEDERAL COM	521H	MEWBOURNE OIL	LEA (NM)	DELAWARE
BEEFALO 7 6 STATE COM	713H	MEWBOURNE OIL	LEA (NM)	DELAWARE
CHAROLAIS 28 21 B2MD STATE COM	001C	MEWBOURNE OIL	LEA (NM)	DELAWARE
CHAROLAIS 28 21 B1NC STATE COM	002C	MEWBOURNE OIL	LEA (NM)	DELAWARE
HEREFORD 20 29 B2AH STATE COM	001H	MEWBOURNE OIL	LEA (NM)	DELAWARE
RIDDLER 3 10 FEDERAL COM	128H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
RIDDLER 3 10 FEDERAL COM	127H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
RIDDLER 3 10 FEDERAL COM	126H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
RIDDLER 3 10 FEDERAL COM	122H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
RIDDLER 3 10 FEDERAL COM	114H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
RIDDLER 3 10 FEDERAL COM	113H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
RIDDLER 3 10 FEDERAL COM	112H	PERMIAN RESOURCES	LEA (NM)	DELAWARE

RIDDLER 10 FEDERAL COM	172H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
MERCURY 26 35 FEDERAL COM	224H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
MERCURY 26 35 FEDERAL COM	223H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
MERCURY 26 35 FEDERAL COM	114H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
MERCURY 26 35 FEDERAL COM	113H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
ENGLISH BUFFALO 26 35 FEDERAL COM	222H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
ENGLISH BUFFALO 26 35 FEDERAL COM	221H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
ENGLISH BUFFALO 26 35 FEDERAL COM	112H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
ENGLISH BUFFALO 26 35 FEDERAL COM	122H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
RIDDLER 10 FEDERAL COM	201H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
RIDDLER 10 FEDERAL COM	131H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
DELOREAN 9 10 2BS FEDERAL COM	007H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
DELOREAN 9 10 1BS FEDERAL COM	002H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
BEL AIR 5 8 FEDERAL COM	113H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
JADE 34 3WCA FEDERAL COM	025H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
KING EIDER 12 FEDERAL COM	501H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
JADE 34 3 2BSC FEDERAL COM	014H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
BEL AIR 5 8 FEDERAL COM	224H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
BEL AIR 5 8 FEDERAL COM	224H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
DIAMONDBACK 24 25 FEDERAL COM 1BS	004H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
JADE 34 3 2BS FEDERAL COM	005H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
GAZELLE 32 STATE COM 2BS	002H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
CRAZY WOLF 1 2 B2MM FEDERAL COM	001H	PERMIAN RESOURCES	LEA (NM)	DELAWARE
TXS BIG DOG STATE COM	101H	TEXAS STANDARD OPERATING NM LLC	LEA (NM)	DELAWARE
TXS BIG DOG STATE COM	102H	TEXAS STANDARD OPERATING NM LLC	LEA (NM)	DELAWARE



State of New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division

### CASE NO. 24881, OCD Exhibit No. 2

#### **OCD Recommended Conditions of Approval for Acid Gas Injection Wells:**

OCD recommends these conditions of approval for acid gas injection ("AGI") wells in addition to the general requirements for all UIC Class II wells issued under Rule 15.19.26 NMAC - *Injection*.

- 1. Operator shall conduct an annual mechanical integrity test (MIT) on the proposed well.
- 2. Operator shall conduct continuous monitoring of surface treated acid gas (TAG) injection pressure, temperature, rate, surface annular pressure, and bottom-hole (or "end of tubing") temperatures and pressures in the tubing and the annulus.
- 3. Operator shall conduct step-rate and fall-off tests on the completed well before commencing injection. Operator may adjust the maximum surface injection pressure for the well after these tests with the approval of the OCD.
- 4. Operator shall maintain a maintenance log, including the volume of annular fluid (diesel)with corrosion inhibiting and biocide additives replaced in the annulus of the well.
- 5. Operator shall establish temperature parameters for injected fluid, install and maintain temperature-activated controls to govern the temperature of injected fluid, and install and maintain an alarm system for the controls to indicate exceedance of the parameters.
- 6. Operator shall report on a quarterly basis the summary data for injection parameters monitored under the permit, subject to OCD approval of annual reports after one year of operation upon request by Operator.
- 7. Operator shall equip the well with a pressure-limiting device and a one-way safety valve (with the appropriate interior drift diameter) on the tubing approximately 100 feet to 250 feet below the surface.
- 8. Operator shall use a corrosion-inhibiting diesel with a biocide component as the annular fluid of the well.
- 9. Operator shall circulate cement for all casing to the surface.
- 10. Well construction shall be designed for exposure to corrosive environment including, but not limited to, casing, casing cement, tubing, and the packer in proximity of injection interval.



#### State of New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division

- 11. Since the new AGI well penetrates the Delaware Mountain Group which is a TAG disposal interval of an adjacent AGI well, the portion of the well construction that extends through this zone shall be constructed using corrosion-resistant materials for both casing and cement.
- 12. Prior to commencing injection, Operator shall obtain OCD's approval a hydrogen-sulfide contingency plan that complies with Rule 19.15.11.9 NMAC.
- 13. The hydrogen sulfide contingency plan shall include all wells, whether active or plugged and abandoned, that penetrate the injection zone of the new AGI well and fall within the area of review and the outer boundary of the TAG plume. Operator shall provide a monitoring program (as part of the contingency plan) to detect hydrogen sulfide and carbon dioxide concentrations in both soil and air in the vicinity of the wellheads of plugged wells.
- 14. No later than thirty (30) days prior to commencing injection, Operator shall obtain OCD's approval of immediate notification parameters for annulus pressure and tubing and casing differential pressure at a set injection temperature.
- 15. No later than forty-five (45) days after Operator completes drilling the well, Operator shall submit to OCD's district office the well drilling logs including mudlogs, electric logs, daily reports, and the static bottom-hole pressure measured at completion of drilling the well.
- 16. No later than forty-five (45) days after completion of the well, Operator shall submit to OCD the final reservoir evaluation and confirm that the open-hole portion of the well does not intersect the fault plane of any identified fault that occurs within the approved injection interval.
- 17. No later than ninety (90) days after commencing injection, and no less frequently than annually thereafter, Operator shall consult with OCD regarding the immediate notification parameters. If OCD determines that the immediate notification parameters should be modified, Operator shall provide modified parameters within thirty (30) days of notification for review by OCD.
- 18. No later than thirty (30) days after the fifth (5<sup>th</sup>) year of injection, Operator shall submit to OCD a report summarizing the well's performance including injected volumes by fluid type, reservoir pressures, the models calibrated using that information and seismic modeling.

End of Conditions of Approval

Page 2 of 2

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

#### APPLICATION OF LEA MIDSTREAM, LLC FOR AUTHORIZATION TO INJECT, LEA COUNTY, NEW MEXICO

#### NMOCD CASE NO. 25413

#### **SELF-AFFIRMED STATEMENT OF DAVID A. WHITE**

1. My name is David A. White, P.G., and I am employed by Geolex, Inc., as Vice President and Senior Geologist. Geolex has been retained by Lea Midstream, LLC ("Lea Midstream") (OGRID No. 333151) to prepare this application.

2. I have previously testified before the New Mexico Oil Conservation Commission and the New Mexico Oil Conservation Division ("NMOCD") as an expert witness in acid gas injection ("AGI") permitting and operations, petroleum geology, seismic and structural interpretation, and fault-slip probability modeling. My credentials have been accepted and made a matter of record and a current copy of my curriculum vitae is attached hereto.

3. I am familiar with the application filed by Lea Midstream in this case and the status of the lands in the subject area. I have conducted a geologic study of the area, prepared and affirmed the Revised Form C-108 which contains my analysis and my opinions. The Revised Form C-108 was filed with the Division on June 18, 2025, and has been marked as Lea Midstream Exhibit A.

4. None of the affected parties have indicated opposition to presenting this case by affidavit.

#### **GENERAL INFORMATION & BACKGROUND**

5. In this case, Lea Midstream seeks approval to drill, complete, and operate the

proposed White Russian AGI #1 well, an acid gas (CO<sub>2</sub> and H<sub>2</sub>S) injection well to be located in Section 17 of Township 19 South, Range 35 East, in Lea County, New Mexico. Lea Midstream requests approval to inject up to twelve (12) million standard cubic feet ("MMSCF") per day of TAG into the Siluro-Devonian geologic formations for a period of at least 30 years.

6. The proposed White Russian AGI #1 well is designed to be drilled as a deviated well with an approximate surface-hole location of 1,607 feet from the south line (FSL) and 1,991 feet from the west line (FWL) of Section 17 and an approximate bottom-hole location at 2,338 feet from the north line (FNL) and 188 feet FWL in the same Section 17 of Township 19 South, Range 35 East, Lea County, New Mexico.

7. The White Russian AGI #1 well injection zone is proposed to include the geologic formations of the Siluro-Devonian, including the Devonian, Wristen, and Fusselman formations between subsurface depths of approximately 14,615 to 16,029 feet TVD. Consistent with acceptable and successful Siluro-Devonian injection well design considerations, the White Russian AGI #1 well will be constructed as an openhole completion across the injection zone.

8. In accordance with NMOCD-approved determination methods, the proposed maximum allowable operating pressure ("MAOP") requested by Lea Midstream is 4,593 psig.

9. When operating at full capacity, the White Russian AGI #1 well will permanently sequester approximately 487 tons of  $CO_2$  (carbon dioxide) and 162 tons of  $H_2S$  (hydrogen sulfide) daily.

10. Design considerations for the proposed White Russian AGI #1 well are in accordance with dry acid gas injection well best practices, which include the

incorporation of corrosion resistant alloy ("CRA") materials in key well components and along critical depth intervals, utilization of acid-resistant cement slurries, continuous surface and down-hole monitoring of well operating conditions, and the incorporation of subsurface safety valve equipment to provide the ability to isolate the well in the shallow subsurface.

11. To ensure successful isolation of groundwater resources, producing intervals, and potential high-pressure depth intervals, the White Russian AGI #1 well 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 and the collection of radial cement bond logs for all casing strings underlying the surface casing.

#### **GEOLOGIC ANALYSIS & RESERVOIR CHARACTERIZATION**

12. In support of this application, Geolex has completed a detailed geological analysis to verify subsurface structural relationships within the project area and to confirm the capability of the Siluro-Devonian injection reservoir to accommodate acid gas injection, as proposed and requested by Lea Midstream (i.e., up to a maximum of 12 MMSCF per day).

13. Analysis of the geologic units underlying the proposed White Russian AGI #1 location confirms that the Siluro-Devonian injection zone at this location exhibits adequate reservoir attributes suitable for acid gas injection and that they will provide an excellent closed-system reservoir that will accommodate the current and future needs of Lea Midstream for the disposal of acid gas and the permanent sequestration of CO<sub>2</sub> from

their gas-treatment activities.

14. The proposed Siluro-Devonian injection zone is directly and unconformably overlain by the Woodford Shale, which serves as the primary upper confining layer and is observed to be greater than 169 feet in total thickness. Overlying the Woodford Shale, more than 945 feet of tight shale and carbonates of the Barnett and Osage formations, respectively, provide a significant interval of secondary confining strata. These intervals contribute to a total 1,114 feet of upper confining strata overlying the proposed injection zone.

15. The underlying Montoya Formation and Simpson Group geologic strata, which in this area contain low porosity and low permeability carbonate and shale deposits, provide excellent lower confinement for the proposed Siluro-Devonian injection zone. Furthermore, these lower confining units and the geologic intervals underlying them have no current or prior production history.

16. Within the area of review and greater project area, oil and gas production wells commonly produce, or have historically produced, from the overlying Queen, Bone Spring, and Wolfcamp formations. In the area of the White Russian AGI #1 well, the closest overlying pay zone, the Bone Spring Formation, lies approximately 3,974 feet above the Siluro-Devonian injection reservoir. This significant vertical separation and the presence of significant upper confining strata separating these intervals ensures that overlying production activities will be isolated and unaffected by TAG injection within the Siluro-Devonian.

17. As it is critical to verify that the proposed Siluro-Devonian injection reservoir can accommodate the proposed 12 MMSCF per day of TAG injection within

reasonable operating parameter limitations, a detailed geologic characterization model (i.e., reservoir model) has been developed and injection simulations completed to forecast injection plume characteristics and the migration of the resultant TAG plume after 30 years of injection operations. Following the period of active operations (at maximum daily injection capacity) the resultant TAG plume is anticipated to occupy a maximum area of approximately 3.24 square miles and extend a maximum of approximately 1.47 miles northeast of the AGI well bottom-hole location. In all cases, injection via the proposed White Russian AGI #1 well can be sustained within the limits of the proposed MAOP of 4,593 psig.

18. To evaluate the potential for induced seismicity in response to injection operations, at the proposed rate of up to 12 MMSCF per day, an induced seismicity risk assessment was completed. Results of this analysis, which considers operation of the proposed White Russian AGI #1 well, as well as additional offset saltwater disposal (SWD) wells, demonstrates that operation of the White Russian AGI #1 well, as proposed, will not produce an elevated risk for injection-induced fault slip in the area.

#### **EVALUATION OF THE WHITE RUSSIAN AGI #1 AREA OF REVIEW**

19. As previously described, current and historic production activities within the project area commonly target intervals of the Queen, Bone Spring, and Wolfcamp formation depth intervals. Within the one-mile area of review (AOR), there are 28 wells, including six (6) that are active, seven (7) which are permitted, and 15 plugged wells. There is one active SWD well, the Wildrye SWD #1 well, which was completed within the same Siluro-Devonian injection zone and has been included in all reservoir modeling

and induced-seismicity risk assessment simulations. The well is not anticipated to produce any interference to the TAG injection activities of the proposed White Russian AGI #1 well.

20. Within two (2) miles of the White Russian AGI #1 well, there is one (1) plugged well which penetrated the proposed Siluro-Devonian injection zone, the Toro State Com #1 well (API: 30-025-34492). A detailed review of available well documents indicates this well has been properly plugged and will not serve as a conduit for injected fluids to escape the proposed injection zone.

21. In accordance with the requirements of this application, a detailed review of the project area was completed to identify relevant surface owners, offsetting operators, lessees, and mineral owners. All interested parties, as identified by this review, have been provided notice of this application and hearing, and to date, no objection or intervention to this application has been made.

#### LEA MIDSTREAM'S REQUEST TO THE DIVISION

22. Geologic analysis representative of the greater project area and evaluation of the White Russian AGI #1 area of review confirms the suitability of the proposed well location for acid gas injection into the geologic formations of the Siluro-Devonian. Based on this evaluation, the White Russian AGI #1 well is determined to be a safe and environmentally sound solution for the disposal of TAG and Lea Midstream requests approval to construct and operate the well, as proposed.

23. Approval of this application and authorization to construct and operate the White Russian AGI #1 well, at an injection rate of up to 12 MMSCF per day and a

maximum allowable operating pressure of 4,593 psig, will allow Lea Midstream to meet the increasing demands for sour gas disposal and avoid interruptions to development and production in the area. Approval will therefore prevent waste, protect correlative rights, and protect human health and the environment.

24. Lea Midstream Exhibit A was either prepared by me or compiled under my direction and supervision.

25. 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.

David A. White

July 8, 2025

Date



#### **CURRICULUM VITAE** David Allen White, P.G.

#### PERSONAL

Name:	David Allen White
Birth date:	October 11, 1981
Birthplace:	Oscoda, Michigan
Citizenship:	United States
Languages:	English

#### **SPECIALIZATION**

Acid gas injection (AGI) project management and development including well design, drilling and completion, and long-term operational monitoring; injection well permitting and regulatory compliance; acid gas injection system due diligence evaluation; geologic and hydrogeologic site characterization, modeling, and simulation; seismic interpretation, induced-seismicity modeling, and seismic monitoring station design and deployment; expert witness testimony; environmental site assessment and environmental litigation support; sedimentology and stratigraphy; geochemistry and geochemical lab analysis; geotechnical writing; graphics design and development; data analysis; Arc*GIS* analysis and map development.

#### **EDUCATION**

University of New Mexico Master of Science – Geology

University of Tennessee Bachelor of Science – Geology (Summa cum laude)

#### **PROFESSIONAL REGISTRATION**

Licensed Professional Geologist – State of Texas #15257 Professional Geologist – National Association of State Boards of Geology

#### **ORGANIZATIONS**

American Association of Petroleum Geologists American Institute of Professional Geologists Geological Society of America National Ground Water Association



New Mexico Geological Society Society for Sedimentary Geology – Permian Basin Section West Texas Geological Society

#### HONORS AND AWARDS

Graduate Teaching Assistantship – University of New Mexico Alexander and Geraldine Wanek Graduate Scholarship – University of New Mexico Albert M. Kudo Outstanding Teaching Assistant – University of New Mexico Jerry Harbour Memorial Endowed Scholarship – University of New Mexico Geological Society of America Student Research Grant Graduate and Professional Student Association Grant – University of New Mexico Otto Kopp Undergraduate Research Award – University of Tennessee Jimmy Walls Award for Excellence in Introductory Geology – University of Tennessee

#### PUBLICATIONS, PRESENTATIONS, AND PANEL DISCUSSIONS

- White, D.A., 2024, Corrosion Resistant Alloys CCUS Industry Discussion Forum The Ideal CCUS Well Design and CCUS Challenges & Collaborative Solutions, Brenham, Texas.
- White, D.A., Flores, S., Gutiérrez, A.A., Flores, K., and Robin, G., 2023 A Practical Approach to Estimating Reservoir Performance Duration at Existing Injection Sites, Acid Gas Injection Symposium IX, Calgary, Alberta, Canada
- White, D.A., 2023, Carbon Strategic Conclave Barriers and Solutions to Carbon Capture and Storage Execution in the United States, Houston Strategy Forum, Houston, Texas.
- White, D.A., Elrick, M., Romaniello, S., and Zhang, F., 2018, Global seawater redox trends during the Late Devonian mass extinction detected using U isotopes of marine carbonates, Earth and Planetary Science Letters, v. 503, p. 68-77, doi:10.1016/j.epsl.2018.09.020.
- White, D.A., 2018. Global seawater redox trends during the Late Devonian mass extinction detected using U isotopes of marine carbonates. University of New Mexico Digital Repository, https://digitalrepository.unm.edu/eps\_etds/227.
- White, D.A., Elrick, M., Romaniello, S., and Zhang, F., 2017, Tracking global seawater redox trends during the Late Devonian extinction using U isotopes of Upper Devonian marine carbonates, Geological Society of America Annual Meeting, Seattle, Washington.
- White, D.A., Elrick, M., Romaniello, S., and Zhang, F., 2016, Multiple, short-lived ocean anoxic events across the Late Devonian mass extinction detected using uranium isotopes of marine carbonates, Geological Society of America Annual Meeting, Denver, Colorado.



- Gutiérrez, A., and White, D.A., 2019, Updates on seismic analysis for AGI siting and injection data analysis for AGI well condition and reservoir monitoring, Acid Gas Injection Symposium VIII, Calgary, Alberta, Canada.
- Elrick, M., White, D., Bartlett, R., and Romaniello, S., 2018, Do uranium isotopes of marine limestones provide evidence for seawater anoxia as a common driver for Phanerozoic mass extinctions? Goldschmidt Abstracts, 2018.
- Elrick, M., White, D.A., Algeo, T.J., and Romaniello, S., 2018, Do uranium isotopes of marine limestones provide evidence for seawater anoxia as a common driver for Phanerozoic mass extinctions?, Geological Society of America *Abstracts with Programs*, v. 50, no. 6, doi: 10.1130/abs/2018-318936.

#### **CERTIFICATIONS AND TRAINING**

2018 - 2025	Hydrogen Sulfide Safety Awareness Certification
2023	Petroleum Remediation Principles and Technologies for Soil, Vapor, and Groundwater (Training Course)
2022	PFAS Transport, Fate, and Remediation (Training Course)
2022	Understanding Induced Seismicity – Earthquake Monitoring, Seismic Analysis, Geological Characterization, Mechanistic Analysis (Short Course)
2021	Principles of Contaminant Transport and Fate in Soil and Groundwater (Training Course)

#### EXPERIENCE

August 2018 – Present Geolex, Inc.<sup>®</sup> - Vice President and Senior Geologist 500 Marquette Avenue NW, Suite 1350 Albuquerque, NM 87102

Duties, Accomplishments, Responsibilities:

1. Project manager, as general contractor, for the drilling and completion of acid gas injection wells in the San Juan Basin of New Mexico and the Permian Basin of New

Mexico and Texas. Responsibilities included providing general project oversight, coordination, and management, on-site general supervision of daily activities, geological supervision, regulatory and safety compliance support, and project budget management.

- 2. Provide support duties associated with the drilling, completion, commissioning, and general operation of acid gas injection and saltwater disposal (SWD) wells. These duties include on-site geological support and supervision, evaluation and interpretation of geologic data, post-installation regulatory compliance and testing, and acid gas injection well maintenance and operational support.
- 3. Permit application development for acid gas injection and saltwater disposal wells through the following agencies: Bureau of Land Management, New Mexico Oil Conservation Division, Railroad Commission of Texas, Utah Department of Natural Resources, and the Environmental Protection Agency.
- 4. Geologic site assessment and mapping, reservoir characterization, static geologic model construction, and dynamic model simulation to assess impacts of AGI, CCS/CCUS, and third-party injection operations utilizing industry standard modeling and simulation platforms.
- 5. Completion of Induced Seismicity Risk Assessments to support injection-permit applications, with assessments based on a detailed review of seismic survey data to identify subsurface features and model-simulation results to predict the associated fault-slip probability for a proposed injection scenario.
- 6. Support client asset acquisition processes through completion of due diligence investigations for acid gas injection and saltwater disposal well systems. Investigations identify issues relating to regulatory compliance, suitability of injection well design and construction, long-term reservoir sustainability, historic environmental violations and on-going obligations, and other related issues.
- 7. Design and administer comprehensive training sessions for gas-processing and gastreatment plant operators on the general operation, monitoring, and maintenance of acid gas injection well systems.
- 8. Geologic sequestration project planning including AGI and SWD well design, geological assessment, procurement of injection equipment, and project budget management.
- 9. Development of procedures suitable for addressing well-testing, maintenance, or remedial needs and provide supervision for associated on-site operations.



- 10. Provide expert witness testimony supporting injection well applications before the NM Oil Conservation Division, NM Oil Conservation Commission, and the Railroad Commission of Texas (recognized as an expert in AGI and SWD well permitting and design, petroleum geology, geology and hydrogeology, seismic interpretation, reservoir characterization modeling and simulation, and fault-slip probability modeling).
- 11. Investigations and analyses to support environmental litigation matters and the development of Rule 26 expert reports to assist clients in dispute resolution concerning claims of soil and groundwater contamination, correlative rights and trespass issues, and claims resulting from oil and gas activities (litigation support). Subject matter experience spans numerous groundwater contaminants and industrial activities with environmental impact potential.
- 12. Completion of comprehensive environmental site assessments, as required by various state and federal agency programs and financial institutions to ensure program compliance and identify potential environmental impact.
- 13. Assist operators in AGI/SWD protest resolution by addressing project concerns of operators, regulatory agencies, and other interested parties.
- 14. Design and deployment of seismic monitoring stations to monitor and assess seismic activity in the area of active AGI and SWD injection wells.
- 15. Development of comprehensive seismic monitoring plans and earthquake response plans for operators, as required by regulatory agencies in areas of concern for induced seismicity.
- 16. Utilization of Arc*GIS*, GeoGraphix, and Spotfire software for geospatial and operational analyses and map development.

August 2014 – May 2017 Graduate Teaching Assistant Department of Earth and Planetary Sciences Northrop Hall, 221 Yale Blvd NE University of New Mexico Albuquerque, NM 87131

Duties, Accomplishments, Responsibilities:

1. Prepared lectures and designed curriculum to engage and develop both students pursuing Earth and Planetary Science degrees, as well as those fulfilling general

education requirements. Courses taught include Sedimentology & Stratigraphy, Earth History, Physical Geology, and Introductory Environmental Science.

- 2. Supervised and conducted laboratory activities and field exercises while maintaining a safe and productive environment.
- 3. Evaluated student performance and provided mentorship and guidance to ensure student success and educational growth.
- 4. Assisted in a summer field methods course, which required the application of lecture content in the field while ensuring students understood and maintained safe fieldwork practices.

January 2013 – May 2014 Research Lab Assistant and Departmental Tutor Department of Earth and Planetary Sciences University of Tennessee Knoxville, TN 87120

Duties, Accomplishments, Responsibilities:

- 1. Responsible for the preparation of samples for geochemical and isotopic analysis for faculty and graduate students at the University of Tennessee.
- 2. Conducted individualized tutoring sessions for students enrolled in Earth & Planetary Science courses.

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

#### APPLICATION OF LEA MIDSTREAM, LLC FOR AUTHORIZATION TO INJECT, LEA COUNTY, NEW MEXICO.

**CASE NO. 25034** 

#### SELF-AFFIRMED STATEMENT OF MICHAEL H. FELDEWERT

1. I am attorney in fact and authorized representative of Lea Midstream, LLC

("Lea Midstream"), the Applicant herein. I have personal knowledge of this 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 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 July 7, 2025.

5. I caused a notice to be published to all parties subject to these proceedings.

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 statement 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.

> BEFORE THE OIL CONSERVATION DIVISION Santa Fe, New Mexico Exhibit No. D Submitted by: Lea Midstream, LLC Hearing Date: July 15, 2025 Case No. 25413

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Michael H. Feldewert

07/08/25

Date

# Holland & Hart

Adam G. Rankin Partner Phone (505) 988-4421 agrankin@hollandhart.com

June 20, 2025

#### VIA CERTIFIED MAIL CERTIFIED RECEIPT REQUESTED

#### **TO: AFFECTED PARTIES**

#### **Re:** Application of Lea Midstream, LLC for Authorization to Inject, Lea County, New Mexico. *White Russian AGI #1 Well*

Ladies & Gentlemen:

This letter is to advise you that Lea Midstream, LLC has filed the enclosed application with the New Mexico Oil Conservation Division. A hearing has been requested before the Division on July 10, 2025. The status of the hearing can be monitored through the Division's website at https://www.emnrd.nm.gov/ocd/hearing-info/.

The State of New Mexico Oil Conservation Division 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 OCD Hearings website: https://www.emnrd.nm.gov/ocd/hearing-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,

Adam G. Rankin ATTORNEYS FOR LEA MIDSTREAM, LLC

Location 110 North Guadalupe, Suite 1 Santa Fe, NM 87501-1849 Mailing Address P.O. Box 2208 Santa Fe, NM 87504-2208 Contact p: 505.988.4421 | f: 505.983.6043 www.hollandhart.com

Holland & Hart LLP Anchorage Aspen Billings Boise Boulder Cheyenne Denver Jackson Hole Las Vegas Reno Salt Lake City Santa Fe Washington, D.C.

#### Lea Midstream – White Russian AGI #1, case no. 25413 Postal Delivery Report

9414811898765440464195	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 12:41 pm on June 23, 2025 in SANTA FE, NM 87508.
9414811898765440464140	Chevron USA, Inc.	1400 Smith St	Houston	тх	77002-7311	Your item has been delivered to an agent. The item was picked up at USPS at 1:20 pm on June 24, 2025 in HOUSTON, TX 77002.
9414811898765440464188	Chevron USA, Inc.	6301 Deauville Attn Land Dept	Midland	тх	79706-2964	Your item was delivered to an individual at the address at 1:54 pm on June 24, 2025 in MIDLAND, TX 79706.
9414811898765440464133	COG Operating, LLC	600 W Illinois Ave One Concho Center	Midland	тх	79701-4882	Your item was picked up at a postal facility at 7:48 am on June 25, 2025 in MIDLAND, TX 79701.
	Coterra Energy Operating Co.	6001 Deauville Ste 300N	Midland	тх		Your item was picked up at a postal facility at 8:35 am on June 24, 2025 in MIDLAND, TX 79701.
			Midland	ТХ		Your item was picked up at a postal facility at 8:35 am on June 24, 2025 in
9414811898765440464355	Franklin Mountain Energy 3, LLC	6001 Deauville Ste 300N				MIDLAND, TX 79701. Your item has been delivered and is available at a PO Box at 11:41 am on June 24,
9414811898765440464362	Marshall & Winston	PO Box 50880	Midland	TX		2025 in MIDLAND, TX 79705. Your item was delivered to an individual at the address at 9:07 am on June 27,
9414811898765440464324	Matador Production Company	5400 Lbj Fwy Ste 1500 One Lincoln Centre	Dallas	TX	75240-1017	2025 in DALLAS, TX 75240. Your item was picked up at the post office at 2:14 pm on June 27, 2025 in HOBBS,
9414811898765440464300	Mewbourne Oil Company	PO Box 5270	Hobbs	NM	88241-5270	NM 88240. Your item was delivered to an individual at the address at 9:07 am on June 27,
9414811898765440464393	MRC Permian Company	5400 Lbj Fwy Ste 1500	Dallas	тх	75240-1017	2025 in DALLAS, TX 75240.
9414811898765440464348	North Fork Operating	1000 W Wilshire Blvd Ste 311	Nichols Hills	ОК	73116-7031	Your item was delivered to the front desk, reception area, or mail room at 11:53 am on June 24, 2025 in OKLAHOMA CITY, OK 73116.
9414811898765440464386	Ranger Water Midstream, LLC	1008 Southview Cir	Center	тх	75935-4537	Your item was delivered to the front desk, reception area, or mail room at 10:02 am on June 26, 2025 in CENTER, TX 75935.
9414811898765440464331	Read & Stevens, Inc.	300 N Marienfeld St Ste 1000	Midland	тх	79701-4688	Your item was delivered to an individual at the address at 1:44 pm on June 24, 2025 in MIDLAND, TX 79701.
9414811898765440464379	New Mexico State Land Office	310 Old Santa Fe Trl C/O Allison Marks	Santa Fe	NM	87501-2708	Your item has been delivered and is available at a PO Box at 8:22 am on June 25, 2025 in SANTA FE, NM 87504.
9414811898765440464010	Yates Energy Corporation	PO Box 2323	Roswell	NM	88202-2323	Your item was picked up at the post office at 10:32 am on June 25, 2025 in ROSWELL, NM 88201.
9414811898765440601507		PO Box 88241	Hobbs	NM	88241	Your item has been delivered to the original sender at 10:39 am on July 1, 2025 in SANTA FE, NM 87501.

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## 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 June 24, 2025 and ending with the issue dated June 24, 2025.

hissell

Publisher

Sworn and subscribed to before me this 24th day of June 2025.

Stack

**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 June 24, 2025 Case No. 25413: Application of Lea Midstream, LLC for Authorization to Inject, Lea County, New Mexico. Notice to all affected interest owners, Mexico. Notice to all affected Interest owners, including all heirs, devisees and successors of: Bureau of Land Management; Chevron USA, Inc.; COG Operating, LLC; Coterra Energy Operating Co.; Franklin Mountain Energy 3, LLC; Marshall & Winston; Matador Production Company; Mewbourne Oil Company; MRC Permian Company; New Mexico State Land Office; North Fork Operating; Ranger Water Midstream, LLC; Read & Stevens, Inc.; Snyder Ranches LTD; and Yates Energy Corporation The State of New Mexico, Energy Minerals and Natural Resources Department, Oil Conservation Division "Division") hereby gives notice that the Division will hold public hearing 8:30 a.m. on July 10, 2025, 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 WebEx virtual meeting platform. To participate in the bearing electronicely see the instructions posted Chino Building, Pecos Hall, 1220 South St. Francis Drive, 1st Floor, Santa Fe, NM 87505 and via the WebEx 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/hearing-info/ or contact Freya Tschantz, at Freya Tschantz@emnrd.nm.gov. Applicant in the above-styled cause seeks an order authorizing injection of treated acid gas ("TAG") from its Lea Midstream treating facility for purposes of disposal into the proposed White Russian AGI #1 well to be located in Section 17, Township 19 South, Range 35 East, Lea County, New Mexico. The well is proposed be drilled as a deviated well with a surface location of approximately 1,991 feet from the south line (FSL) and approximately 1,991 feet from the west line (FWL) of Section 17, to a bottom hole location at approximately 2,338 from the north line (FNL) and 188 feet FWL in said Section 17, within Township 19 South, Range 35 East, Lea County, New Mexico. The injection stream will consist of TAG comprised of approximately 70 percent carbon dioxide and 30 percent hydrogen sulfide from oil and gas wells in the area. Lea Midstream seeks approval to inject up to 12 MMSCFD of TAG. The proposed maximum allowable operating pressure requested is approximately 4,593 psig. The injection will target the Siluro-Devonian formations, including the Devonian, Wristen, and Fusselman formations, between depths of approximately 14,615 to 16,029 feet. The subject well will be located approximately 20 miles southwest of Hobbs, N.M. #00302023 #00302023

67100754

00302023

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

> BEFORE THE OIL CONSERVATION DIVISION Santa Fe, New Mexico Exhibit No. E Submitted by: Lea Midstream, LLC Hearing Date: July 15, 2025 Case No. 25413

Released to Imaging: 7/16/2025 4:05:47 PM



#### **BTA OIL PRODUCERS, LLC**

104 SOUTH PECOS STREET MIDLAND, TEXAS 79701-5021 432-682-3753 ASHLEY BEAL LAFEVERS ALEX BEAL HILL DAVENPORT TREY FUQUA ADAMS DAVENPORT

July 14, 2025

State of New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division 1220 South St. Francis Drive Santa Fe, NM 87505

Re: Support for Producers Midstream AGI Well - Lea County, New Mexico - NMOCD Case 25413

Dear Oil Conservation Division:

BTA Oil Producers, LLC submits this letter in support of the proposed Acid Gas Injection (AGI) well to be drilled and operated by Lea Midstream LLC, a subsidiary of Producers Midstream II, LLC ("PM"), in Lea County, New Mexico. This matter is set for a hearing before an Examiner of the New Mexico Oil Conservation Division in July under Case 25413.

This AGI well will play a critical role in servicing our natural gas production, which often contains elevated concentrations of hydrogen sulfide (H<sub>2</sub>S) and carbon dioxide (CO<sub>2</sub>). The ability to safely and effectively manage and dispose of these acid gas components is essential to the responsible development and ongoing operation of our assets in the region. Furthermore, the development of our leased acreage across private, state, and federal lands for crude and natural gas production requires reliable gas-takeaway provided by PM's system and AGI well. A portion of available production and further development will be waiting on OCD review, potential approval, and PM placing the AGI into service.

We recognize the importance of this infrastructure for environmental compliance and operational continuity, and we fully encourage an expedited review to support Producers Midstream in the permitting, drilling, and operation of this AGI well.

Sincerely,

Sammy Hajar Oil and Gas Marketing Rep <u>shajar@btaoil.com</u> 432-682-3753 ext. 106

BEFORE THE OIL CONSERVATION DIVISION Santa Fe, New Mexico Amended Exhibit No. F Submitted by: Lea Midstream, LLC Hearing Date: July 15, 2025 Case No. 25413

SH Enclosure

Released to Imaging: 7/16/2025 4:05:47 PM

CARLTON BEAL, JR.

BARRY BEAL

KELLY BEAL

SPENCER BEAL

BARRY BEAL, JR.

STUART BEAL ROBERT DAVENPORT, JR.

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