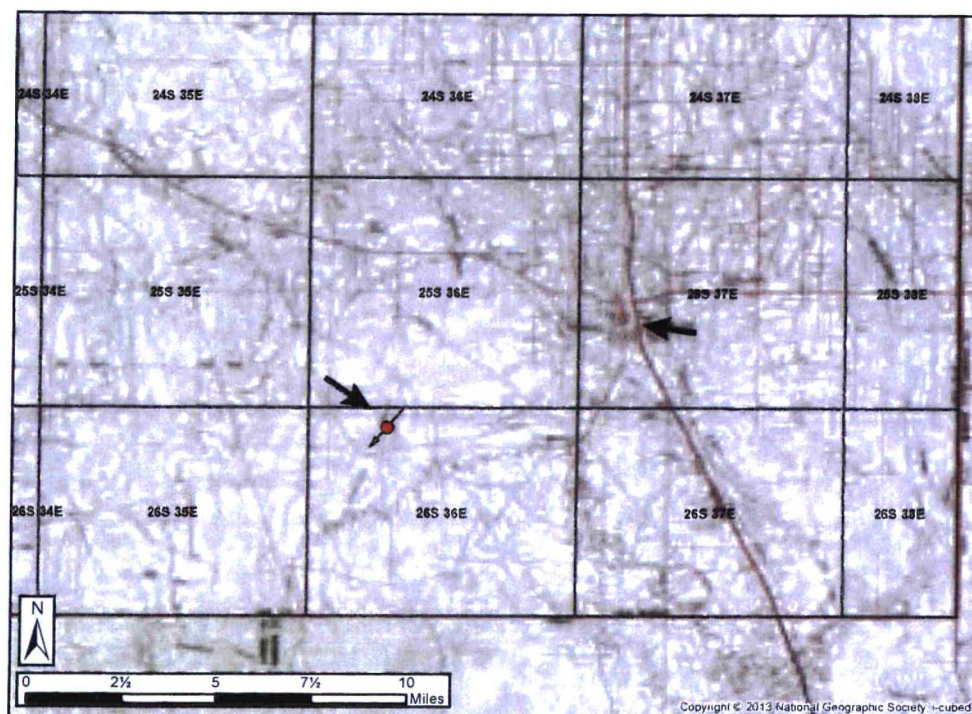




## APPLICATION FOR CLASS II AGI WELL SALT CREEK MIDSTREAM

SALT CREEK MIDSTREAM AGI #1

Surface Location: 594' FWL, 2,370' FSL, Section 21, T26S, R36E  
Lea County, New Mexico



August 5, 2019

**Prepared for:**


Salt Creek Midstream  
20329 State Highway 249, 4th Floor  
Houston, TX 77070  
(346) 803-4306

**Prepared by:**

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Case No. 20780  
Salt Creek Midstream  
Exhibit 4

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. **PURPOSE:** Secondary Recovery Pressure Maintenance ☒ Disposal Storage  
Application qualifies for administrative approval? Yes ☒ No ☐
- II. **OPERATOR:** Salt Creek Midstream, LLC  
**ADDRESS:** 20329 State Highway 240, 4th Floor, Houston, Texas 77070  
**CONTACT PARTY:** Frank Billings **PHONE:** (281)655-3217
- III. **WELL DATA:** Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? Yes ☒ No ☐  
If yes, give the Division order number authorizing the project: N/A
- 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. **SECTIONS 5 AND 6; APPENDICES A & B**
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail. **SECTION 5; APPENDIX A**
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected; **SECTIONS 1, 2, AND 3**
  2. Whether the system is open or closed; **SECTIONS 1, 2, 4, AND 7**
  3. Proposed average and maximum injection pressure; **SECTIONS 1 AND 3**
  4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, **SECTIONS 3 AND 4**
  5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.). **SECTIONS 3 AND 4**
- \*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any. **SECTION 3**
- \*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).  
**WELLS ARE NOT YET DRILLED**
- \*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken. **SECTION 4.4**
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water. **SECTION 7**
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form. **APPENDIX B**
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- NAME:** Alberto A. Gutiérrez **TITLE:** President - Consultant to Salt Creek  
**SIGNATURE:**  **DATE:** 8/15/2019  
**E-MAIL ADDRESS:** aag@geotex.com
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal:

### III. WELL DATA

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

(1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.

**Salt Creek AGI #1, Surface: 394' FWL, 2370' FSL, Section 21, T26S, R36E - SECTIONS 1, 3, AND 4**

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

**SEE SECTION 3 FOR PROPOSED WELL DESIGN. FINAL DESIGN WILL BE SUBMITTED UPON COMPLETION**

(3) A description of the tubing to be used including its size, lining material, and setting depth.

**SECTION 3 AND FIGURES 3 AND 4 FOR PROPOSED WELL DESIGN**

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

**SECTION 3**

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

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

(1) The name of the injection formation and, if applicable, the field or pool name. **SECTIONS 1, 3, AND 4**

(2) The injection interval and whether it is perforated or open-hole. **SECTION 3**

(3) State if the well was drilled for injection or, if not, the original purpose of the well. **N/A - WELLS NOT YET DRILLED**

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations. **N/A**

(5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any. **SECTIONS 4 AND 5; APPENDIX A**

### XIV. PROOF OF NOTICE

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

**SEC. 5; APP. B - WE WILL NOTIFY OPERATORS, LEASEHOLD AND SURFACE OWNERS WITHIN AOR PURSUANT TO NMOC REGULATIONS**

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include: **SEE APPENDIX B FOR DRAFT PUBLIC NOTICE - AFFIDAVIT OF PUBLICATION OF NOTICE FROM NEWSPAPER**

**WILL BE SUBMITTED AT HEARING**

(1) The name, address, phone number, and contact party for the applicant;

(2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;

(3) The formation name and depth with expected maximum injection rates and pressures; and,

(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

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

**NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.**

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## **LIST OF APPENDICES:**

- Appendix A: Information on Oil and Gas wells within two miles and one mile of the proposed Salt Creek AGI #1 and plugging data for plugged wells within one mile of the proposed wells
- Appendix B: Identification of operators, surface owners, lessees, working interest owners, and other interested parties for notices, copies of notice letters, and certified mail receipts

## 1.0 EXECUTIVE SUMMARY

On behalf of Salt Creek Midstream, LLC (Salt Creek), Geolex®, Inc. (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 21, T26S, R36 E, approximately 7.5 miles southwest of Jal in Lea County, New Mexico (Figure 1).

The proposed SCM AGI #1 is designed to address the disposal needs of the Amerdev South Gas Processing Plant, which needs to safely inject up to a maximum of eight (8) million standard cubic feet (MMSCF) per day (approximately 3,563 barrels per day) of treated acid gas (TAG) for at least 30 years. The TAG stream is anticipated to consist of approximately 78% carbon dioxide (CO<sub>2</sub>) and 22% hydrogen sulfide (H<sub>2</sub>S) with trace components of hydrocarbons (C<sub>1</sub> – C<sub>7</sub>). When operating at full capacity, Salt Creek AGI #1 will permanently sequester approximately 380 tons of CO<sub>2</sub> and approximately 80 tons of H<sub>2</sub>S per day.

SCM AGI #1 will be drilled as a vertical well with a surface location of 2,370 feet from the south line (FSL) and 594 feet from the west line (FWL) of Section 21 (Figure 2). The well will be constructed utilizing a two-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, collection of cement bond logs for all casing strings. The production casing and injection tubing will utilize 300 feet of corrosion resistant alloy in order to protect the well and lower well components from corrosive conditions.

The proposed injection zone will target the Bell Canyon and Cherry Canyon formations of the Delaware Mountain Group at depths of approximately 5,410 feet to 7,000 feet. Analysis of these geologic units confirms that they act as excellent closed-system reservoirs that will accommodate the future needs of Salt Creek for the disposal of acid gas and sequestration of CO<sub>2</sub> from the Salt Creek Gas Processing Plant.

In the area of Salt Creek AGI #1, the proposed injection interval is overlain by a thick interval (approximately 1,500 feet) of tight-shelf transitional facies carbonates, siltstones, shales, and evaporites (salt, anhydrite) of the Castile Formation. These units, in total, will provide more than 1,500 feet of excellent caprock that will contain and prevent the upward migration of injected TAG. Additionally, low-porosity intervals of interbedded Brushy Canyon Formation shales will prevent downward TAG migration and protect underlying production.

At the anticipated reservoir conditions of 115 °F and 3,050 psi, each MMSCF of TAG will occupy a volume of approximately 2,293 cubic feet (408 barrels). After 30 years of injection at the proposed rate of eight MMSCF per day, the resultant TAG plume would occupy an area of approximately 47.1 acres (0.15-mile radius). Based on the results simulating the area of the TAG plume after 30 years of injection, wells completed and subsurface structures in the proposed injection zone will be separated from the leading edge of the TAG plume by more than 1.75 miles.

In total, there are 56 wells within a one-mile radius of the proposed Salt Creek AGI #1. Specific well data is summarized in Appendix A along with relevant plugging documents. Of these wells, 22 are active and 21 are plugged. Additionally, there are 13 locations permitted, but have not yet been drilled or completed. Within one-mile of the proposed AGI, the injection zone is penetrated by 5 active wells producing from the Wolfcamp and Strawn, and one plugged well (Maralo SV 16 State #6). These wells all have total depths significantly deeper than the proposed Salt Creek AGI # and are sufficiently isolated by underlying low-porosity geologic units. The wells are fully cemented through the injection zone and their location and condition is such that they will not be negatively affected by the proposed injection

The area surrounding the proposed injection site is arid and there are no natural bodies of water within several miles of the plant. A search of the New Mexico State Engineer's files shows 15 water wells within two miles of the proposed AGI. The closest water well is located approximately 0.89 miles away and has a total depth of 800 feet. All wells within a two-mile radius are shallow and will be protected via the proposed Salt Creek AGI #1 casing design, which includes a surface casing interval down to 1,000 feet that will isolate and protect 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 injection. The elements of this evaluation include:

- Identification and characterization of all hydrocarbon-producing zones of wells that surround and are present on the plant site.
- The depths of perforated pay intervals in those wells relative to the depth of the target injection zone (Delaware Mountain Group)
- The past and current uses of the proposed intervals
- 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 within a one-mile radius of the proposed injection well
- Identification and characterization of all plugged and operating wells penetrating the proposed injection zone within a one-mile radius of the proposed injection well
- The details of the proposed injection operation, including general well design and average maximum daily rates of injection and injection pressures
- An analysis of the potential for induced seismicity based on seismic review and mapping in the area
- 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, Salt Creek Midstream has determined that the proposed AGI wells are a safe and environmentally-sound project for the disposal of treated acid gas. Furthermore, our analyses demonstrate that the proposed injection wells 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 injection well (Section 3.0)
- A summary of the regional and local geology, hydrogeology, and the location of drinking water wells within the area of review (Section 4.0)
- The identification, location, status, production 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 land owners 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 included within a two-mile radius and the one-mile area of review.
- **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 sent out to these parties at least 20 days prior to the NMOCD hearing, and a draft public notice.

### 3.0 PROPOSED CONSTRUCTION AND OPERATION OF SALT CREEK AGI #1

The Salt Creek Midstream AGI #1 will be drilled at approximately 2,370 feet from the south line (FSL) and 594 feet from the west line (FWL) of Section 21 (Figure 2). TAG to be injected will be routed from the Salt Creek Midstream Gas Processing Plant (approximately 400 feet) to on-site compression facilities that will compress and dehydrate the acid gas. The compressed TAG will then be routed to the wellhead via high-pressure NACE-rated lines for injection. Design details are provided in Sections 3.1 and 3.2 below.

#### 3.1 DESIGN OF SALT CREEK AGI #1

The location of the proposed AGI well, and other nearby wells, are shown in Figure 2, and a schematic of the injection system is shown in Figure 3. The SCM AGI #1 will be drilled as a vertical well to an anticipated total depth of 7,000 feet within the Cherry Canyon Formation of the Delaware Mountain Group. The injection zone (approximately 5,410 feet to 7,000 feet) will be cased and perforated upon evaluation of porosity and permeability potential via geophysical logging and sidewall coring.

The AGI facilities and well will be integrated components of the Salt Creek Midstream Gas Processing Plant design. The preliminary well design for the new injection well, Salt Creek AGI #1, is shown on Figure 4. The well is designed to accommodate injection of eight (8) MMSCF per day of TAG for a design life of 30 years.

The well will have two strings of telescoping casing cemented to the surface and will include a subsurface safety valve on the production tubing to ensure that injected fluids cannot flow back out of the well in the event of a failure of injection equipment (Figure 4). In addition, the annular space between the production tubing and the well bore will be filled with an inert fluid (corrosion-inhibited diesel fuel with biocide additives) as a further safety measure. These practices are consistent with injection well designs previously approved by New Mexico Oil Conservation Division (NMOCD) for acid gas injection.

Design and material considerations for Salt Creek AGI #1 include: 1) Placement of the Subsurface Safety Valve (SSSV) and permanent packer; 2) installation of two casing strings to isolate and protect groundwater resources (Ogallala and Santa Rosa formation groundwater, Rustler Formation saline groundwater); 3) characterization of the zone of injection; and 4) a total depth (TD) ensuring accurate identification of the reservoir.

A suitable drilling rig will be chosen for the job that will include an appropriate blowout preventer and choke-manifold system for any unforeseen pressures encountered. Visual inspections of cement returns to the surface will be noted in both the conductor and surface casing operations. Casing and cement integrity will be demonstrated by pressure testing and 360-degree cement bond logs recorded for each cement operation.

The two casing strings shown in Figure 4 are summarized in the following Table 1.

**Table 1. Summary of Casing Schedules**

Casing	Hole Size (in.)	Csg. Size (in.)	Pounds Per Foot	Grade	Thread	Top (ft.)	Bottom (ft.)	Length (ft.)
<i>Proposed Casing</i>								
Conductor	26	20	94	J55	BTC	0	80	80
Surface	12.25	9.625	40	J55	BTC	0	2080	2080
Production	8.75	7	26	L80	VAM	0	5110	5110
Production	8.75	7	26	G3	VAM	5110	5410	300
Production	8.75	7	26	L80	VAM	5410	7000	1590
<i>Injection Tubing</i>								
Tubing	N/A	3.5	9.3	L80	VAM	0	5110	5110
Tubing	N/A	3.5	9.2	G3	VAM	5110	5410	300

The conductor and surface casing will be cemented to the surface, using appropriate conventional cement and methods. These cement jobs will be pressure tested and 360-degree cement bond logs will be recorded after the required amount of time has passed for the cement to set.

Once the integrity of cementing operations has been verified, the production-casing borehole will be advanced to the anticipated total depth of the well at approximately 7,000 feet.

Prior to running the 7-inch production casing, open-hole geophysical logging will be performed for the interval underlying the surface casing (approx. 1,000 feet to 7,000 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. Fullbore Formation MicroImager (FMI) logs will be recorded along the proposed injection interval, as well as, the overlying caprock to verify the integrity and confirm the capability of the overlying material to contain the injected TAG. In addition, porosity and permeability characteristics of the proposed injection zone and overlying caprock material will be verified through collection and laboratory analysis of sidewall cores.

The 7-inch production casing will be set in a competent bed within the Cherry Canyon Formation at approximately 7,000 feet as described above (Table 1). The interval will be cemented in three stages utilizing cement diverter tools (DVT) at depths of approximately 5,110 feet and 5,410 feet. Table 2 below summarizes the preliminary cement program for all proposed SCM AGI #1 casing segments.

**Table 2. SCM AGI #1 Proposed Cementing Program**

Casing String	Stage #	Cement Type	Coverage Interval
Conductor	1	RediMix	0 to 80 feet
Surface	1	EconoCem HLC (Lead) HalCem C (Tail)	0 to 1,000 feet
Production	1	CorrosaCem Cement	5,410 to 7,000 feet
Production	2	Halliburton WellLock Resin	5,110 to 5,410 feet
Production	3	Halcem C	0 to 5,110 feet

Once the production casing cement has set, the tubing adapter for the wellhead will be welded to the casing and a casing-integrity test (pressure test) will be performed. After a successful test, the drilling rig will be released and a workover rig will be mobilized on location. Subsequently, a cement-bond log will

be recorded to verify the integrity of the cementing operations and identify the top of production casing cement.

The interval of casing set within the Delaware Mountain Group injection zone will be perforated to allow the injection of treated acid gas in a dense phase. Perforation points will be selected through evaluation of open-hole geophysical logs and laboratory analysis of sidewall cores collected during drilling operations for Salt Creek AGI #1.

Permanent, continuous-recording sensors will be incorporated into the packer assembly and appropriate connections will be run through the annulus and out of the wellhead. These sensors will provide real-time reservoir temperature and pressure conditions. Data will be transmitted to the plant's control room for observation, analysis, and recording. Section 3.2 below addresses how that data will be used and supplemented in the event of down-hole sensor failure.

The subsurface safety valve (SSSV) will be run into the well at a depth of approximately 250 feet and connected to a hydraulic surface control panel via a ¼-inch Inconel line.

The National Association of Corrosion Engineers (NACE) issues guidelines for metals exposed to various corrosive gases like those anticipated for this well. For a 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 need to be constructed of Inconel 925 (or equivalent). The CRA joints utilized in SCM AGI #1 will be constructed of a similar alloy from a manufacturer, such as Sumitomo SM2550 (with 50% nickel content). Additionally, the gates, bonnets, and valve stems within the injection tree will also be nickel coated.

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 shut-in using a hydraulically 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 able to accept the volume of injection fluid (without using acid gas), it will be completed with the approved injection equipment for the acid-gas stream.

### 3.2 RESERVOIR STIMULATION, TESTING, AND PRESSURE MONITORING

Upon completion of operations to perforate the Salt Creek AGI #1 injection zone, reservoir stimulation and testing operations will be completed. These operations include acid stimulation of the injection zone and step rate injection testing.

Stimulation operations will include a two-stage acidizing treatment of the injection zone. First, a spot-acid treatment will be performed in which approximately 3,000 gallons of 15% hydrochloric acid (HCl) will be displaced along newly opened perforation points to enhance injectivity. Lastly, approximately 20,000 gallons of 15% HCl 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 Bell Canyon and Cherry Canyon injection zones.

In addition to stimulation operations, an injection test (step-rate test) will be performed to determine the final injection pressures and volumes to ensure the formation parting pressure (fracture pressure) is not reached during future TAG injection operations.

The Salt Creek 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 3.3 and 3.4) 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 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 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 suffers from periodic data collection and transmission issues. 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 us to develop empirical relationships with actual observed data that, in conjunction with the use of established models (such as, AQUALibrium™, or equivalent) will allow us to fill in gaps when bottom-hole data loss occurs. This approach will allow us to provide NMOCD with reliable monitoring data and interpretations and provides the basis for the reservoir evaluation, which will be performed periodically during the lifetime of the well.

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

1. Obtain initial bottom-hole pressure and temperature after drilling (during logging)
2. Performed detailed step-rate injection test and 10-day fall-off test to provide baseline reservoir conditions prior to the initiation of TAG injection
3. Monitor surface parameters (injection pressure, temperature, injection rate, and annular pressure) to provide an early warning system for any potential mechanical issues in the well
4. Monitor bottom-hole pressure/temperature with a device to provide real-time reservoir condition data for analysis of reservoir performance
5. Use bottom-hole reservoir and surface pressure/temperature to develop a well-specific empirical relationship between observed surface- and bottom-hole data
6. Use TAG/wellbore model to predict bottom-hole P/T conditions based on surface data and test with empirical relationships observed in #5 above to calibrate models
7. Use surface data along with tools in #5 and #6 above to fill in missing bottom-hole data when data drops 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 only if data from such temporary device is necessary to fill in data for relevant analysis.
9. After approximately 10 years of operation, perform another detailed step-rate injection test and fall-off test to compare with baseline prior to injection.

### 3.3 INJECTION VOLUME CALCULATIONS

The well will be designed and constructed such that it will serve as the injection conduit for a mixed stream of treated acid gas. Based on current estimates, the TAG stream used for the following calculation will be:

- Carbon Dioxide (CO<sub>2</sub>) 77.5%
- Hydrogen Sulfide (H<sub>2</sub>S) 21.5%
- Trace Nitrogen and C<sub>1</sub> – C<sub>7</sub> 1%

The maximum total volume of TAG to be injected daily will be approximately eight (8) MMSCF per day. Pressure reduction valves and controls will be incorporated to assure that 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 fluid 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 Salt Creek Midstream AGI #1 using the AQUALibrium™ 3.1 software, which employs the modified PR EOS model (Table 3).

We have modeled the proposed maximum daily injection rate of eight (8) MMSCF per day composed of 77.5 mol % CO<sub>2</sub> and 21.5 mol % H<sub>2</sub>S. Specific gravities of TAG were determined for the conditions at the wellhead (pressure = 1,500 psi, temperature = 90 °F) and the bottom of the well (pressure = 3,050 psi, temperature = 115 °F). The specific gravity of TAG at equilibrium with the reservoir (pressure = 3,050 psi, temperature = 115 °F) was also determined to evaluate the area expected to be affected by injection in the reservoir (see Table 4 and Section 3.4).

The calculated maximum allowable injection pressure (MAOP) would be approximately 1,692 psi (depending on specific gravity of final TAG stream). We have used the following method approved by NMOCD to calculate the proposed MAOP. The final maximum permitted surface injection pressure should be based on the final specific gravity of the injection stream according to the following formulas:

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

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

And

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

Where:  $SG_{Tag}$  = Average specific gravity of treated acid gas in the tubing  
( $SG_{Tag}$  at top = 0.36, and  $SG_{Tag}$  at bottom = 0.81; see Table 3)

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

$$SG_{Tag} = 0.5847 \text{ (Average of 0.36 and 0.81)}$$

$$D_{Top} = 5,410 \text{ feet}$$

Therefore:

$$PG = 0.2 + 0.433 (1.04 - 0.7491)$$

$$PG = 0.3259597$$

And

$$IP_{Max} = 0.3259597 \frac{psi}{ft} \times 5,410 ft$$

$$IP_{Max} = 2,149 psi$$

For this reason, Salt Creek Midstream requests approval for a surface injection MAOP of 2,149 psig for the proposed Salt Creek AGI #1.

### 3.4 INJECTION VOLUME CALCULATIONS

Table 3 below summarizes the calculated injection volumes, the areas impacted by the TAG plume after 30 years of injection, and the proposed MAOP.

The calculated TAG plume, after 30 years of continuous injection at eight (8) MMSCF per day, will occupy an area of approximately 43.6 acres, with a radius of 778 feet, or 0.15 miles (Table 3; Figure 5). The values of porosity and residual water ( $S_{WR}$ ) have been calculated from analysis of geophysical logs from nearby wells with data from the proposed injection zone.

**Table 3. Reservoir Injection Pressure and Volume Calculations**

#### PROPOSED INJECTION STREAM CHARACTERISTICS

TAG	H <sub>2</sub> S	CO <sub>2</sub>	H <sub>2</sub> S	CO <sub>2</sub>	TAG
Gas Volume MMSCFD <sup>1</sup>	Conc. Mol %	Conc. Mol %	Injection Rate lbs/day	Injection Rate lbs/day	Injection Rate lbs/day
8	22	78	167064	764876	931940

#### CONDITIONS AT WELLHEAD

Wellhead		TAG							
Temp F	Pressure psi	Gas Vol MMSCFD <sup>1</sup>	Comp CO <sub>2</sub> :H <sub>2</sub> S	Inject Rate lbs/day	Density <sup>1</sup> kg/m <sup>3</sup>	SG <sup>2</sup>	Density lbs/gal	Volume ft <sup>3</sup>	Volume bbl
110	1200	8	78:22	931940	356.05	0.36	2.97	41907	7464

#### CONDITIONS AT BOTTOM OF WELL

Injection Zone Conditions					TAG				
Temp F	Pressure <sup>3</sup> psi	Depth <sub>Top</sub> ft	Depth <sub>Bot.</sub> ft	Thickness <sup>4</sup> ft	Density <sup>1</sup> kg/m <sup>3</sup>	SG <sup>2</sup>	Density lbs/gal	Volume ft <sup>3</sup>	Volume bbl
115	2976	5410	6310	900	813.26	0.81	6.79	18347	3268

#### RESERVOIR AT EQUILIBRIUM

Injection Zone Conditions					TAG				
Temp F	Pressure <sup>3</sup> psi	Porosity <sub>Avg</sub> %	$S_{WR}$	Porosity ft	Density <sup>1</sup> kg/m <sup>3</sup>	SG <sup>2</sup>	Density lbs/gal	Volume ft <sup>3</sup>	Volume bbl
115	3,050	17	0.36	97.92	813.26	0.81	6.79	18347	3268

#### CONSTANTS

		SCF/mol	
Molar volume @ STP		0.7915	
		g/mol	lbs/mol
Molar weight of H <sub>2</sub> S		34.0809	0.0751
Molar weight of CO <sub>2</sub>		44.0096	0.0970
Molar weight of H <sub>2</sub> O		18.015	0.0397

#### CALCULATION OF MAX INJ. PRESSURE LIMITATION

SG <sub>TAG</sub>	0.5847	
PG = 0.2 + 0.433 (1.04 – SG <sub>TAG</sub> )	0.397	psi/ft
IP <sub>Max</sub> = (PG)(Depth)	2149	psi

Where: SG<sub>TAG</sub> is TAG specific gravity; PG is calculated pressure gradient, IP<sub>Max</sub> is calculated max injection pressure

#### CALCULATION OF 30-YR AREA OF INJECTION

Cubic feet/day (5.6146 ft <sup>3</sup> /bbl)	18347	ft <sup>3</sup> /day
Cubic feet/30 years	201039804	ft <sup>3</sup> /30yr
Area = V/Net Porosity	2053103	ft <sup>2</sup> /30yr
Area = V/Net Porosity (ft) (43560 ft <sup>2</sup> /acre)	47.1	Acres/ 30 yr
Radius	808	ft
Radius	0.15	miles

<sup>1</sup>Density calculated using AQUALibrium™ software

<sup>2</sup>Specific gravity calculated assuming a constant H<sub>2</sub>O density

<sup>3</sup>PP is extrapolated using drill stem tests at nearby wells

<sup>4</sup>Thickness is average total thickness of porous units in the reservoir

<sup>5</sup>Reservoir temp is extrapolated from bottom-hole temp measured in nearby wells

<sup>6</sup>Porosity is estimated using geophysical logs from nearby wells

## 4.0 REGIONAL AND LOCAL GEOLOGY AND HYDROGEOLOGY

### 4.1 GENERAL GEOLOGIC SETTING AND SURFICIAL GEOLOGY

The proposed Salt Creek AGI #1 site is located in Section 21, T26S, R36E in Lea County, New Mexico, approximately 7.5 miles southwest of Jal (Figure 1). The well location lies on the eastern flank of the Pecos River Basin within the Javelina Basin. Generally, the area is flat and covered predominantly by sand dunes overlying a hard caliche surface. The dunes are locally stabilized with shin oak, mesquite, and some burr-grass. There are no observed surface bodies of water, or groundwater discharge sites within one mile of the proposed location. Where drainages exist in interdunal areas, they are ephemeral, discontinuous, dry washes. The proposed site is underlain by Quaternary alluvium overlying the Triassic redbeds of the Santa Rosa Formation (Dockum Group), both of which are local sources of groundwater. The thick sequences of Permian rocks that underlie these deposits are described generally below.

### 4.2 BEDROCK GEOLOGY

The Salt Creek Midstream gas-processing facility and the proposed well are located at the northern margin of the Delaware Basin, a sub-basin of the larger, encompassing Permian Basin (Figure 6), which covers a large area of southeastern New Mexico and west Texas. The Permian as we know it today began to take form during the Middle to Late Mississippian, with various segments (Delaware Basin, Midland Basin, Central Basin Platform, and North Platform) arising from the ancestral Tabosa Basin. The Delaware Basin was subsequently deepened by periodic deformation during the Hercynian Orogeny of the Pennsylvanian through Early Permian. Following the orogeny, the Delaware Basin was structurally stable and gradually was filled by large quantities of clastic sediments while carbonates were deposited on the surrounding shelves, and was further deepened via basin subsidence.

Figure 7 illustrates a generalized Permian Basin stratigraphic column showing the anticipated formations and lithologies that underlie the proposed well site. The Permian rocks found in the Delaware Basin are divided into four series, the Ochoan (most recent), Guadalupian, Leonardian, and Wolfcampian (oldest). In the area of the proposed well, clastic rocks dominate the Permian-age strata – primarily sands, shales, and to a lesser extent carbonates. Additionally, upper Permian deposits include thick basin-filling evaporite deposits of the Salado and Castile formations, which serves as the caprock material for many injection wells in the Delaware Basin.

Active oil production within the area of review of the proposed AGI well is found predominantly in the Tansill-Yates-Seven Rivers pool and horizontal plays (active and permitted) within the Bones Springs, and Wolfcamp. Gas production in the area is limited to only one well producing from the Strawn Formation. In the area of review, no active or past production is observed in the proposed Delaware Sands injection reservoir (Bell Canyon and Cherry Canyon formations) and the anticipated injection zone is isolated from overlying and underlying active production by >1,600 feet and >1,300 feet, respectively.

### 4.3 LITHOLOGIC AND RESERVOIR CHARACTERISTICS OF THE DELAWARE MOUNTAIN GROUP FORMATIONS

The proposed Salt Creek AGI #1 injection zone includes the Delaware Mountain Group Bell Canyon and Cherry Canyon formations (approx. 258 Ma – 252 Ma). These Guadalupian-age units are comprised of predominantly sandstone with minor interbedded siltstone and limestone. Based on the geologic analyses of the subsurface, acid gas injection and CO<sub>2</sub> sequestration is recommended between depths of 5,410 feet and 7,000 feet. Figure 8 includes a type log of the proposed injection zone that indicates several intervals of porosity greater than 12% within the reservoir underlying the proposed well.

Units overlying the proposed injection interval provide excellent caprock to prevent the upward migration of injected fluids out of the targeted reservoir. This overlying material includes a thick interval (>1,600 feet) of tight-shelf transitional facies carbonates, shales, and evaporites (salt, anhydrite) of the Castile Formation. These units will provide an excellent geologic seal above the porous sandstones of the injection zone and provide protection to shallow freshwater resources (Figure 8). Additionally, the proposed injection interval is separated from underlying production within the Bone Springs by an interval greater than >1,300 feet that includes tight siltstone and shale of the Brushy Canyon Formation, and tight limestones of the Upper Bone Springs.

Figure 9 includes a structure contour map that illustrates the depth to the top of the Bell Canyon Formation (top of injection reservoir) and shows the formation dips sharply east into the trough at the toe of the Central Basin Platform margin. The proposed location for Salt Creek AGI #1 overlies three major Permian-age depositional fairways (as shown in Figure 10) where thick intervals of porous sand are present within the anticipated injection reservoir. Salt Creek AGI #1 overlies the southernmost depositional fairway near the thickest point of the sand deposit.

Figure 11 includes a north-south structural cross section in the area of the proposed Salt Creek AGI #1 and the wells employed are shown in figures 9 and 10. Geophysical logs from included wells indicate several intervals within the proposed injection zone (Bell Canyon – Cherry Canyon) of porosity greater than 12% (Figures 8 and 1 – yellow shaded intervals) and the anticipated low-porosity and low-permeability caprock material is shown to be present through the area of interest.

#### 4.4 CHEMISTRY OF THE RESERVOIR FLUIDS

A review of formation waters from the U.S. Geological Survey National Produced Waters Geochemical Database v. 2.3 (retrieved on June 21, 2019) identified six wells with analyses from drill stem tests fluids collected from the Delaware Mountain Group in wells within approximately 16 miles of the proposed Salt Creek Midstream AGI #1 (Section 21, Township 26 South, Range 36 East). Table 4 below summarizes the observed formation fluid characteristics.

**Table 4. Summary of produced water analyses from nearby wells (U.S. Geological Survey National Produced Water Geochemical Database v. 2.3)**

API	Concentration (parts per million)						
	TDS	HCO <sub>3</sub>	Ca	Cl	Mg	Na	SO <sub>4</sub>
30-025-08686	276713	260	27930	172000	3582	-	281
30-025-09843	342100	48	32000	189000	5130	16200	318
30-025-20756	282741	161	39940	176800	4680	-	650
42-495-10730	317617	12	5640	192354	1239	116294	1563
42-475-10241	345400	59	41310	216200	6547	-	296
42-495-10809	249380	293	32160	156011	4374	56252	290

These analyses show Total Dissolved Solids (TDS) in the area of the proposed AGI well ranging from 249,380 to 345,400 parts per million (ppm) with an average of 302,325 ppm. The primary constituent in sampled formation waters is the chloride ion, with an average concentration of 183,727 ppm.

An attempt will be made to sample formation fluids during drilling and completion of the proposed Salt Creek AGI #1 to provide more site-specific fluid properties.

#### 4.5 POTENTIAL FOR INDUCED SEISMICITY IN THE AREA

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

To identify subsurface structures to in the area of the proposed AGI well, Geolex evaluated and interpreted licensed seismic survey data (WesternGeco, South Lea Survey) covering the Lea County area of interest. Based on this review, Geolex identified two faults, located approximately three miles east of the proposed well and striking approximately north-northwest to south-southeast (Figure 13). These subsurface features, relative to the other active and proposed injection wells in the area, are separated by significant distances and are not anticipated to be susceptible to injection-induced slip. To verify these structures would not be affected by approval of the proposed Salt Creek AGI #1, a model simulation was performed, despite their significant distance from the area of review.

To calculate the fault-slip probability for this injection scenario, input parameters characterizing the local stress field, reservoir characteristics, sub-surface features, and injected fluids are required. Parameters utilized and their sources for this study are included in Table 5 below. Additionally, Table 6 details the injection volume characteristics and locations of the disposal wells modeled in this scenario. For wells in which the maximum anticipated injection volumes were not available through review of NMOCDC documentation, a value of 25,000 barrels injected per day was assumed.

For this study, limitations of the FSP model required a conservative approach be taken in determining the fault-slip probability of the injection scenario. Specifically, the FSP model is only capable of considering a single set of fluid characteristics and this study aims to model an injection scenario that includes saltwater disposal (SWD) and acid gas injection (AGI) systems. To ensure a conservative fault-slip probability estimate, the proposed AGI well was modeled utilizing the characteristics of a SWD. This approach yields a more conservative model prediction as water displays greater density, dynamic viscosity, and is significantly less compressible than acid gas. Characteristics of acid gas at anticipated reservoir conditions, as modeled by AQUALibrium™, are shown in Table 5.

Generally, faults considered in this assessment are predicted by the Stanford FSP Model to have no potential for injection-induced slip and the proposed Salt Creek AGI #1 is not predicted by the FSP model to contribute significantly to the total resultant pressure front. All faults within the modeled study area show no increase in slip probability throughout the 30-year modeled scenario (Figure 13). Table 7 (located on page 14) summarizes the predicted pressure change along each fault and includes the model-derived pressure conditions necessary to induce slip for each feature. No structures included in this simulation experience any increase in slip potential, and modeled pressure increases along faults after 30 years fall far short of the required pressure increase to induce slip.

**Table 5. Input parameters and source material for FSP simulations**

Modeled Parameter	Input Value	Variability (+/-)	UOM	Source
<i>Stress</i>				
Vertical Stress Gradient	1.05	0.105	psi ft <sup>-1</sup>	Nearby well estimate
Max Horizontal Stress Direction	N75E	5	Deg.	Lund Snee & Zoback, 2018
Reference Depth	7,000		ft	Nearby well evaluation
Initial Res. Pressure Gradient	0.43	0.043	psi ft <sup>-1</sup>	Lund Snee & Zoback, 2018
A <sub>φ</sub> Parameter	0.6	0.06	-	Lund Snee & Zoback, 2018
Reference Friction Coefficient (μ)	0.6	0.06	-	Standard Value
<i>Hydrologic</i>				
Aquifer Thickness	850	10	ft	Nearby well evaluation
Porosity	10	1	%	Nearby well evaluation
Permeability	10	5	mD	Nearby well evaluation
<i>Material properties</i>				
Density (Water)	1000	50	kg m <sup>-3</sup>	Standard Value
Dynamic Viscosity (Water)	0.0008	0.0001	Pa.s	Standard Value
Fluid Compressibility (water)	3.6 x 10 <sup>-10</sup>	0	Pa <sup>-1</sup>	Standard Value
Rock Compressibility	1.08 x 10 <sup>-9</sup>	0	Pa <sup>-1</sup>	Standard Value
<i>Acid gas @ 115 °F, 3,050 psi</i>				
Density	813.26	-	kg m <sup>-3</sup>	AQUALibrium™
Dynamic Viscosity	0.0000774	-	Pa.s	AQUALibrium™

**Table 6. Location and characteristics of injection wells modeled in FSP assessment.**

#	API	Well Name	Latitude	Longitude	Volume (bbls/day)	Start (year)	End (year)
1	Proposed Well	Salt Creek AGI #1	32.028017	-103.276681	5000	2020	2050
2	30-025-20857	West Jal B #1	32.128483	-103.284981	13000	2017	2050
3	30-025-37517	Momentum 36 State #1	32.084114	-103.322372	5000	2017	2050
4	30-025-43927	TeleDelux 32 St SWD #1	32.086843	-103.380991	25000	2020	2050
5	30-025-44863	Nkatata Federal SWD #1	32.059514	-103.333485	25000	2020	2050
6	42-495-34281	Felix Water Com 27-C23	32.059514	-103.333485	25000	2020	2050

**Table 7. Summary of model-simulation results showing the required pressure change to induce fault slip, actual pressure change as predicted by the FSP model, probability of fault slip at the end of the 30-year injection scenario, and fault slip probability when proposed AGI is excluded**

Fault #	$\Delta$ Pressure necessary to induce fault slip	Actual $\Delta$ Pressure at fault midpoint at year 2050	Fault Slip Potential at year 2050
1	2,821 psi	93	0.0
2	2,266 psi	73	0.0
3	2,793 psi	52	0.0
4	2,586 psi	32	0.0
5	2,842 psi	30	0.0
6	2,431 psi	25	0.0

#### 4.6 GROUNDWATER HYDROLOGY IN THE VICINITY OF THE PROPOSED INJECTION WELL

Based on the New Mexico Water Rights Database from the New Mexico Office of the State Engineer, there are 15 water wells located within a two-mile radius of the Salt Creek AGI #1 well, and only one water well within a one-mile radius. Of these wells, the closest is located approximately 0.89 miles away and has a total depth of 800 feet (Figure 15; Table 8). All wells within the two-mile radius are shallow, collecting water from about 175 to 800 feet depth, in Alluvium and the Triassic redbeds. The shallow freshwater aquifer will be protected by the surface and production casing design in the proposed Salt Creek AGI #1 well, which will extend to 1,000 feet and 7,000 feet, respectively.

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

**Table 8. Water wells within one mile of the proposed Salt Creek Midstream AGI #1 (Retrieved from the New Mexico Office of the State Engineer's Files)**

POD #	Source	Sec	TwN	Rng	Latitude	Longitude	Distance (miles)	Depth (feet)	Date Completed
J 00025 POD 2	Artesian	21	26S	36E	32.021666	-103.263608	0.89	800	04/03/2017
J 00034 POD 1	Shallow	30	26S	36E	32.017496	-103.296665	1.38	506	12/15/2014
J 00035 POD 1	Shallow	30	26S	36E	32.016388	-103.296114	1.39	506	12/15/2014
J 00027 POD 1	Shallow	30	26S	36E	32.020400	-103.299332	1.43	571	10/16/2013
J 00004 POD 1	Shallow	29	26S	36E	32.011356	-103.291517	1.44	510	02/16/2018
J 00004 CLW458813	Shallow	29	26S	36E	32.010559	-103.291257	1.48	604	12/16/1969
J 00033 POD 1	Shallow	30	26S	36E	32.015554	-103.297781	1.51	551	02/19/2015
J 00003 POD 2	Shallow	30	26S	36E	32.020549	-103.303003	1.63	-	-
J 00001 X	Shallow	19	26S	36E	32.031411	-103.305164	1.69	640	09/05/2008
J 00009 POD 1	-	9	26S	36E	32.052325	-103.263665	1.84	175	-
J00010 POD 1	Shallow	9	26S	36E	32.052325	-103.263665	1.84	-	-
J 00002 X2	-	18	26S	36E	32.037793	-103.306243	1.86	650	-
C 03874 POD1	Shallow	30	26S	36E	32.013605	-103.304454	1.91	-	-
J 00008 POD 1	-	10	26S	36E	32.052321	-103.259396	1.96	175	-
J 00002 X3	Shallow	19	26S	36E	32.030526	-103.310538	1.99	710	10/27/1980

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, 2) there are no identified conduits that would facilitate migration of injected fluids to fresh-water zones.

## 5.0 OIL AND GAS WELLS IN THE SALT CREEK AGI AREA OF REVIEW AND VICINITY

Appendix A summarizes in detail all NMOC recorded wells within a one- and two-mile radius of the proposed Salt Creek 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 location and wells located within one mile of the proposed AGI location are included in Table 9 below.

In total, there are 123 wells within a two-mile radius of the proposed Salt Creek Midstream AGI #1 (Appendix A, Figure A-1, Table A-1). Of these wells, there are 24 active, 27 permitted, and 72 plugged. Active wells are primarily producing from Tansill-Yates-7Rivers, Lower Bone Springs, and Wolfcamp pools. One active gas well is present within two miles of the proposed AGI and produces resources from the Strawn pool.

Within one-mile of the proposed AGI well there are 56 wells, of which, 22 are active and 21 are plugged (Figure A-2, Table 9). Additionally, there are 13 locations permitted, but have not yet been drilled or completed.

**Table 9. Wells located within one mile of proposed Salt Creek AGI #1**

API	Well Name	Pool	Status	Lat. (NAD83)	Long. (NAD83)	Total Depth (ft.)	Miles from AGI
3002526134	Wilson 21 Federal #004	Tan-Yates-7Riv-Qu	Active	32.026024	-103.275375	3575	0.16
3002526136	Pre-Ongard Well #006	No Data	Plugged	32.031338	-103.275383	1682	0.24
3002526718	Pre-Ongard Well #006Y	Tan-Yates-7Riv-Qu	Plugged	32.031338	-103.275703	3750	0.24
3002526133	Wilson 21 Federal #003	Tan-Yates-7Riv-Qu	Active	32.026741	-103.272759	3797	0.25
3002509858	Pre-Ongard Well #001	No Data	Plugged	32.026932	-103.272179	3940	0.27
3002525957	Lea 20 #001	Capitan Reef	Active	32.024212	-103.279633	3420	0.31
3002526135	Wilson 21 Federal #005	Tan-Yates-7Riv-Qu	Active	32.030514	-103.272186	3800	0.31
3002526132	Wilson 21 Federal #002	Tan-Yates-7Riv-Qu	Active	32.022396	-103.275368	3500	0.39
3002545837	Camellia Federal Com 26 36 21 #111H	Wolfcamp	Permitted	32.022296	-103.277785	New	0.40
3002545897	Camellia Federal Com 26 36 21 #121H	Wolfcamp	Permitted	32.022296	-103.277721	New	0.40
3002545918	Camellia Federal Com 26 36 21 #101H	Wolfcamp	Permitted	32.022295	-103.277850	New	0.40
3002545982	Camellia Federal Com 26 36 21 #081H	Lower Bone Spring	Permitted	32.022296	-103.277656	New	0.40
3002545984	Camellia Federal Com 26 36 21 #091H	Lower Bone Spring	Permitted	32.022296	-103.277592	New	0.40
3002509856	Pre-Ongard Well #006	No Data	Plugged	32.023304	-103.280693	1247	0.40
3002526131	Wilson 21 Federal #001	Tan-Yates-7Riv-Qu	Active	32.022396	-103.273239	3340	0.44
3002526138	Wilson 21 Federal #008	Tan-Yates-7Riv-Qu	Active	32.034279	-103.275383	3700	0.44
3002509857	Pre-Ongard Well #006	No Data	Plugged	32.022400	-103.280693	3349	0.45
3002544105	Azalea 26 36 28 State #121H	Wolfcamp	Permitted	32.020883	-103.277688	New	0.50
3002526137	Wilson 21 Federal #007	Tan-Yates-7Riv-Qu	Active	32.034195	-103.272125	3700	0.50
3002544104	Azalea 26 36 28 State #111H	Wolfcamp	Active	32.020883	-103.277753	11966	0.50
3002544229	Azalea 26 36 28 State #121Y	Wolfcamp	Active	32.020883	-103.277817	12434	0.50
3002527197	Lea 20 7426 Jv-S #002	Tan-Yates-7Riv-Qu	Plugged	32.035107	-103.279648	3670	0.52
3002527029	Lea 21, 7406 Jv-S #003	Tan-Yates-7Riv-Qu	Active	32.026932	-103.267914	3574	0.52
3002527028	Lea 21, 7406 Jv-S #002	Tan-Yates-7Riv-Qu	Active	32.030567	-103.267914	3658	0.54
3002526056	Pre-Ongard Well #009	No Data	Plugged	32.019676	-103.275368	1406	0.58
3002526068	Lea 7406 Jv-S #009Y	Tan-Yates-7Riv-Qu	Plugged	32.019566	-103.275368	3270	0.59
3002544527	Camellia 26 36 16 State Com #101H	Wolfcamp	Permitted	32.036612	-103.277374	New	0.59

CONTINUED FROM PREVIOUS PAGE

API	Well Name	Pool	Status	Lat. (NAD83)	Long. (NAD83)	Total Depth (ft.)	Miles from AGI
3002544112	Wildhog Bwx State Com #002H	Wolfcamp	Active	32.035344	-103.281892	12008	0.59
3002527030	Pre-Ongard Well #004	No Data	Plugged	32.023304	-103.267906	1060	0.61
3002545983	Camellia Federal Com 26 36 21 #083H	Lower Bone Spring	Permitted	32.019681	-103.272268	New	0.63
3002545985	Camellia Federal Com 26 36 21 #093H	Lower Bone Spring	Permitted	32.019681	-103.272203	New	0.63
3002545986	Camellia Federal Com 26 36 21 #104H	Wolfcamp	Permitted	32.019682	-103.272139	New	0.63
3002545987	Camellia Federal Com 26 36 21 #114H	Wolfcamp	Permitted	32.019682	-103.272074	New	0.63
3002527207	Lea 21, 7406 Jv-S #004Y	Tan-Yates-7Riv-Qu	Active	32.024212	-103.266846	3550	0.63
3002545988	Camellia Federal Com 26 36 21 #124H	Wolfcamp	Permitted	32.019682	-103.272010	New	0.64
3002525930	Lea 7406 Jv-S #008	Tan-Yates-7Riv-Qu	Plugged	32.019013	-103.273239	3270	0.65
3002527000	Lea 21, 7406 Jv-S #001	Tan-Yates-7Riv-Qu	Active	32.034195	-103.267921	3668	0.67
3002509847	Maralo Sv 16 State #006	No Data	Plugged	32.037827	-103.276459	11492	0.68
3002526806	Maralo 16 State #006Y	Tan-Yates-7Riv	Plugged	32.037827	-103.276131	3800	0.68
3002526816	Pre-Ongard Well #003	Tan-Yates-7Riv	Plugged	32.037827	-103.280716	3700	0.72
3002538885	Eagle Feather Federal #002	Strawn	Active	32.034195	-103.266792	13179	0.72
3002526751	Maralo 16 State #007	Tan-Yates-7Riv	Plugged	32.037827	-103.272194	3800	0.73
3002544522	Wildhog Bwx State Com #003H	Wolfcamp	Permitted	32.035066	-103.286054	New	0.73
3002525920	Pre-Ongard Well #007	Tan-Yates-7Riv-Qu	Plugged	32.016953	-103.277496	3270	0.76
3002527042	Lea 21, 7406 Jv-S #007	Tan-Yates-7Riv-Qu	Active	32.026936	-103.263649	3525	0.77
3002527041	Lea 21, 7406 Jv-S #006	Tan-Yates-7Riv-Qu	Active	32.030563	-103.263657	3495	0.78
3002527043	Lea 21, 7406 Jv-S #008	Tan-Yates-7Riv-Qu	Active	32.023304	-103.263649	3570	0.83
3002526805	Maralo 16 State #010	Tan-Yates-7Riv	Active	32.037823	-103.267921	3800	0.85
3002527031	Lea 21, 7406 Jv-S #005	Tan-Yates-7Riv-Qu	Active	32.034195	-103.263657	3660	0.87
3002542733	Wildhog Bwx State Com #001H	Bone S., Wolf.	Active	32.035472	-103.289214	12517	0.90
3002525909	Lea 7406 Jv-S #006	Tan-Yates-7Riv-Qu	Plugged	32.015141	-103.273232	3250	0.91
3002526753	Maralo 16 State #009	Tan-Yates-7Riv	Plugged	32.041454	-103.276459	3800	0.93
3002526815	Pre-Ongard Well #002	Tan-Yates-7Riv	Plugged	32.041454	-103.280724	3700	0.96
3002526752	Maralo 16 State #008	Tan-Yates-7Riv	Plugged	32.041454	-103.272202	3750	0.96
3002540170	Good Chief State #001	Tan-Yates-7Riv-Qu	Plugged	32.020584	-103.262581	3873	0.97
3002525841	Pre-Ongard Well #002	No Data	Plugged	32.015148	-103.268967	284	0.99

There are 13 wells within two miles of the proposed AGI well that penetrate the anticipated injection interval (Table 10). Of these wells, one is a plugged dry hole (Sand Hills Unit #3) drilled to a total depth of 5,500 feet and located approximately 1.75 miles north-northwest of the Salt Creek facility and proposed AGI. Though the total depth of this well lies within the proposed injection interval for Salt Creek AGI #1, it is located significantly farther away than the model-derived radius of the Salt Creek injection plume (0.15 miles) after 30 years of injection. The Sand Hills Unit #3 well was plugged in August 1957.

The remaining wells that penetrate the proposed injection zone are completed at depths greater than 11,400 feet with completions in the Lower Bone Springs, Wolfcamp, Strawn, and Devonian pools and are located greater than 0.5 miles from the proposed AGI location. Additionally, these intervals of past and current production are isolated from the proposed Salt Creek AGI #1 injection zone by a minimum of 1,300 feet of low permeability lithologies.

**Table 10. Wells located within two miles of Salt Creek AGI #X that penetrate the proposed injection interval**

API #	Well Name	Pool	Status	Lat	Long	Total Depth (ft)	Mi. from AGI
3002544104	Azalea 26 36 28 State #111H	Wolfcamp	Active	32.020883	-103.277752	11966	0.50
3002544229	Azalea 26 36 28 State #121Y	Wolfcamp	Active	32.020883	-103.277816	12434	0.50
3002544112	Wildhog BWX State Com #2H	Wolfcamp	Active	32.035344	-103.281892	12008	0.59
3002509847	Maralo SV 16 State #6	-	Plugged	32.037826	-103.276459	11492	0.68
3002538885	Eagle Feather Federal #2	Strawn	Active	32.034195	-103.266792	13179	0.72
3002542733	Wildhog BWX State Com #1H	Bone S., Wolf.	Active	32.035472	-103.289214	12517	0.90
3002523197	South Lea Federal #1	Devonian, Strawn	Plugged	32.041458	-103.289215	21252	1.18
3002526557	Pawnee Deep Unit #1	Bone S., Strawn	Plugged	32.031467	-103.254074	18577	1.35
3002544111	Prizehog BWZ State Com #2H	Wolfcamp	Active	32.033841	-103.298897	12366	1.36
3002509843	Sand Hills Unit #3	Wildcat	Plugged	32.052341	-103.284996	5500	1.75
3002525354	Horse Back #1	Wildcat	Plugged	32.003052	-103.267899	21750	1.79
3002542744	Prizehog BWZ State Com #1H	Bone S., Wolf.	Active	32.035096	-103.307377	12778	1.87
3002524719	Dogie Draw Federal #1	Wildcat	Plugged	32.055969	-103.285004	20971	1.99

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

Geolex contracted with Elkhorn Land and Title of Roswell, New Mexico to research land records in Lea County, New Mexico 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 search.

Table B-1 summarizes the surface owners, Table B-2 identifies the Operators, and Table B-3 lists working interest owners in the one-mile area of review. Table B-4 includes a list of all persons that must be notified at least 20 days prior to the NMOCC hearing. Figure B-1 shows the location of the surface owners, and Figure B-2 shows the operators and working interest owners.

Appendix B also includes a copy of the notice letter text that will be provided to the required parties. Individual notices will be sent and copies of the individual Notice Letters and Certified Mail Receipts, and Copies of the newspaper notice and affidavit of publication, will be provided to the Commission after the receipt of a Case Number and a date for the hearing.

## **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 Salt Creek Midstream well has been performed. The investigation included the analysis of available geologic data and hydrogeologic data from wells and literature identified in Section 3, 4, and 5 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 Sections 4 and 5 of this application.

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

Alberto A. Gutierrez, R.G.  
President  
Geolex®, Inc.

 Date: 8/15/19

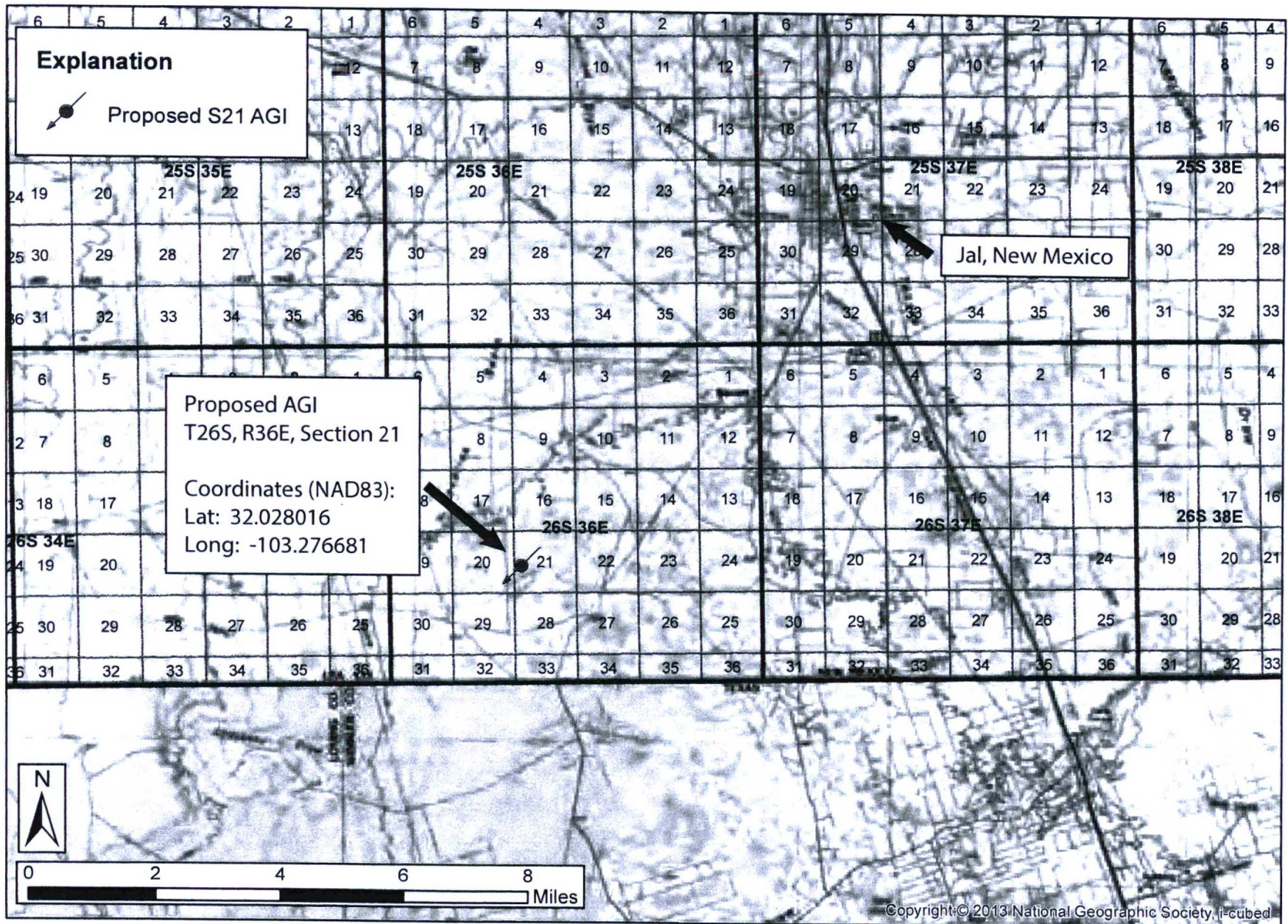


Figure 1 General location map for proposed well in Section 21 (T26S, R36E)

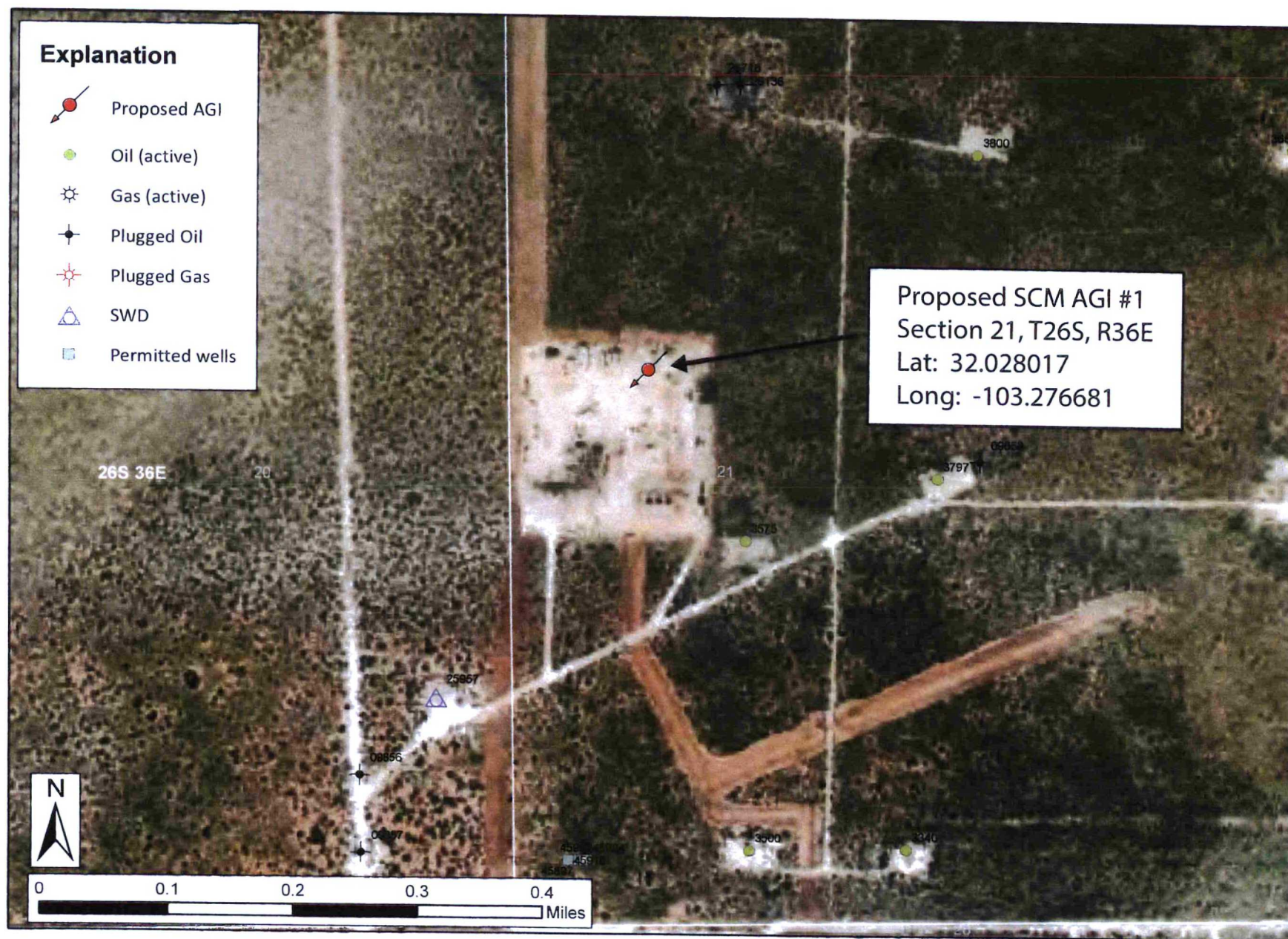


Figure 2. Detailed location map showing the anticipated SCM AGI #1 at the Section 21 Salt Creek Midstream gas-processing facility

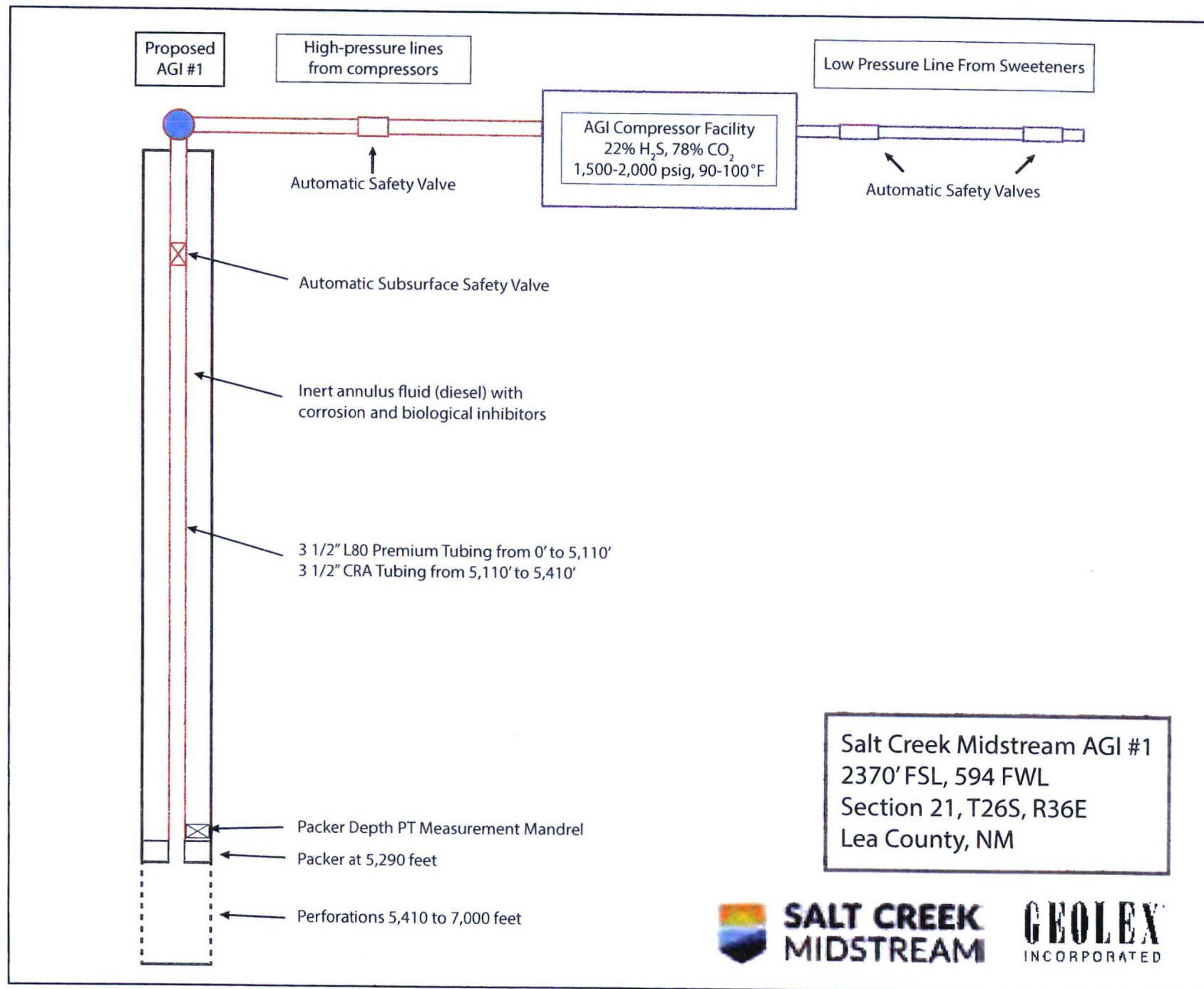
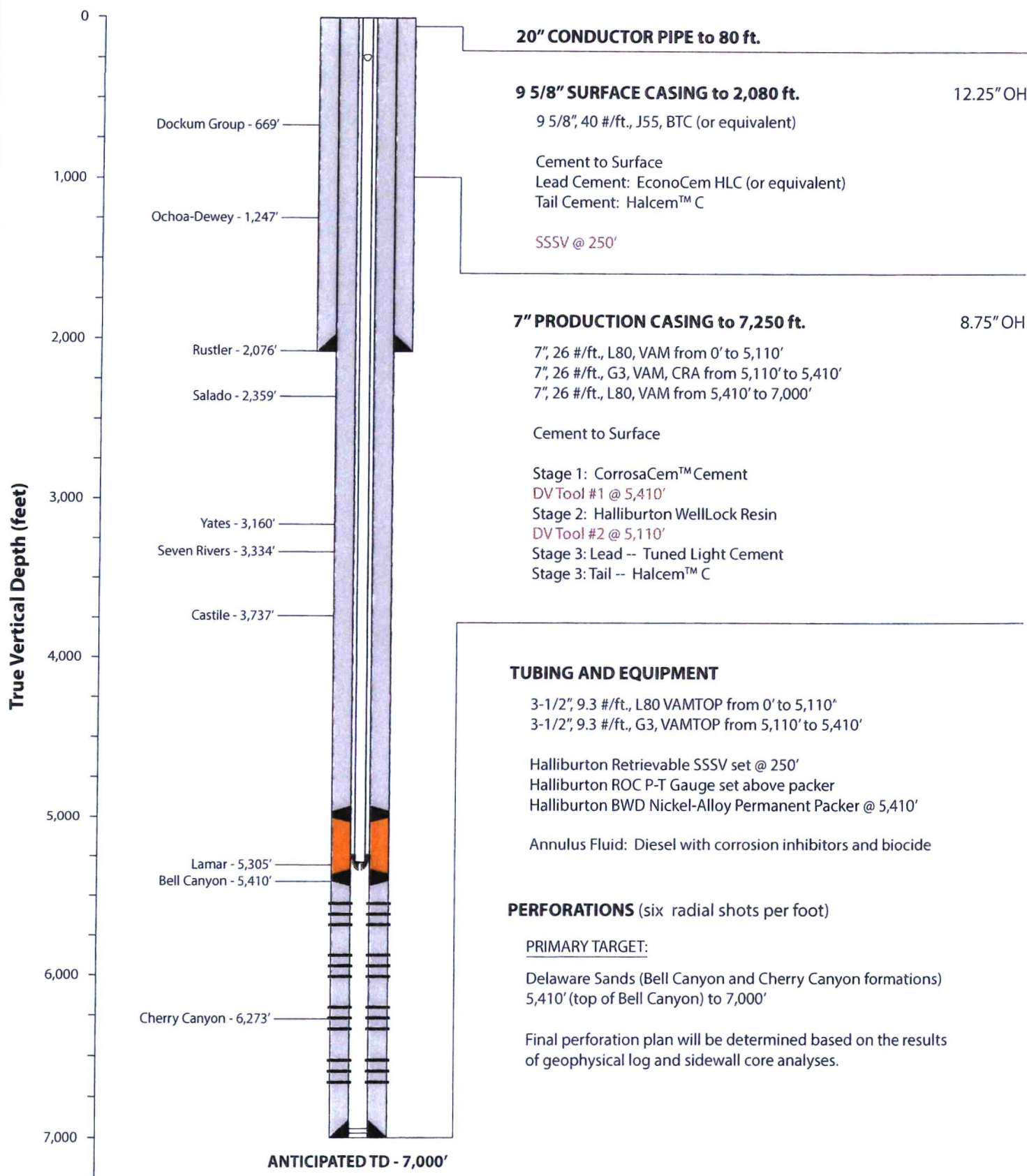


Figure 3. Schematic of surface facilities and proposed Salt Creek AGI #1



\*All depths are approximate and subject to change based off of the geology encountered

Date prepared: 04/16/2019

Figure 4. Proposed Salt Creek AGI #1 Well Schematic

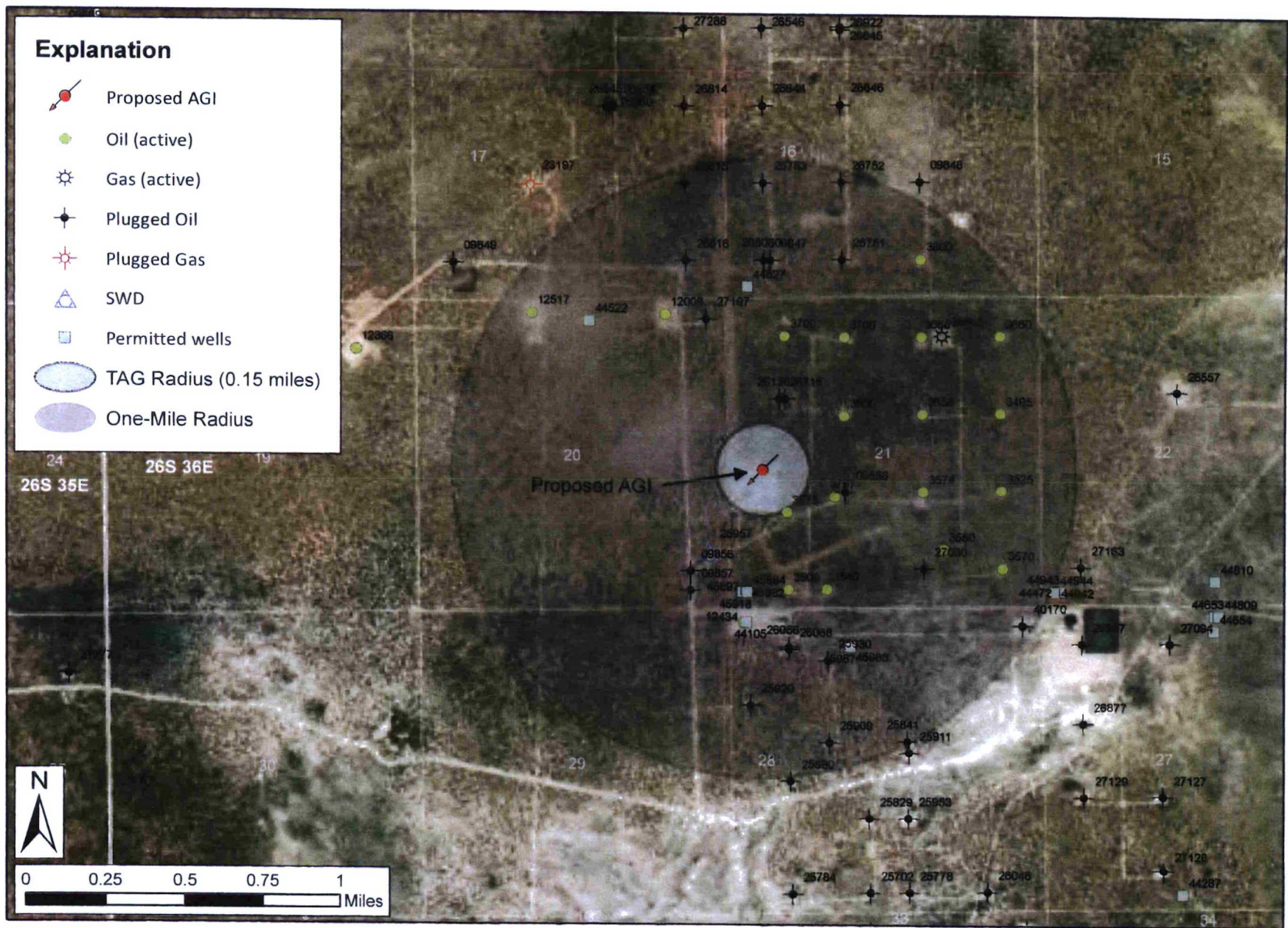


Figure 5. Calculated radius of TAG plume after 30 years of operation at 8 MMSCF per day. Wells labeled by the final five numbers of their API that begins with 30-025-xxxxx.

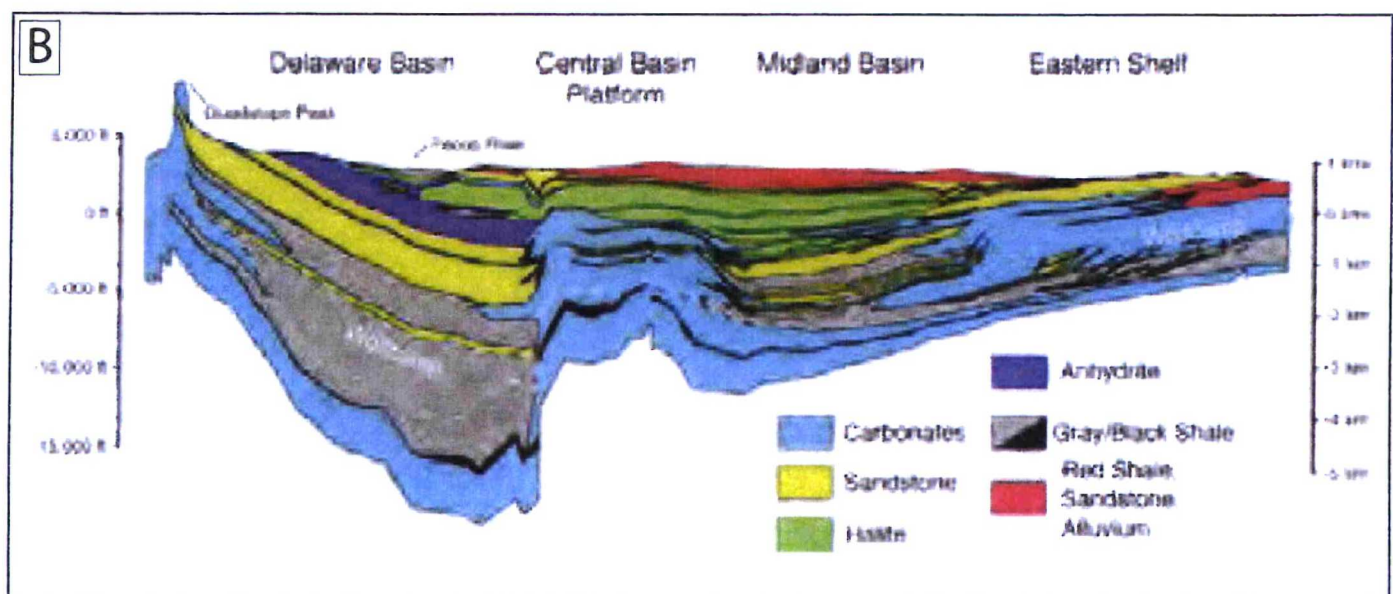
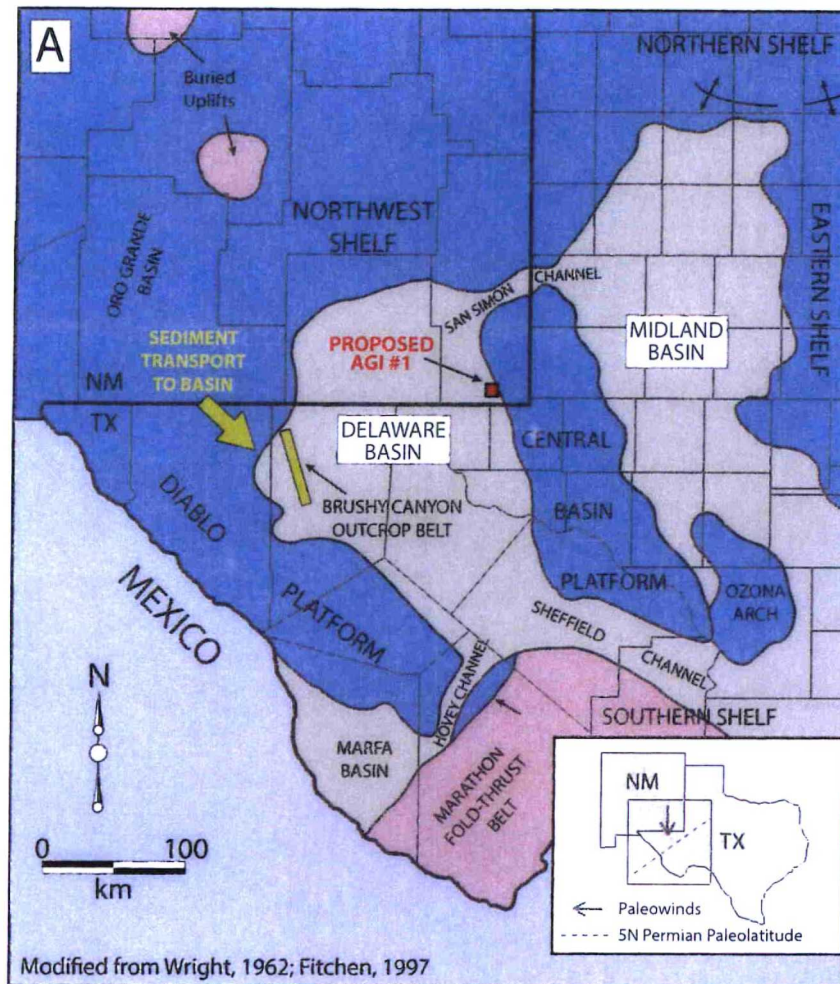


Figure 6. Structural setting (panel A) and general lithologies (panel B) of the Permian Basin

# Generalized stratigraphic correlation chart for the Permian Basin region

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

Figure 7. General stratigraphy and producing zones (red stars) in the immediate area of SCM AGI #1  
Source: Yang and Dorobek (1995)

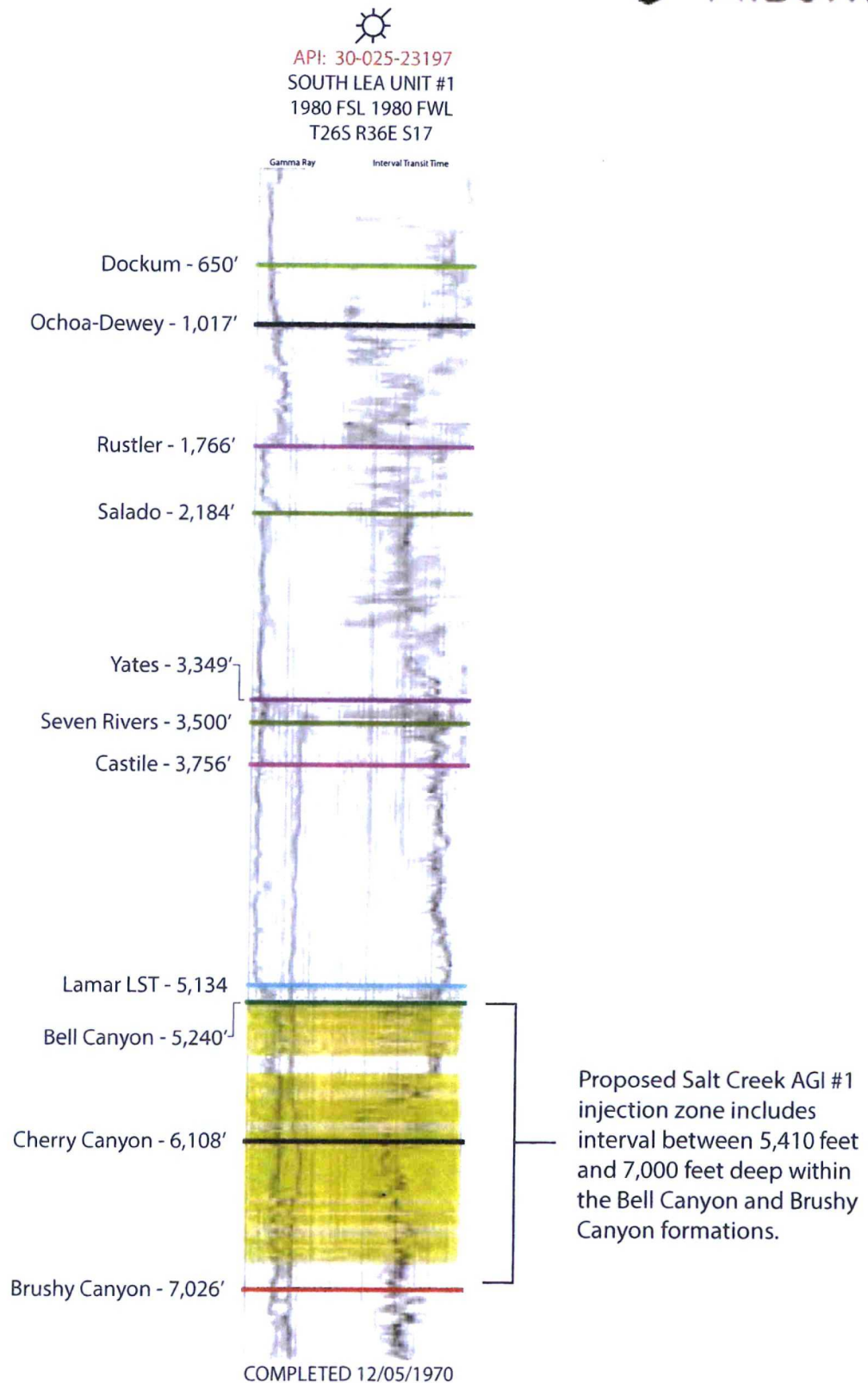


Figure 8. Type log of nearby well showing the anticipated formations underlying the proposed Salt Creek AGI #1. Intervals of interpreted porosity greater than 12% are highlighted. Overlying the proposed injection zone are approximately 1,500 feet of low-porosity evaporites of the Castile Formation and tight shelf-transitional facies carbonates and shales.

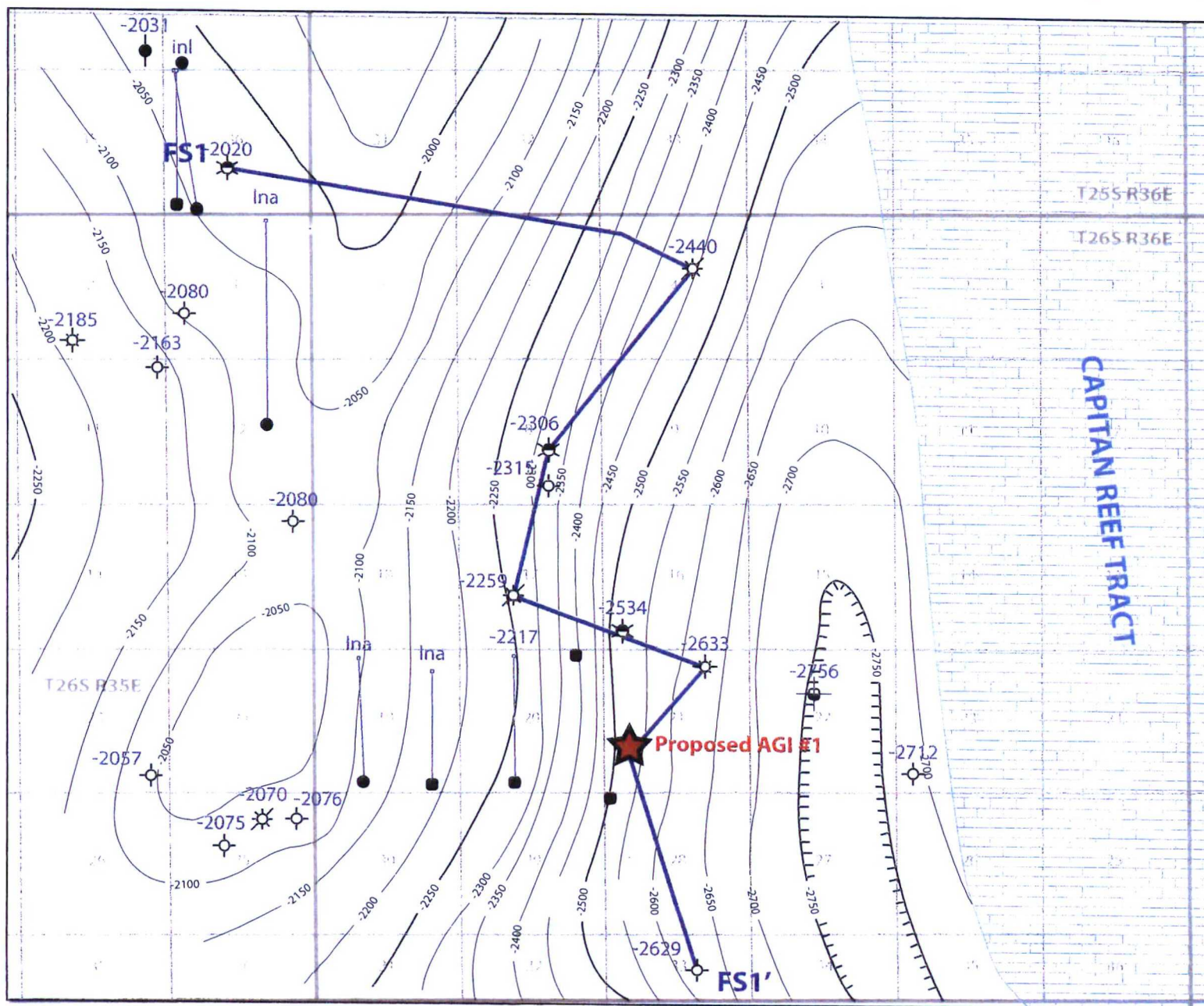


Figure 9. Structure contour map showing the top of the Bell Canyon (top of proposed injection zone). The Bell Canyon dips east sharply into the marginal trough at the toe of the Central Basin Platform. Delaware Mountain units grade to shelf facies (Capitan Reef, Queen, Grayburg, and San Andres) toward the platform.

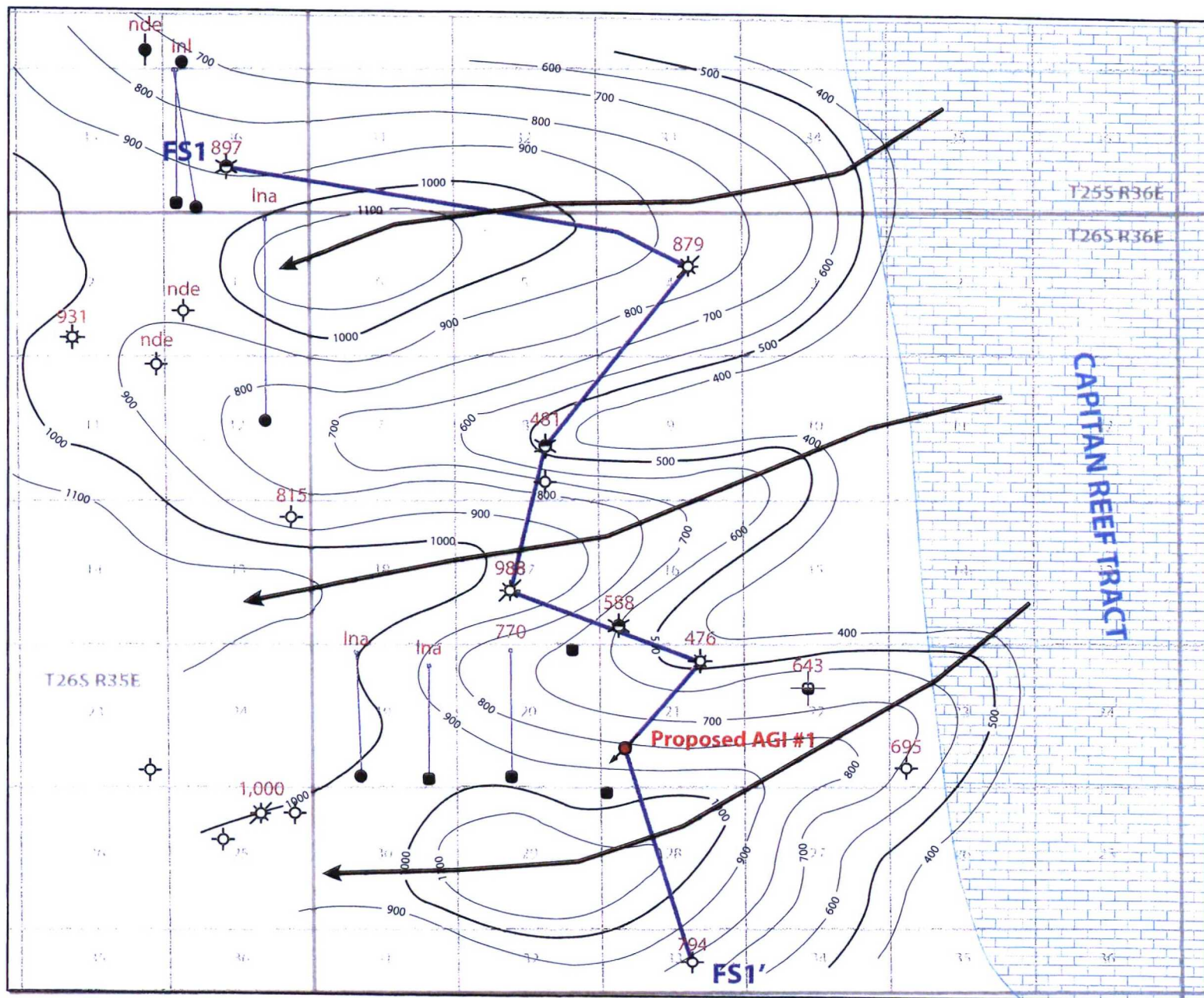


Figure 10. Isopach map showing observed thickness of the Delaware injection zone from nearby well dta. These data define three depositional fairways where thick packages of Delaware sands are deposited. The proposed AGI overlies the northernmost depositional package. (Ina = log not available, Inl = Interval not loaded)

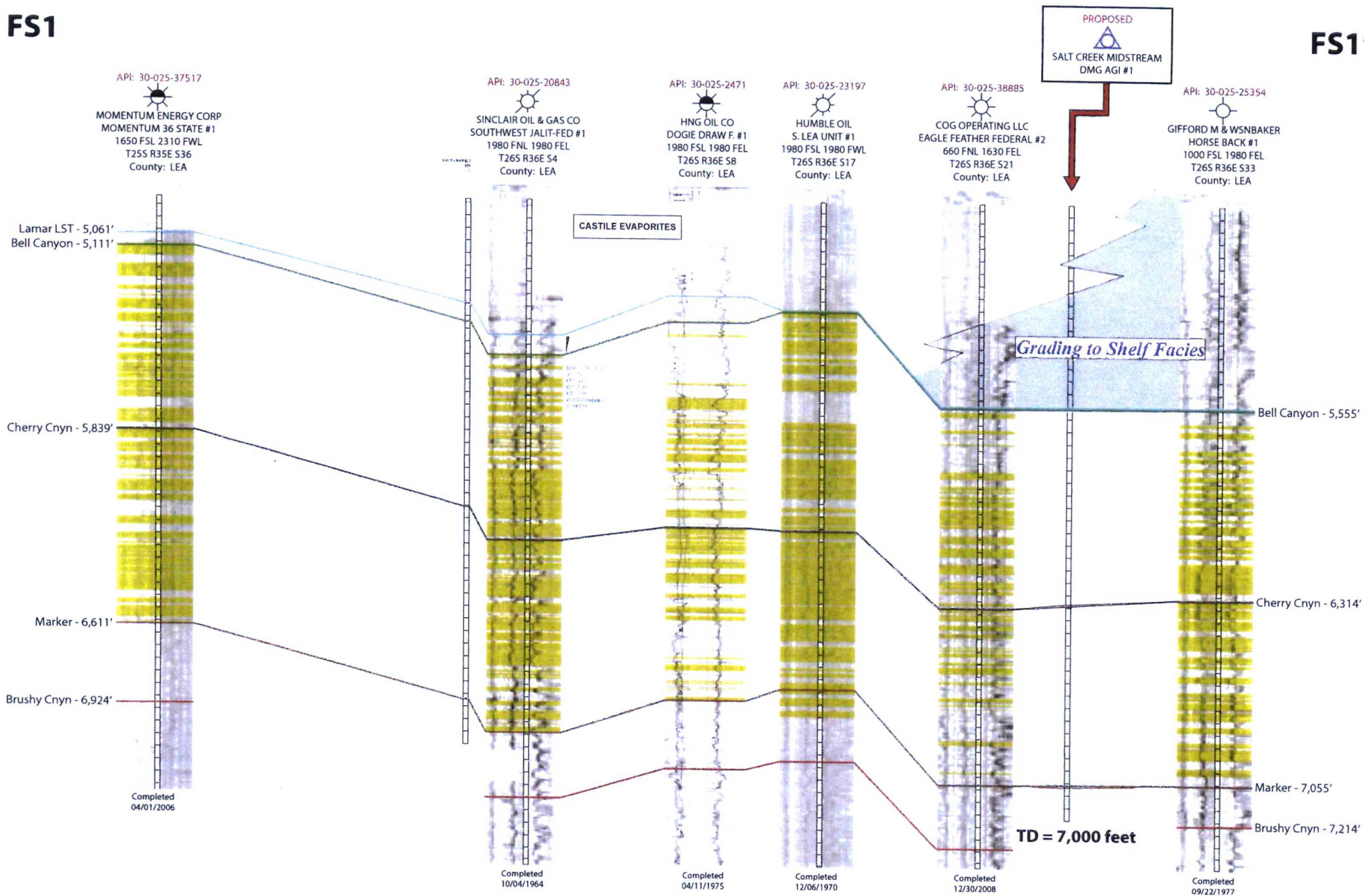


Figure 11. Cross section FS1-FS1' showing porosity profile within the proposed injection interval. Yellow shading indicates sandstones of the Delaware Group with porosity of 12% or greater.

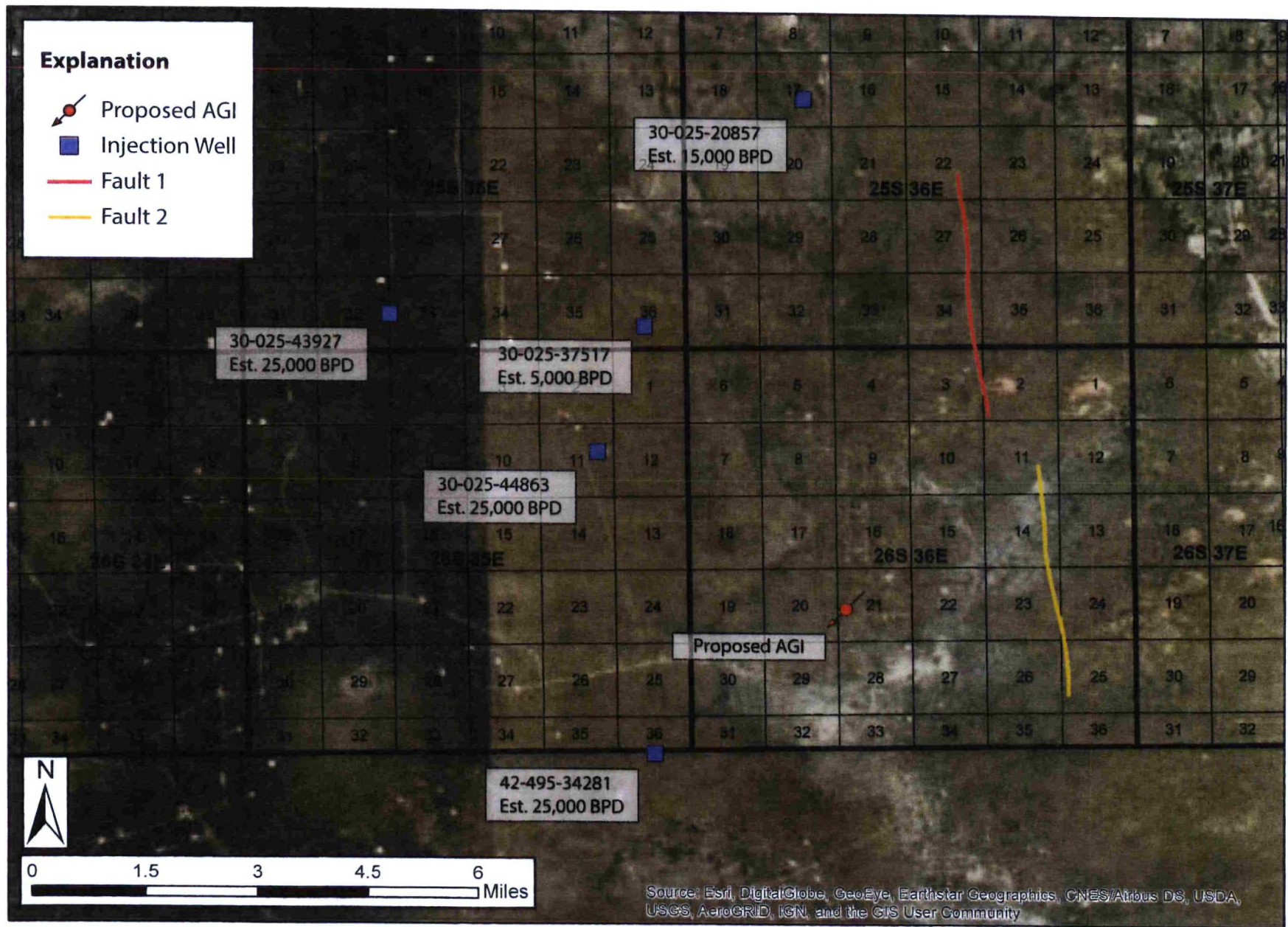
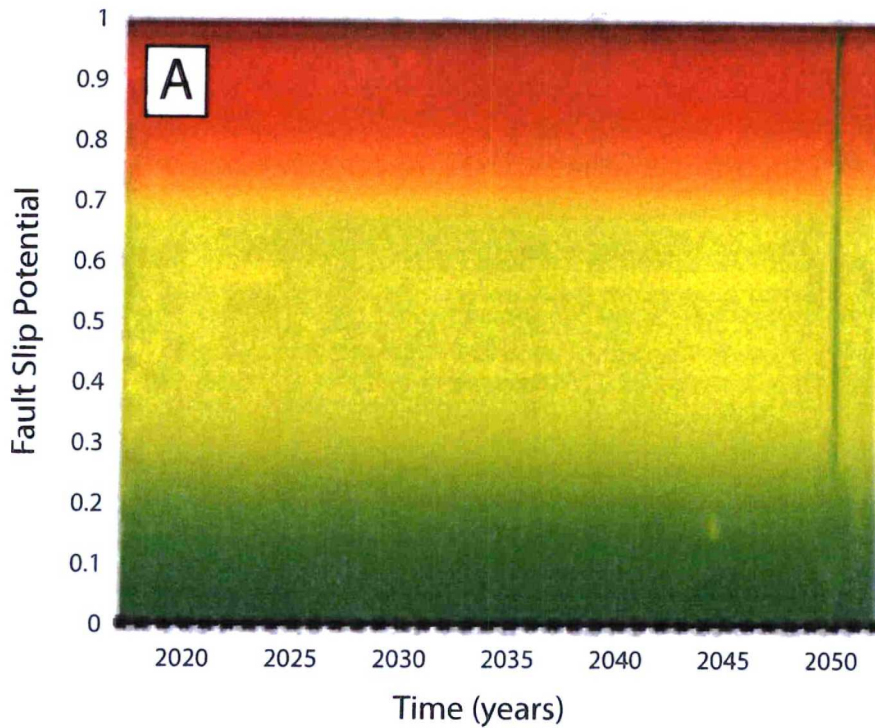


Figure 12. Injection wells and Delaware Mountain Group subsurface features in the vicinity of the proposed Salt Creek AGI #1

### Fault Slip Potential over 30-year injection period



### Resultant pressure front after 30 years of injection

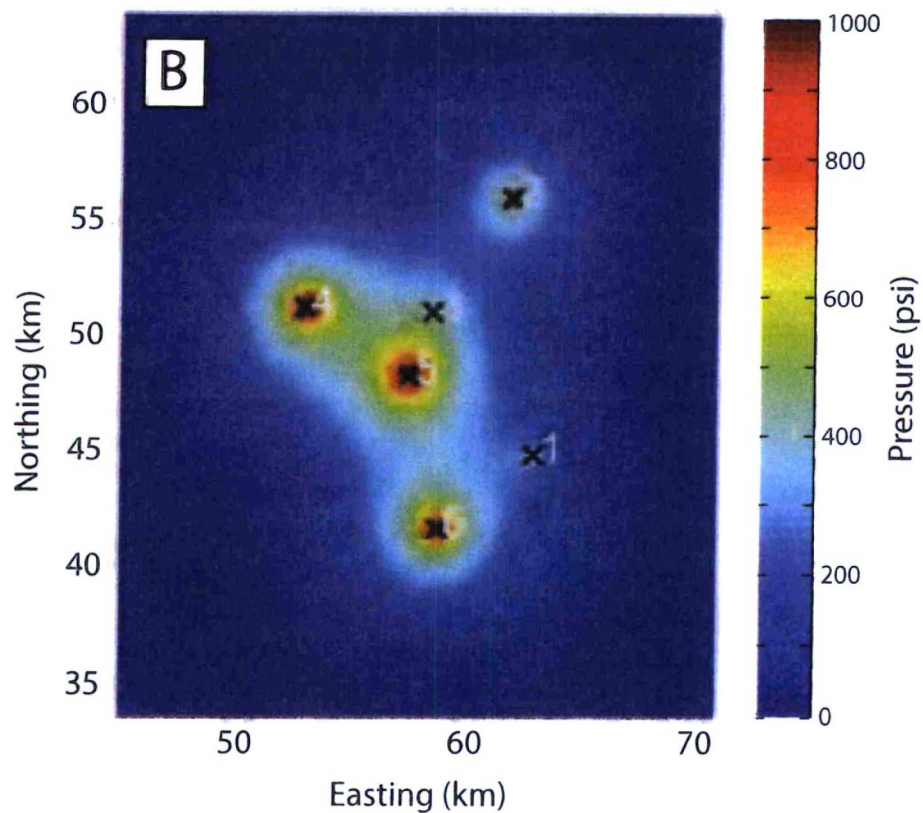


Figure 13. Model-predicted Fault Slip Potential over 30 years (panel A) and resultant pressure front at year 2050 (panel B). Injection well #1 represents proposed AGI and is predicted to have a minimal influence on regional reservoir pressure conditions.

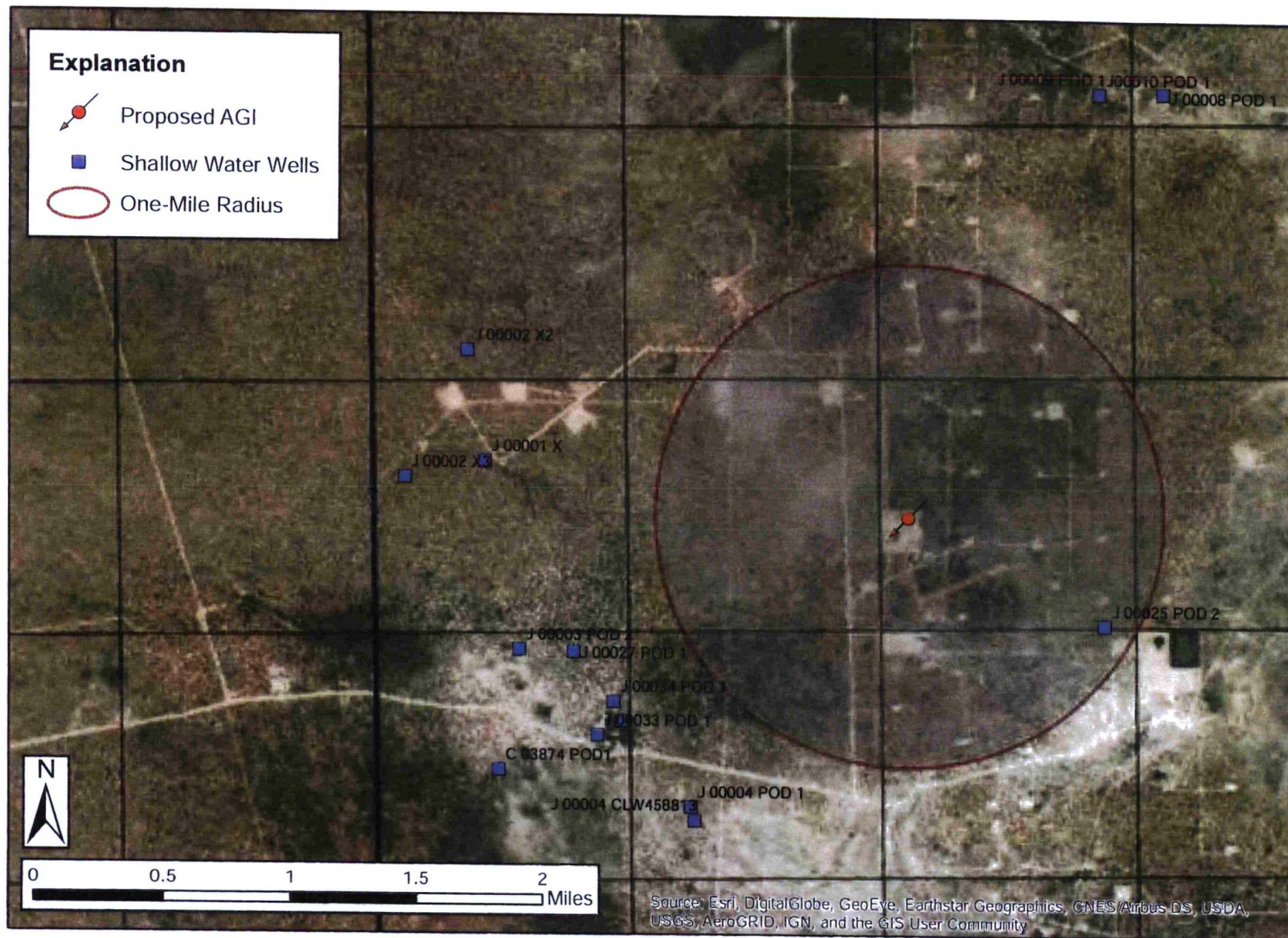


Figure 14. Water wells in the vicinity of the proposed Salt Creek AGI #1. All water wells within a two-mile radius of the proposed AGI are included.

# APPENDIX A

Information on Oil and Gas wells within one and two miles of the proposed Salt Creek AGI #1 and plugging data for plugged wells within one mile

Table A-1: Wells within one mile of the proposed Salt Creek AGI #1

Table A-2: Wells within two miles of the proposed Salt Creek AGI #1

Figure A-1: All wells located within a one-mile radius of the proposed Salt Creek AGI #1

Figure A-2: All wells located within a two-mile radius of the proposed Salt Creek AGI #1

**TABLE A-1. WELLS WITHIN ONE MILE OF THE PROPOSED SALT CREEK AGI #1**

API	Well Name	Operator	Spud Year	Plug Date	Status	Lat. (NAD83)	Long. (NAD83)	TD (ft.)	Miles from AGI
3002526134	Wilson 21 Federal #004	Fulfer Oil & Cattle, LLC	9999		Active	32.026024	-103.275375	3575	0.16
3002526136	Lowe Estate #1	Cayman Corp	1969	1969	Plugged	32.031338	-103.275383	1682	0.24
3002526718	Wilson 21 Federal 6Y	HNG Oil Company	1980	1986	Plugged	32.031338	-103.275703	3750	0.24
3002526133	Wilson 21 Federal #003	Fulfer Oil & Cattle, LLC	9999		Active	32.026741	-103.272759	3797	0.25
3002509858	Federal #1	Roy H Smith Drilling	1962	1962	Plugged	32.026932	-103.272179	3940	0.27
3002525957	Lea 20 #001	Chance Properties Co.	1978		Active	32.024212	-103.279633	3420	0.31
3002526135	Wilson 21 Federal #005	Fulfer Oil & Cattle, LLC	9999		Active	32.030514	-103.272186	3800	0.31
3002526132	Wilson 21 Federal #002	Fulfer Oil & Cattle, LLC	9999		Active	32.022396	-103.275368	3500	0.39
3002545837	Camellia Federal Com 26 36 21 #111H	Ameredev Operating, LLC	9999		New	32.022296	-103.277785	-	0.40
3002545897	Camellia Federal Com 26 36 21 #121H	Ameredev Operating, LLC	9999		New	32.022296	-103.277721	-	0.40
3002545918	Camellia Federal Com 26 36 21 #101H	Ameredev Operating, LLC	9999		New	32.022295	-103.277850	-	0.40
3002545982	Camellia Federal Com 26 36 21 #081H	Ameredev Operating, LLC	9999		New	32.022296	-103.277656	-	0.40
3002545984	Camellia Federal Com 26 36 21 #091H	Ameredev Operating, LLC	9999		New	32.022296	-103.277592	-	0.40
3002509856	Sand Hills Unit #6	Cities Service Oil Co.	1959	1960	Plugged	32.023304	-103.280693	1247	0.40
3002526131	Wilson 21 Federal #001	Fulfer Oil & Cattle, LLC	9999		Active	32.022396	-103.273239	3340	0.44
3002526138	Wilson 21 Federal #008	Fulfer Oil & Cattle, LLC	9999		Active	32.034279	-103.275383	3700	0.44
3002509857	Sand Hills Unit #6A	Cities Service Oil Co.	1959	1960	Plugged	32.022400	-103.280693	3349	0.45
3002544105	Azalea 26 36 28 State #121H	Ameredev Operating, LLC	9999		New	32.020883	-103.277688	-	0.50
3002526137	Wilson 21 Federal #007	Fulfer Oil & Cattle, LLC	9999		Active	32.034195	-103.272125	3700	0.50
3002544104	Azalea 26 36 28 State #111H	Ameredev Operating, LLC	2017		Active	32.020883	-103.277753	11966	0.50
3002544229	Azalea 26 36 28 State #121Y	Ameredev Operating, LLC	2017		Active	32.020883	-103.277817	12434	0.50
3002527197	Lea 20 7426 Jv-S #002	BTA Oil Producers	9999		Plugged	32.035107	-103.279648	3670	0.52
3002527029	Lea 21, 7406 Jv-S #003	Fulfer Oil & Cattle, LLC	2010		Active	32.026932	-103.267914	3574	0.52
3002527028	Lea 21, 7406 Jv-S #002	Fulfer Oil & Cattle, LLC	9999		Active	32.030567	-103.267914	3658	0.54
3002526056	Lea 7406 JV-S #9	BTA Oil Producers	1978	1978	Plugged	32.019676	-103.275368	1406	0.58
3002526068	Lea 7406 Jv-S #009Y	BTA Oil Producers	9999		Plugged	32.019566	-103.275368	3270	0.59
3002544527	Camellia 26 36 16 State Com #101H	Ameredev Operating, LLC	9999		New	32.036612	-103.277374	-	0.59
3002544112	Wildhog Bwx State Com #002H	Impetro Operating LLC	2018		Active	32.035344	-103.281892	12008	0.59
3002527030	Lea 21 7406 JV-S	BTA Oil Producers	1980	1980	Plugged	32.023304	-103.267906	1060	0.61
3002545983	Camellia Federal Com 26 36 21 #083H	Ameredev Operating, LLC	9999		New	32.019681	-103.272268	-	0.63
3002545985	Camellia Federal Com 26 36 21 #093H	Ameredev Operating, LLC	9999		New	32.019681	-103.272203	-	0.63
3002545986	Camellia Federal Com 26 36 21 #104H	Ameredev Operating, LLC	9999		New	32.019682	-103.272139	-	0.63
3002545987	Camellia Federal Com 26 36 21 #114H	Ameredev Operating, LLC	9999		New	32.019682	-103.272074	-	0.63
3002527207	Lea 21, 7406 Jv-S #004Y	Fulfer Oil & Cattle, LLC	1981		Active	32.024212	-103.266846	3550	0.63
3002545988	Camellia Federal Com 26 36 21 #124H	Ameredev Operating, LLC	9999		New	32.019682	-103.272010	-	0.64
3002525930	Lea 7406 Jv-S #008	BTA Oil Producers	9999		Plugged	32.019013	-103.273239	3270	0.65
3002527000	Lea 21, 7406 Jv-S #001	Fulfer Oil & Cattle, LLC	1980		Active	32.034195	-103.267921	3668	0.67
3002509847	Maralo Sv 16 State #006	Maralo, LLC	1900		Plugged	32.037827	-103.276459	11492	0.68
3002526806	Maralo 16 State #006Y	RMR Operating, LLC	9999		Plugged	32.037827	-103.276131	3800	0.68
3002526816	Wilson 17 Federal	HNG Oil Company	1900	1982	Plugged	32.037827	-103.280716	3700	0.72
3002538885	Eagle Feather Federal #002	Ameredev Operating, LLC	2008		Active	32.034195	-103.266792	13179	0.72
3002526751	Maralo 16 State #007	Draco Energy, Inc.	9999		Plugged	32.037827	-103.272194	3800	0.73
3002544522	Wildhog Bwx State Com #003H	Impetro Operating LLC	9999		New	32.035066	-103.286054	-	0.73
3002525920	Lea 7406 JV-S #7	BTA Oil Producers	1978	1984	Plugged	32.016953	-103.277496	3270	0.76
3002527042	Lea 21, 7406 Jv-S #007	Fulfer Oil & Cattle, LLC	9999		Active	32.026936	-103.263649	3525	0.77
3002527041	Lea 21, 7406 Jv-S #006	Fulfer Oil & Cattle, LLC	1980		Active	32.030563	-103.263657	3495	0.78
3002527043	Lea 21, 7406 Jv-S #008	Fulfer Oil & Cattle, LLC	9999		Active	32.023304	-103.263649	3570	0.83
3002526805	Maralo 16 State #010	RMR OPERATING, LLC	9999		Active	32.037823	-103.267921	3800	0.85
3002527031	Lea 21, 7406 Jv-S #005	Fulfer Oil & Cattle, LLC	9999		Active	32.034195	-103.263657	3660	0.87
3002542733	Wildhog Bwx State Com #001H	Impetro Operating LLC	2015		Active	32.035472	-103.289214	12517	0.90
3002525909	Lea 7406 Jv-S #006	BTA Oil Producers	9999		Plugged	32.015141	-103.273232	3250	0.91
3002526753	Maralo 16 State #009	RMR Operating, LLC	9999		Plugged	32.041454	-103.276459	3800	0.93
3002526815	Wilson 17 Federal #2	HNG Oil Company	1980	1982	Plugged	32.041454	-103.280724	3700	0.96
3002526752	Maralo 16 State #008	RMR Operating, LLC	9999		Plugged	32.041454	-103.272202	3750	0.96
3002540170	Good Chief State #001	RMR Operating, LLC	2011		Plugged	32.020584	-103.262581	3873	0.97
3002525841	Quanah Parker #2	Gifford, Mitchell & Wisenbaker	1978	1978	Plugged	32.015148	-103.268967	284	0.99

TABLE A-2. WELLS WITHIN TWO MILES OF THE PROPOSED SALT CREEK AGI #1

API	Well Name	Operator	Spud Year	Plug Date	Well Type	Status	Lat. (NAD83)	Long. (NAD83)	Total Depth (ft.)	Miles from AGI
3002526134	Wilson 21 Federal #004	Fulfer Oil & Cattle, LLC	9999		Oil	Active	32.026024	-103.275375	3575	0.16
3002526136	Lowe Estate #1	Cayman Corp	1969	1969	Oil	Plugged	32.031338	-103.275383	1682	0.24
3002526718	Wilson 21 Federal 6Y	HNG Oil Company	1980	1986	Oil	Plugged	32.031338	-103.275703	3750	0.24
3002526133	Wilson 21 Federal #003	Fulfer Oil & Cattle, LLC	9999		Oil	Active	32.026741	-103.272759	3797	0.25
3002509858	Federal #1	Roy H Smith Drilling	1962	1962	Oil	Plugged	32.026932	-103.272179	3940	0.27
3002525957	Lea 20 #001	Chance Properties Co	1978		SWD	Active	32.024212	-103.279633	3420	0.31
3002526135	Wilson 21 Federal #005	Fulfer Oil & Cattle, LLC	9999		Oil	Active	32.030514	-103.272186	3800	0.31
3002526132	Wilson 21 Federal #002	Fulfer Oil & Cattle, LLC	9999		Oil	Active	32.022396	-103.275368	3500	0.39
3002545837	Camellia Federal Com 26 36 21 #111H	Amerdev Operating, LLC	9999		Oil	New	32.022296	-103.277785	-	0.40
3002545897	Camellia Federal Com 26 36 21 #121H	Amerdev Operating, LLC	9999		Oil	New	32.022296	-103.277721	-	0.40
3002545918	Camellia Federal Com 26 36 21 #101H	Amerdev Operating, LLC	9999		Oil	New	32.022295	-103.277850	-	0.40
3002545982	Camellia Federal Com 26 36 21 #081H	Amerdev Operating, LLC	9999		Oil	New	32.022296	-103.277656	-	0.40
3002545984	Camellia Federal Com 26 36 21 #091H	Amerdev Operating, LLC	9999		Oil	New	32.022296	-103.277592	-	0.40
3002509856	Sand Hills Unit #6	Cities Service Oil Co	1959	1960	Oil	Plugged	32.023304	-103.280693	1247	0.40
3002526131	Wilson 21 Federal #001	Fulfer Oil & Cattle, LLC	9999		Oil	Active	32.022396	-103.273239	3340	0.44
3002526138	Wilson 21 Federal #008	Fulfer Oil & Cattle, LLC	9999		Oil	Active	32.034279	-103.275383	3700	0.44
3002509857	Sand Hills Unit #6A	Cities Service Oil Co	1959	1960	Oil	Plugged	32.022400	-103.280693	3349	0.45
3002544105	Azalea 26 36 28 State #121H	Amerdev Operating, LLC	9999		Oil	New	32.020883	-103.277688	-	0.50
3002526137	Wilson 21 Federal #007	Fulfer Oil & Cattle, LLC	9999		Oil	Active	32.034195	-103.272125	3700	0.50
3002544104	Azalea 26 36 28 State #111H	Amerdev Operating, LLC	2017		Oil	Active	32.020883	-103.277753	11966	0.50
3002544229	Azalea 26 36 28 State #121Y	Amerdev Operating, LLC	2017		Oil	Active	32.020883	-103.277817	12434	0.50
3002527197	Lea 20 7426 Jv-S #002	BTA Oil Producers	9999		Oil	Plugged	32.035107	-103.279648	3670	0.52
3002527029	Lea 21, 7406 Jv-S #003	Fulfer Oil & Cattle, LLC	2010		Oil	Active	32.026932	-103.267914	3574	0.52
3002527028	Lea 21, 7406 Jv-S #002	Fulfer Oil & Cattle, LLC	9999		Oil	Active	32.030567	-103.267914	3658	0.54
3002526056	Lea 7406 JV-S #9	BTA Oil Producers	1978	1978	Oil	Plugged	32.019676	-103.275368	1406	0.58
3002526068	Lea 7406 Jv-S #009Y	BTA Oil Producers	9999		Oil	Plugged	32.019566	-103.275368	3270	0.59
3002544527	Camellia 26 36 16 State Com #101H	Amerdev Operating, LLC	9999		Oil	New	32.036612	-103.277374	-	0.59
3002544112	Wildhog Bwx State Com #002H	Impetro Operating LLC	2018		Oil	Active	32.035344	-103.281892	12008	0.59
3002527030	Lea 21 7406 JV-S	BTA Oil Producers	1980	1980	Oil	Plugged	32.023304	-103.267906	1060	0.61
3002545983	Camellia Federal Com 26 36 21 #083H	Amerdev Operating, LLC	9999		Oil	New	32.019681	-103.272268	-	0.63
3002545985	Camellia Federal Com 26 36 21 #093H	Amerdev Operating, LLC	9999		Oil	New	32.019681	-103.272203	-	0.63
3002545986	Camellia Federal Com 26 36 21 #104H	Amerdev Operating, LLC	9999		Oil	New	32.019682	-103.272139	-	0.63
3002545987	Camellia Federal Com 26 36 21 #114H	Amerdev Operating, LLC	9999		Oil	New	32.019682	-103.272074	-	0.63
3002527207	Lea 21, 7406 Jv-S #004Y	Fulfer Oil & Cattle, LLC	1981		Oil	Active	32.024212	-103.266846	3550	0.63
3002545988	Camellia Federal Com 26 36 21 #124H	Amerdev Operating, LLC	9999		Oil	New	32.019682	-103.272010	-	0.64
3002525930	Lea 7406 Jv-S #008	BTA Oil Producers	9999		Oil	Plugged	32.019013	-103.273239	3270	0.65
3002527000	Lea 21, 7406 Jv-S #001	Fulfer Oil & Cattle, LLC	1980		Oil	Active	32.034195	-103.267921	3668	0.67
3002509847	Maralo Sv 16 State #006	Maralo, LLC	1900		Oil	Plugged	32.037827	-103.276459	11492	0.68
3002526806	Maralo 16 State #006Y	RMR Operating, LLC	9999		Oil	Plugged	32.037827	-103.276131	3800	0.68
3002526816	Wilson 17 Federal	HNG Oil Company	1900	1982	Oil	Plugged	32.037827	-103.280716	3700	0.72
3002538885	Eagle Feather Federal #002	Amerdev Operating, LLC	2008		Gas	Active	32.034195	-103.266792	13179	0.72
3002526751	Maralo 16 State #007	Draco Energy, Inc.	9999		Oil	Plugged	32.037827	-103.272194	3800	0.73
3002544522	Wildhog Bwx State Com #003H	Impetro Operating LLC	9999		Oil	New	32.035066	-103.286054	-	0.73
3002525920	Lea 7406 JV-S #7	BTA Oil Producers	1978	1984	Oil	Plugged	32.016953	-103.277496	3270	0.76
3002527042	Lea 21, 7406 Jv-S #007	Fulfer Oil & Cattle, LLC	9999		Oil	Active	32.026936	-103.263649	3525	0.77
3002527041	Lea 21, 7406 Jv-S #006	Fulfer Oil & Cattle, LLC	1980		Oil	Active	32.030563	-103.263657	3495	0.78
3002527043	Lea 21, 7406 Jv-S #008	Fulfer Oil & Cattle, LLC	9999		Oil	Active	32.023304	-103.263649	3570	0.83
3002526805	Maralo 16 State #010	RMR OPERATING, LLC	9999		Oil	Active	32.037823	-103.267921	3800	0.85
3002527031	Lea 21, 7406 Jv-S #005	Fulfer Oil & Cattle, LLC	9999		Oil	Active	32.034195	-103.263657	3660	0.87
3002542733	Wildhog Bwx State Com #001H	Impetro Operating LLC	2015		Oil	Active	32.035472	-103.289214	12517	0.90
3002525909	Lea 7406 Jv-S #006	BTA Oil Producers	9999		Oil	Plugged	32.015141	-103.273232	3250	0.91
3002526753	Maralo 16 State #009	RMR Operating, LLC	9999		Oil	Plugged	32.041454	-103.276459	3800	0.93
3002526815	Wilson 17 Federal #2	HNG Oil Company	1980	1982	Oil	Plugged	32.041454	-103.280724	3700	0.96
3002526752	Maralo 16 State #008	RMR Operating, LLC	9999		Oil	Plugged	32.041454	-103.272202	3750	0.96
3002540170	Good Chief State #001	RMR Operating, LLC	2011		Oil	Plugged	32.020584	-103.262581	3873	0.97
3002525841	Quanah Parker #2	Gifford, Mitchell & Wisenbaker	1978	1978	Oil	Plugged	32.015148	-103.268967	284	0.99
3002544944	Magnolia 26 36 22 State Com #121H	Amerdev Operating, LLC	9999		Oil	New	32.022165	-103.260865	-	1.01
3002525890	Lea 7406 JV-S #5	BTA Oil Producers	1978	1981	Oil	Plugged	32.013332	-103.275360	3266	1.01
3002544439	Magnolia 26 36 22 State Com #111H	Amerdev Operating, LLC	9999		Oil	New	32.022165	-103.260735	-	1.02
3002544472	Magnolia 26 36 22 State Com #101H	Amerdev Operating, LLC	9999		Oil	New	32.022165	-103.260671	-	1.02
3002544942	Amen Corner 26 36 27 State Com #121H	Amerdev Operating, LLC	9999		Oil	New	32.022166	-103.260800	-	1.02
3002525911	Quanah Parker #002Y	Whiting Oil and Gas Corp	9999		Oil	Plugged	32.014590	-103.268883	3258	1.03
3002544202	Amen Corner 26 36 27 State Com #111H	Amerdev Operating, LLC	9999		Oil	New	32.022165	-103.260606	-	1.03
3002544943	Amen Corner 26 36 27 State Com #091H	Amerdev Operating, LLC	9999		Oil	New	32.022165	-103.260542	-	1.03
3002509848	Maralo 16 State #005	Draco Energy, Inc.	9999		Oil	Plugged	32.041451	-103.267929	4149	1.06
3002527163	American Eagle #001	Whiting Oil and Gas Corp	1981		Oil	Plugged	32.023304	-103.259392	3550	1.06
3002526987	Buffalo Hump #002	Whiting Oil and Gas Corp	9999		Oil	Plugged	32.019676	-103.259384	3545	1.17
3002525829	Lea 7406 Jv-S #004	BTA Oil Producers	9999		Oil	Plugged	32.011517	-103.271103	3268	1.18
3002526644	Maralo 16 State #002	RMR Operating, LLC	9999		Oil	Plugged	32.045086	-103.276466	3770	1.18
3002523197	South Lea Federal #001	Energen Resources Corp	1969		Gas	Plugged	32.041458	-103.289215	21252	1.18
3002509849	Sand Hills Unit #7	Cities Service Oil Co	1959	1960	Oil	Plugged	32.037827	-103.293465	3471	1.19
3002526646	Maralo 16 State #004	RMR Operating, LLC	1980		Oil	Plugged	32.045086	-103.272209	3780	1.20
3002526814	Wilson 17 Federal #1	HNG Oil Company	1980	1982	Oil	Plugged	32.045086	-103.280731	3800	1.20
3002525953	New Mexico Cv State #001	Whiting Oil and Gas Corp	1978		Oil	Plugged	32.011501	-103.268967	3239	1.22
3002526960	Pre-Ongard Well #004Y	Pre-Ongard Well Operator	1900		Oil	Plugged	32.045086	-103.284828	1331	1.27

3002526845	Wilson 17 Federal #4	HNG Oil Company	1980	1980	Oil	Plugged	32 045086	-103 284988	1950	1.27
3002526984	Wilson 17 Federal #42	HNG Oil Company	1980	1982	Oil	Plugged	32 045086	-103 284668	3603	1.27
3002526877	Buffalo Hump #001	Whiting Oil and Gas Corp	9999		Oil	Plugged	32 015911	-103 259384	3585	1.31
3002526557	Pawnee Deep Unit #001	Heritage Resources	1979		Oil	Plugged	32 031467	-103 254074	18577	1.35
3002544111	Prizehog Bwz State Com #002H	Impetro Operating LLC	2018		Oil	Active	32 033841	-103 298898	12366	1.36
3002525784	Lea 7406 JV-S #3	BTA Oil Producers	1978	1978	Oil	Plugged	32 007889	-103 275353	887	1.39
3002525702	Lea 7406 JV-S #002	BTA Oil Producers	9999		Oil	Plugged	32 007889	-103 271095	3349	1.42
3002527094	Buffalo Hump #3	R.R. Cagle	1980	1982	Oil	Plugged	32 019672	-103 254646	3608	1.42
3002526546	Maralo 16 State #001	RMR Operating, LLC	1979		Oil	Plugged	32 048714	-103 276474	3800	1.43
3002526922	Maralo 16 State #003Y	Draco Energy, Inc.	9999		Oil	Plugged	32 048576	-103 272209	3800	1.44
3002526645	Maralo Sv 16 State #003	Maralo, LLC	1900		Oil	Plugged	32 048714	-103 272209	1576	1.45
3002527288	Lea 17 7426 JV-S #1	BTA Oil Producers	1981	1981	Oil	Plugged	32 048714	-103 280731	2879	1.45
3002525778	Quanah Parker #001	Whiting Oil and Gas Corp	9999		Oil	Plugged	32 007889	-103 268959	-	1.46
3002527129	Buffalo Hump #008	Whiting Oil and Gas Corp	9999		Oil	Plugged	32 012425	-103 259384	3606	1.48
3002544810	Magnolia 26 36 22 State Com #125H	Ameredev Operating, LLC	2019		Oil	New	32 022621	-103 252118	-	1.49
3002544652	Amen Corner 26 36 27 State Com #125H	Ameredev Operating, LLC	9999		Oil	New	32 020974	-103 252087	-	1.52
3002544653	Magnolia 26 36 22 State Com #105H	Ameredev Operating, LLC	9999		Oil	New	32 020974	-103 252151	-	1.52
3002544651	Amen Corner 26 36 27 State Com #115H	Ameredev Operating, LLC	9999		Oil	New	32 020974	-103 252022	-	1.53
3002544654	Magnolia 26 36 22 State Com #115H	Ameredev Operating, LLC	9999		Oil	New	32 020274	-103 252216	-	1.53
3002544809	Amen Corner 26 36 27 State Com #105H	Ameredev Operating, LLC	9999		Oil	New	32 020974	-103 251958	-	1.53
3002525923	Horse Back #4	Gifford, Mitchell & Wisenbaker	1978	1978	Oil	Plugged	32 006077	-103 271095	748	1.55
3002526048	New Mexico Cv State #002	Whiting Oil and Gas Corp	9999		Oil	Plugged	32 007889	-103 264702	3400	1.55
3002525954	Horse Back #4Y	Gifford, Mitchell & Wisenbaker	1978	1979	Oil	Plugged	32 005936	-103 271095	749	1.56
3002544521	Prizehog Bwz State Com #003H	Impetro Operating LLC	9999		Oil	New	32 035308	-103 303062	-	1.63
3002525907	Horseback #003	Whiting Oil and Gas Corp	9999		Oil	Plugged	32 004921	-103 268738	3255	1.66
3002527127	Buffalo Hump #005	Whiting Oil and Gas Corp	9999		Oil	Plugged	32 012421	-103 255119	3554	1.66
3002526044	Horseback #007	Whiting Oil and Gas Corp	9999		Oil	Plugged	32 004261	-103 271095	-	1.67
3002526258	Wilson 9 Federal #2	HNG Oil Company	1979	1986	Oil	Plugged	32 052342	-103 276482	3800	1.68
3002526259	Wilson 9 Federal #3	HNG Oil Company	1980	1982	Oil	Plugged	32 052342	-103 272217	3684	1.70
3002540169	Big Brave State #001	RMR Operating, LLC	2011		Oil	Plugged	32 006077	-103 262573	999	1.72
3002509843	Sand Hills Unit #3	Sinclair Oil and Gas Co.	1957	1957	Oil	Plugged	32 052342	-103 284996	5500	1.75
3002526717	Wilson 9 Federal #6	HNG Oil Company	1980	1982	Oil	Plugged	32 052342	-103 267937	3650	1.75
3002526253	Wilson 8 Federal #7	HNG Oil Company	1980	1982	Oil	Plugged	32 052872	-103 284378	3700	1.77
3002525925	Horseback #006	Whiting Oil and Gas Corp	9999		Oil	Plugged	32 004261	-103 264702	-	1.78
3002525354	Pre-Ongard Well #001	Pre-Ongard Well Operator	1976	1977	Oil	Plugged	32 003052	-103 267899	21750	1.80
3002527128	Buffalo Hump #006	Whiting Oil and Gas Corp	9999		Oil	Plugged	32 008793	-103 255119	3564	1.83
3002525662	Horseback #002	Whiting Oil and Gas Corp	9999		Oil	Plugged	32 002228	-103 267899	-	1.85
3002526979	Iron Mountain #1	R.R. Cagle	1980	1982	Oil	Plugged	32 005169	-103 259377	3624	1.87
3002542744	Prizehog Bwz State Com #001H	Impetro Operating LLC	2015		Oil	Active	32 035096	-103 307378	12778	1.87
3002526254	Wilson 9 Federal #1	HNG Oil Company	1979	1982	Oil	Plugged	32 055969	-103 276482	3730	1.93
3002544287	Bosshog #001H	Impetro Operating LLC	9999		Oil	New	32 007694	-103 254116	-	1.93
3002526260	Wilson 9 Federal #4	HNG Oil Company	1980	1982	Oil	Plugged	32 055969	-103 272224	3700	1.94
3002526249	Wilson 8 Federal #3	HNG Oil Company	1979	1982	Oil	Plugged	32 055969	-103 280747	3795	1.94
3002509842	Sand Hills Unit #8	Cities Service Oil Co.	1900	1960	Oil	Plugged	32 053249	-103 292450	3348	1.97
3002525924	Horseback #005	Whiting Oil and Gas Corp	9999		Oil	Plugged	32 001209	-103 264710	-	1.98
3002524719	Dogie Draw Federal #1	HNG Oil Company	1900	1975	Oil	Plugged	32 055969	-103 285004	20971	1.99
3002526716	Wilson 9 Federal #5	HNG Oil Company	1980	1982	Oil	Plugged	32 055969	-103 267944	3700	1.99
3002526251	Wilson 8 Federal #5	HNG Oil Company	1980	1982	Oil	Plugged	32 056412	-103 284386	3700	2.00



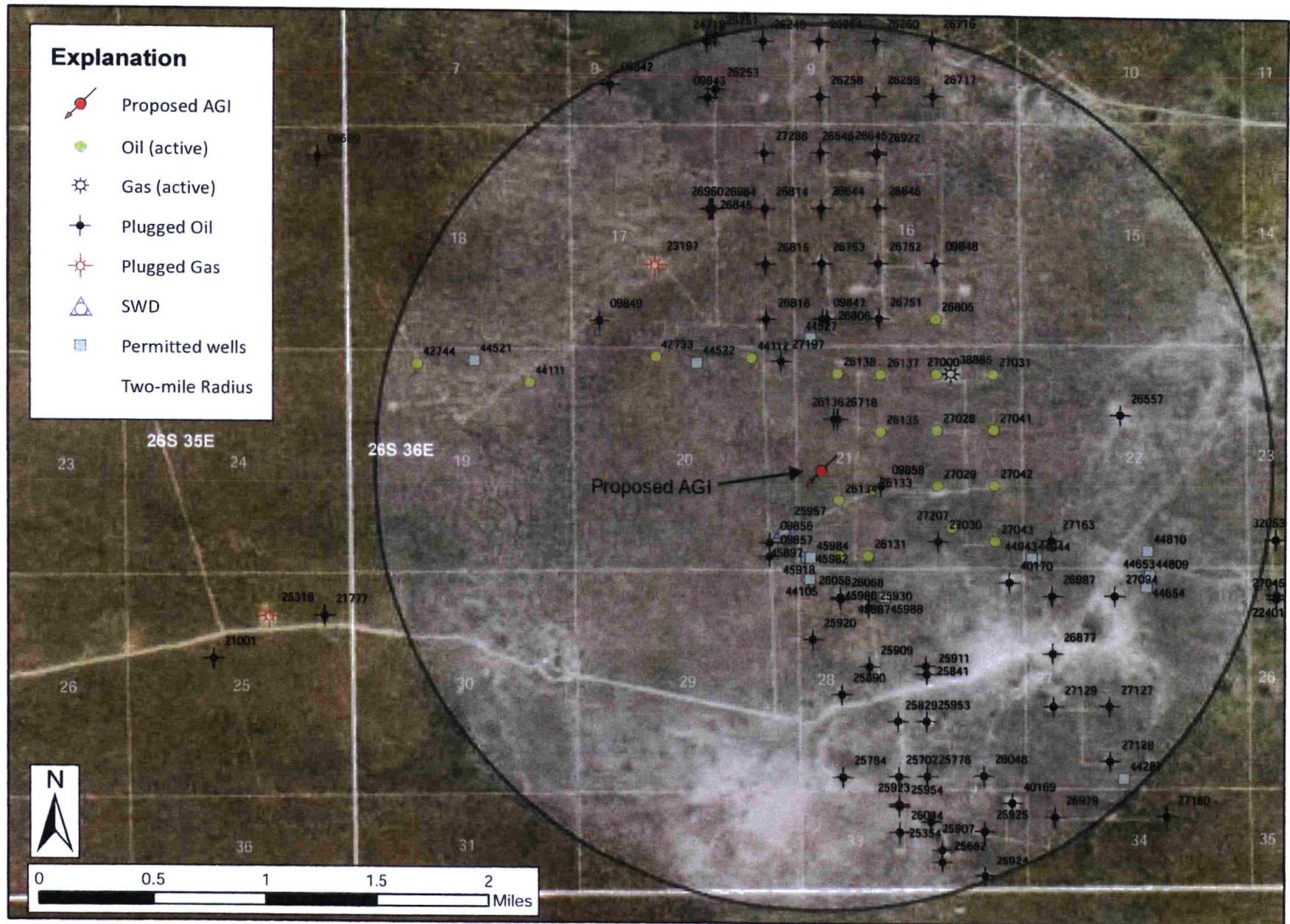


Figure A-2. All wells located within a two-mile radius of the proposed Salt Creek AGI #1. Wells are labeled with the final five numerals of their API 30-025-XXXXX.

## **APPENDIX B**

### **Identification of Operators, Surface Owners, Lessees, Working Interest Owners, and other Interested Parties for Notices, Copies of Notice Letters, and Certified Mail Receipts**

Table B-1:	Surface owners within a one-mile radius of the proposed Salt Creek AGI #1
Table B-2:	Operators within a one-mile radius of the proposed Salt Creek AGI #1
Table B-3:	Working interest owners and strangers-in-title within a one-mile radius of the proposed Salt Creek AGI #1
Table B-4:	Parties to be individually notified
Figure A-1:	Surface Owners within one mile of the proposed Salt Creek AGI #1
Figure A-2:	Operators within one mile of the proposed Salt Creek AGI #1
Attachment A:	Draft Notice Letter and Draft Public Notice
Attachment B:	Land Data Supplied by Elkhorn Land & Title, LLC

**TABLE B-1. SURFACE OWNERS WITHIN A ONE-MILE RADIUS OF THE PROPOSED SALT CREEK AGI #1**

PROPOSED SALT CREEK AGI #1  
T26S, R36E, SECTION 21

**Section 15, Township 26 South, Range 36 East**

State of New Mexico	SW/4 SW/4
P.O. Box 1148	
Santa Fe, NM 87504-1148	

**Section 16, Township 26 South, Range 36 East**

State of New Mexico	S/2
P.O. Box 1148	
Santa Fe, NM 87504-1148	

**Section 17, Township 26 South, Range 36 East**

Beckham Ranch, Inc.	SE/4
Box 1203	SE/4 SW/4
Jal, NM 88252	
(575) 395-3230	

**Section 20, Township 26 South, Range 36 East**

State of New Mexico	E/2
P.O. Box 1148	E/2 W/2
Santa Fe, NM 87504-1148	NW/4 SW/4
	SW/4 NW/4

**Section 21, Township 26 South, Range 36 East**

Beckham Ranch, Inc.	Section 21
Box 1203	
Jal, NM 88252	
(575) 395-3230	

**Section 22, Township 26 South, Range 36 East**

State of New Mexico	W/2 W/2
P.O. Box 1148	
Santa Fe, NM 87504-1148	

**Section 27, Township 26 South, Range 36 East**

Washington Crossing Field Services, LLC	NW/4 NW/4
5707 Southwest Pkwy., Suite 295	
Austin, TX 78735	

(737) 300-4700

**Section 28, Township 26 South, Range 36 East**

State of New Mexico  
P.O. Box 1148  
Santa Fe, NM 87504-1148

NE/4  
NW/4  
N/2 SW/4

**Section 29, Township 26 South, Range 36 East**

Beckham Ranch, Inc.  
Box 1203  
Jal, NM 88252  
(575) 395-3230

NE/4  
NE/4 NW/4

**TABLE B-2. OPERATORS WITHIN A ONE-MILE RADIUS OF THE PROPOSED SALT CREEK AGI #1**

PROPOSED SALT CREEK AGI #1  
T26S, R36E, SECTION 21

**Section 15, Township 26 South, Range 36 East**

Ameredev Operating, LLC 5707 Southwest Pkwy, Building 1 Suite 275 Austin, TX 78746 (737) 300-4723	SW/4 SW/4
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**Section 16, Township 26 South, Range 36 East**

RMR Operating, LLC 2515 McKinney Avenue, Suite 900 Dallas, TX 75201 (214) 871-0400	S/2
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**Section 17, Township 26 South, Range 36 East**

No Operator Identified	SE/4 SE/4 SW/4
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**Section 20, Township 26 South, Range 36 East**

Impetro Operating LLC 300 East Sonterra Boulevard Suite 1220 San Antonio, TX 78258 (210) 999-5400	E/2 E/2 W/2
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No Operator Identified	NW/4 SW/4 SW/4 NW/4
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**Section 21, Township 26 South, Range 36 East**

Ameredev Operating, LLC 5707 Southwest Pkwy, Building 1 Suite 275 Austin, TX 78746 (737) 300-4723	Section 21
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Fulfer Oil & Cattle LLC  
P.O. Box 1224  
Jal, NM 88252  
(505) 935-9970

**Section 22, Township 26 South, Range 36 East**

Ameredev Operating, LLC  
5707 Southwest Pkwy, Building 1  
Suite 275  
Austin, TX 78746  
(737) 300-4723

W/2 W/2

**Section 27, Township 26 South, Range 36 East**

Ameredev Operating, LLC  
5707 Southwest Pkwy, Building 1  
Suite 275  
Austin, TX 78746  
(737) 300-4723

NW/4 NW/4

**Section 28, Township 26 South, Range 36 East**

Ameredev Operating, LLC  
5707 Southwest Parkway  
Building 1, Suite 275  
Austin, TX 78735  
(737) 300-4700

NW/4  
N/2 SW/4

No Operator Identified

NE/4

**Section 29, Township 26 South, Range 36 East**

No Operator Identified

NE/4  
NE/4 NW/4

**TABLE B-3. WORKING INTEREST OWNERS AND STRANGERS-IN-TITLE WITHIN A ONE-MILE RADIUS OF THE PROPOSED SALT CREEK AGI #1**

PROPOSED SALT CREEK AGI #1  
T26S, R36E, SECTION 21

**Section 15, Township 26 South, Range 36 East**

None Identified

**Section 16, Township 26 South, Range 36 East**

*Working Interest Owners:*

S/2

Ameredev New Mexico, LLC  
5707 Southwest Parkway  
Building 1, Suite 275  
Austin, TX 78735  
(737) 300-4700

RMR Operating, LLC  
2515 McKinney Avenue  
Suite 900  
Dallas, TX 75201  
(214) 871-0400

Marathon Oil Permian, LLC  
5555 San Felipe Street  
Houston, TX 77056  
(713) 296-2500

Black Rock Capital Inc.  
2515 McKinney Avenue  
Suite 900  
Dallas, TX 75201  
Phone Number Unknown

*Strangers in Title:*

SSW Petro, LLC  
300 Tamal Plaza  
Corte Madera, CA 94920  
Phone Number Unknown

E.G.L. Resources, Inc.  
223 West Wall Street  
Suite 900  
Midland, TX 79701  
(432) 687-6560

**Section 17, Township 26 South, Range 36 East**

None Identified

**Section 20, Township 26 South, Range 36 East**

*Working Interest Owners:*

NW/4 SW/4  
SW/4 NW/4

Lilis Energy Inc.  
1800 Bering Drive  
Suite 5101  
Houston, TX 77057  
(210) 999-5400

**Section 21, Township 26 South, Range 36 East**

None Identified

**Section 22, Township 26 South, Range 36 East**

None Identified

**Section 27, Township 26 South, Range 36 East**

None Identified

**Section 28, Township 26 South, Range 36 East**

*Working Interest Owners:*

NE/4  
NW/4  
N/2 SW/4

Ameredev New Mexico, LLC  
5707 Southwest Parkway  
Building 1, Suite 275  
Austin, TX 78735  
(737) 300-4700

**Section 29, Township 26 South, Range 36 East**

*Working Interest Owners:*

NE/4  
NE/4 NW/4

Ameredev New Mexico, LLC  
5707 Southwest Parkway  
Building 1, Suite 275  
Austin, TX 78735  
(737) 300-4700

**TABLE B-4: PARTIES TO BE INDIVIDUALLY NOTIFIED**

**Surface Owners:**

Beckham Ranch, Inc.  
Box 1203  
Jal, NM 88252  
(575) 395-3230

State of New Mexico  
P.O. Box 1148  
Santa Fe, NM 87504-1148

Washington Crossing Field Services, LLC  
5707 Southwest Pkwy., Suite 295  
Austin, TX 78735

**Operators:**

Ameredev Operating, LLC  
5707 Southwest Pkwy, Building 1  
Suite 275  
Austin, TX 78746  
(737) 300-4723

Fulfer Oil & Cattle LLC  
P.O. Box 1224  
Jal, NM 88252  
(505) 935-9970

Impetro Operating LLC  
300 East Sonterra Boulevard  
Suite 1220  
San Antonio, TX 78258  
(210) 999-5400

RMR Operating, LLC  
2515 McKinney Avenue, Suite 900  
Dallas, TX 75201  
(214) 871-0400

**Additional Interested Parties (Working Interest Owners, Strangers in title, other):**

Black Rock Capital Inc.  
2515 McKinney Avenue  
Suite 900  
Dallas, TX 75201  
Phone Number Unknown

Bureau of Land Management  
301 Dinosaur Trail  
Santa Fe, New Mexico 87508

E.G.L. Resources, Inc.  
223 West Wall Street  
Suite 900  
Midland, TX 79701  
(432) 687-6560

Lilis Energy Inc.  
1800 Bering Drive  
Suite 5101  
Houston, TX 77057  
(210) 999-5400

Marathon Oil Permian, LLC  
5555 San Felipe Street  
Houston, TX 77056  
(713) 296-2500

SSW Petro, LLC  
300 Tamal Plaza  
Corte Madera, CA 94920  
Phone Number Unknown

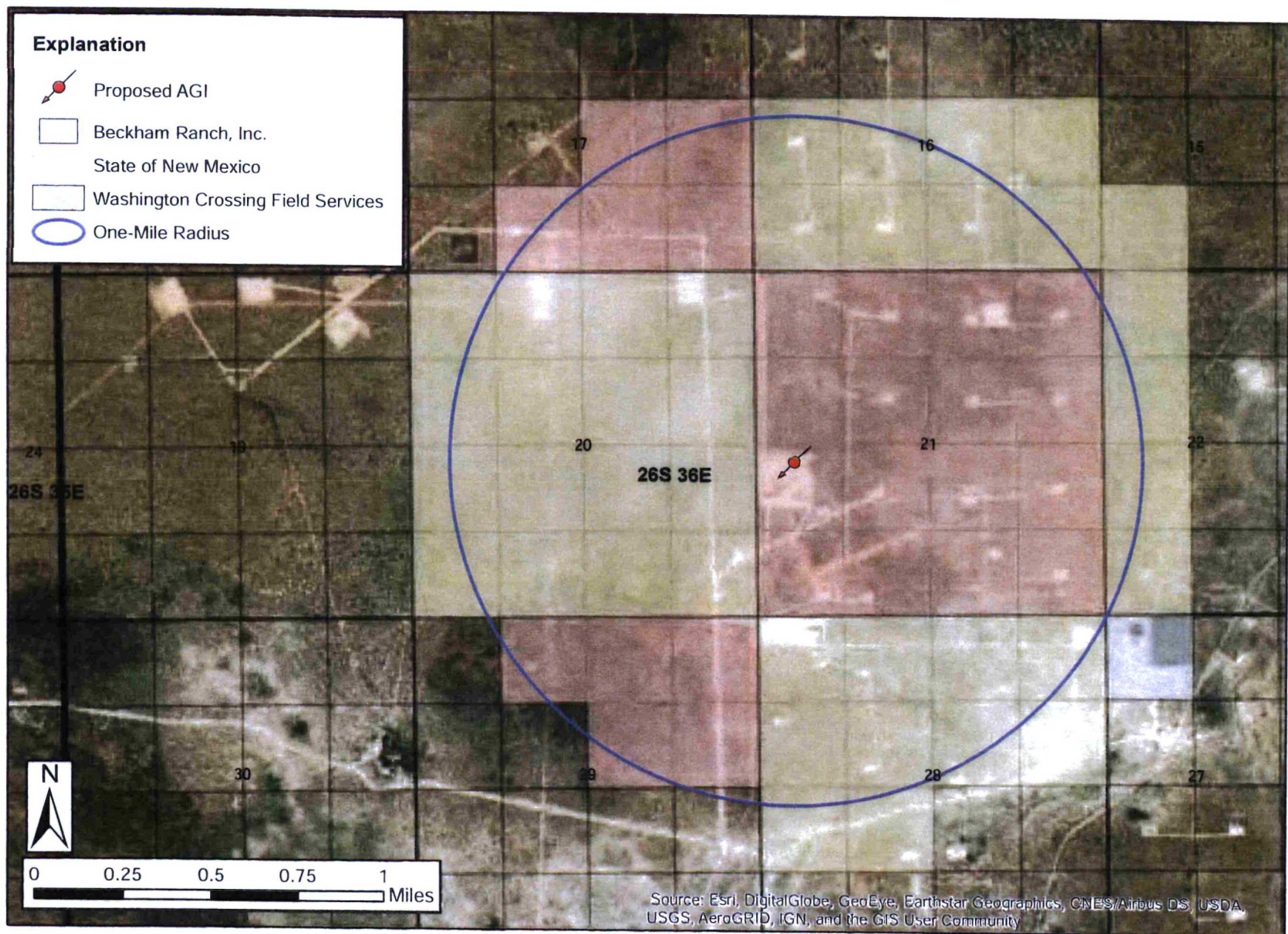


Figure B-1. Surface Ownership within one-mile of the proposed Salt Creek AGI #1

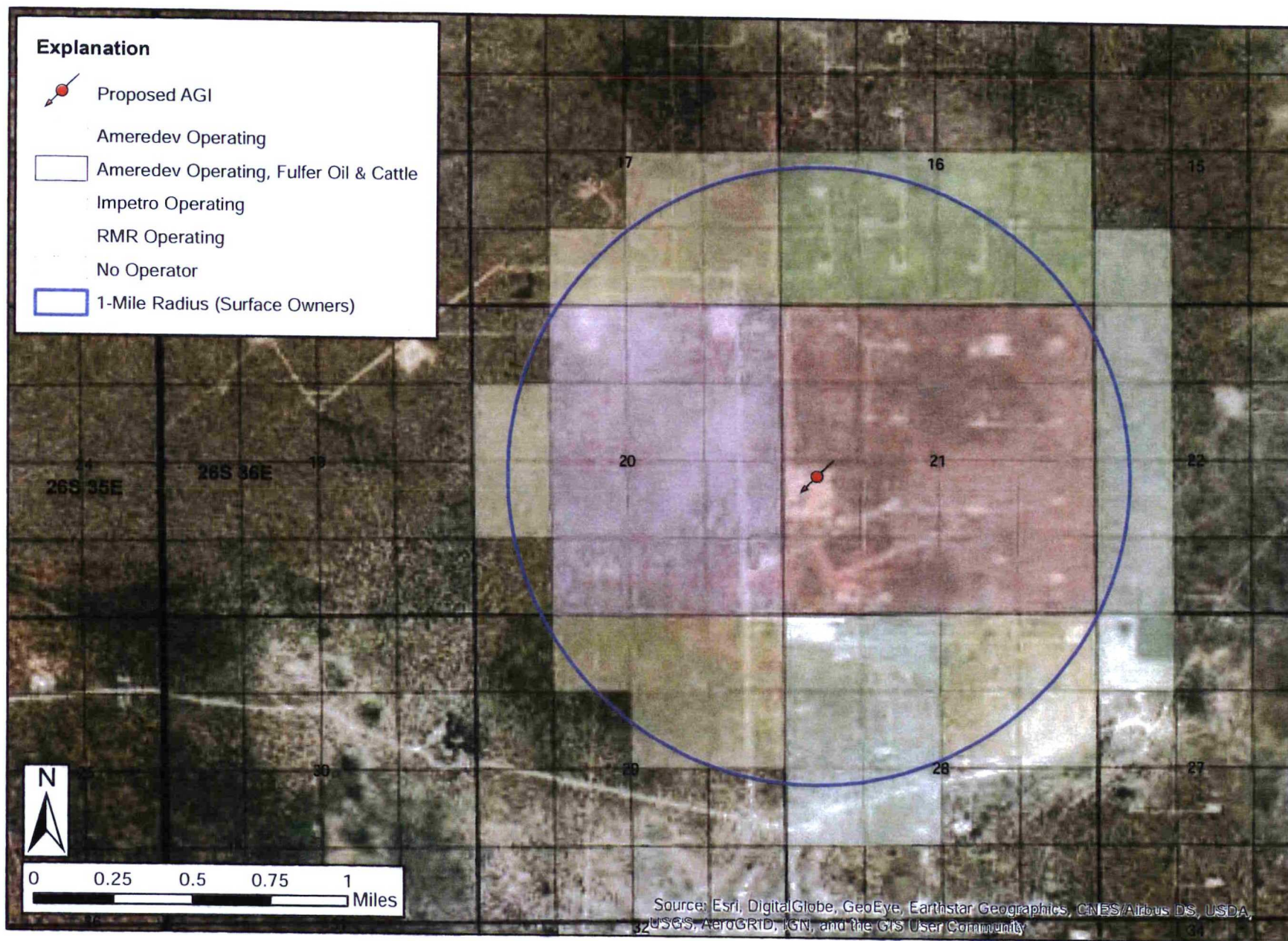


Figure B-2. Operators within one-mile of the proposed Salt Creek AGI #1

## ATTACHMENT A – SAMPLE NOTICE LETTER

August 4, 2019

Example Notice Letter  
Party to be notified  
Address

VIA CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

RE: CASE NUMBER XXXXX: SALT CREEK MIDSTREAM, LLC PROPOSED SALT CREEK AGI #1

This letter is to advise you that Salt Creek Midstream, LLC (Salt Creek) filed the enclosed C-108 application on XX/XX/2019, with the New Mexico Oil Conservation Commission seeking authorization to drill an Acid Gas Injection (AGI) well at their gas processing facility (the “Plant”) in Lea County, New Mexico. The AGI well will be a vertical well, located at 594’ FWL, 2,370’ FSL in Section 21, T26S, R36E. Salt Creek plans to inject up to 8 million standard cubic feet (MMSCF) per day of treated acid gas from the Plant at a maximum pressure of 2,149 psig into the Bell Canyon and Cherry Canyon formations, approximately 5,410 feet to 7,000 feet below the surface. The proposed wells will serve as a disposal well for acid gas at this plant.

This application (Case Number XXXXX) has been set for hearing before the New Mexico Oil Conservation Commission at XX:XX am on XX, 2019, in Wendell Chino Building at the New Mexico Oil Conservation Division’s Santa Fe office located at 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505. You are not required to attend this hearing, but as an owner of an interest that may be affected by Salt Creek’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 days in advance of a scheduled hearing, but in no event not later than 5:00 p.m. Mountain Time on the 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, or to obtain an entire copy of the C-108, you may contact Mr. Alberto Gutierrez at Geolex®, Inc.; 500 Marquette Avenue NW, Suite 1350; Albuquerque, New Mexico 87102.

Sincerely,  
Geolex®, Inc.

Alberto A. Gutierrez, C.P.G.  
President  
Consultant to Salt Creek Midstream

Enclosure: C-108 Application for Authority to Inject

**ATTACHMENT A**  
**SAMPLE PUBLIC NOTICE FOR HEARING**

Salt Creek Midstream LLC (Salt Creek) filed an application on XX/XX/2019, with the New Mexico Oil Conservation Commission seeking authorization to drill, complete and operate an Acid Gas Injection (AGI) well at their gas processing facility (the "Plant") in Lea County, New Mexico. The AGI well will be a vertical well, located at 594' FWL, 2,370' FSL in Section 21, T26S, R36E. Salt Creek plans to inject up to 8 million standard cubic feet (MMSCF) per day of treated acid gas from the Plant at a maximum pressure of 2,149 psig into the Bell Canyon and Cherry Canyon formations, approximately 5,410 feet to 7,000 feet below the surface. The proposed well will serve as a disposal well for acid gas at this plant.

This application (Case Number XXXXXX) has been set for hearing before the New Mexico Oil Conservation Commission at XX:XX am on XX, 2019, in Wendell Chino Building at the New Mexico Oil Conservation Division's Santa Fe office located at 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505. You are not required to attend this hearing, but as an owner of an interest that may be affected by Salt Creek's application, you may appear and present testimony. In order to present technical testimony at this hearing, a notice of intent to present technical testimony is due at the NMOCC offices seven (7) calendar days prior to the hearing date. Failure to appear at the hearing and become a party of record will preclude you from challenging the application at a later date.