



**GEOLEX**  
INCORPORATED

# C-108 Application for Authority to Inject

## DCP Midstream LP

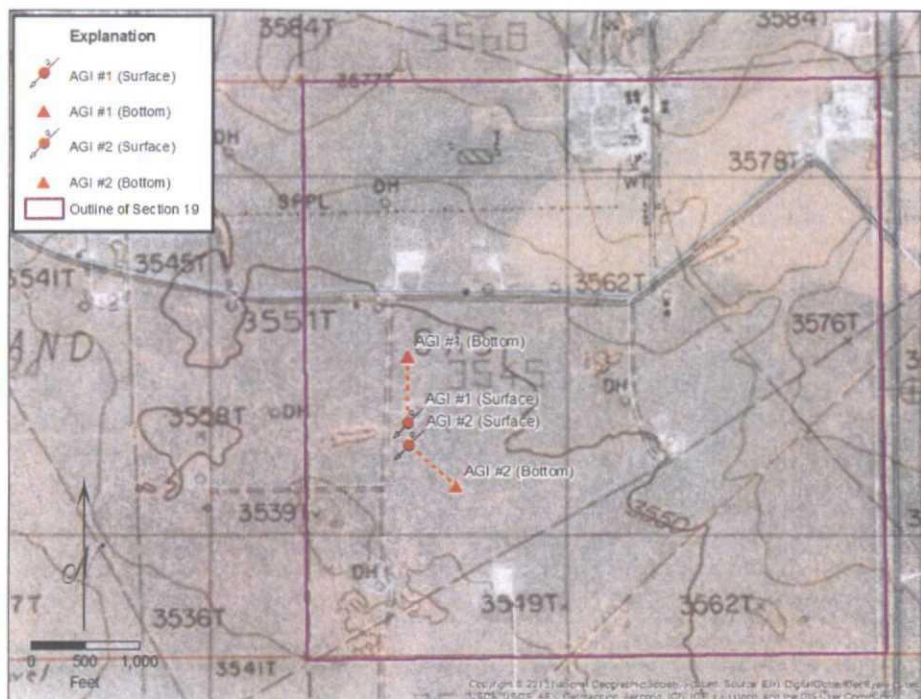
### Zia AGI#1

2100' FSL & 950' FWL  
BHL 2580' & FNL, 950' FWL  
Section 19, T19S, R32E  
Lea County, New Mexico

### Zia AGI #2

1900' FSL & 950' FWL /  
BHL 1950' FSL & 1400' FWL  
Section 19, T19S, R32E  
Lea County, New Mexico

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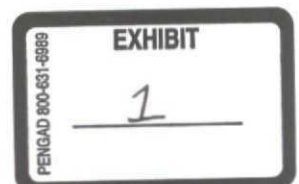
December 10, 2013

Prepared For:


DCP Midstream LP  
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**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: \_\_\_\_\_ Secondary Recovery \_\_\_\_\_ Pressure Maintenance X Disposal \_\_\_\_\_ Storage  
Application qualifies for administrative approval? \_\_\_\_\_ Yes X No
- II. OPERATOR: DCP Midstream, LP.  
ADDRESS: 370 17<sup>th</sup> St, Suite 2500, Denver CO 80208-5406  
CONTACT PARTY: Alberto A. Gutierrez, R.G. - GEOLEX, INC. PHONE: (505)-842-8000
- 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. **A CROSS REFERENCE TO THE APPLICABLE SECTIONS OR APPENDICES IN THE ATTACHED C108 APPLICATION FOR EACH ROMAN NUMERAL BELOW IS SPECIFIED BY SECTION AND/OR APPENDIX NUMBERS.**
- IV. Is this an expansion of an existing project? \_\_\_\_\_ Yes X 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 and 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. **SECTIONS 4 and 5 and APPENDIX A**
- IX. Describe the proposed stimulation program, if any. N/A
- \*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.**
- 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. Gutierrez, C.P.G. TITLE: President, Geolex, Inc.<sup>®</sup>; Consultant to DCP Midstream LP
- SIGNATURE:  DATE: 12/9/2013
- E-MAIL ADDRESS: aag@geolex.com
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: **SEE ATTACHED APPLICATION**

### 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.

**AGI #1 Surface: 2100' FSL, 950' FWL Section 19, T19S, R32 E, - SECTIONS 1, 3 and 4. (Inclined Well)**

**AGI #1 Bottom Hole: 2,580' FNL, 950' FWL Section 19, T19S, R32 E, - SECTIONS 1, 3 and 4.**

**AGI #2 Surface: 1900' FSL, 950' FWL Section 19, T19S, R32 E, - SECTIONS 1, 3 and 4. (Inclined Well)**

**AGI #2 Bottom Hole: 1950' FSL, 1400' FWL Section 19, T19S, R32 E, - 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 DESIGNS. FINAL DESIGNS WILL BE SUBMITTED WHEN PROPOSED WELLS ARE DRILLED AND COMPLETED.**

(3) A description of the tubing to be used including its size, lining material, and setting depth. **SECTION 3 AND FIGURES 6a/6b FOR PROPOSED WELL DESIGNS**

(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 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; APPENDICES A and B**

### 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. **SECTION 5; APPENDIX B WE WILL NOTIFY OPERATORS AND LEASEHOLD OWNERS AND SURFACE OWNERS WITHIN THE AREA OF REVIEW PURSUANT TO NMCD REGULATIONS AND WE WILL SUBMIT AFFIDAVITS OF PUBLICATION OF NOTICE AND CERTIFIED MAIL RETURN RECEIPTS AT HEARING.**

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 OF 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.

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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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## 1.0 EXECUTIVE SUMMARY

On behalf of DCP Midstream LP (DCP), Geolex®, Inc. (Geolex) has prepared and is hereby submitting a revised complete C-108 application for approval to drill, complete and operate an AGI system comprised of two combined acid gas injection (AGI) and CO<sub>2</sub> sequestration wells at the proposed DCP Zia Gas Plant in Section 19, T19S, R32E approximately 35 miles west of Hobbs in Lea County, New Mexico (Figure 1).

The original application was submitted on November 18, 2013, however discussions with the Bureau of Land Management (BLM) and the New Mexico Oil Conservation Division (NMOCD) District Office have resulted in some design modifications covered in this revised application. Also the surface locations have been modified to better fit the configurations and safety requirements of the proposed Zia gas plant.

*All of the fundamental designs aspects of the wells' systems remain unchanged from the original application (such as the injection zone, anticipated injection fluid characteristics, volumes and general locations); however some design specifications of the proposed wells and the surface locations have been modified.*

Both the proposed DCP Zia AGI #1 and DCP Zia AGI #1 wells (Figure 2) are anticipated to have a total vertical depth of approximately 6,100 feet in the Brushy Canyon and Cherry Canyon Formations of the Delaware Basin (Permian) and will be deviated from their surface locations to provide good separation between the injection points .

The Zia AGI #1 will be drilled at 2100' from the south line (FSL) and 950 feet from the west line (FWL) of Section 19. The Zia AGI #2 will be drilled at 1,900 feet from the south line (FSL) and 950 feet FWL of Section 19. Well AGI #1 will deviated approximately 27° to the north of the surface location to reach the bottom hole approximately 600 feet north of the surface location, placing the injection zone location at 2,580' FNL and 950' FWL in Section 19 (Figure 2). Well AGI #2 will be deviated approximately 27° southeast from the surface location to reach the injection zone approximately 600 feet southeast of the surface location, placing the bottom hole at approximately 1400' FWL and 1,590' FSL. The surface and bottom hole locations of both proposed wells, as well as the gas plant facility, will be located within lands owned or leased by DCP.

The proposed injection zone will be within two porous sandstone units of the lower Cherry Canyon, lying between approximate depths of 5,470 to 5,670 feet, and three porous sandstone units in the upper Brushy Canyon at depths of 5,670 to 6,070 feet. Analysis of the reservoir characteristics of these units confirms that they act as excellent closed-system reservoirs that should easily accommodate the future needs of DCP for disposal of acid gas and sequestration of CO<sub>2</sub> from the Zia Plant.

DCP needs to safely inject up to a maximum of 15 million standard cubic feet per day (MMSCFD) of treated acid gas (TAG) for 30 years. Under normal operations the TAG will be injected into both AGI wells simultaneously, at approximately equal rates (7.5 MMSCFD per well). During scheduled or unanticipated maintenance, the ratio between the wells may be modified. Geologic studies conducted for the selection of this location demonstrate that the proposed injection zone is readily capable of accepting and containing the proposed acid gas and CO<sub>2</sub> injection volumes well within NMOCD's recommended maximum injection pressures.

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

- Identification and characterization of all hydrocarbon-producing zones of wells that surround and are present on the proposed plant site;
- The depths of perforated pay intervals in those wells relative to the depth of the target injection zones (Cherry Canyon and Brushy Canyon);
- The past and current uses of the proposed injection interval;
- Total feet of net porosity in the proposed Cherry Canyon and Brushy Canyon injection interval;
- The stratigraphic and structural setting of the targeted zones relative to any nearby active or plugged wells, and other wells penetrating the intervals;
- The identification of and sample notification letter that will be sent to all surface owners within a one-mile radius of the proposed injection wells;
- The identification of all wells within a two-mile radius and of all operators, lessees and surface owners within a one-mile area of review of the proposed injection well;
- Identification and characterization of all active and plugged wells within the one-mile area of review of the proposed injection well;
- The details of the proposed injection operation, including general well design and average and maximum daily rates of injection and injection pressures;
- Sources and predicted composition of injection fluid and compatibility with the formation fluid of the injection zone
- Location and identification of any fresh water 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;
- Since the final design and construction of the Zia Gas Plant is contingent on successful permitting of the proposed AGI wells, no Rule 11 Plan has yet been prepared for the facility. Once approval has been granted for the AGI wells, the plant design will be finalized and a Rule 11 Plan will be prepared. The Rule 11 Plan will be submitted for NMOCD review and approval prior to commencement of TAG injection into the Zia AGI #1 well.

Based upon this detailed evaluation, as summarized in this application, DCP has determined that the proposed AGI wells are a safe and environmentally-sound project for the disposal of acid gas. Furthermore, the project provides additional environmental benefit by permanently sequestering a significant volume of CO<sub>2</sub> which would otherwise be released to the atmosphere if H<sub>2</sub>S was flared or if a sulfur reduction unit (SRU) was operated at the Plant.

Our research has identified five sandstone units in the lower Cherry Canyon and upper Brushy Canyon Formations, located approximately 5,470 to 6,070 feet below the plant. These formations were deposited on the slopes of the Northwest Shelf of the Permian Basin (Figure 3). These units are effectively sealed above and below by the much less permeable adjacent facies within the overlying Bell Canyon and the underlying lower Brushy Canyon Formations.

At the anticipated reservoir conditions of 120° F and 2,400 psi, each million standard cubic feet per day (MMSCFD) of TAG will occupy a volume of 2,636 cubic feet (470 barrels). At the anticipated maximum operational capacity of 15 MMSCFD, the compressed TAG will occupy 7,050 barrels per day. After 30 years of operation, the TAG will occupy an area of approximately 280 acres, or a radius of 1,966 feet (0.37 miles) from a single well. Partitioned between two wells at 7.5 MMSCFD, the injected TAG would occupy 140 acres per well, at a radius of 1,390 feet (0.26 miles).

Forty six wells were identified in the one-mile radius of the proposed AGI location, of which 29 penetrate the injection zone. There is no current production in the proposed injection zone in this area. Of the 29

wells penetrating the injection zone, 17 are active and 12 are plugged and abandoned. Within the one-half mile radius of interest, there are only 9 wells, of which 7 are active and 2 are plugged and abandoned penetrate the injection zone. A review of the plugging and completion reports indicates that the injection zone is properly isolated by all of the plugged wells within 0.37 mile calculated radius of injection of the proposed AGI wells, including a 100% volume safety factor (see plugged and active well information included in Appendix A).

Active leases in the one-mile area are operated by Chisos, Ltd., Cimarex Energy, COG Operating, Devon Energy, Lynx Petroleum Consultants, OXY USA, Tandem Energy and Tom R. Cone. All oil and gas mineral rights in this area are owned by the United States of America (managed by the Bureau of Land Management). All surface owners and operators within a one-mile radius of the proposed injection well will be notified and provided with a copy of this application at least 20 days prior to the NMOCC hearing pursuant to the requirements of NMOCC. Details on all operators, lessees and surface owners are included in Appendix B.

There is no permanent body of surface water within several miles of the plant. A search of the New Mexico State Engineer's files shows three exploratory water wells within one mile of the proposed AGI. Data from these wells show that groundwater occurs at a depth of approximately 100-350 feet, and is hosted by alluvium and the Santa Rosa Formation. Groundwater from the Rustler formation (1,245 to 1,600 ft depth) has total dissolved solids generally exceeding 9,000 mg/L in many parts of southeastern New Mexico (Lambert, 1992).

## **2.0 INTRODUCTION AND ORGANIZATION OF THIS 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 herein.

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 wells (Section 3.0)
- A summary of the regional and local geology, the 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), and

In addition, this application includes the following supporting information:

- Appendix A: Spreadsheets showing all active, temporarily abandoned, abandoned and plugged oil and gas wells included within the one-mile area of review and associated plugging reports.
- Appendix B: Maps and spreadsheets showing operators, lessees, and surface owners in the one-mile radius area of review; copy of the notification letter that will be sent out to them at least 20 days prior to the NMOCC hearing; and a draft public notice. .

We would like to have this application scheduled for January 2014.

### 3.0 PROPOSED CONSTRUCTION AND OPERATION OF DCP AGI WELLS

The Zia AGI #1 will be drilled at 2100' from the south line (FSL) and 950 feet from the west line (FWL) of Section 19. The Zia AGI #2 will be drilled at 1,900 feet from the south line (FSL) and 950 feet FWL of Section 19. Well AGI #1 will deviated to the north of the surface location to reach the injection zones approximately 600 feet north of the surface location, placing the bottom hole location at 2,580' FNL and 950' FWL in Section 19 (Figure 2). Well AGI #2 will be deviated southeast from the surface location to reach the injection zone approximately 600 feet southeast of the surface location, placing the bottom hole at approximately 1400' FWL and 1,590' FSL. These locations are plotted on a topographic map in Figure 4.

TAG from the plant's sweeteners will be routed to a central compressor facility, located east of the well heads. Compressed TAG will then be routed to the wells via high-pressure rated lines. Figure 5 is a schematic of the proposed new AGI facilities.

Figure 6 summarizes the well design elements that will be used for both wells. Design details are provided in Section 3.3 below.

#### 3.1 CALCULATED MAXIMUM INJECTION PRESSURE

The well will be designed and constructed such that it will serve as the injection conduit for a mixed stream of treated acid gas. The treated acid gas stream (TAG) will be approximately of the following composition:

- 89% CO<sub>2</sub>
- 11% H<sub>2</sub>S
- Trace Components of C<sub>1</sub> – C<sub>6</sub> and Nitrogen

The maximum total volume of TAG to be injected daily will be approximately 15 MMSCFD, although this volume will not be reached until several years after plant start up. Pressure reduction valves 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 Zia injection stream using the AQUAlibrium 3.1 software which employs the modified PR EOS model (Table 1).

We have modeled the proposed maximum daily injection 15 MMSCF TAG composed of 89 mol % CO<sub>2</sub> and 11 mol % H<sub>2</sub>S. Specific gravities of TAG were determined for the conditions at the well head (pressure = 1,200 psi, temperature = 100°F) and the bottom of the well (pressure = 2,400 psi, temperature = 120°F). The specific gravity of TAG at equilibrium with the reservoir (pressure = 2,400 psi, temperature = 120°F) was also determined to evaluate the area expected to be affected by injection in the reservoir (see Section 4.4).

The calculated maximum allowable injection pressure would be approximately 2,233 psi (depending on specific gravity of final TAG stream). We have used the following method approved by NMOCD to calculate the preliminary proposed maximum injection pressure. The final maximum permitted surface injection pressure should be based on the final specific gravity of the injection stream according to the following formula:

$$IP_{\max} = PG (D_{\text{top}}) \quad \text{where:} \quad \begin{array}{l} IP_{\max} = \text{maximum surface injection pressure (psi)} \\ PG = \text{pressure gradient of injection fluid (psi/ft)} \\ D_{\text{top}} = \text{depth at top of perforated interval of injection zone (ft)} \end{array}$$

and  $PG = 0.2 + 0.433 (1.04 - SG_{\text{tag}})$  where:

$SG_{\text{tag}}$  = average specific gravity of treated acid gas in the tubing ( $SG_{\text{tag}}$  at top = 0.484 and  $SG_{\text{tag}}$  at bottom hole = 0.726; see Table 1)

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

$$\begin{array}{l} SG_{\text{tag}} = 0.605 \text{ (Average of 0.484 and 0.726)} \\ D_{\text{top}} = 5750 \text{ ft} \end{array}$$

Therefore:

$$\begin{array}{l} PG = 0.2 + 0.433 (1.04 - 0.605) = 0.3884 \text{ psi/ft} \\ IP_{\max} = PG (D_{\text{top}}) = 0.3884 * 5750 = 2,233 \text{ psi} \end{array}$$

### 3.2 INJECTION VOLUME CALCULATIONS

Using the safety factor of 100%, the anticipated injection rate of 15 MMSCFD was increased to 30 MMSCFD. However, since the TAG injection will be partitioned between the two wells, the safety factor calculation for each will be 15 MMSCFD. Table 1 summarizes the reservoir injection pressure and volume calculations for either DCP Zia AGI #1 and #2. These calculations indicate that, with a 100% safety factor, the area of injection from each well will not exceed 0.37 miles from the injection point of each well.

Figure 7 shows the locations and calculated areas occupied by the TAG injected from both wells at the anticipated average injection volume after 30 years. In addition to the predicted 30-year extent of the AGI in the reservoir, the Figure 7 also shows the extent of a 100% volume safety factor (equivalent to 30 MMSCFD for 30 years).

Below is a tabulation of calculated areas and radii of injected TAG after 30 years of operation for various injection rates:

Injection Rate (MMSCFD)	Radius of AGI Plume after 30 Years (Feet)	Area Occupied (Acres)
7.5	1390	139
15	1966	279
30	2781	558



**Table 1 – 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 vol MMSCFD	conc. mol %	conc. mol %	Inject rate lb/day	Inject rate lb/day	Inject rate lb/day
15	11	89	156622	1636394	1793016

**CONDITIONS AT WELL HEAD**

Well Head Conditions		TAG							
Temp F	Pressure psi	Gas vol MMSCFD	Comp CO <sub>2</sub> :H <sub>2</sub> S	Inject Rate lb/day	Density <sup>1</sup> kg/m <sup>3</sup>	SG <sup>2</sup>	density lb/gal	volume ft <sup>3</sup>	volume bbl
100	1200	15	89:11	1793016	689.00	0.48	5.75	41666	7421

**CONDITIONS AT BOTTOM OF WELL**

Injection Zone Conditions					TAG				
Temp F	Pressure <sup>3</sup> psi	Depth <sub>top</sub> ft	Depth <sub>bottom</sub> ft	Thickness <sup>4</sup> ft	Density <sup>1</sup> kg/m <sup>3</sup>	SG <sup>2</sup>	density lb/gal	volume ft <sup>3</sup>	volume bbl
120	3315	5500	5903	403	826.00	0.83	6.90	34755	6190

**CONDITIONS IN RESERVOIR AT EQUILIBRIUM**

Injection Reservoir Conditions					TAG				
Temp <sup>5</sup> F	Pressure <sup>6</sup> psi	Ave. Porosity <sup>7</sup> %	Swr	Porosity ft	Density <sup>1</sup> kg/m <sup>3</sup>	SG <sup>2</sup>	density lb/gal	volume ft <sup>3</sup>	volume bbl
120	2400	15.0	0.41	35.6655	726.00	0.73	6.06	39542	7043

**CONSTANTS**

	SCF/mol	
Molar volume at STD	0.7915	
	g/mol	lb/mol
Molar weight of H <sub>2</sub> S	34.0809	0.075151
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 MAXIMUM INJECTION PRESSURE LIMITATION**

SG <sub>TAG</sub>	0.66
PG = 0.2 + 0.433 (1.04-SG <sub>TAG</sub> )	0.367 psi/ft
IP <sub>max</sub> = PG * Depth	2017 psi

Where: SG<sub>TAG</sub> is specific gravity of TAG; PG is calculated pressure gradient; and IP<sub>max</sub> is calculated maximum injection pressure.

**CALCULATION OF 30 YEAR AREA OF INJECTION**

Cubic Feet/day (5.6146 ft <sup>3</sup> /bbl)	39542 ft <sup>3</sup> /day
Cubic Feet/30 years	433282411 ft <sup>3</sup> /30 years
Area = V/Net Porosity (ft)	12148502 ft <sup>2</sup> /30 years
Area = V/Net Porosity (ft) (43560 ft <sup>2</sup> /acre)	278.9 acres/30 years
Radius =	1966 ft
Radius =	0.37 miles

<sup>1</sup> Density calculated using AQUA/ilibrium software

<sup>2</sup> Specific gravity calculated assuming a constant density for water

<sup>3</sup> PP is extrapolated using successful Drill Stem Tests at nearby wells

<sup>4</sup> Thickness is the average total thickness of coarse sand units in the reservoir zone

<sup>5</sup> Reservoir temp. is extrapolated from bottomhole temp. measured at nearby wells

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

**3.3 WELL DESIGN**

The AGI facilities and wells are integrated components of the proposed Zia Gas Plant design. The schematic of the AGI facilities and tie-in to the proposed Zia Gas Plant are shown in Figure 5, and the preliminary well designs for the injection wells are shown on Figure 6. Both of the wells (AGI #1) and (AGI #2) will be constructed using the same materials as shown in Figure 6. The intermediate casing of each well will be advanced to approximately 4,600 feet to assure the protection of the Capitan Aquifer and the upper Delaware Group.

The two proposed wells will be essentially identical in drilling, casing and completion, and will differ only in their locations and the direction and location of their bottom hole points.

The final design for the compression facilities and associated piping and layout of H<sub>2</sub>S alarms and other safety equipment will be submitted for NMOCD review prior to commencement of injection operations as part of a complete Rule 11 Plan.

Both wells will be spudded on DCP's Zia Gas Plant site and drilled to a final total vertical depth of approximately 6,100 feet, and a total drilled depth of approximately 6,400 feet. The well will have each string of the telescoping casing cemented to the surface and will include a subsurface safety valve on the production tubing to assure that fluid cannot flow back out of the well in the event of a failure of the injection equipment. In addition, the annular space between the projection tubing and the well bore will be filled with an inert fluid (diesel fuel) as a further safety measure which is consistent with injection well designs which have been previously approved by NMOCD for acid gas injection.

Both wells will be advanced vertically to approximately 4,650 feet (approximately 50 feet below the depth of the base of the intermediate casing at 4,600 feet). The well will then be deviated at approximately 25 degrees from vertical. Each well will be completed at a true vertical depth of approximately 6,100 feet, after reaching an overall total depth of approximately 6,400 feet. The bottom hole locations will land approximately 600 feet north of the AGI #1 surface location, and approximately 600 feet southeast of the surface location of AGI #2.

Design and materials considerations include: placement of SSSV and the packer, triple casing through freshwater resources (Ogallala and Santa Rosa Formations – groundwater, Rustler – saline groundwater), characterization of the zone of injection, and a total depth (TD) ensuring identification of the reservoir. All casing strings will be cemented to the surface and the cement jobs will be verified by pressure testing. Radial 360° cement bond logs will be conducted for all casing strings as well. The three casing strings are detailed in Figure 6:

1. Surface casing to the Magenta Dolomite Member of the Rustler Formation, approximately 700 feet depth, to protect fresh water in the Ogallala and Santa Rosa Formations.
2. Intermediate casing through the Salado and Castile Formations, and below the Capitan Aquifer, to approximately 4,600 feet, to protect all known aquifers in the area.
3. Production casing extending down to the final total depth (TVD 6,100 feet). Following logging and analysis, the injection intervals will be determined, and the final depth of the long string, perforation zones and packer location will be selected.
4. A suitable drilling rig will be chosen for the job that will include a 5,000 psi blowout preventer (minimum) and choke manifold for any unforeseen pressures encountered. The borehole for the surface casing will be drilled with a 17 1/2-inch bit to a depth of approximately 700 feet (above the uppermost salt beds), and 13 3/8-inch, 48.0 ppf, H40, STC casing will be installed and cemented to the surface with approximately 600 sacks of cement (or amount adequate to circulate the cement to the surface). The intermediate hole will be drilled with a 12 1/4-inch bit to a depth of approximately 3,800 feet. There an 9 5/8-inch, 40.0 ppf, J55, LTC surface casing string will be run and cemented to surface with approximately 2,500 sacks of cement. To protect the Capitan Aquifer, a Diverter Valve or packer stage tool will be placed at approximately 2,800 feet to allow a specific and special cement stage through the aquifer interval. Visual inspections of cement returns to the surface will be noted in both the conductor and surface pipe casing jobs. Casing and cement integrity will be demonstrated by pressure-testing and 360-degree cement bond logging after each cement job.

After verifying the intermediate casing, the vertical well (Zia AGI #1) well will be drilled to the projected TVD of 6,100 feet using an 8 3/4-inch bit. The proposed open hole logging suite for the TD run consists of a Dual Induction, Density-Neutron-Gamma Ray Porosity and Fracture Matrix Identification (FMI) log in the Bell Canyon and the Cherry Canyon. Sidewall cores will be collected from the tight zone near the base of the Bell Canyon and in the upper Cherry Canyon target reservoir sands. Representative core samples will be analyzed in the laboratory to determine caprock and reservoir permeabilities and porosity.

After the logs have been evaluated, the production casing consisting of approximately 6,400 TD and will be run using approximately 5,500 feet of 7-inch, 26.0 ppf, L80 Premium casing grade, a 250-foot section of Corrosive Resistant Alloy (CRA) material, and 7-inch 26.0 ppf, SM-2550 Premium casing to total depth. The CRA material will be inserted into the string at the packer setting depth to provide a corrosion resistant seat for the packer later in the job. The cementing of the long string will be accomplished in two stages. The first stage will seal the annular space from total depth (approximately 6,100 feet) to a level well above the CRA joint. This stage will employ acid-resistant cement (CORROSACEM™ or equivalent). For the second stage, a DV Tool previously inserted in the casing (at approximately 3,000) feet will be used to pump the remaining cement to the surface.

Once the cement has set up, the tubing adaptor for the wellhead will be welded on the wellhead and the rig will be released. A casing integrity (pressure test) will be performed to test the casing just prior to releasing the rig. After a successful test and the drilling rig released, a work-over rig will be mobilized to location and a cement bond log will be run to ascertain the quality of the cement bond of the production casing. It is important that a good bond be established around the injection interval as well as below the CRA joint to minimize any chances that acid gases mixed with formation water do not travel up the outside of the casing and negatively impact the integrity of the casing job.

Once the integrity of the cement job has been determined, the selected injection intervals will be perforated with approximately four shots per foot. At this location a total of approximately 175 feet of target areas may be perforated. A temporary string of removable packer and tubing will be run, and injection tests (step tests) will be performed to determine the final injection pressures and volumes. Once the reservoirs have been tested, the final tubing string including a permanent packer, approximately 5,900 feet of 3 ½-inch 9.3 ppf, L80 VAM top premium thread tubing, lined with fiberglass or other corrosion-resistant lining. A Subsurface Safety Valve (SSV) will be run into the well at a depth of approximately 250 feet. A ¼-inch Inconel line will connect the SSV to a hydraulic panel at the surface.

The National Association of Corrosion Engineers (NACE) issues guidelines for metals exposed to various corrosive gases like the ones in this well. For a H<sub>2</sub>S/CO<sub>2</sub> stream of acid gas that is de-watered at the surface through successive stages of compression, downhole components such as the SSV, (subsurface safety valve), and packer need to be constructed of Inconel 925. The CRA joints will be constructed of a similar alloy from a manufacturer such as Sumitomo. A product like SM2550 (with 50% nickel content) will likely be used. The gates, bonnets and valve stems within the Christmas trees will be nickel coated as well.

The rest of the Christmas trees will be made 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 Christmas trees. The SSV 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.

Since the Zia Gas Plant has not yet been constructed, no Rule 11 Plan has yet been prepared. Once approval has been granted for this AGI well, the plant design will be finalized and construction undertaken. A Rule 11 Plan will be prepared following the model previously approved and submitted for NMOCDD review and approval prior to commencement of TAG injection into the DCP Zia AGI #1 and AGI #2 wells.

## 4.0 REGIONAL AND LOCAL GEOLOGY AND HYDROGEOLOGY

### 4.1 GENERAL GEOLOGIC SETTING/SURFICIAL GEOLOGY

The proposed Zia Gas Plant will be located in Section 19, T 19 S, R 32 E, in Lea County, New Mexico, about 35 miles west of Hobbs (Figure 1). The plant location is within a portion of the Pecos River basin referred to as the Querecho Plains reach (Nicholson & Clebsch, 1961). This area is relatively flat and largely covered by sand dunes underlain by a hard caliche surface. The dune sands are locally stabilized with shin oak, mesquite and some burr-grass. There are no natural surface bodies of water or groundwater discharge sites within one mile of the Plant and where drainages exist in interdunal areas, they are ephemeral, discontinuous, dry washes. The proposed plant 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 well is located in the Delaware Basin, a sub-basin of the larger, encompassing Permian Basin (Figures 3 and 8). The Delaware Basin began to form by the Middle Mississippian, and was subsequently deepened by 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.

The Permian rocks found in the Delaware Basin are divided into four series, the Ochoa (most recent), Guadalupe, Leonard, and Wolfcamp (oldest). Numerous oil and gas pools have been identified in these rocks. In the area of the proposed Zia well, the rocks consist predominately of clastic rocks – primarily sands, and shales with lesser carbonates. Producing reservoirs are concentrated in the high porosity sands. Figure 9 is a generalized stratigraphic column showing the formations that underlie the well site. Local oil production is largely restricted to the Delaware Sands pool (overlying the proposed injection zone), and gas production is dispersed through the deeper Bone Springs (the “Avalon”), Wolfcamp, and Morrow, with smaller amounts from the Atoka and Devonian (Figure 9).

There have been no commercially significant deposits of oil or gas found in Cherry Canyon or the Brushy Canyon (the proposed injection zone), in the vicinity of the well. Adjacent wells have shown that these formations are “wet”, and there is no current or foreseeable production at these depths within the one-mile radius (Figure 10) of review.

### 4.3 LITHOLOGIC AND RESERVOIR CHARACTERISTICS OF THE CHERRY CANYON AND BRUSHY CANYON FORMATIONS

Based on the geologic analyses of the subsurface at the proposed Zia Gas Plant, we recommend acid gas injection and CO<sub>2</sub> sequestration in the lower Cherry Canyon and upper Brushy Canyon Formations. The proposed injection interval includes five high porosity sandstone units and has excellent caps above, below and between the individual sandstone units. There is no local production in the overlying Delaware Sands pool of Bell Canyon Formation (Figure 9). There are no structural features or faults that would serve as potential vertical conduits. The high net porosity of the proposed injection zone indicates that the injected H<sub>2</sub>S and CO<sub>2</sub> will be easily contained close to the injection well.

Figure 11 shows the locations of Figures 12 and Figure 13, which present cross-sections showing the proposed injection zones and the continuous, thick cap rocks that overlie the lower Cherry Canyon and underlie the upper Brushy Canyon. These logs clearly show that there are numerous, continuous low-

permeability beds between the base of the Brushy Canyon and the deeper Lusk West Delaware field, lying approximately 400 feet below the Brushy Canyon.

The available geophysical logs were examined for all wells penetrating the lower Cherry Canyon and upper Brushy Canyon Formations within a three-mile radius of the proposed DCP Zia AGI #1 well. Using the formation tops from more than 70 wells, a contour map was constructed for the top of the Brushy Canyon Formation (Figure 14) in the vicinity of the well. This map reveals an approximate  $1.0^\circ$  dip to the southeast, with no visible faulting or offsets that might influence fluid migration, suggesting that injected fluid would spread radially from the point of injection with a small elliptical component to the south. This interpretation is supported by cross-sections of the overlying stratigraphy that reveal relatively horizontal contacts between the units (Figures 12 and 13). Local heterogeneities in permeability and porosity will exercise significant control over fluid migration and the overall three-dimensional shape of the injected gas plume.

Geolex's geological analyses confirm that the lower Cherry Canyon and upper Brushy Canyon Formations are the most promising injection zones in the vicinity of the DCP Zia Plant. This preliminary analysis is confirmed by Geolex's detailed geological analysis, including the analysis of the geophysical logs collected from nearby wells. The zone has the requisite high porosity and permeability and is bounded by tight limestones, shales, and calcic siltstones rocks in the Bell Canyon above the Cherry Canyon and the rocks below the upper Brushy Canyon. These are ideal  $H_2S$  and  $CO_2$  sequestration conditions.

The porosity of the units in the area was evaluated using geophysical logs collected from nearby wells penetrating the Cherry Canyon Formation. Figure 15 shows the Resistivity (Res) and Thermal Neutron Porosity (TNPH) logs from 5,050 feet to 6,650 feet and includes the proposed injection interval. Five clean sands ( $>10\%$  porosity and  $<60$  API gamma units) separated by limestone beds mapable units demonstrating lateral continuity of units. The sand units exhibit an average porosity of about 18.9%; taken over the average thickness of the clean sand units within  $\frac{1}{2}$  mile of the proposed DCP Zia AGI #1 of 177 feet (Figures 16 and 17) and irreducible water ( $S_{wir}$ ) of 0.54 (see Table 1). This results in an effective porosity of approximately 15.4 feet after considering  $S_{wir}$ . The overlying Bell Canyon Formation has 900 feet of sands and intervening tight limestones, shales, and calcitic siltstones with porosities as low as 4%, consistent with an effective seal on the top of the injection zone. The proposed injection interval is located more than 2,650 feet above the Bone Spring Formation (Avalon zone), which is the first possible pay below the injection zone in the area.

#### 4.4 INJECTIVITY OF THE CHERRY CANYON FORMATION

No direct measurements have been made of the injection zone porosity or permeability. However, satisfactory injectivity of the injection zone can be inferred from the porosity logs described above. The zone will be logged and cored in the AGI wells to obtain site-specific porosity and permeability data.

A maximum allowable surface injection pressure was calculated for the proposed AGI well following the NMOCD approved formula:  $IP_{max} = PG (D_{top})$ , where  $IP_{max}$  is the maximum allowed surface injection pressure (psi),  $PG$  is the pressure gradient of the injected fluid (psi/ft), and  $D_{top}$  is the depth to the top of the perforated zone (ft). Using the proposed depth to the center of the perforated zone in the proposed AGI wells (5,750 ft) and TAG as the injection fluid, the maximum allowable injection pressure would be approximately 2,233 psi (Section 3.1).

The reservoir pressure and temperature have been estimated by plotting data from nearby wells. A plot of bottom hole pressures (Figure 18) reveals a consistent trend with depth, indicating that the reservoir temperature in the proposed well would be approximately  $120^\circ F$ . A plot of reservoir pressures using

successful Drill Stem Tests (DSTs) show some scatter, but indicates that the reservoir pressure in the proposed well would be about 2,400 psi.

Using the total porosity determined from well logs, combined with an allowance for  $S_{wir}$  of 0.54 (Table 1), it is possible to estimate the area of injection over a 30-year life span for each AGI well at the proposed Zia Gas Plant. Using the 100% safety factor, a maximum per-well injection rate of 15 MMSCFD (7,421 bbl/day) of compressed TAG at well head conditions equates to approximately 7,043 bbl/day at reservoir conditions, see Table 1). The injected acid gas would spread to cover an area of approximately 279 acres or a circle with a radius of approximately 0.37 miles (Figure 7).

#### 4.5 FORMATION FLUID CHEMISTRY

There is little available public information on the formation fluids in the Cherry Canyon and Brushy Canyon Formations. One report (Powers, *et. al.*, 1978) notes that the waters in these units have chloride levels ranging from 50,000 to 150,000 milligrams per liter. An attempt will be made to sample formation fluids during drilling or completion of the well to provide site-specific fluid properties

#### 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 four freshwater wells located within a one mile radius of the DCP Zia AGI wells; the closest water well is located 0.6 miles away (Figure 19; Table 2). All wells within the one mile radius are shallow, collecting water from about 250 to 350 feet depth, in the Triassic redbeds. These wells were drilled for exploratory purposes by Phillips Petroleum in 1982, and do not produce any consumed water. The shallow freshwater aquifer is protected by the surface and intermediate casing in the proposed DCP Zia AGI #1 and #2 wells, which extend to 700 feet and 2,700 feet, respectively.

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

**Table 2: Water Wells Identified by the New Mexico State Engineer's Files within One Mile of the Proposed Zia AGI Wells**

POD Number	Owner	Use	UTME	UTMN	Distance (m)	Depth Well (ft)	Depth Water (ft)
CP 00642 EXPL	PHILIP PETROLEUM COMPANY	Exploration	611025	3611657	973	250	
CP 00640 EXPL	PHILIP PETROLEUM COMPANY	Exploration	612621	3613280	1342	260	102
CP 00639 EXPL	PHILIP PETROLEUM COMPANY	Exploration	613029	3612880	1540	350	345
CP 00563 EXPL	PHILIP PETROLEUM COMPANY	Exploration	612118	3613376	1064		



## 5.0 OIL AND GAS WELLS IN THE DCP ZIA AGI AREA OF REVIEW AND VICINITY

Forty six wells were identified in the one-mile radius of the proposed AGI location, of which 29 penetrate the injection zone. There is no current production in the proposed injection zone in this area. Of the 29 wells penetrating the injection zone, 17 are active and 12 are plugged and abandoned.

All of the wells identified are listed in Table A-1 in Appendix A, which includes the locations, depths, status, operators and distances of the wells from the AGI well locations. Table A-2 in Appendix A identifies all wells penetrating the proposed injection zone, and Table A-3 in Appendix A identifies the wells within one-half mile of the proposed AGI well. The locations of all wells are shown in Figure 20.

Within the one-half mile radius of interest, there are only 9 wells, of which 7 are active and 2 are plugged and abandoned. Completed records for these wells are included in Appendix A. A review of the plugging and completion reports indicates that the injection zone is properly isolated by all of the plugged wells within 0.37 mile calculated radius of injection of the proposed AGI wells (see plugged and active well information included in Appendix A).

Figure 21 shows the locations of the 9 wells within the area of interest, and Table 3 below summarizes the relevant information for those wells. As seen in Figure 21, only 5 wells are within the calculated areas of injection for the two proposed AGI wells, and 4 wells lie outside this area.

**TABLE 3: Wells Penetrating the Injection Zone Within One Half Mile of the Proposed AGI Wells**

API #	Operator	Well Name	TVD	Spud Date	Plug Date	Type	Status
3002520122	COG OPERATING LLC	LUSK DEEP UNIT A 005	12554	4/16/1963		G	Active
3002520247	EL PASO NATURAL GAS	LUSK DEEP UNIT 006	11432	12/16/1963	10/25/1975	O	Plugged
3002520876	TOM R CONE	GULF FEDERAL 003	11223	11/6/1964		O	Active
3002534573	COG OPERATING LLC	LUSK DEEP UNIT A 014	12540	12/17/1999		G	Active
3002535291	COG OPERATING LLC	LUSK DEEP UNIT A 021	12718	4/24/2001		G	Active
3001510382	PHILLIPS PETROLEUM CO	LUSK DEEP UNIT 008	11540	4/26/1964	10/17/1994	O	Plugged
3002520025	CHISOS, LTD	DELHI FEDERAL 001	11286	2/2/1963		O	Active
3002539441	COG OPERATING LLC	SL DEEP FEDERAL 003	9580	9/15/2009		O	Active
3002540863	COG OPERATING LLC	LUSK DEEP UNIT A 024H	13660	12/19/2012		O	Active

### Wells within the 30-Year Calculated Injection Area Using 100% Safety Factor

For the purposes of this evaluation, the calculated areas of injection influence (0.37 mile radius) are based on the highly conservative injection rate of two times the base design rate over 30 years.

Active well 3002520122 (Figure 22) was completed in the Strawn and Morrow in February 1963. The surface casing (850') and the intermediate casing (4,506') were cemented to the surface. The production casing's top of cement was measured at 9,800'. This well lies just inside the east boundary of the outer edge of the calculated 100% safety-factor injection area of Zia AGI #2, and should not be influenced by any anticipated injection activities.

Plugged well 3002520247 (Figure 23) was drilled in 1963 and completed in the Strawn at 12,554'. This well is inside the inner (7.5 MMSCFD 30-year radius) area. In October 1971 the well was plugged back to 8,819' and was perforated from 8,822 to 8,824 to test the Bone Springs. The test was unsuccessful, and the well was plugged and abandoned in October 1971. The injection zone is protected, since the well bore is plugged with cement plugs at 6,600' and 4,364'.

Well 3002520876 (Figure 24) is also an active well, and lies inside the inner (7.5 MMSCFD 30-year radius) area. Originally completed in the Strawn in 1961, the well was plugged and abandoned in October 1971. The well was re-entered in June of 1981 and completed in the Yates. As seen in Figure 22, the injection zone is isolated by cement plugs set at 3,760' and 7,560'.

Well 3002534573 (Figure 25) is an active well inside the inner (7.5 MMSCFD 30-year radius) area. The proposed injection zone (5,500' to 6,100') is well protected because the 5 1/2" production casing is cemented from the total depth (12,540') to a depth of 4,200'. This places the top of the cement at 300' below the base (4,500') of the intermediate casing. The intermediate casing and the surface casing (830') are cemented to the surface.

Active well 3002535291 (Figure 26) inside the inner (7.5 MMSCFD 30-year radius) area also protects the injection zone because the 5 1/2" production casing was cemented from total depth (12,718') to the surface.

#### Wells outside the 30-Year Calculated Injection Area Using 100% Safety Factor

Plugged well 3001510382 (Figure 27) was completed in the Strawn in 1964. The well was plugged and abandoned in October 1994. This well lies approximately 300' west of the outer edge of the calculated injection area of Zia AGI #2. The injection zone is further protected by cement plugs in the well bore at 6,908' and 4,325'.

Active well 3002520025 (Figure 28) was completed in the Strawn in February 1963 at a total depth of 11,400 feet. Its location is approximately 300 feet south of the outside the safety-factor area. Surface casing (507') was cemented to the surface, as was the intermediate casing (4,050'). The production casing was cemented to 8,300 feet, and was later squeezed at 6,058 feet.

Active well 3002539411 (Figure 29) was completed in the Bone Springs at 9,580 feet in June 2009. The well is located approximately 400 feet south of the calculated injection area of Zia AGI #2. The surface casing (839') was cemented to the surface, and the intermediate casing (4,158') was cemented to 100 feet. The intermediate casing was cemented to 1,800 feet, well inside the intermediate.

Active well 3002540863 (Figure 30) is a horizontal well completed in the Bone Springs. The well was drilled vertically to approximately 8,700 feet, and then achieved a horizontal path at approximately 9,700'. As seen in Figure 21, the subsurface path of the well trends north-south for approximately 4,600', passing under the injection zone. The surface, intermediate and production casing strings were cemented to the surface, protecting the injection zone. The production zone of the well is at approximately 9,300', over 3,000' below the proposed injection zone.

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

Geolex contracted with MBF Land Services in Roswell, New Mexico to research land records in Lea and Eddy Counties to obtain a listing of all operators, oil, gas and mineral lessees, and surface owners within a one-mile radius of the proposed AGI well. Appendix B includes the results from that search.

Table B-1 provides the surface and mineral owners in the one-mile area of review. Table B-2 is the list of operators and Table B-3 is a list of mineral leasehold owners. These Tables comprise the universe of persons that must be notified 20 days prior to the NMOCC hearing.

Table B-4 is a full summary of the land status by Tract. Figures B-1 and B-2 include maps showing surface, mineral and leasehold ownership by tract in the area of review. The original land status reports from MBF are also included in Appendix B.

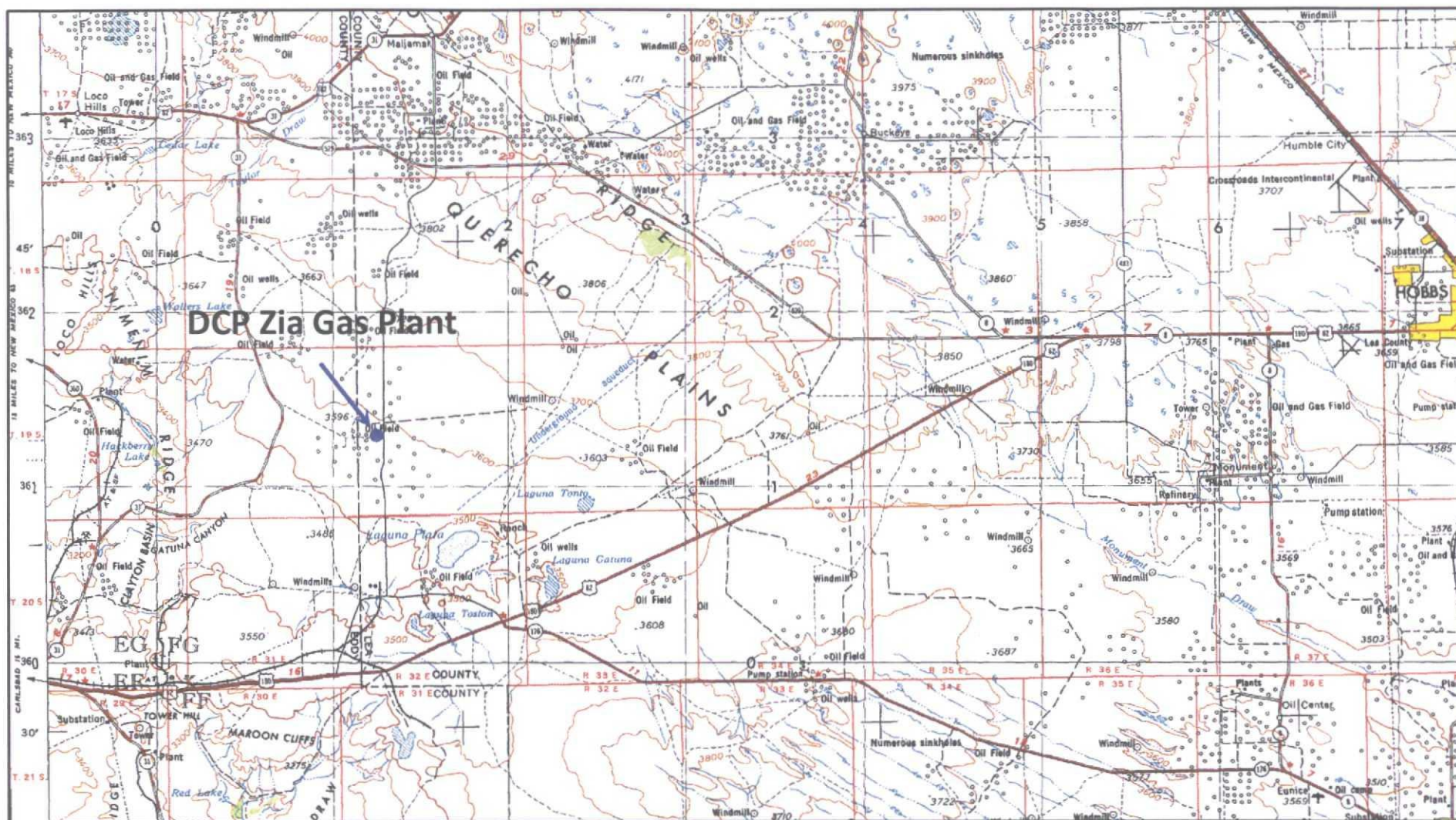
## **7.0 AFFIRMATIVE STATEMENT OF LACK OF HYDRAULIC CONNECTION BETWEEN PROPOSED INJECTION ZONE AND KNOWN SOURCES OF DRINKING WATER**

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 DCP Zia AGI #1 and AGI #2 wells has been performed. The investigation included the analysis of available geologic data and hydrogeologic data from wells and literature identified in Sections 3, 4 and 5 above including related appendices. Based on this investigation and 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 proposed injection zone with any known sources of drinking water in the vicinity as described above in Sections 4 and 5 of this application.

## 8.0 REFERENCES

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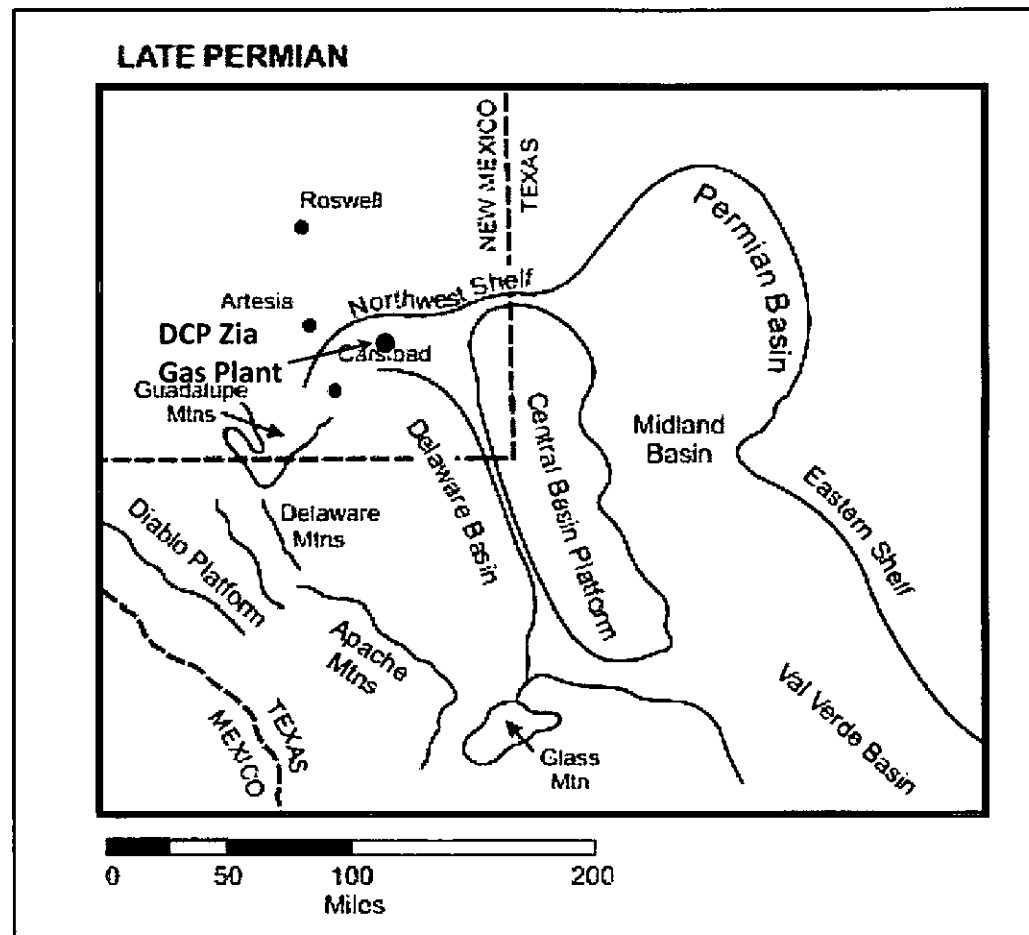
## Figures



**Figure 1: Location of the Proposed DCP Zia Gas Plant and AGI Wells.  
(USGS 1:250,000)**







**Figure 3: Structural Features of the Permian Basin During the Late Permian (Modified from Ward, et al (1968)).**

Location of the proposed DCP Zia Gas Plant is Shown by the Blue Arrow.

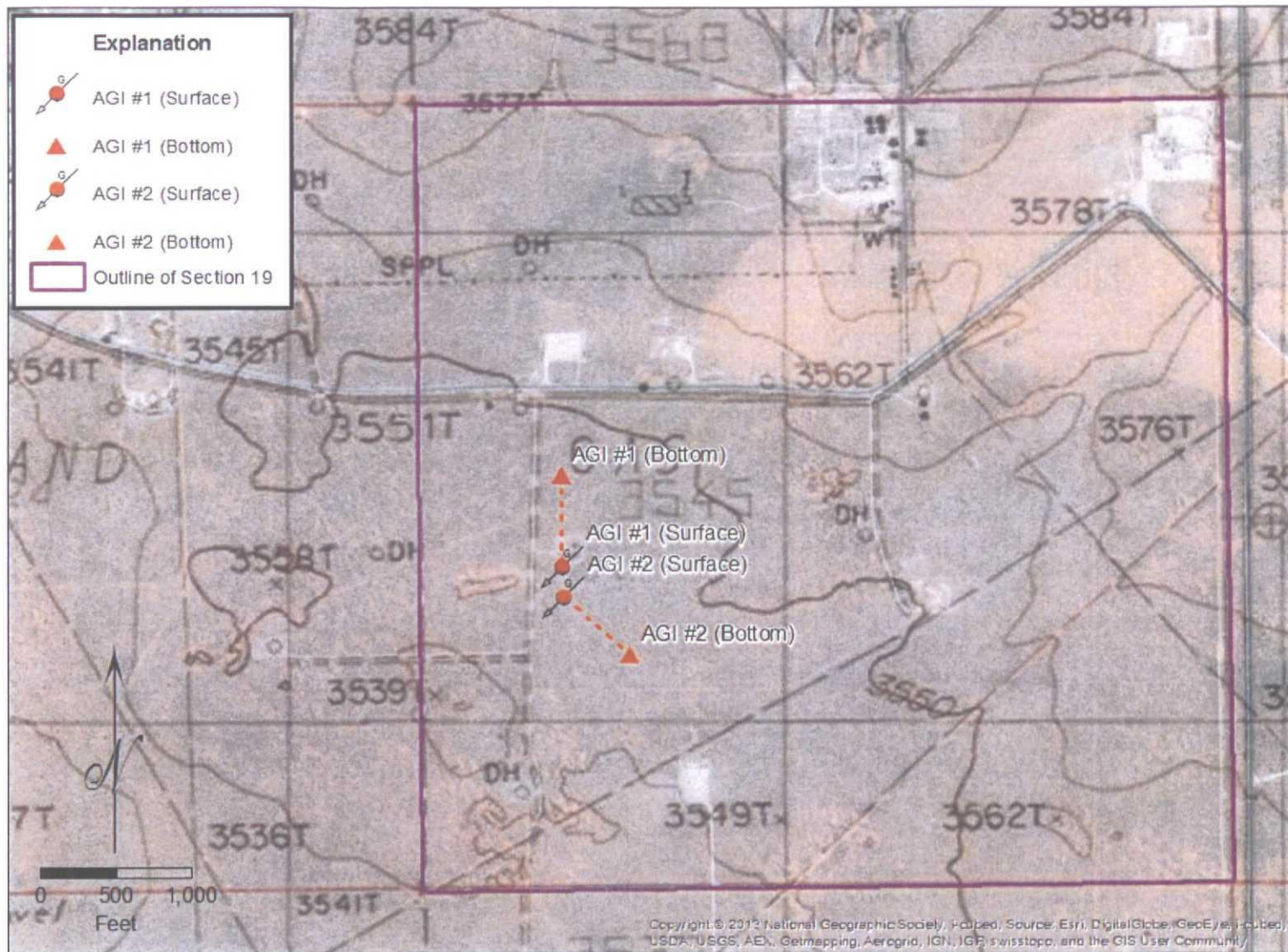


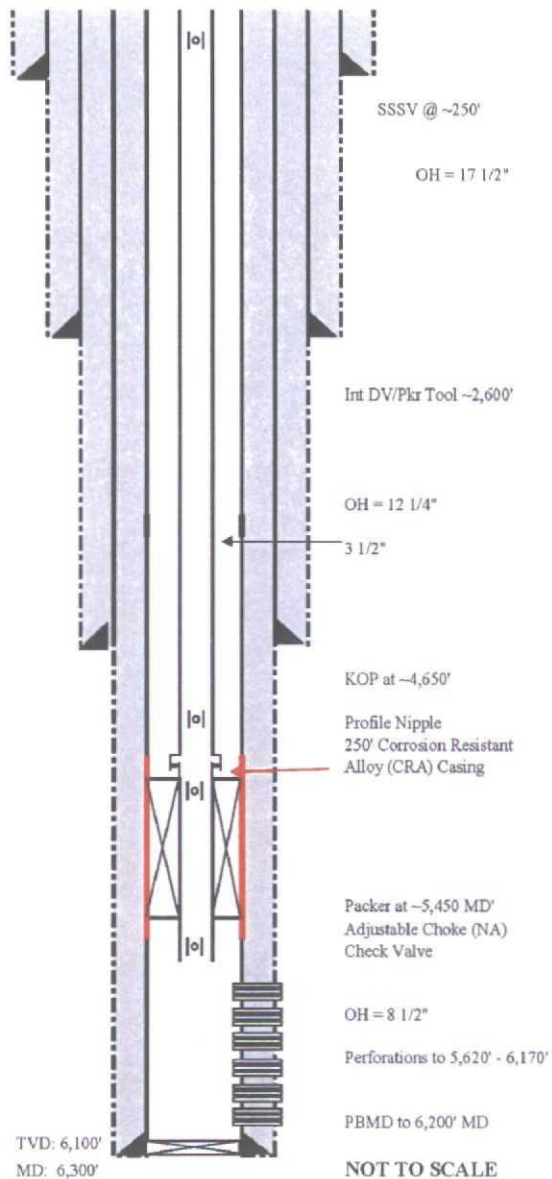
Figure 4: Map Showing Surface and Bottom Hole Locations of Proposed Wells Zia AGI #1 and AGI #2





Location: DCP Zia AGI #1 & #2  
 STR Section 19, T19S-R32E  
 County, St.: LEA COUNTY, NEW MEXICO

## 27 DEGREE SLANT



### CONDUCTOR CASING

20" Conductor at 40'

### SURFACE CASING

13 3/8", 48.00#/ft, H40, STC at 1025'

### INTERMEDIATE CASING:

9 5/8", 40.0 #/ft, J55, LTC at 4,600'

### PRODUCTION CASING:

7", 26 #/ft, L-80, Prem to 5,250'

7", 26 #/ft, SM-2550, Prem to 5,500'

7", 26 #/ft, L-80, Prem to 6,300' (MTD)

### ANNULAR FLUID:

Diesel Fuel from top of packer to surface

### TUBING:

3 1/2", 9.3#/ft, L-80, Prem at ~5,450' MD

3 1/2", 9.3#/ft, Lined Tubing at ~5,450'

### PACKER:

Permanent Production Packer @ 5,450' MD

Adj. Choke (if needed, placed in nipple below packer)

Check valve (if needed, placed in nipple below packer)

### PERFORATIONS:

Primary Targets:	
Cherry Canyon	
Brushy Canyon	
TVD	MD
5,500'-6,000'	5,620' - 6,170'

Figure 6 : Schematic Well Design, Zia AGI Wells

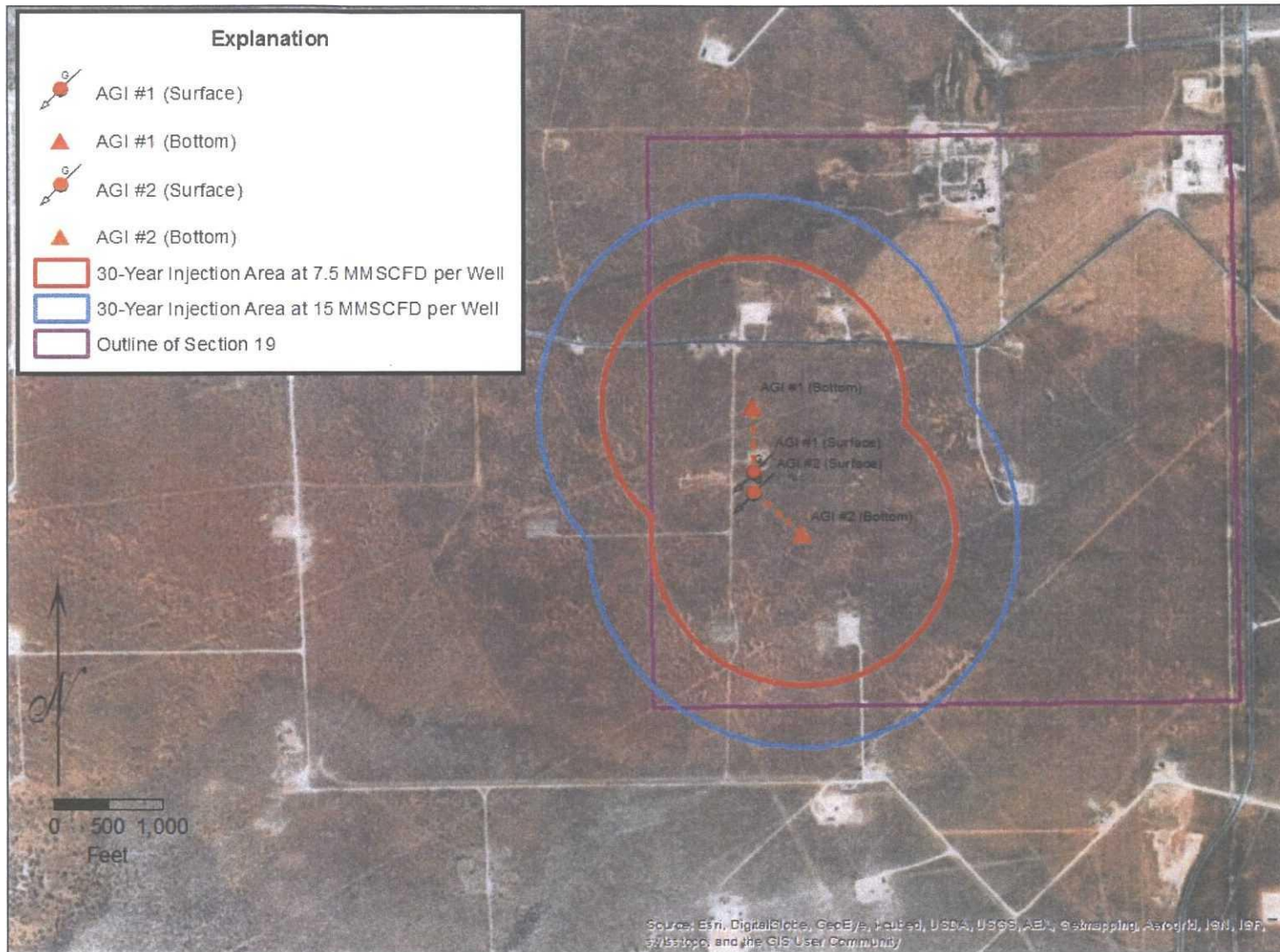
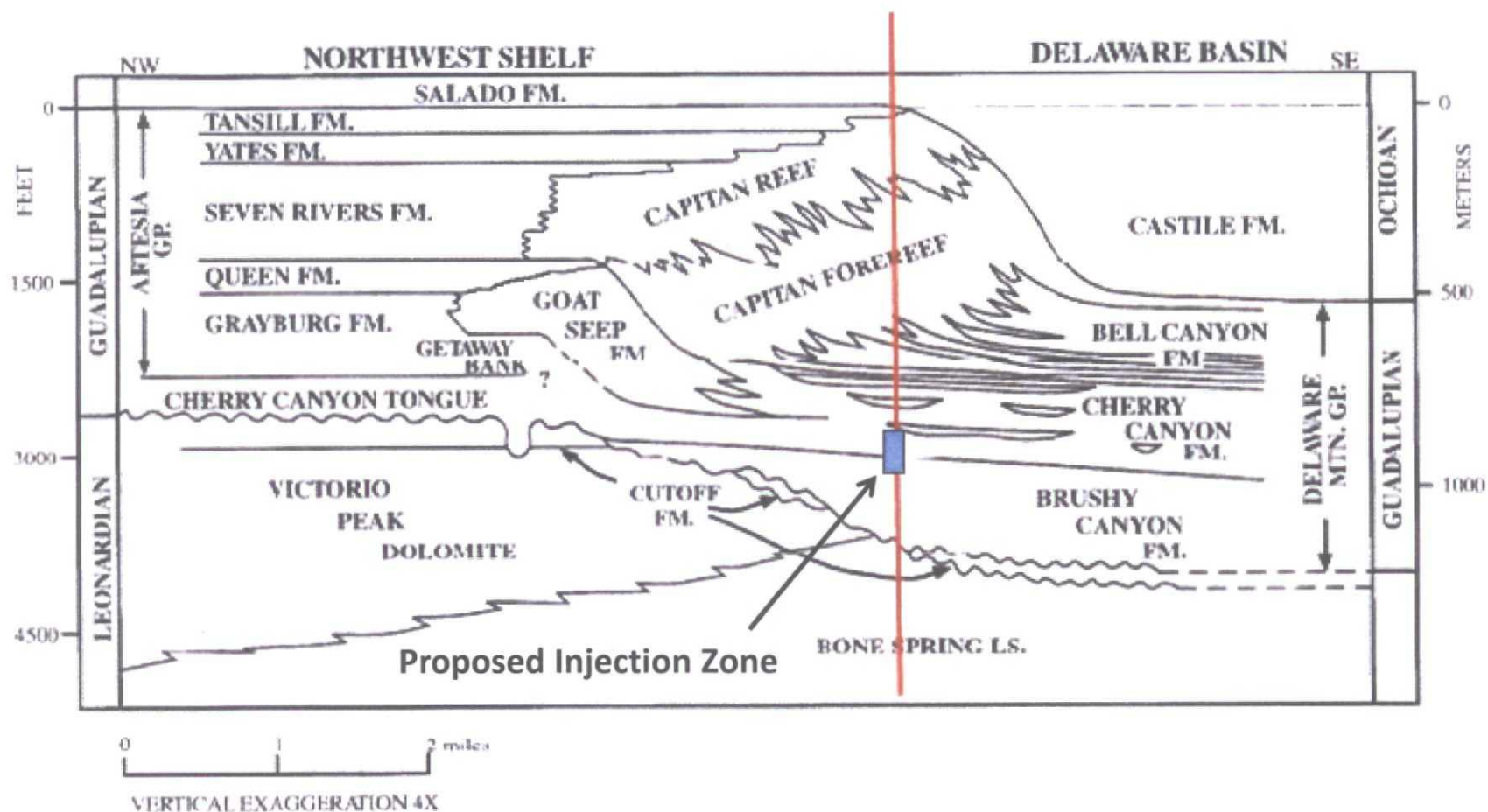


Figure 7: Calculated 30-Year Radii of Injection from DCP Zia Wells AGI #1 and AGI #2  
(Circles Show Anticipated Rate of 7.5 MMSCFD and 100% Safety Factor Injection Rate 15 MMSCFD)



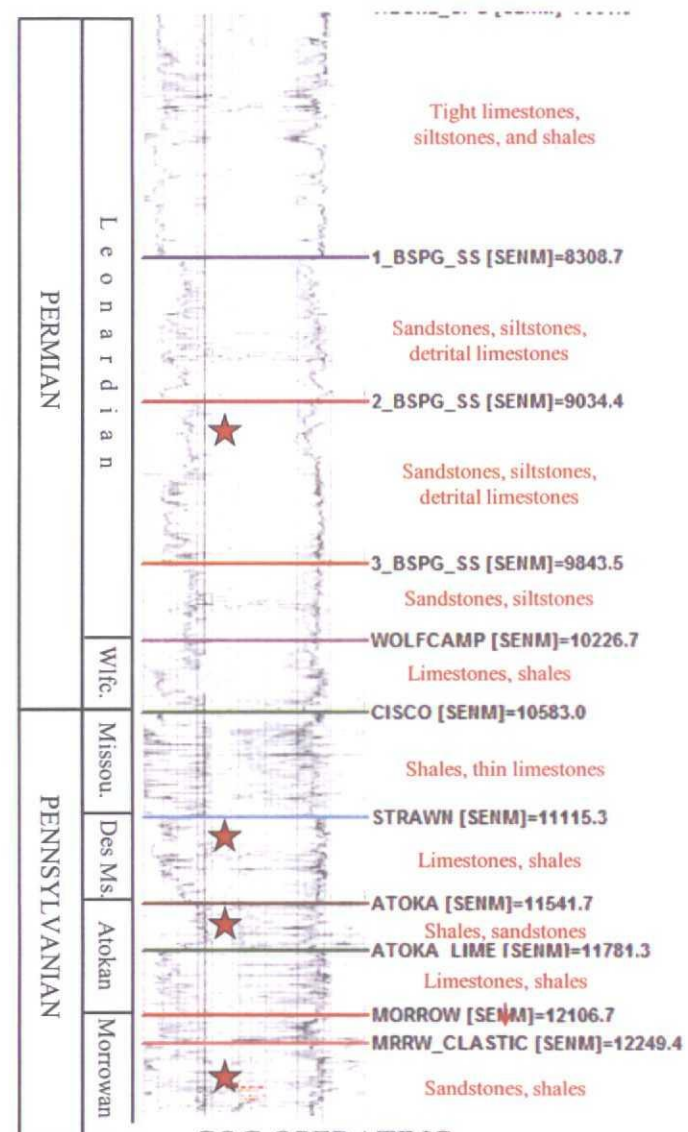
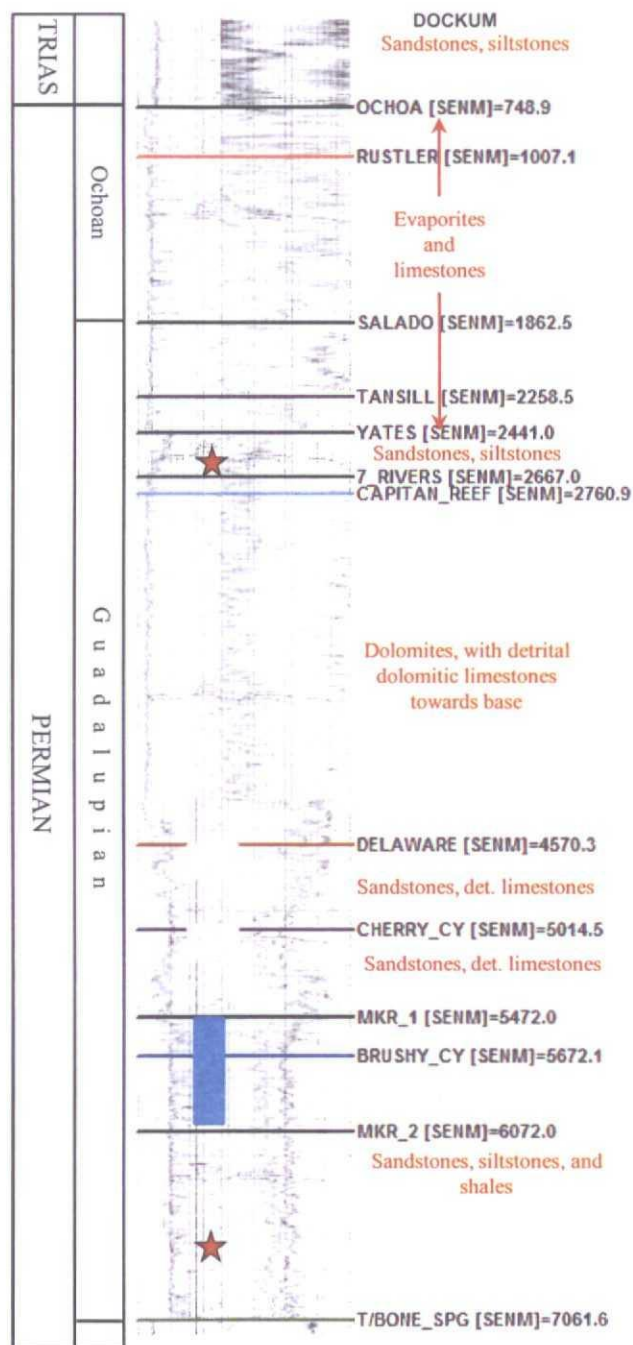
**Figure 8: Cross Section Showing General Stratigraphy Around Proposed Zia Gas Plant**  
 Generalized upper Permian stratigraphy around the proposed Zia Plant. We have an upper Permian section here that passes from the Yates, to a thin section of Seven Rivers, and down into the Capitan reef and fore-reef. The Delaware is represented by transitional Bell and Cherry Canyon limes and sands, and the underlying Brushy Canyon sand member. The Brushy Canyon is underlain by the Bone Spring. The proposed AGI zone is approximated by the blue bar.



**Figure 9:  
Stratigraphy and  
Lithology of  
Producing Zones  
Above and Below  
Proposed Injection  
Zone**

Stratigraphy and generalized lithology of the subsurface formations underlying the proposed Zia AGI sites. Zones with active pay within the radii of investigation are shown by the red stars. Other than the Delaware Mountain Group, none of the other formations present under the site contain reservoirs with enough porosity and areal extent to support the AGI needs of the proposed Plant.

The Delaware Group, specifically the interval shown by the blue bar, is the only formation with laterally-extensive reservoirs and are sufficiently isolated from active pay zones either above or below.



COG OPERATING  
LUSK DEEP UNIT 'A' #21  
660 FSL 1750 FWL  
T19S R32E S19  
County : LEA

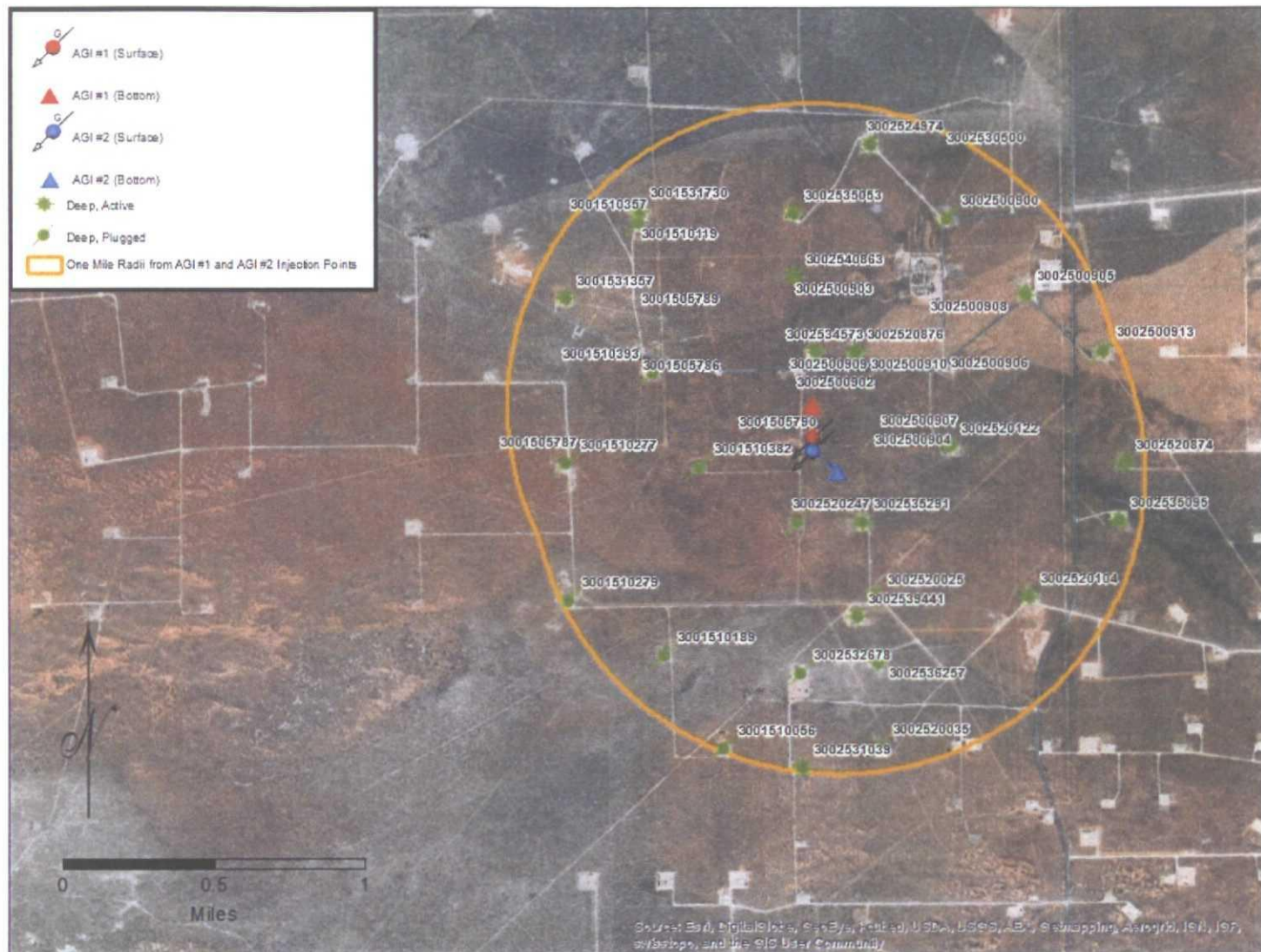


Figure 10: Wells Penetrating Injection Zone Within One Mile of Proposed Wells Zia AGI #1 and Zia AGI #2

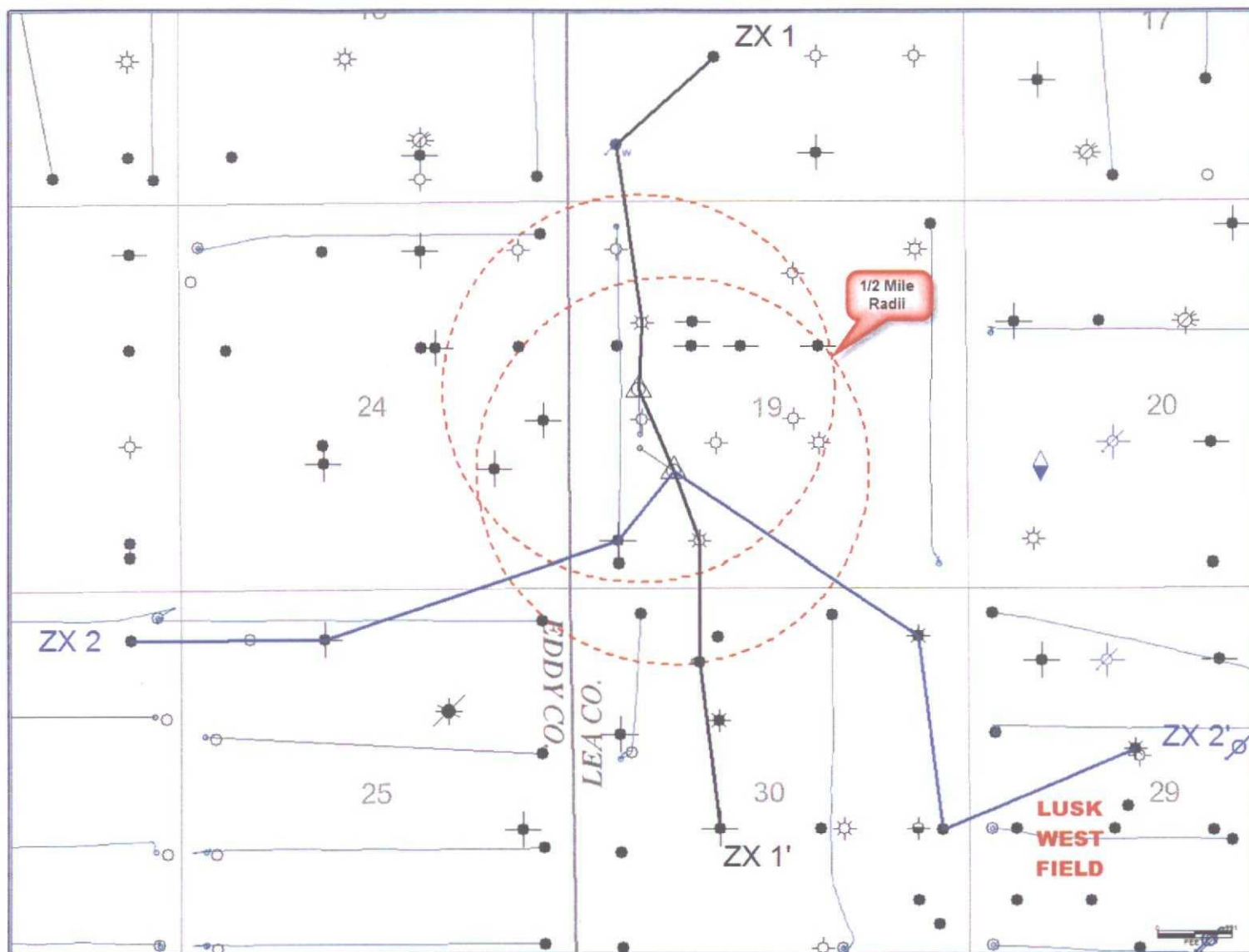
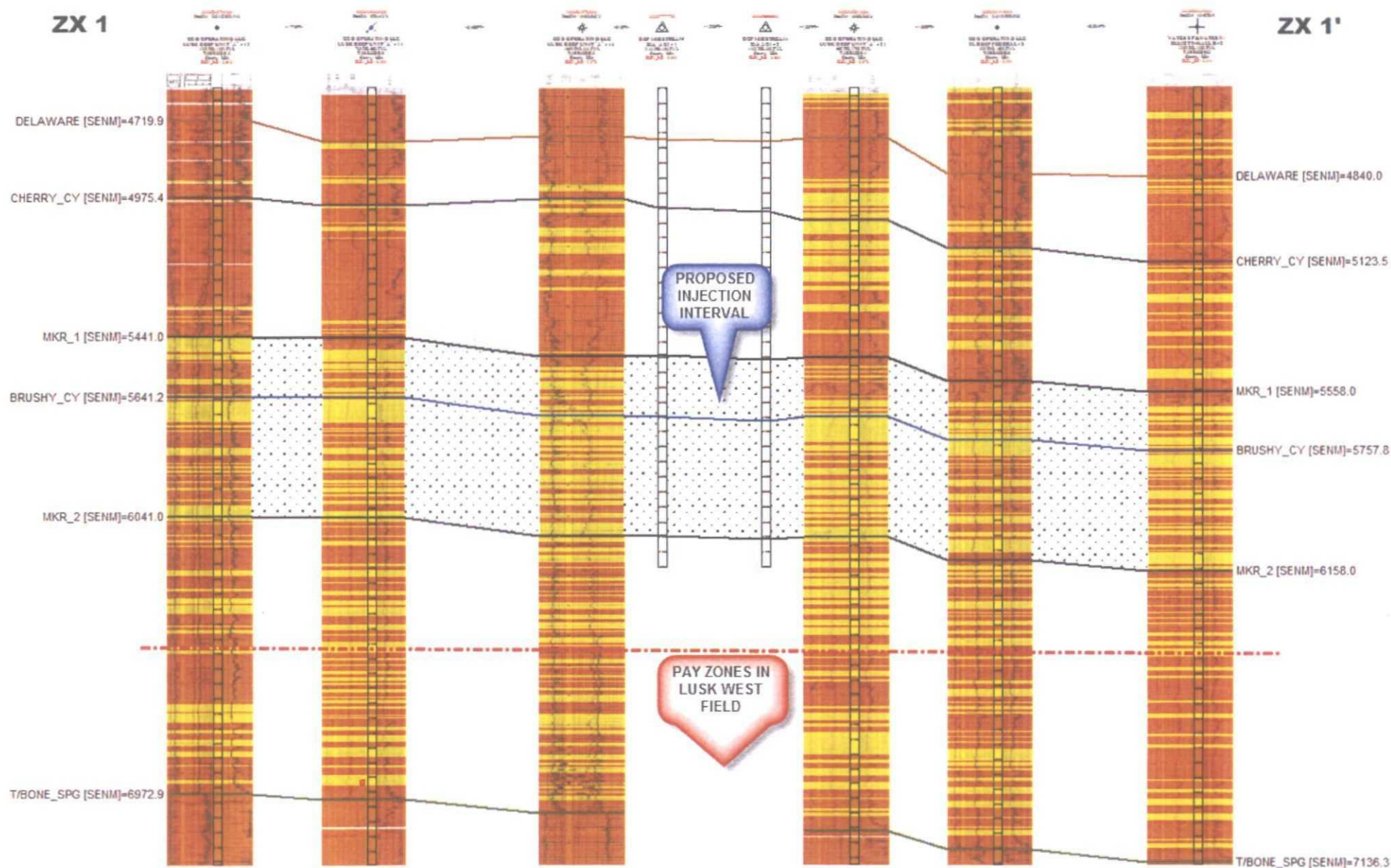


Figure 11: Locations of Cross-Sections ZP-1 and ZP-2

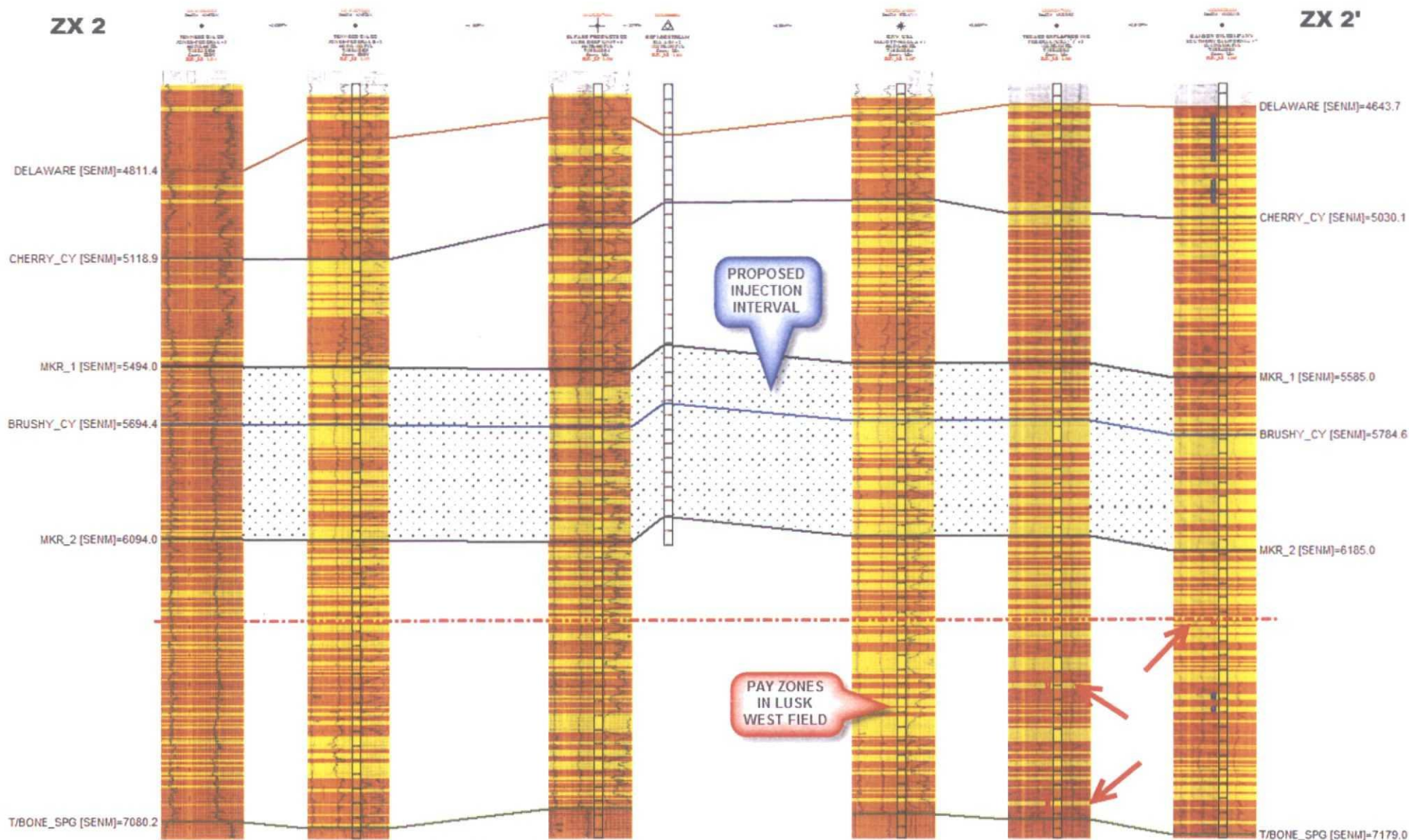




**Figure 12: Northwest-Southeast Cross Section Through Delaware Mountain Group in Proposed Injection Area**

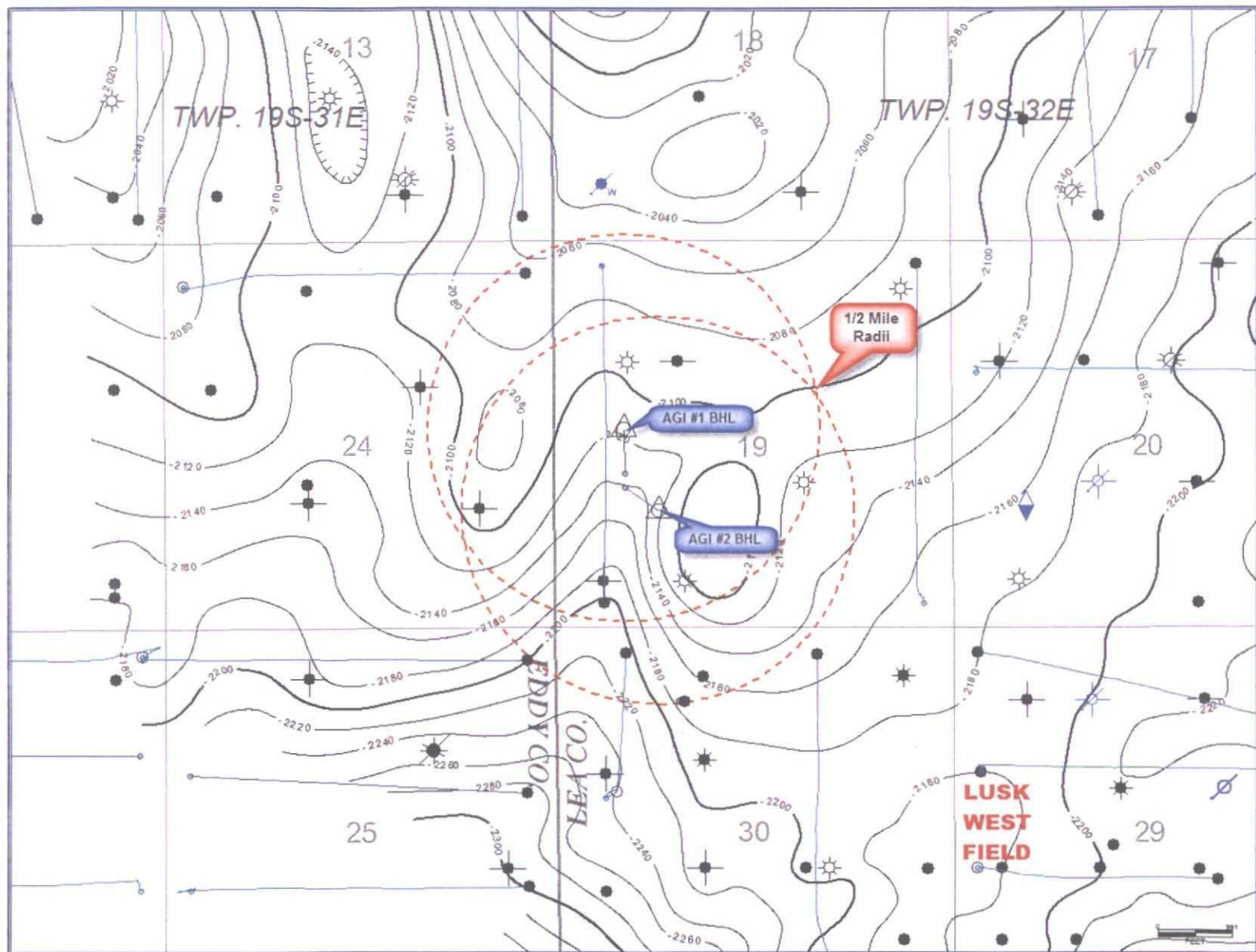
N-S structure section through the Delaware Mountain Group across the area of the proposed injection zone. Yellow shading denotes sandstone porosity in excess of 10%, and brown shading shows tight facies. There are very thick sections of tight rock above the proposed injection interval that will prevent upward migration of fluids into shallower (Yates) pay zones, and even shallower groundwater zones. There are also alternating tight and sandy facies between the injection interval and lower Brushy Canyon pay zones in the nearby Lusk West Field.





**Figure 13: West-East Cross Section Through Delaware Mountain Group in Proposed Injection Area**

The W-E structure section shows the caprock relationship above the proposed injection interval, and the intervening tight facies below that would isolate the injection interval from any remaining pay zones in the lower Brushy Canyon. The Lusk West Field produces from several confined, thinner-bedded channel sands that are encased in tight facies.



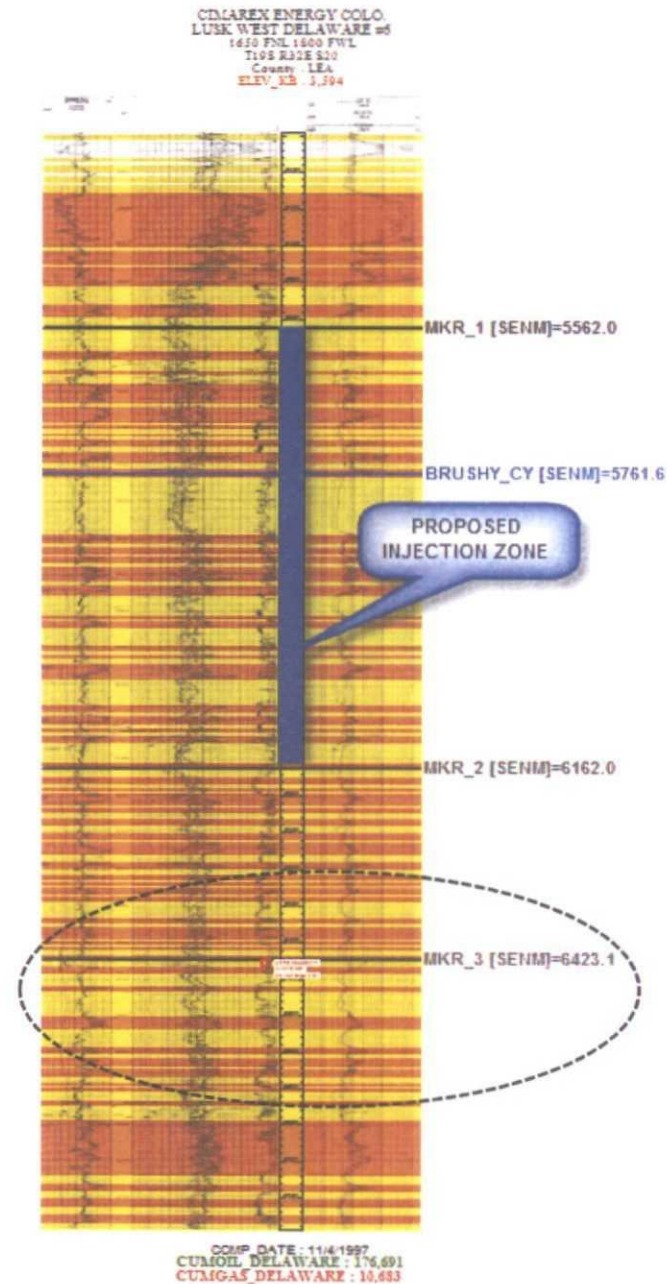
**Figure 14: Contour Map Showing Structure on Top of Brushy Canyon**

Structure, top of Brushy Canyon, Contour Interval = 20 feet. Only wells that penetrate through the proposed AGI interval are shown. Many of the lower Brushy Canyon wells in Lusk West Field have been plugged or temporarily abandoned.



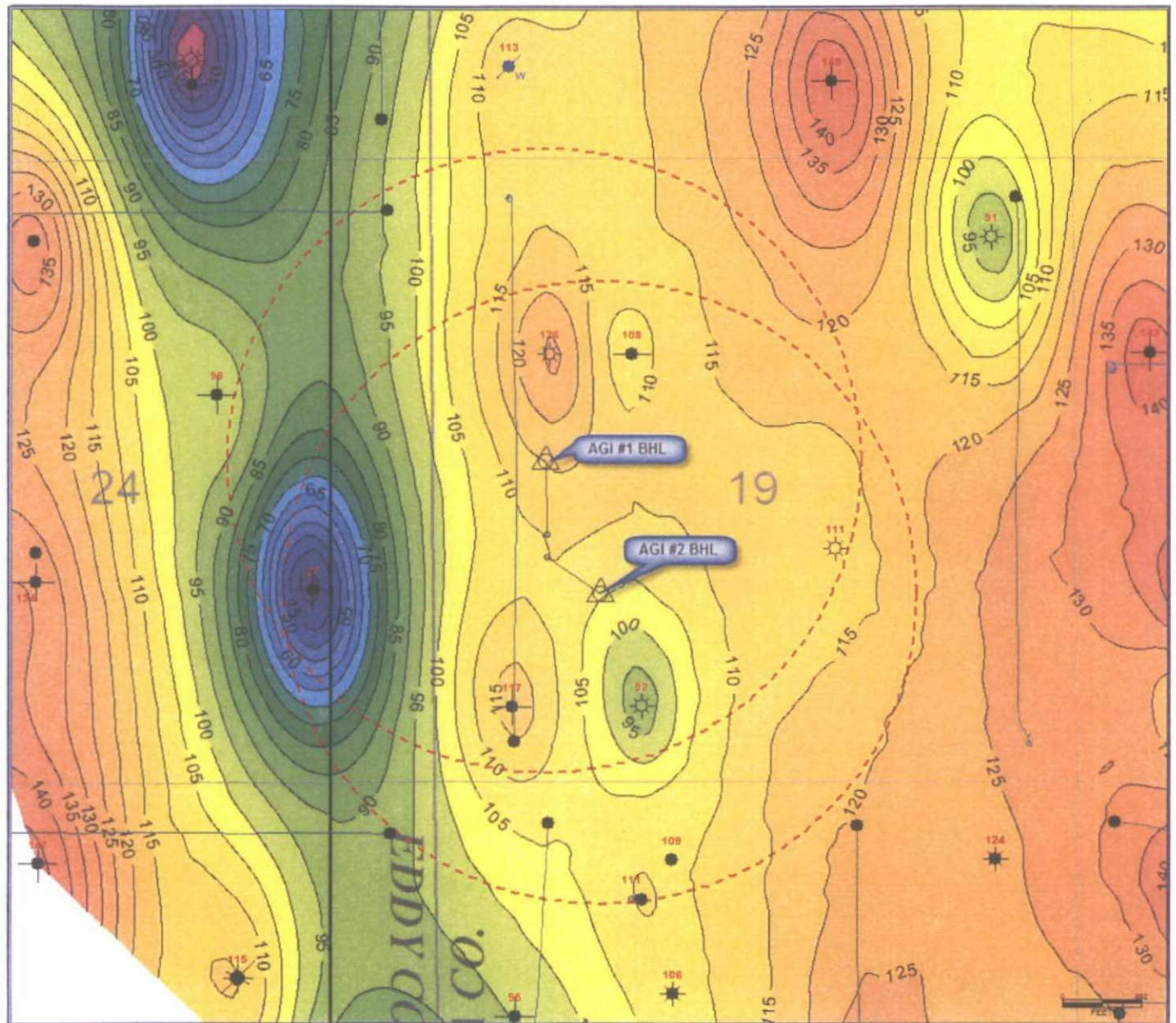
**Figure 15: Composite Log Showing Proposed Injection Zone**

The well log composite through the proposed injection interval and the lower Brushy Canyon pay zone in the active well shows a typical Delaware sequence of sands (yellow shading) and intercalated tight shales and silts (brown shading). The sands vary in porosity and generally have low permeability. The base of the proposed injection zone is nearly 300 feet above the active pay zone, separated from it by medium-bedded tight facies and interbedded sands.



**Figure 16: Net Sandstone With Porosity >10%, Lower 200 Feet Of The Cherry Canyon (Contour Interval = 5 Feet)**

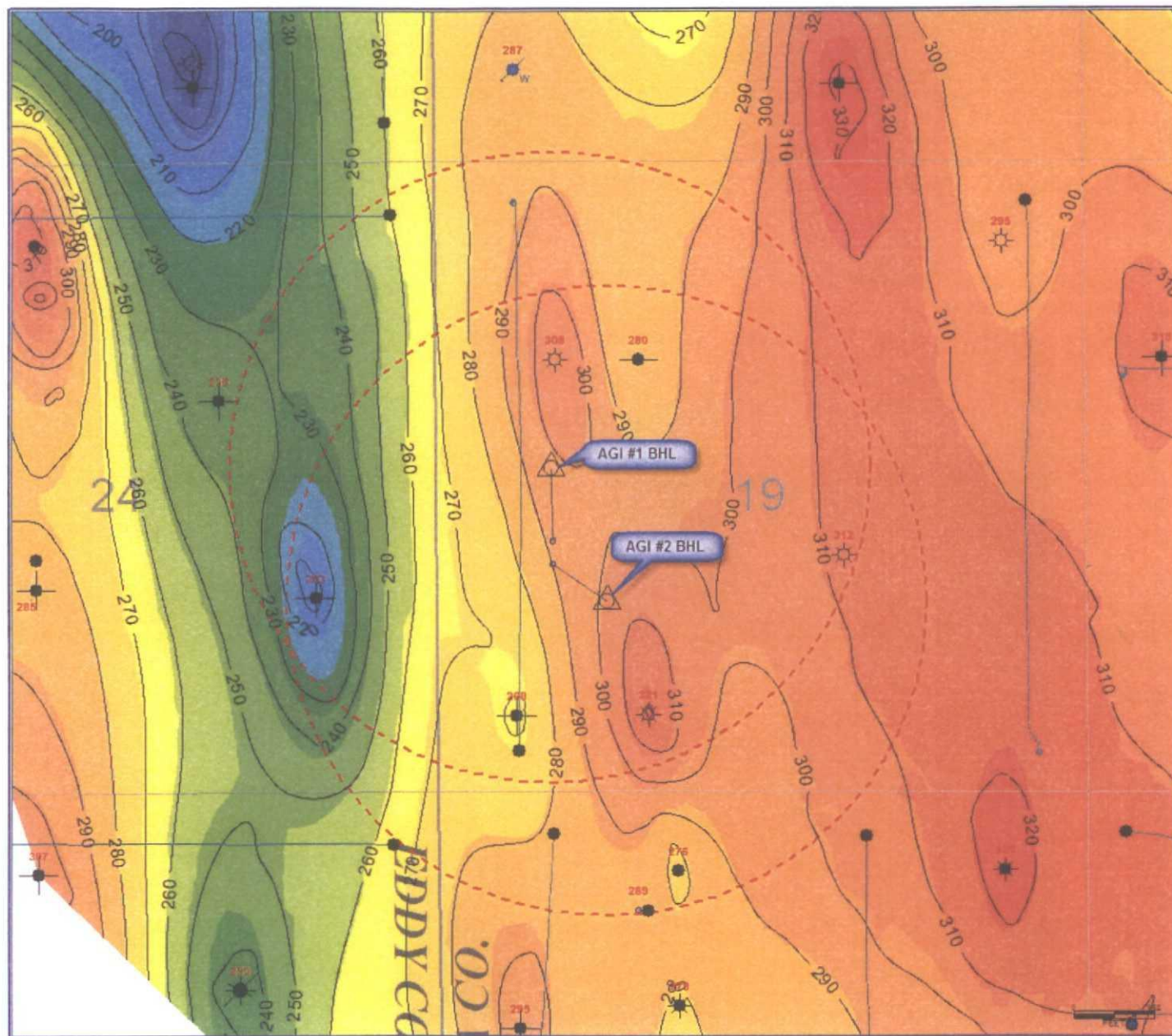
Only wells that penetrate through the proposed AGI interval are shown. The average net sand within the 1/2-mile radii is estimated at 102 feet based on a regular grid of data points that include the wells inside each radius.

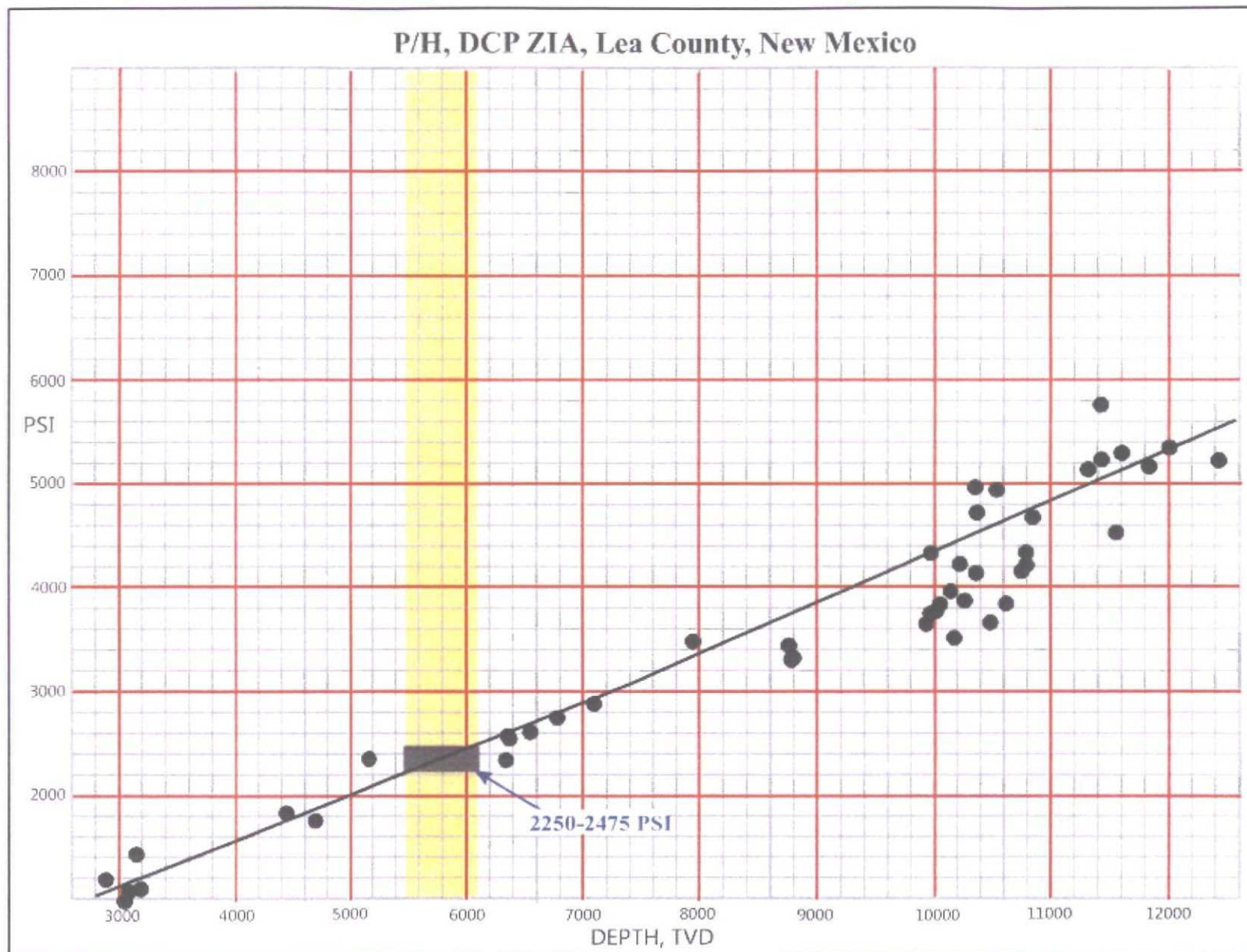




**Figure 17: Net Sandstone With Porosity >10%, Upper 400 Feet Of The Brushy Canyon (Contour Interval = 10 Feet)**

Only wells that penetrate through the proposed AGI interval are shown. The average net sand within the 1/2-mile radii is estimated at 267 feet, based on a regular grid of data points that include the wells inside each radius.





**Figure 18: Bottom Hole Pressure Trends**

Pressure-depth curve from qualified drillstem test pressure data in the area. The P-H curve shown above gives a pressure gradient of 0.45 psi/ft, which is close to the "normal" hydrostatic gradient of 0.433 psi/ft. The deepest part of the upper Brushy Canyon proposed AGI interval will be around 2475 psi bottom hole pressure.



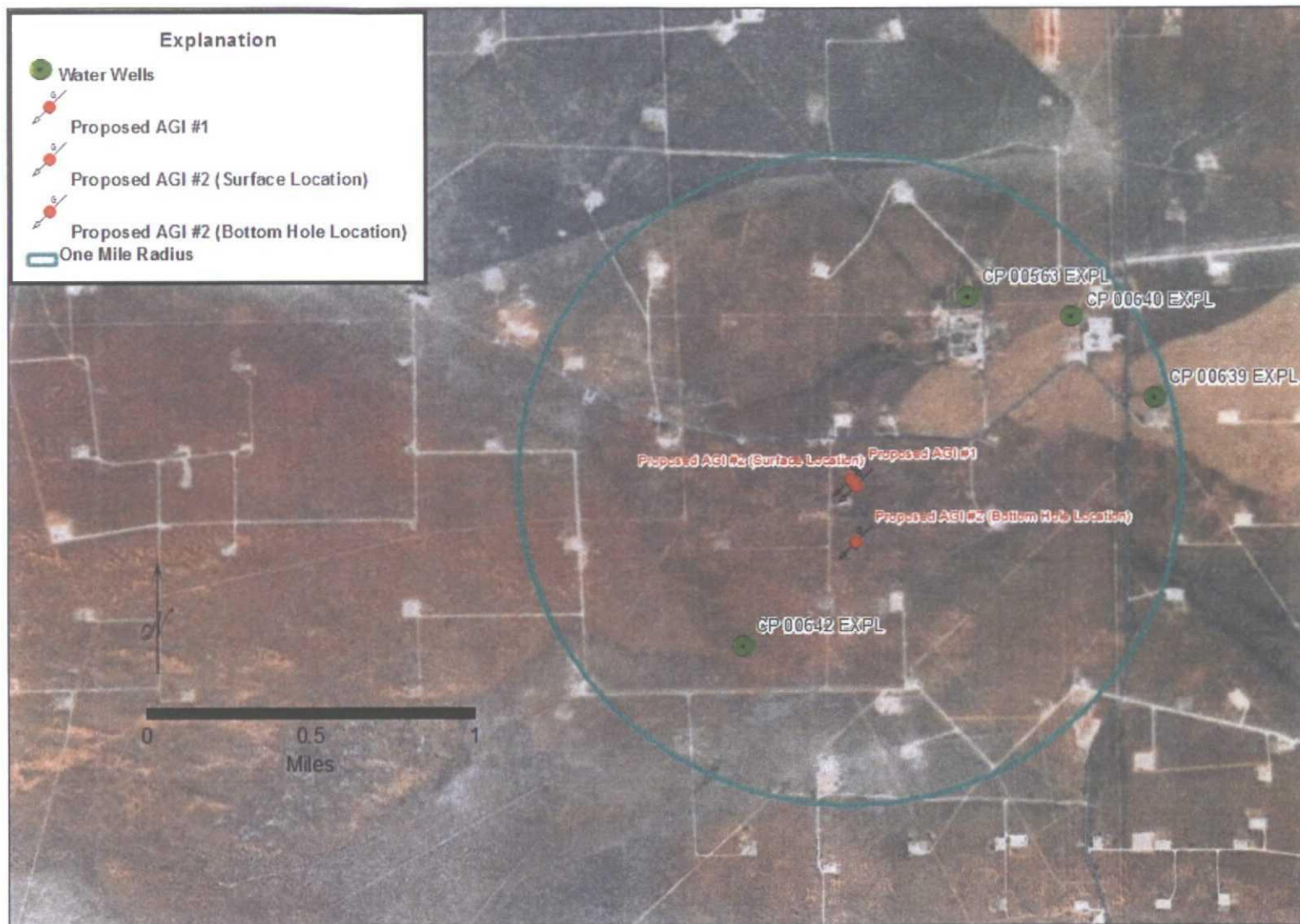


Figure 19: Water Wells Identified by the New Mexico State Engineer's Files within One Mile of the Proposed Zia AGI Wells

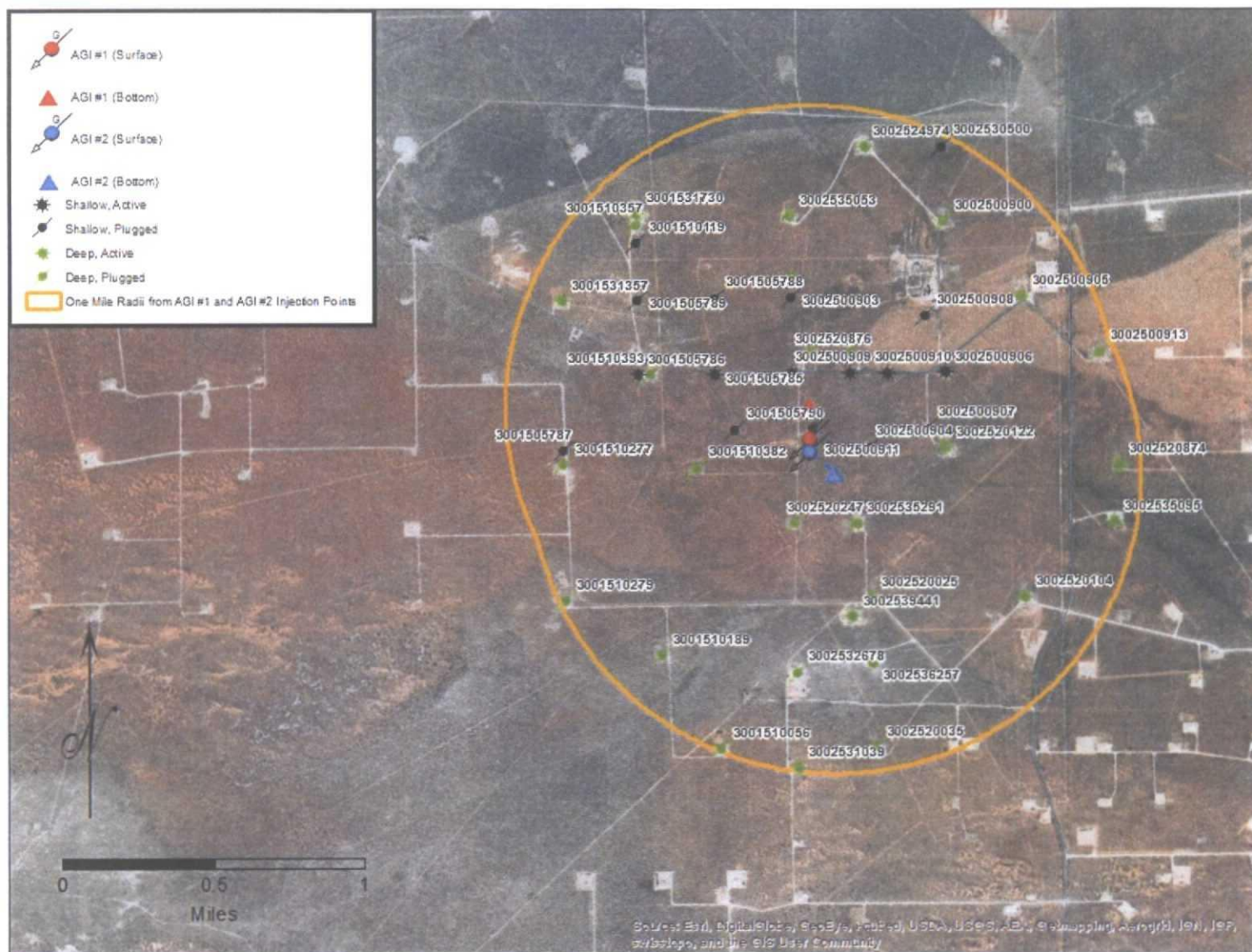


Figure 20: Wells identified within One Mile Radius of Zia AGI #1 and AGI #2



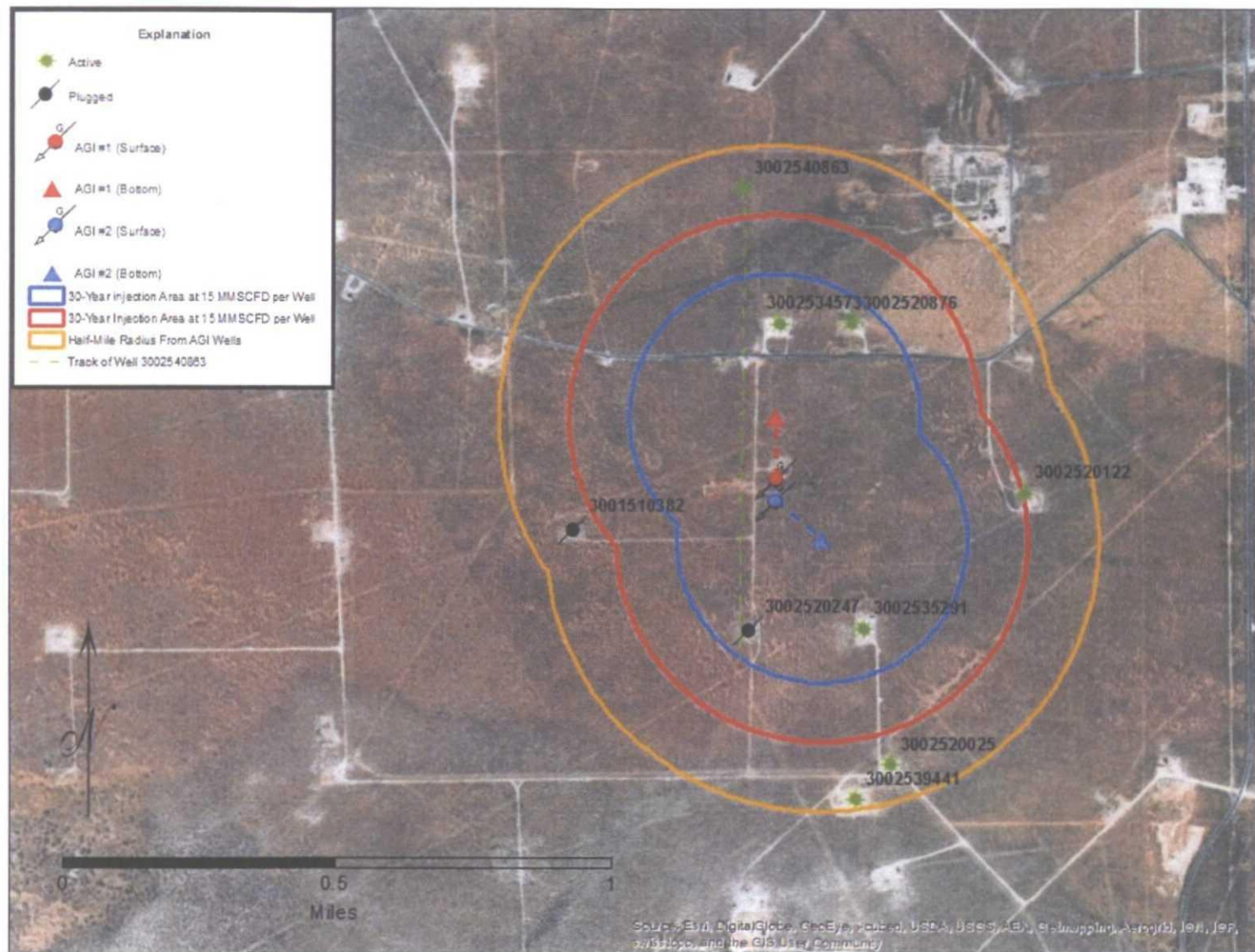


Figure 21: Wells Penetrating the Injection Zone Located Within One Half Mile of the Proposed AGI Wells

(Circles Show Anticipated Rate of 7.5 MMSCFD and 100% Safety Factor Injection Rate 15.0 MMSCFD)



LUSK DEEP UNIT A 005 (3002520122)  
WELL SCHEMATIC



Location: 1980 FSL & 1980 FHL  
STR S19-T19S-R32E  
County, St.: LEA COUNTY, NEW MEXICO

Spud Date: 2/2/1963  
Last Operator: COG

CURRENT COMPLETION

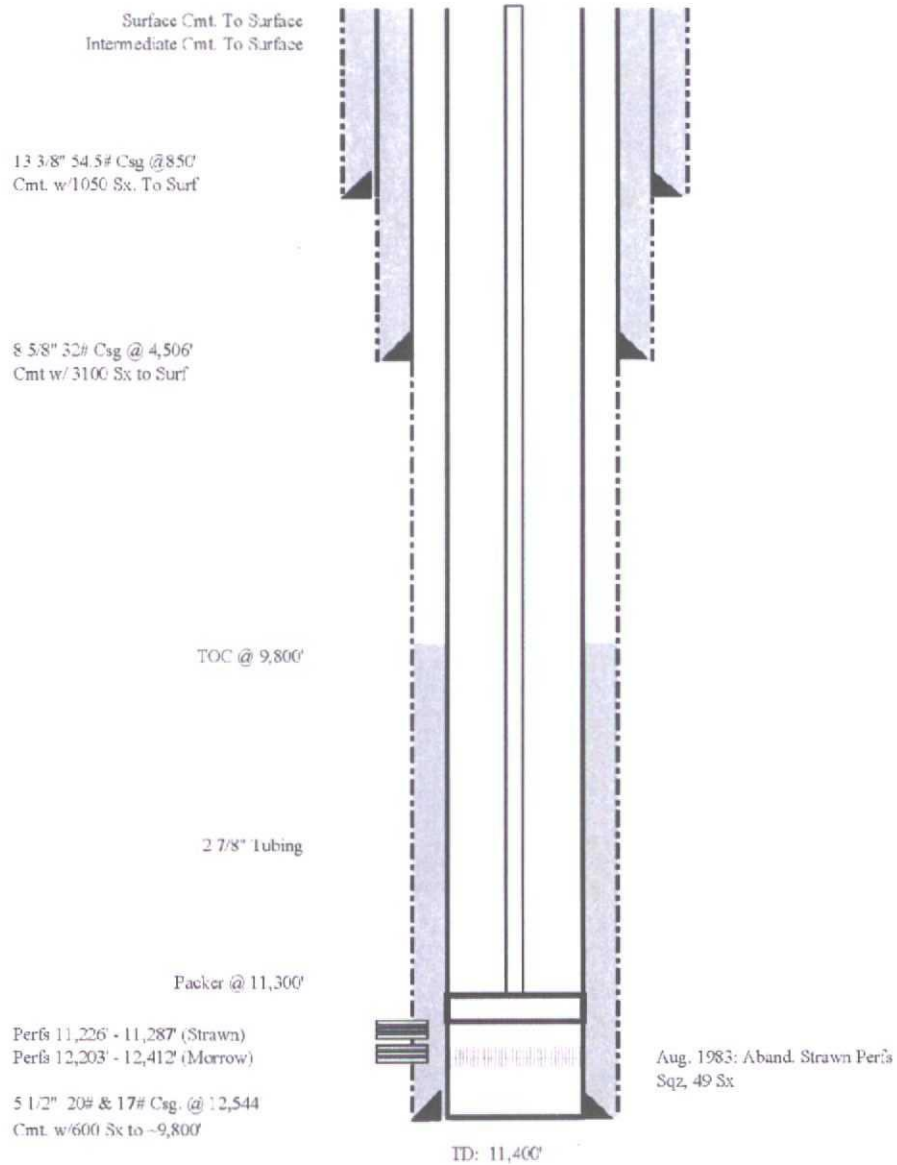


Figure 22: Lusk Deep Unit A 005 Schematic



LUSK DEEP UNIT 006 (3002520247)  
PLUGGING SCHEMATIC



Location: 660' FSL & 660' FWL  
STR S19-T19S-R32E  
County, St.: LEA COUNTY, NEW MEXICO

Spud Date: 12/16/1963  
Plug Date: 10/25/1971  
Last Operator: El Paso Products

INITIAL COMPLETION

FINAL PLUGGING

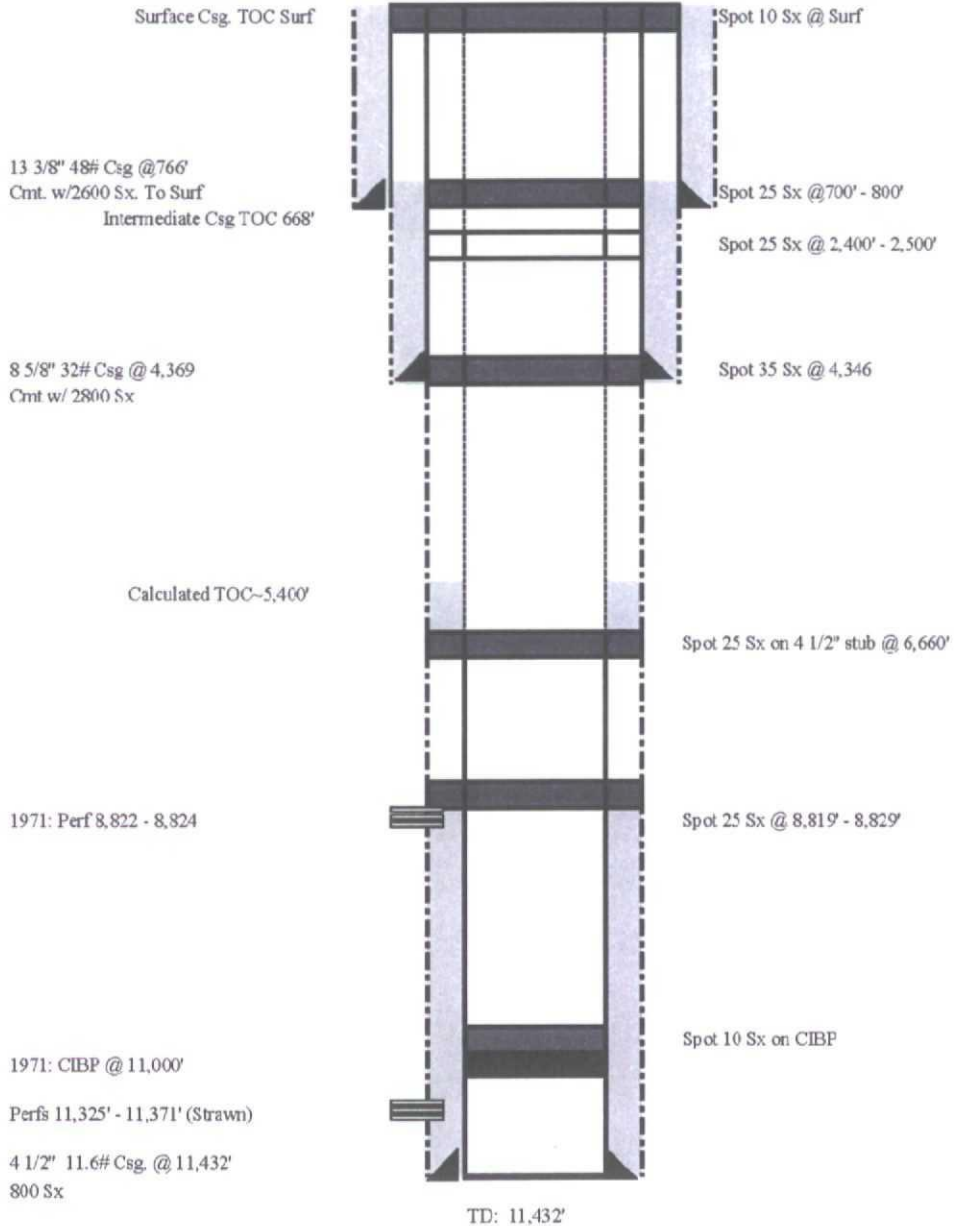


Figure 23: Lusk Deep Unit 006 Schematic



GULF FEDERAL 003 (3002520876)  
WELL SCHEMATIC



Location: 1950' FNL & 1678' FWL  
STR S19-T19S-R32E  
County, St.: LEA COUNTY, NEW MEXICO

Spud Date: 11/6/1964  
Last Operator: Tom R. Cone

CURRENT COMPLETION

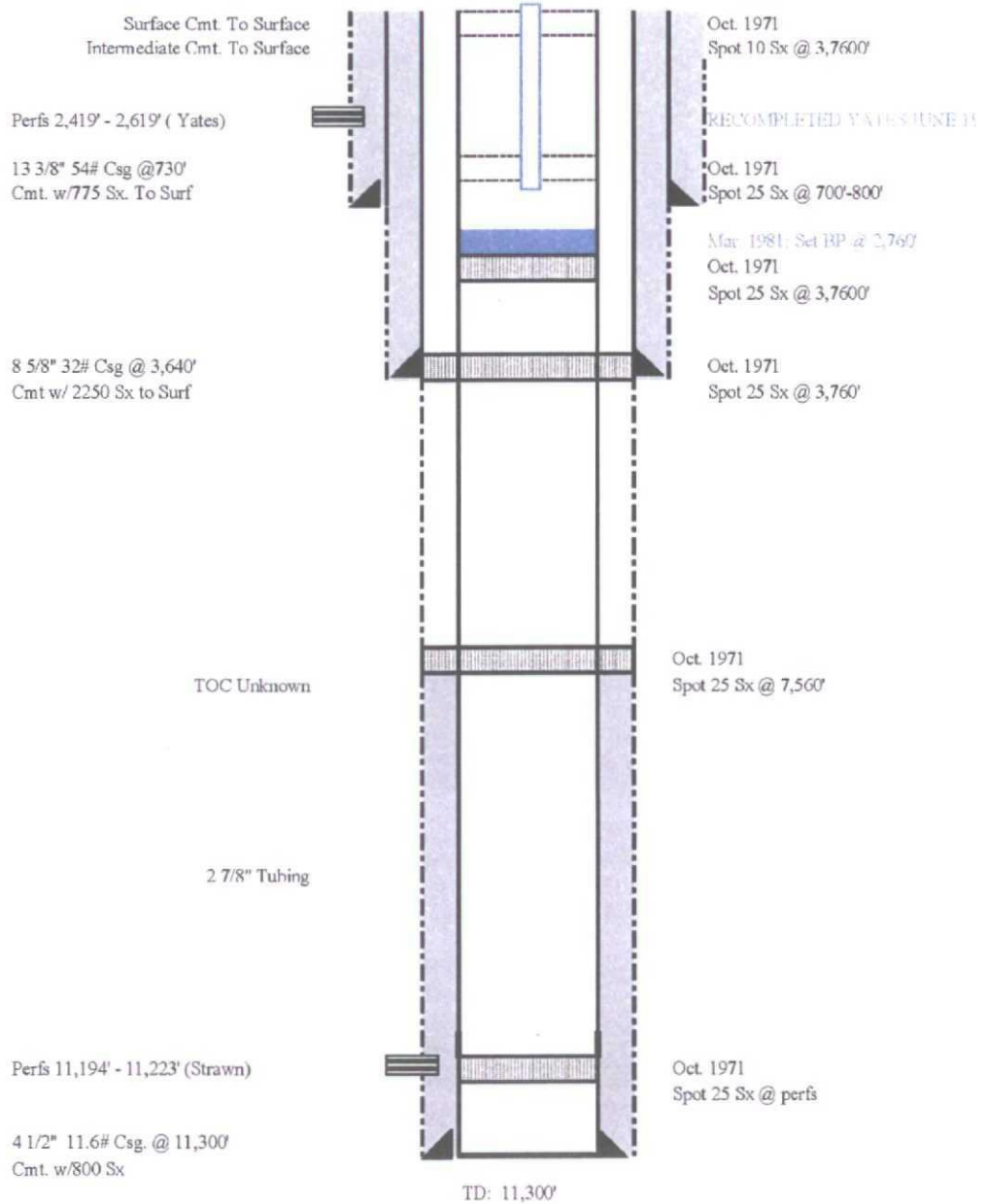


Figure 24: Gulf Federal 003 Schematic





LUSK DEEP UNIT A 014 (3002534573)  
WELL SCHEMATIC



Location: 1650' FNL & 990' FWL  
STR S19-T19S-R32E  
County, St.: LEA COUNTY, NEW MEXICO

Spud Date: 12/17/1999  
Last Operator: COG

CURRENT COMPLETION

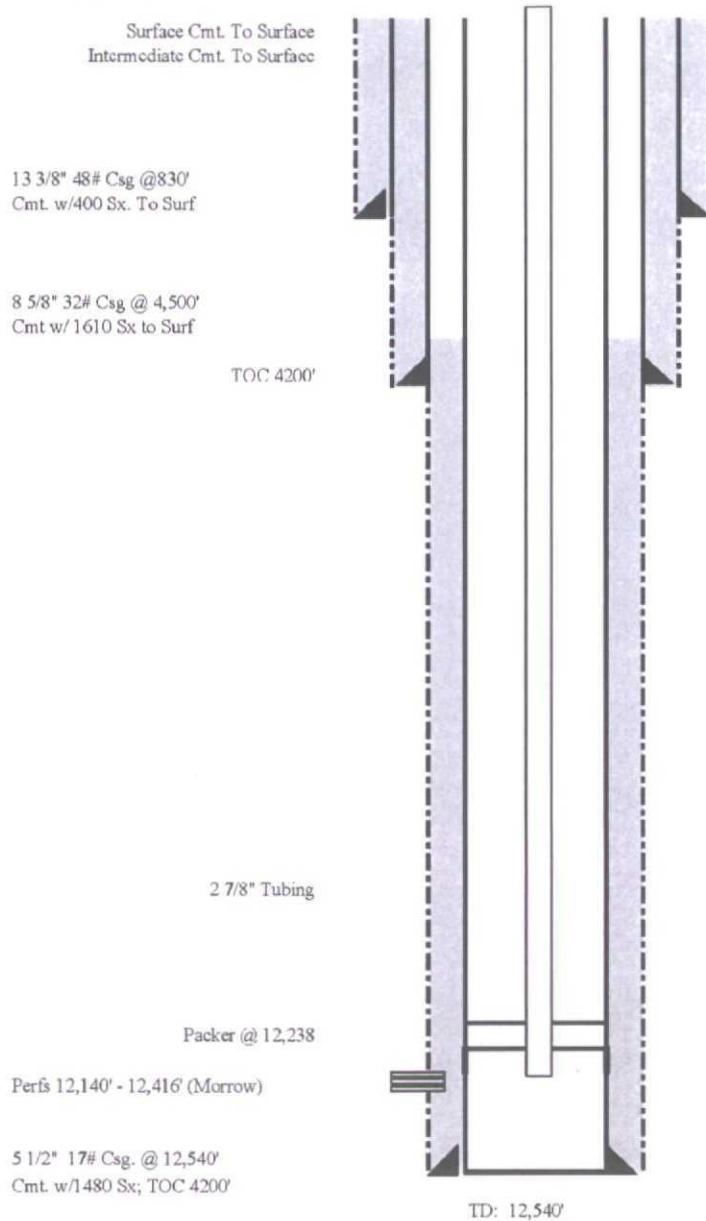


Figure 25: Lusk Deep Unit A 014 Schematic

**GEOLEX**  
INCORPORATED

LUSK DEEP UNIT A 021 (3002535291)  
WELL SCHEMATIC

**dcp**  
Midstream

Location: 660' FSL & 1750' FWL  
STR S19-T19S-R32E  
County, St.: LEA COUNTY, NEW MEXICO

Spud Date: 4/24/2001  
Last Operator: COG

**CURRENT COMPLETION**

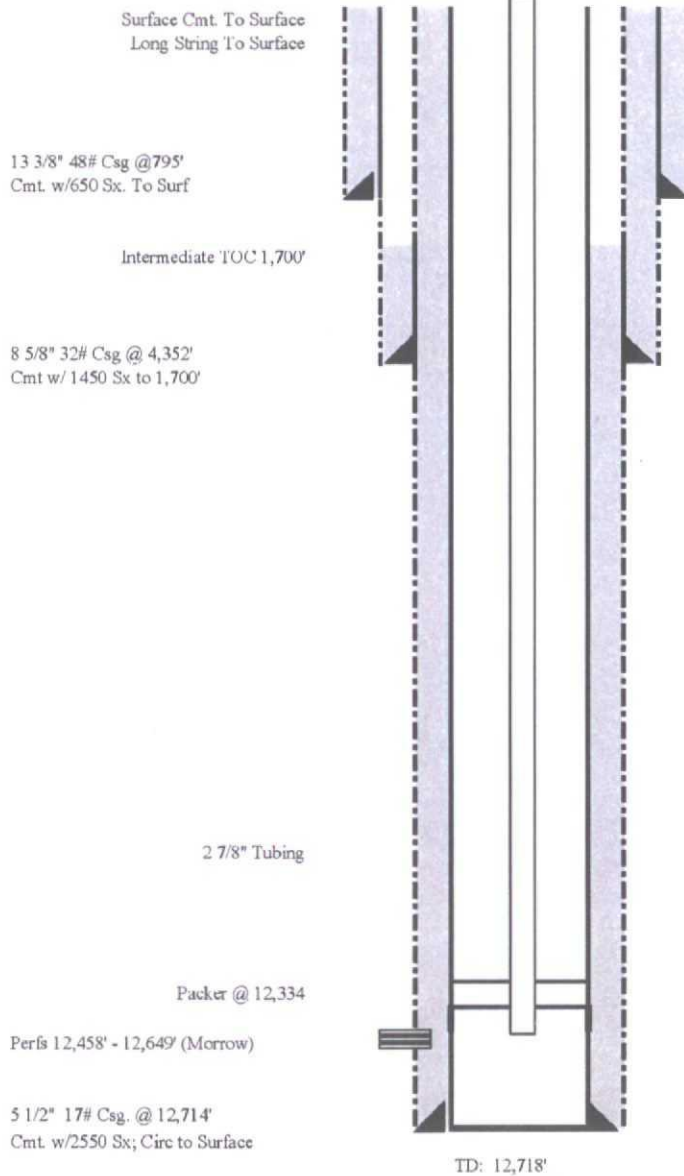


Figure 26: Lusk Deep Unit A 021 Schematic

Location: 1650' FSL. & 990' FFL.  
STR S24-T19S-R31E  
County, St.: EDDY COUNTY, NEW MEXICO

Spud Date: 4/26/1964  
Plug Date: 10/17/1994  
Last Operator: Phillips Petroleum

INITIAL COMPLETION

FINAL PLUGGING

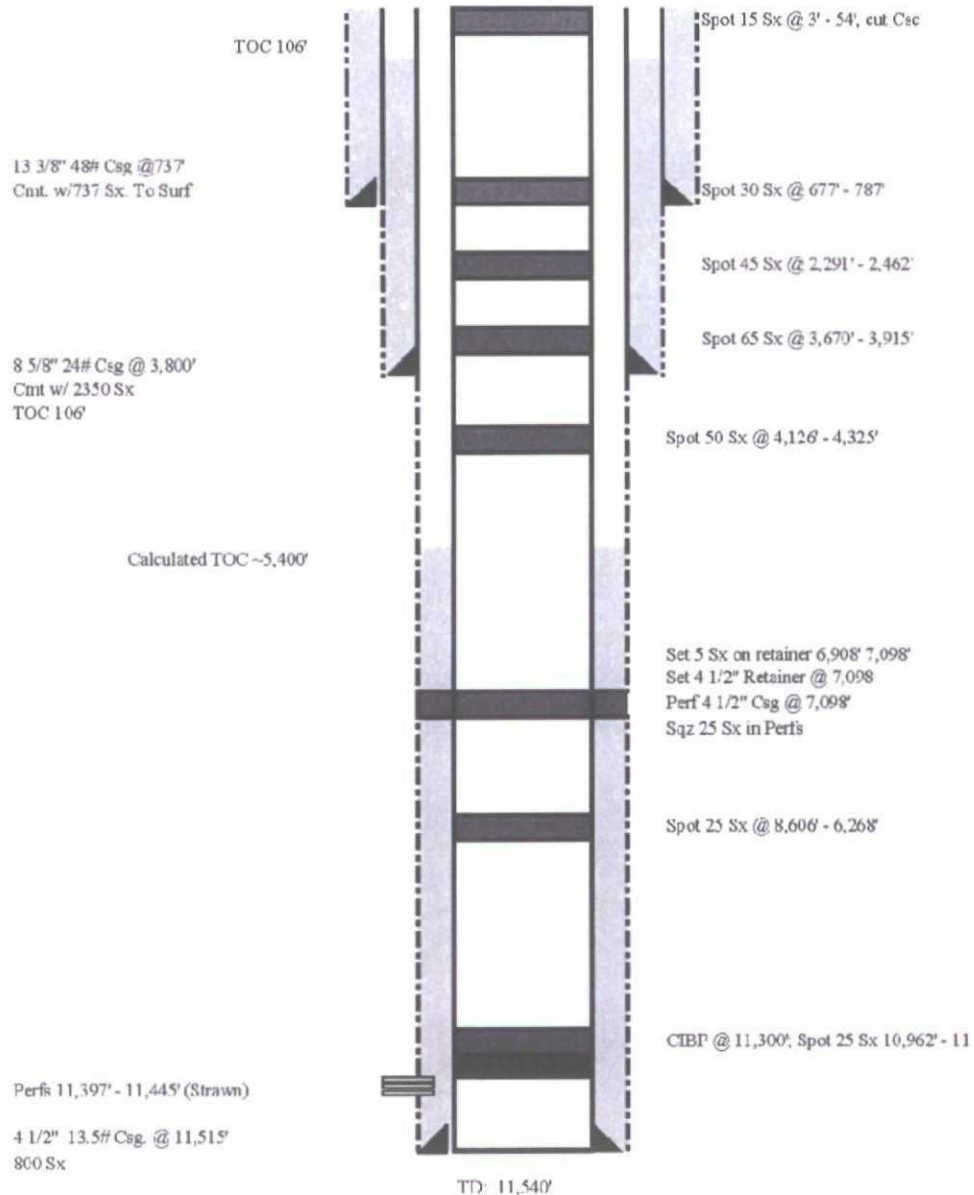


Figure 27: Lusk Deep Unit 008 Schematic

DELHI FEDERAL 001 (3002520025)  
WELL SCHEMATIC

Location: 66° FSL & 198° FEL  
SIR S30-T19S-R32E  
County, St.: LEA COUNTY, NEW MEXICO

Spud Date: 2/2/1963  
Last Operator: CHISOS, LTD

CURRENT COMPLETION

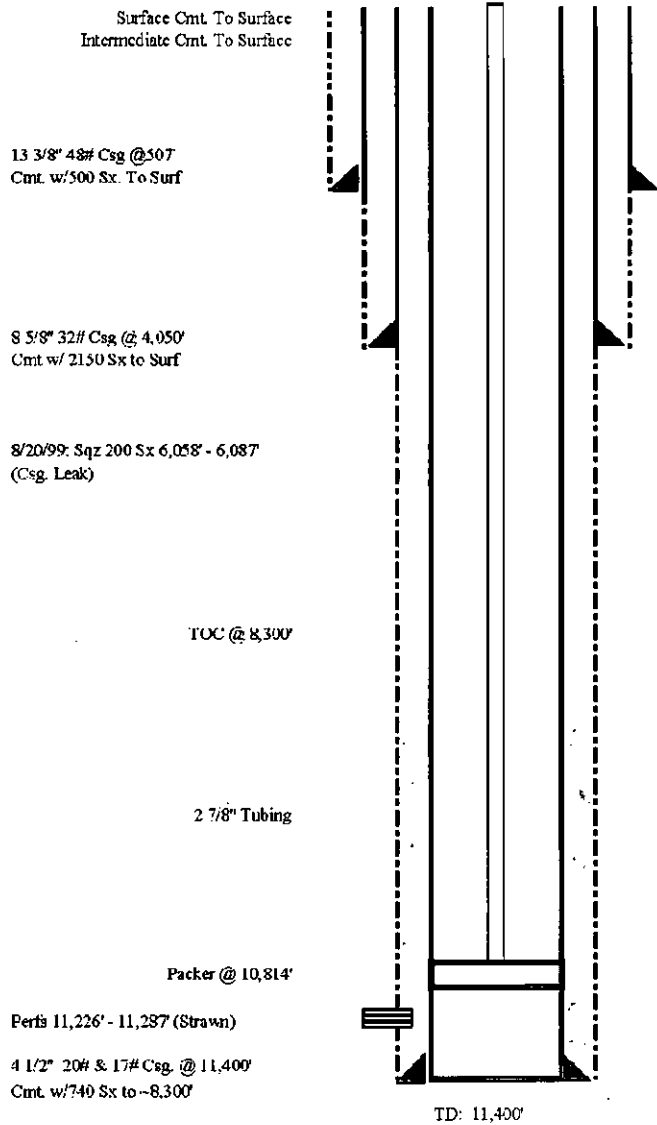


Figure 28: Delhi Federal 001 Schematic

SL DEEP FEDERAL 003 (3002539411)  
WELL SCHEMATIC

Location: 990' FNL & 1650' FWL  
STR S30-T19S-R32E  
County, St.: LEA COUNTY, NEW MEXICO

Spud Date: 6/25/2009  
Last Operator: COG Operating

CURRENT COMPLETION

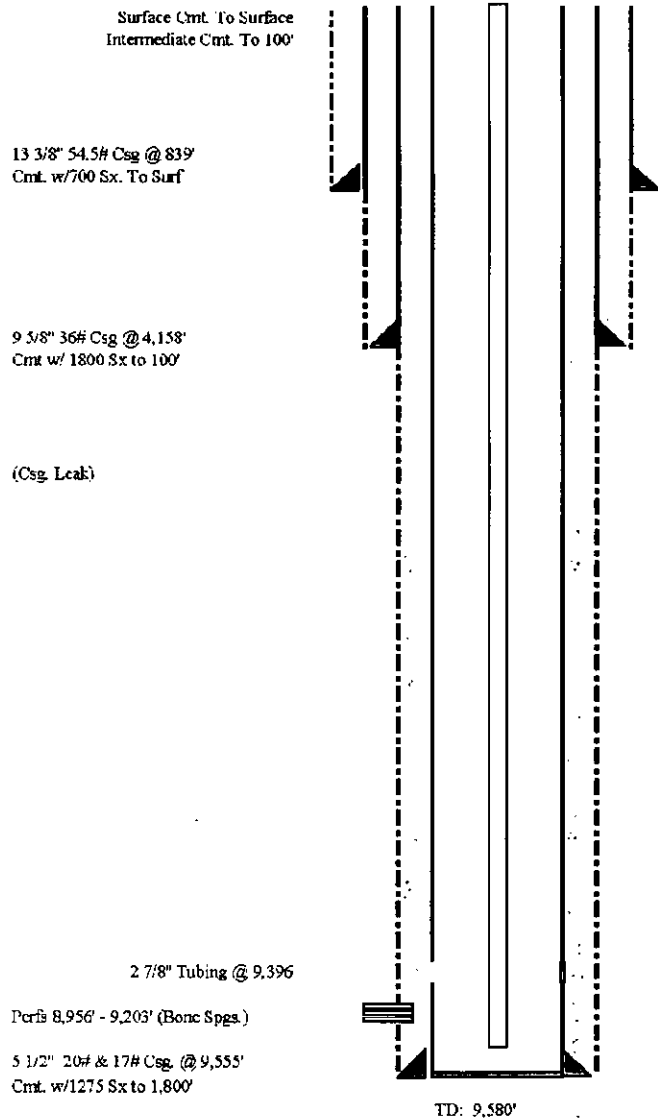


Figure 29: SL Deep Federal 003 Schematic



LUSK DEEP UNIT A 024H (3002540863)  
WELL SCHEMATIC



Surf. Location: 330' ENL. & 660' FWL.  
BH Location: 330' FSL & 660' FWL.  
STR: S19-T19S-R22E  
County, St.: LEA COUNTY, NEW MEXICO

Spud Date: 04/24/2001  
Last Operator: COG

CURRENT COMPLETION

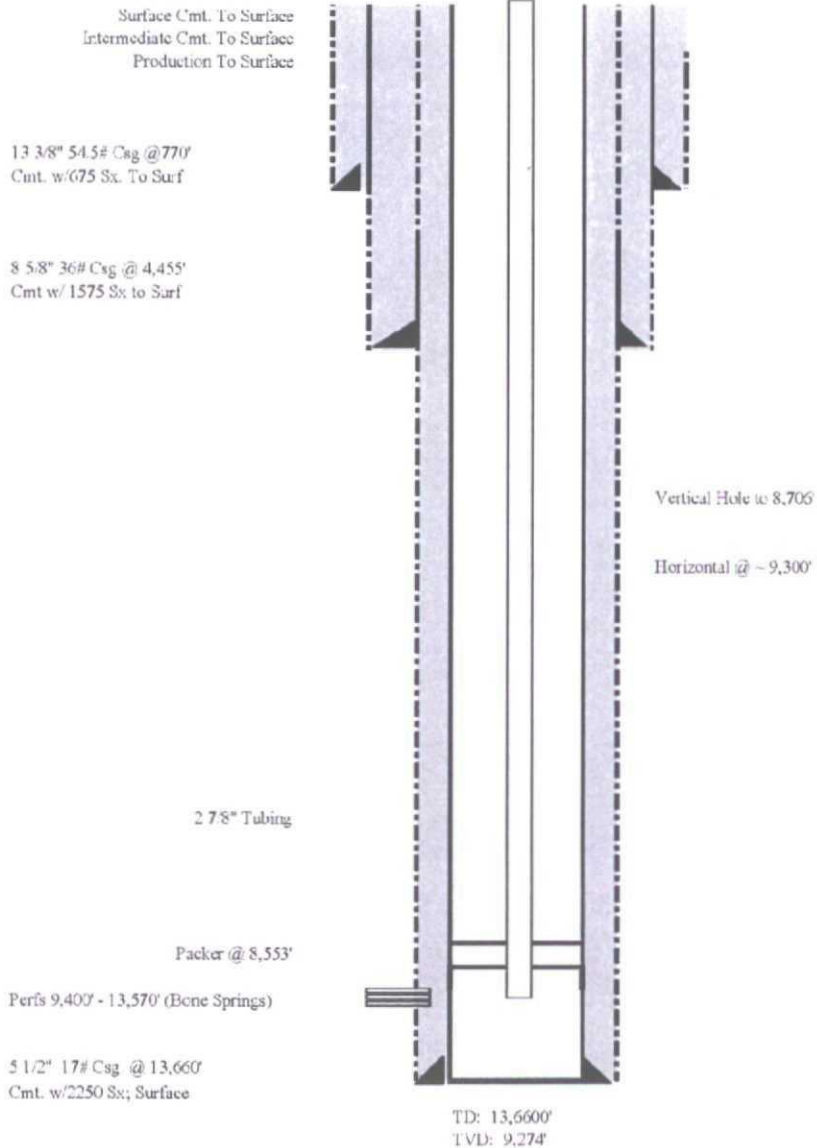


Figure 30: Lusk Deep Unit A 024H Schematic

## **APPENDIX A**

### **Information on Oil and Gas Wells within One Mile of Proposed Zia AGI #1 and AGI #2**

Table A1: All Identified Wells Within One Mile of Proposed Zia AGI Wells

API	OPERATOR	WELLNAME	SPUDDATE	PLUGDATE	RANGE	TOWNSHIP	SECTION	TVDDEPTH	DepthType	WELLTYPE	COMPLSTATUS	PRODUCING POOL
3002500911	SIMMS & REESE OIL CO	GULF 001	12/13/1959	12/30/1959	32E	19.05	19	2640	Shallow	O	Plugged	YATES-SEVEN RIVERS
3002500902	TANDEM ENERGY CORPORATION	MILLER FEDERAL 001	10/12/1942		32E	19.05	19	2634	Shallow	O	Active	YATES-SEVEN RIVERS
3002500909	TOM R CONE	GULF FEDERAL 001	8/31/1958		32E	19.05	19	2490	Shallow	O	Active	YATES-SEVEN RIVERS
3002534573	COG OPERATING LLC	LUSK DEEP UNIT A 014	12/17/1999		32E	19.05	19	12540	Deep	G	Active	LUSK;MORROW (GAS)
3002500904	CARPER DRILLING CO	MILLER 002	12/19/1942	3/1/1943	32E	19.05	19	2862	Shallow	O	Plugged	YATES-SEVEN RIVERS
3002520876	TOM R CONE	GULF FEDERAL 003	11/6/1964		32E	19.05	19	11223	Deep	O	Active	YATES-SEVEN RIVERS
3002500910	TOM R CONE	GULF FEDERAL 002	8/3/1961		32E	19.05	19	2500	Shallow	O	Active	YATES-SEVEN RIVERS
3001505790	PLAINS PROD CO	JONES 007	11/26/1945	9/20/1947	31E	19.05	24	2876	Shallow	O	Plugged	YATES-SEVEN RIVERS
3001505785	TANDEM ENERGY CORPORATION	OHIO JONES 001	10/8/1941		31E	19.05	24	2470	Shallow	O	Active	YATES-SEVEN RIVERS
3002500907	KELLY G STOUT	SOUTHERN CALIFORNIA 002	10/1/1957	3/24/1958	32E	19.05	19	2552	Shallow	O	Plugged	YATES-SEVEN RIVERS
3002500903	CARPER DRILLING CO	MILLER 001	1/20/1943	3/15/1943	32E	19.05	19	2710	Shallow	O	Plugged	YATES-SEVEN RIVERS
3002520247	EL PASO NATURAL GAS	LUSK DEEP UNIT 006	12/16/1963	1/2/1900	32E	19.05	19	11432	Deep	O	Plugged	LUSK;MORROW (GAS)
3002535291	COG OPERATING LLC	LUSK DEEP UNIT A 021	4/24/2001		32E	19.05	19	12718	Deep	G	Active	LUSK;MORROW (GAS)
3001510382	PHILLIPS PETROLEUM CO	LUSK DEEP UNIT 008	4/26/1964	10/17/1994	31E	19.05	24	11540	Deep	O	Plugged	LUSK;MORROW (GAS)
3002540863	COG OPERATING LLC	LUSK DEEP UNIT A 024H	12/19/2012		32E	19.05	19	13660	Deep	O	Active	LUSK;MORROW (GAS)
3002500906	TOM R CONE	SOUTHERN CALIFORNIA PET FEDERAL 001	1/2/1957		32E	19.05	19	2715	Shallow	O	Active	YATES-SEVEN RIVERS
3002520122	COG OPERATING LLC	LUSK DEEP UNIT A 005	4/16/1963		32E	19.05	19	12554	Deep	G	Active	LUSK;MORROW (GAS)
3002500908	KELLY G STOUT	SOUTHERN CALIFORNIA 003	2/7/1961	3/7/1961	32E	19.05	19	2695	Shallow	O	Plugged	YATES-SEVEN RIVERS
3001505788	PLAINS PROD CO	JONES 005	1/2/1900	1/1/1901	31E	19.05	24	0	Shallow	O	Plugged	NOT SPECIFIED
3001510393	FINA OIL & CHEMICAL	JONES G FED COM 001	10/17/1964	11/19/1992	31E	19.05	24	11515	Deep	O	Plugged	LUSK;MORROW (GAS)
3001505786	TANDEM ENERGY CORPORATION	OHIO JONES 002	3/1/1942		31E	19.05	24	2654	Shallow	O	Active	YATES-SEVEN RIVERS
3002535053	COG OPERATING LLC	LUSK DEEP UNIT A 016	6/15/2000		32E	19.05	18	12780	Deep	S	Active	LUSK;MORROW (GAS)
3002520025	CHISOS, LTD	DELHI FEDERAL 001	2/2/1963		32E	19.05	30	11286	Deep	O	Active	LUSK;STRAWN
3001505789	MACK ENERGY CORP	OHIO JONES FED 006	11/26/1942	8/20/1991	31E	19.05	24	2556	Shallow	O	Plugged	YATES-SEVEN RIVERS
3002539441	COG OPERATING LLC	SL DEEP FEDERAL 003	9/15/2009		32E	19.05	30	9580	Deep	O	Active	LUSK;MORROW (GAS)
3002500900	EL PASO NATURAL GAS	LUSK DEEP UNIT 002	11/16/1960	9/9/1971	32E	19.05	18	13974	Deep	O	Plugged	LUSK;MORROW (GAS)
3002500905	COG OPERATING LLC	LUSK DEEP UNIT A 001	5/21/1975		32E	19.05	19	12453	Deep	G	Active	LUSK;MORROW (GAS)
3001510119	H N SWEENEY	MALONE FED 001	3/24/1963	5/2/1963	31E	19.05	13	680	Shallow	O	Plugged	YATES-SEVEN RIVERS
3001505787	PLAINS PROD CO	JONES 003	1/2/1900	1/1/1901	31E	19.05	24	0	Shallow	O	Plugged	NOT SPECIFIED
3001510277	DOWDCO INC	JONES C FEDERAL 001	4/20/1964	1/27/2006	31E	19.05	24	11530	Deep	O	Plugged	LUSK;MORROW (GAS)
3001510357	PHILLIPS PETROLEUM CO	SIMON A 001	2/16/1965	8/19/1994	31E	19.05	13	11600	Deep	O	Plugged	LUSK;MORROW (GAS)
3002536257	COG OPERATING LLC	SL DEEP FEDERAL 002	4/29/2003		32E	19.05	30	12640	Deep	G	Active	LUSK;MORROW (GAS)
3001531730	COG OPERATING LLC	MARGARET 13 FEDERAL 001	8/26/2001		31E	19.05	13	12725	Deep	O	Active	LUSK;MORROW (GAS)
3002532678	OXY USA INC	GECKO FEDERAL 001	10/8/1994	3/20/2012	32E	19.05	30	7280	Deep	O	Plugged	YATES-SEVEN RIVERS
3002524974	COG OPERATING LLC	LUSK DEEP UNIT A 013	4/14/1975		32E	19.05	18	12520	Deep	G	Active	LUSK;BONE SPRING
3001531357	DEVON ENERGY PRODUCTION COMPANY, LP	RADAR 24 FEDERAL 001	10/4/2000		31E	19.05	24	12750	Deep	O	Active	LUSK;BONE SPRING, WEST
3002520104	OXY USA INC	ELLIOTT HALL A 001	9/28/1962		32E	19.05	30	12475	Deep	O	Active	LUSK;STRAWN
3002500913	EL PASO NATURAL GAS	LUSK DEEP UNIT 003	7/22/1961	1/2/1900	32E	19.05	20	12621	Deep	O	Plugged	LUSK;MORROW (GAS)
3001510189	FINA OIL & CHEMICAL	JONES FEDERAL 002	4/2/1963	1/10/1994	31E	19.05	25	12775	Deep	O	Plugged	LUSK;MORROW (GAS)
3002530500	FRED POOL DRLG INC	LUSK FEDERAL 001	11/10/1988	4/2/1989	32E	19.05	18	2820	Shallow	O	Plugged	YATES-SEVEN RIVERS
3002520874	CIMAREX ENERGY CO. OF COLORADO	LUSK WEST DELAWARE UNIT 012	2/11/1964		32E	19.05	20	11467	Deep	W	Active	WSW;DELAWARE
3001510279	DOWDCO INC	JONES B FEDERAL 002	3/10/1964	2/26/2006	31E	19.05	25	11550	Deep	O	Plugged	LUSK;MORROW (GAS)
3002535095	COG OPERATING LLC	LUSK DEEP UNIT A 017	9/15/2000		32E	19.05	20	12750	Deep	G	Active	LUSK;STRAWN
3002520035	OXY USA INC	ELLIOTT HALL B 002	3/15/2012	3/14/2012	32E	19.05	30	11325	Deep	O	Plugged	LUSK;DELAWARE, WEST
3001510056	LYNX PETROLEUM CONSULTANTS INC	JONES B FEDERAL 001	5/7/1997	5/7/1997	31E	19.05	25	11535	Deep	O	Plugged	LUSK;MORROW (GAS)
3002531039	OXY USA INC	FEDERAL 30 001	11/17/1990		32E	19.05	30	7300	Deep	O	Active	LUSK;DELAWARE, WEST

Active Well

Plugged Well

Well with missing NMOCD online files



Table A2: All Identified Wells Penetrating Proposed Injection Zone Within One Mile of Proposed Zia AGI Wells												
API	OPERATOR	WELLNAME	SPUDDATE	PLUGDATE	RANGE	TOWNSHIP	SECTION	TVDDEPTH	DepthType	WELLTYPE	COMPLSTATUS	PRODUCING POOL
3002534573	COG OPERATING LLC	LUSK DEEP UNIT A 014	12/17/1999		32E	19.0S	19	12540	Deep	G	Active	LUSK;MORROW (GAS)
3002520876	TOM R CONE	GULF FEDERAL 003	11/6/1964		32E	19.0S	19	11223	Deep	O	Active	YATES-SEVEN RIVERS
3002520247	EL PASO NATURAL GAS	LUSK DEEP UNIT 006	12/16/1963	1/2/1900	32E	19.0S	19	11432	Deep	O	Plugged	LUSK;MORROW (GAS)
3002535291	COG OPERATING LLC	LUSK DEEP UNIT A 021	4/24/2001		32E	19.0S	19	12718	Deep	G	Active	LUSK;MORROW (GAS)
3001510382	PHILLIPS PETROLEUM CO	LUSK DEEP UNIT 008	4/26/1964	10/17/1994	31E	19.0S	24	11540	Deep	O	Plugged	LUSK;MORROW (GAS)
3002540863	COG OPERATING LLC	LUSK DEEP UNIT A 024H	12/19/2012		32E	19.0S	19	13660	Deep	O	Active	LUSK;MORROW (GAS)
3002520122	COG OPERATING LLC	LUSK DEEP UNIT A 005	4/16/1963		32E	19.0S	19	12554	Deep	G	Active	LUSK;MORROW (GAS)
3001510393	FINA OIL & CHEMICAL	JONES G FED COM 001	10/17/1964	11/19/1992	31E	19.0S	24	11515	Deep	O	Plugged	LUSK;MORROW (GAS)
3002535053	COG OPERATING LLC	LUSK DEEP UNIT A 016	6/15/2000		32E	19.0S	18	12780	Deep	S	Active	LUSK;MORROW (GAS)
3002520025	CHISOS, LTD	DELHI FEDERAL 001	2/2/1963		32E	19.0S	30	11286	Deep	O	Active	LUSK;STRAWN
3002539441	COG OPERATING LLC	SL DEEP FEDERAL 003	9/15/2009		32E	19.0S	30	9580	Deep	O	Active	LUSK;MORROW (GAS)
3002500900	EL PASO NATURAL GAS	LUSK DEEP UNIT 002	11/16/1960	9/9/1971	32E	19.0S	18	13974	Deep	O	Plugged	LUSK;MORROW (GAS)
3002500905	COG OPERATING LLC	LUSK DEEP UNIT A 001	5/21/1975		32E	19.0S	19	12453	Deep	G	Active	LUSK;MORROW (GAS)
3001510277	DOWDCO INC	JONES C FEDERAL 001	4/20/1964	1/27/2006	31E	19.0S	24	11530	Deep	O	Plugged	LUSK;MORROW (GAS)
3001510357	PHILLIPS PETROLEUM CO	SIMON A 001	2/16/1965	8/19/1994	31E	19.0S	13	11600	Deep	O	Plugged	LUSK;MORROW (GAS)
3002536257	COG OPERATING LLC	SL DEEP FEDERAL 002	4/29/2003		32E	19.0S	30	12640	Deep	G	Active	LUSK;MORROW (GAS)
3001531730	COG OPERATING LLC	MARGARET 13 FEDERAL 001	8/26/2001		31E	19.0S	13	12725	Deep	O	Active	LUSK;MORROW (GAS)
3002532678	OXY USA INC	GECKO FEDERAL 001	10/8/1994	3/20/2012	32E	19.0S	30	7280	Deep	O	Plugged	YATES-SEVEN RIVERS
3002524974	COG OPERATING LLC	LUSK DEEP UNIT A 013	4/14/1975		32E	19.0S	18	12520	Deep	G	Active	LUSK;BONE SPRING
3001531357	DEVON ENERGY PRODUCTION COMPANY, LP	RADAR 24 FEDERAL 001	10/4/2000		31E	19.0S	24	12750	Deep	O	Active	LUSK;BONE SPRING, WEST
3002520104	OXY USA INC	ELLIOTT HALL A 001	9/28/1962		32E	19.0S	30	12475	Deep	O	Active	LUSK;STRAWN
3002500913	EL PASO NATURAL GAS	LUSK DEEP UNIT 003	7/22/1961	1/2/1900	32E	19.0S	20	12621	Deep	O	Plugged	LUSK;MORROW (GAS)
3001510189	FINA OIL & CHEMICAL	JONES FEDERAL 002	4/2/1963	1/10/1994	31E	19.0S	25	12775	Deep	O	Plugged	LUSK;MORROW (GAS)
3002520874	CIMAREX ENERGY CO. OF COLORADO	LUSK WEST DELAWARE UNIT 012	2/11/1964		32E	19.0S	20	11467	Deep	W	Active	WSW;DELAWARE
3001510279	DOWDCO INC	JONES B FEDERAL 002	3/10/1964	2/26/2006	31E	19.0S	25	11550	Deep	O	Plugged	LUSK;MORROW (GAS)
3002535095	COG OPERATING LLC	LUSK DEEP UNIT A 017	9/15/2000		32E	19.0S	20	12750	Deep	G	Active	LUSK;STRAWN
3002520035	OXY USA INC	ELLIOTT HALL B 002	3/15/2012	3/14/2012	32E	19.0S	30	11325	Deep	O	Plugged	LUSK;DELAWARE, WEST
3001510056	LYNX PETROLEUM CONSULTANTS INC	JONES B FEDERAL 001	5/7/1997	5/7/1997	31E	19.0S	25	11535	Deep	O	Plugged	LUSK;MORROW (GAS)
3002531039	OXY USA INC	FEDERAL 30 001	11/17/1990		32E	19.0S	30	7300	Deep	O	Active	LUSK;DELAWARE, WEST

☐ Active Well

☐ Plugged Well

**Table A3: All Wells Penetrating Proposed Injection Zone within One Half Mile of Proposed Zia AGI #1 and #2**

API	OPERATOR	WELLNAME	SPUDDATE	PLUGDATE	RANGE	TOWNSHIP	SECTION	TVDEPTH	DepthType	WELLTYPE	COMPLSTATUS	PRODUCING POOL
3002534573	COG OPERATING LLC	LUSK DEEP UNIT A 014	12/17/1999		32E	19.0S	19	12540	Deep	G	Active	LUSK;MORROW (GAS)
3002520876	TOM R CONE	GULF FEDERAL 003	11/6/1964		32E	19.0S	19	11223	Deep	O	Active	YATES-SEVEN RIVERS
3002520247	EL PASO NATURAL GAS	LUSK DEEP UNIT 006	12/16/1963	1/2/1900	32E	19.0S	19	11432	Deep	O	Plugged	LUSK;MORROW (GAS)
3002535291	COG OPERATING LLC	LUSK DEEP UNIT A 021	4/24/2001		32E	19.0S	19	12718	Deep	G	Active	LUSK;MORROW (GAS)
3001510382	PHILLIPS PETROLEUM CO	LUSK DEEP UNIT 008	4/26/1964	10/17/1994	31E	19.0S	24	11540	Deep	O	Plugged	LUSK;MORROW (GAS)
3002540863	COG OPERATING LLC	LUSK DEEP UNIT A 024H	12/19/2012		32E	19.0S	19	13660	Deep	O	Active	LUSK;MORROW (GAS)
3002520122	COG OPERATING LLC	LUSK DEEP UNIT A 005	4/16/1963		32E	19.0S	19	12554	Deep	G	Active	LUSK;MORROW (GAS)
3002520025	CHISOS, LTD	DELHI FEDERAL 001	2/2/1963		32E	19.0S	30	11286	Deep	O	Active	LUSK;STRAWN
3002539441	COG OPERATING LLC	SL DEEP FEDERAL 003	9/15/2009		32E	19.0S	30	9580	Deep	O	Active	LUSK;MORROW (GAS)

 Active Well

 Plugged Well

**LUSK DEEP UNIT A 005**  
**(3002520122)**

MINERS OFFICE 600

U.S. LAND OFFICE New Mexico

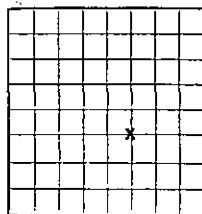
SERIAL NUMBER 025566

LEASE OR PERMIT TO PROSPECT Lusk Unit

1963 JUL 8 11 7:22  
UNITED STATES

DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY



LOCATE WELL CORRECTLY

## LOG OF OIL OR GAS WELL

Company El Paso Natural Gas Company Address P. O. Box 1492, El Paso 99, Texas  
 Lessor or Tract Lusk Unit Field Lusk-Strawn-Morrow State New Mexico  
 Well No. 5 Sec. 19 T. 19S R. 32E Meridian NM/M County Lea  
 Location 1980 ft. N of S. Line and 1980 ft. W of E. Line of Section 19 Elevation 3550 GL  
 The information given herewith is a complete and correct record of the well and all work done thereon  
 so far as can be determined from all available records.

Signed

Date July 1, 1963 Title Supt. Pet. Eng.

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

Commenced drilling April 16, 1963. Finished drilling June 11, 1963.

## OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from 11,207 to 11,221 No. 4, from          to           
 No. 2, from 11,221 to 11,224 No. 5, from          to           
 No. 3, from 12,408 to 12,412 (G) No. 6, from          to         

## IMPORTANT WATER SANDS

No. 1, from          to          No. 3, from          to           
 No. 2, from          to          No. 4, from          to         

## CASING RECORD

Size casing	Weight per foot	Threads per foot	Make	Amount	Kind of shoe	Cut and pulled from	Perforated	Purpose
13-3/8	54.5	8	Syang	850	Howco			Surface
8-5/8	33	8	CPI	4506				Salt
5-1/2	20-17	8-Bush	Young	12,554			11,207 11,221	Prod.
							11,221 11,240	Prod.
							12,400 12,412	Prod.

## MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
13-3/8	850	1050	Plug		
8-5/8	4506	3100	Two stage		
5-1/2	12,554	600	Plug		

## PLUGS AND ADAPTERS

Heaving plug—Material          Length          Depth set           
 Adapters—Material          Size         

## SHOOTING RECORD

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

## TOOLS USED

Rotary tools were used from 0 feet to 12,560 feet, and from 4506 feet to 9160 feet  
 Cable tools were used from          feet to          feet, and from          feet to          feet

## DATES

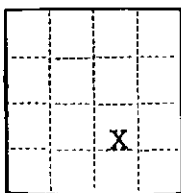
June 16, 1963. Put to producing July 1, 1963.  
Strawn production for the first 24 hours was 362 barrels of fluid of which 100 % was oil;          %  
 emulsion;          % water; and          % sediment. Gravity, 24.4 46.2 ° API  
Morrow well, cu. ft. per 24 hours 9,450,000 9,450,000 16,788/1  
 Rock pressure, lbs. per sq. in. 8065 (Strawn) (Morrow) - 5200.

## EMPLOYEES

        , Driller         , Driller  
        , Driller         , Driller

## FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
0	900	900	Red beds
900	1000	100	Rustler
1000	2320	1320	Salt
2320	2480	160	Dolomite
2480	2840	400	Yates
2840	4450	1610	Seven Rivers
4450	7030	2580	Delaware
7030	10,360	3330	Bone Springs
10,360	11,090	730	Wolfcamp
11,090	11,760	670	Strawn
11,760	12,560	800	Morrow



(SUBMIT IN TRIPLICATE)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Budget Bureau No. 42-R358.4.  
Form Approved.

Land Office New Mexico

Lease No. 025566

Unit Lusk Unit

1963 JUL 5 AM 8:16

SUNDRY NOTICES AND REPORTS ON WELLS

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

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

July 2, 1963

Lusk Unit

Well No. 5 is located 1980 ft. from N line and 1980 ft. from E line of sec. 19

SE/4 19

(1/4 Sec. and Sec. No.)

19 S

(Twp.)

32 E

(Range)

NMPM

(Meridian)

Lusk Deep - Strawn-Morrow

(Field)

Lea

(County or Subdivision)

New Mexico

(State or Territory)

The elevation of the derrick floor above sea level is 3550 ft.

DETAILS OF WORK

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

SPUD DATE: 4/16/63

On 4/18/63 ran 28 jts., 13 3/8" OD, 54.5# J-55 casing set at 850' w/1050 sacks regular cement and 2% calcium chloride. Cement circulated to surface. Tested casing 1000# for 30 minutes. WOC 24 hours.

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

Company El Paso Natural Gas Company

Address P. O. Box 1492

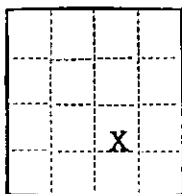
El Paso 99, Texas

Att: Drilling Dept.

ORIGINAL SIGNED BY

By E. J. COEL

Title \_\_\_\_\_



(SUBMIT IN TRIPLICATE)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Land Office New Mexico  
Lease No. 025566  
Unit Lusk Unit

1963 JUL 5 AM 8:16

## SUNDRY NOTICES AND REPORTS ON WELLS

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

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

July 1, 1963

Lusk Unit  
Well No. 5 is located 1980 ft. from N line and 1980 ft. from E line of sec. 19  
SE/4 19 19 S 32 E NMPM  
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)  
Lusk Deep-Strawn-Morrow Lea New Mexico  
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is 3550 ft.

### DETAILS OF WORK

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

On 5/1/63: T.D. 4506. Ran 141 jts. 8 5/8" OD 32# J-55 casing set at 4506. Cemented in two stages with stage tool at 2445'. First stage 600 sks. 50-50 Pozmix and 4% GEL plus 100 sks. regular cement and 2% calcium Chloride. 2nd stage 2300 sks. 50-50 Pozmix and 8% GEL Salt Saturated plus 100 sks. regular cement and 2% calcium chloride. Cement circulated to surface. Tested casing w/1000# for 30 minutes

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

Company El Paso Natural Gas Company

Address P. O. Box 1492

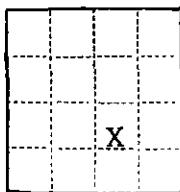
El Paso 99, Texas

Att: Drilling Department

ORIGINAL SIGNED BY

By E. J. COEL

Title \_\_\_\_\_



(SUBMIT IN TRIPLICATE)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Land Office New Mexico  
Lease No. 025566  
Unit Lusk Unit

AM 8:16

## SUNDRY NOTICES AND REPORTS ON WELLS

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

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

July 2, 1963

Lusk Unit  
Well No. 5 is located 1980 ft. from [X] line and 1980 ft. from [E] line of sec. 19  
SE/4 19 19 S 32 E NMPM  
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)  
Lusk Deep-Strawn-Morrow Lea New Mexico  
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is 3550 ft. GL

### DETAILS OF WORK

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

On 6/12/63: T.D. 12,560'. Ran 303 jts. of 5 1/2" OD casing as follows:  
3102' of 20# N-80, 5554' of 17# N-80, 3901' of 17# N-80 Buttrass set at 12,554'  
w/600 sks. Trinity Lite-Wate and 0.75% CFR-2. Good circulation throughout  
running casing and cementing. Top cement on bond log 9800'. Casing tested  
1500 psi for 30 minutes.

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

Company El Paso Natural Gas Company  
Address P. O. Box 1492  
El Paso 99, Texas  
Att: Drilling Department  
ORIGINAL SIGNED BY  
By E. J. COEL  
Title \_\_\_\_\_



RKB @ 3566'

GL @ 3550'

# WELLBORE SCHEMATIC

Yates @ 2430'

Bone Springs  
@ 7030'

Strawn @ 11090'

Morrow @ 11760'

Strawn Perfs  
11207'-11240'  
(Squeezed in 83')

Morrow Perfs  
12203'-12270'

12400'-12412'

13-3/8" OD @ 850'  
Cement Circulated

8-5/8" OD @ 4505'  
Cement Circulated

TOC @ 9800'

Pkr @ 11300'

Atoka Perfs (Proposed)  
11656'-11663'

5-1/2" OD @ 12554'  
TD @ 12560'  
PBD @ 12413'

NO.	REVISION	BY	DATE	CHKD.	APP'D
FOR BIDS		PHILLIPS PETROLEUM COMPANY		JA NO.	FILE CODE
FOR APPR		BARTLESVILLE, OKLAHOMA		AFE NO.	SCALE
FOR CONST		Lusk Deep Unit A No. 5		None	
DRAWN	6/10/88 MGD	1980' FSL & 1980' FEL, Section 19, T-19-S, R-32-E		DWG NO.	
CHECKED		Lea County, New Mexico		SH NO.	
APP'D					

(November 1983)  
(formerly 9-330)

UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
80240

Form approved  
Budget Bureau No. 1004-0137  
Expires August 31, 1985

WELL COMPLETION OR RECOMPLETION REPORT AND LOG\*

1. TYPE OF WELL: ☐ OIL ☐ GAS ☒ DRY ☐ Other

A. TYPE OF COMPLETION:

NEW ☐ WORK ☐ REPAIR ☐ PLUG ☒ DIFF. ☐ Other DHC-720

2. NAME OF OPERATOR

Phillips Petroleum Company

3. ADDRESS OF OPERATOR

4001 Penbrook Street, Odessa, Texas 79762

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)\*

At surface Unit J, 1980' FSL & 1980' FEL

At top prod. interval reported below same

At total depth same

14. PERMIT NO. 30-025-20122  
DATE ISSUED PB 4-12-89

5. LEASE DESIGNATION AND SERIAL NO.  
NM-025566

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

Lusk Deep Unit A

8. FARM OR LEASE NAME

Lusk Deep Unit A

9. WELL NO.

5

10. FIELD AND POOL OR WILDCAT  
Lusk Atoka Gas

Lusk Morrow Gas

11. SEC., T., R., M., ON BLOCK AND SURVEY OR AREA

19 19.5 32E

12. COUNTY OR  
PARISH  
Lea

13. STATE  
NM

15. DATE BEGUN PB 5-14-89  
4-16-83  
16. DATE T.D. REACHED 7-11-83  
17. DATE COMPL. (Ready to prod.) reperf'd 5-18-89  
18. ELEVATIONS (OF, RKB, RT, OR, ETC.)\* 3534' RKB, 3550' GR

20. TOTAL DEPTH, MD & TVD 12,554'  
21. PLUG, BACK T.D., MD & TVD 12,413'  
22. IF MULTIPLE COMPL. HOW MANY? 2 zones  
23. INTERVALS DRILLED BY downhole commingled  
24. ROTARY TOOLS 0-TD  
25. CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\*

11,656'-11,663' - Atoka

12,203'-12,412' - Morrow

26. TYPE ELECTRIC AND OTHER LOGS RUN

GR-CCL

27. WAS WELL CORRED

No

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

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13-3/8"	54.5#	850'	17-1/2"	1050 sx. Circ to surface	
8-5/8"	32#	4506'	12-1/4"	3100 sx. Circ to surface	
5-1/2"	20# & 17#	12,554'	7-7/8"	600 sx. TOC @ 9800'	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	BACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	BACKS SET (MD)
					2-7/8"	11,300'	11,300'
							Baker 8-2

31. PROPORTION RECORD (Interval, size and number)

Perf'd w/2-1/8" gun 4 SPF on 0 degree phasing from 11,656'-11,663' (7'-29shots)

12,203'-12,412'

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

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED

33. PRODUCTION

DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)				WELL STATUS (Producing or shut-in)	
7-03-89		Flowing				Producing	
DATE OF TEST	HOURS TESTED	CHOKES SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
6-13-89	24	18/64"	→	42.1	5945	CAOF	
FLOW, TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
2149		→		(ORIG. SGD.) DAVID R. GLASS		55.7	

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

Sold

35. LIST OF ATTACHMENTS

C-122

CARLSBAD, NEW MEXICO

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED

*[Signature]*

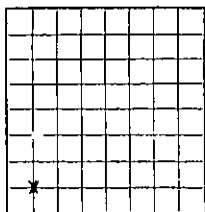
TITLE Reg. & Pro. Supervisor

DATE 8-07-89

\*(See Instructions and Spaces for Additional Data on Reverse Side)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements.

**LUSK DEEP UNIT 006**  
**(3002520247)**

U. S. LAND OFFICE  
SERIAL NUMBER **LC-065863**  
LEASE OR PERMIT TO PROSPECT

LOCATE WELL CORRECTLY

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

## LOG OF OIL OR GAS WELL

Company Southern New Mexico Oil Corporation Address Box 1659 Midland, Texas  
 Lessor or Tract Lusk Deep. n. Strawn Field Lusk Strawn State New Mexico  
 Well No. 6 Sec. 19 T. 19 S. R. 12 E. Meridian NMFM County Lea  
 Location 660 ft. (N. of South and 660 ft. E. of West Line of Sec. 19 Elevation 3536 G.  
 The information given herewith is a complete and correct record of the well and all work done thereon  
 so far as can be determined from all available records.

Signed Q. H. Crews Title Agent  
 Date February 24, 1964

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

Commenced drilling 12/16, 1963 Finished drilling 2/9, 1964

## OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from 11,323 to 11,371 No. 4, from \_\_\_\_\_ to \_\_\_\_\_  
 No. 2, from \_\_\_\_\_ to \_\_\_\_\_ No. 5, from \_\_\_\_\_ to \_\_\_\_\_  
 No. 3, from \_\_\_\_\_ to \_\_\_\_\_ No. 6, from \_\_\_\_\_ to \_\_\_\_\_

## IMPORTANT WATER SANDS

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

## CASING RECORD

Size casing	Weight per foot	Threads per inch	Make	Amount	Kind of shoe	Cut and pulled from	Perforated		Purpose
							From	To	
13-3/8	68	8	C. & P.	766	Tex. Pat.				
8-5/8	43.5	8	C. & P.	4355	Floater				
4-1/2	11.6	8	C. & P.	11416	Floater				

## MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
13-3/8	766	650	Pump & Plug	10	150 bbls
8-5/8	4355	2800	Pump & Plug	9.9	350 bbls
4-1/2	11432	800	Pump & Plug	9.1	550 bbls

## PLUGS AND ADAPTERS

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

## SHOOTING RECORD

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

## TOOLS USED

Rotary tools were used from \_\_\_\_\_ feet to 11416 feet, and from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
 Cable tools were used from \_\_\_\_\_ feet to \_\_\_\_\_ feet, and from \_\_\_\_\_ feet to \_\_\_\_\_ feet

## DATES

\_\_\_\_\_ 2/24, 1964 Put to producing \_\_\_\_\_ 2/22, 1964

The production for the first 24 hours was 424 barrels of fluid of which 100 % was oil; 0 %  
 emulsion; 0 % water; and 0 % sediment. Gravity, "Bé" 46

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

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

## EMPLOYEES

\_\_\_\_\_, Driller \_\_\_\_\_, Driller  
 \_\_\_\_\_, Driller \_\_\_\_\_, Driller

## FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
0	758	758	Red shale & sand stringers
758	844	86	Top of anhydrite - 844' top of salt.
844	2287	1443	Salt w/shale stringers - Top Tansill
2287	2434	147	Anhy. sd, shale stringers - Top of Yates 2434'
2434	2632	198	Sd, sh & anhy. stringers - 2632' Top 7 Rivers
2632	4208	1576	Anhy., sd, sh stringers
4208	4440	232	Dolomite - 4208' S. Andrus
4440	7082	2642	Sd, lime - 4440' Top of Del.
7082	10453	3371	Lm, sd, sh. - 7082' Bone Springs
10453	11198	745	Lm, sd, chert - 10453' Wolfcamp
11198	11432	234	Lm, shale stringers - 11198' Top of Strawn

FOLD MARK

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN TRIP  
(Other instruction  
reverse side)

Form approved,  
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

LC 065863

6. INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Lusk Unit

9. WELL NO.

6

10. FIELD AND POOL, OR WILDCAT

Lusk Deep-Strawn

11. SEC., T., R., M., OR BLK. AND  
SURVEY OR AREA

Sec 19, T-19-S, R-32-E

12. COUNTY OR PARISH

Lea

New Mexico

1.

OIL  
WELL

☐

GAS  
WELL

☒

OTHER

Drilling Well

2. NAME OF OPERATOR

Southern New Mexico Oil Corporation

3. ADDRESS OF OPERATOR

3108 Southland Center, Dallas 1, Texas

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.\*  
See also space 17 below.)

At surface

660' from South and West Lines of Sec. 19, T-19-S,  
R-32-E, N.M.S., Lea County, New Mexico

14. PERMIT NO.

15. ELEVATIONS (Show whether OF, RT, GR, etc.)

3536 G.R.

18.

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETION

ABANDON\*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT\*

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

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

The Lusk Unit #6 was spudded at 12:30 on December 16, 1963. 766' of 13 3/8 new  
H-40, 43 casing was cemented at 776' with 500 sacks of 50% cement, 81 gal,  
2% ca cl2 plus 150 sacks encor cement. The plug was down at 2:30 AM December 19.  
The cement circulated. After 16 hours a pressure of 500 psi was applied at the  
surface for 30 minutes. There was no pressure drop.

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

SIGNED

TITLE

DATE Dec. 23, 1963

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions on Reverse Side

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEYSUBMIT IN TRI-  
(Other instructions  
reverse side)

NOTE

Form approved.  
Budget Bureau No. 42-R1424.

3. LEASE DESIGNATION AND SERIAL NO.

LC-065863

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Lusk Deep - Strawn

9. WELL NO.

6

10. FIELD AND POOL, OR WILDCAT

11. SEC., T., R., M., OR BLK. AND  
SURVEY OR AREA

Sec. 19, T-19-S, R-32-E

12. COUNTY OR PARISH

Lea

13. STATE

New Mexico

1.

OIL ☐ WELL GAS ☐ WELL OTHER ☐

Drilling well

2. NAME OF OPERATOR

Southern New Mexico Oil Corporation

3. ADDRESS OF OPERATOR

3108 Southland Center, Dallas 1, Texas

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.  
See also space 17 below.)

At surface

660' from South and West Lines of Sec. 19,

T-19-S, R-32-E, NMPM. Lea County, New Mexico

14. PERMIT NO.

15. ELEVATIONS (Show whether OF, BT, OR, etc.)

3536 Gr.

16.

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

## NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF ☐FRACTURE TREAT ☐SHOOT OR ACIDIZE ☐REPAIR WELL ☐(Other) ☐PULL OR ALTER CASING ☐MULTIPLE COMPLETION ☐ABANDON\* ☐CHANGE PLANS ☐

## SUBSEQUENT REPORT OF:

WATER SHUT-OFF ☒FRACTURE TREATMENT ☐SHOOTING OR ACIDIZING ☐(Other) ☐REPAIRING WELL ☐ALTERING CASING ☐ABANDONMENT\* ☐(NOTE: Report results of multiple completion on Well  
Completion or Recompletion Report and Log form.)

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

On January 2, 1964, 4355' of 8 5/8" 32# J-55 new casing was set @4369'. A stage tool was set at 2470' and 700 sacks of encore cement plus 100 sacks neat was pumped out the shoe of Stage 1. After 4 hrs., 1900 sacks of Trinity lite water plus 100 sacks encore neat was pumped out the second stage. Top of the cement was found @668' or 88' up the 13 3/8" casing for a tie in. After 24 hrs. a pressure of 2000 psi was applied at the surface for 30 min. There was no pressure drop.

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

SIGNED

TITLE

Vice President

DATE 1/7/64

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions on Reverse Side

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

## APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK DRILL <input type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input checked="" type="checkbox"/>			5. LEASE DESIGNATION AND SERIAL NO. LC 065863	
b. TYPE OF WELL OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>			6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
2. NAME OF OPERATOR EL PASO PRODUCTS COMPANY			7. UNIT AGREEMENT NAME LUSK DEEP UNIT	
3. ADDRESS OF OPERATOR P. O. Box 3986, Odessa, Texas 79760			8. FARM OR LEASE NAME	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)* At surface 660' f/SL 660 f/WL Sec. 19, T19S, R32E NMPM At proposed prod. zone			9. WELL NO. 6	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 14 Miles South Maljamar, New Mexico			10. FIELD AND POOL, OR WILDCAT LUSK STRAWN	
10. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest orig. unit line, if any) 660'			11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 19-T19S-R32E NMPM	
16. NO. OF ACRES IN LEASE 640			12. COUNTY OR PARISH 13. STATE Lea N.M.	
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.			17. NO. OF ACRES ASSIGNED TO THIS WELL 160	
19. PROPOSED DEPTH 8820-8850			20. ROTARY OR CABLE TOOLS Workover Unit	
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 3536 Gr.			22. APPROX. DATE WORK WILL START* May 9, 1971	

23. PROPOSED CASING AND CEMENTING PROGRAM				
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT

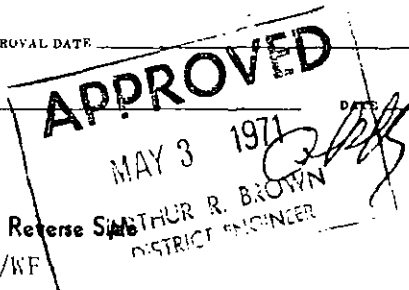
The Lusk Deep Unit #6 Strawn zone is dead and not capable of producing. It is our proposal prior to plugging and abandoning to perforate, treat, and test the Bone Springs zone 8820-8850.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED Horace L. Conger TITLE Production Foreman DATE 4/28/71  
HORACE L. CONGER/s.o.  
(This space for Federal or State office use)

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY: \_\_\_\_\_



\*See Instructions On Reverse Side

Distribution: 3/USGS-Roswell, 2/USGS-Hobbs, 1/KF

LUSK UNIT NO. 6  
Well Workover Report

- 5-11-71 Rigged up X-pert Well Service. Pulled out of hole laying down 82 joints of tubing. Shut down for night.
- 5-12-71 Rigged up McCullough, set Baker Mercury C.I. bridge plug at 11,000' WL measurement. Ran Gamma Ray correlation log and perforated 8819-8822, 8824-8827 with ten .42" jet shots. Ran tubing and repaired Baker Model 'R' packer and landed at 8818'. Swabbed well down. Shut down for night.
- 5-13-71 Went in hole with swab, fluid level 1500' from surface. No shut in pressure. Swabbed well down to 8300'. Pumped in 500 gallons 20% HCL. Loaded back side, pressured up to 200# on casing. Started hesitation squeeze acid into perforations. Maximum pressure 2750, treating pressure 2000# at 1/2-1 barrel per minute. ISIP 1300#, 5 min, 1000#. Shut in one hour. Well on vacuum. Started swabbing. Fluid level standing at 4800' making small trace of oil and no gas. Shut down for night.
- 5-14-71 12 hour SIP 25#. Went in hole with swab. Fluid level 1800'. Swabbed well down to 5000' making water with small trace of oil and no gas. Shut down at 3:00 pm. Suspended operation. Released rig.

Water Analysis (Bone Springs #6)

Sp. Gr. 1.100 @ 76° F  
Chloride 87,500  
Bicarbonate 488  
Sulfate 2100  
Sulfide Nil  
Total Hardness 17,000  
pH 6.8  
Calcium 4400  
Magnesium 1,440  
Total Iron Strong Trace  
Sodium 50,048  
Total Dissolved Solids 145,976



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE  
(Other instructions  
reverse side)

Form approved.  
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

LC 065863

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

Lusk Deep Unit

8. FARM OR LEASE NAME

Lusk Deep

9. WELL NO.

6

10. FIELD AND POOL, OR WILDCAT

*Lusk Deep*

11. SEC. T, R, N., OR S.E. AND  
SURVEY OR AREA

19-19S-32E

12. COUNTY OR PARISH 13. STATE

Lea

N.M.

1.

☐ OIL  
WELL ☐ GAS  
WELL ☒ OTHER

2. NAME OF OPERATOR

El Paso Products

3. ADDRESS OF OPERATOR

c/o Hobbs Pipe & Supply Box 2010, Hobbs, N. M. 88240

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.  
See also space 17 below.)  
At surface

660' FSL & 660' FWL

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, ST, OR, etc.)

UK

16.

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT

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

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

- 1 - Spotted a 10 sk cement plug on top of present bridge plug.
- 2 - Spotted a 25 sk cement plug to cover open perfs. 8819-8829'
- 3 - Spotted a 25 sk cement plug at stub of 4 1/2" csg. @ 6660'
- 4 - Spotted a 35 sk cement plug at base of 8 5/8" csg @ 4346'
- 5 - Spotted a 25 sk cement plug at 2400-2500'
- 6 - Spotted a 25 sk cement plug at 700-800'
- 7 - Spotted a 10 sk cement plug at top.
- 8 - Hole was loaded with mud-laden fluids and a 4" reg. marker erected
- 9 - Well was plugged and abandoned on 10/25/71

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

SIGNED

TITLE

Agent

DATE 10/27/71

(This space for Federal or State office use)

APPROVED BY

TITLE

CONDITIONS OF APPROVAL, IF ANY:

APPROVED

\*See Instructions on Reverse Side

**GULF FEDERAL 003**  
**(3002520876)**

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE

(See other in-  
structions on  
reverse side)Form approved.  
Budget Bureau No. 42-R355.5.

## WELL COMPLETION OR RECOMPLETION REPORT AND LOG \*

1a. TYPE OF WELL: OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> DRY <input type="checkbox"/> Other _____		5. LEASE DESIGNATION AND SERIAL NO. <b>L C 068019</b>	
b. TYPE OF COMPLETION: NEW WELL <input checked="" type="checkbox"/> WORK OVER <input type="checkbox"/> DEEP-EN <input type="checkbox"/> PLUG BACK <input type="checkbox"/> DIFF. RESVR. <input type="checkbox"/> Other _____		6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
2. NAME OF OPERATOR <b>Southern New Mexico Oil Corporation</b>		7. UNIT AGREEMENT NAME <b>Lusk Deep</b>	
3. ADDRESS OF OPERATOR <b>P.O. Box 1659 Midland, Texas</b>		8. FARM OR LEASE NAME	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)* At surface <b>1,650' from the North Line and 1,670' from the East Line of Section 19</b> At top prod. interval reported below <b>Jame</b> At total depth <b>Jame</b>		9. WELL NO. <b>10</b>	
14. PERMIT NO.		10. FIELD AND POOL, OR WILDCAT <b>Lusk Strawn</b>	
DATE ISSUED		11. SEC., T., S., M., OR BLOCK AND SURVEY OR AREA <b>Section 19, T-17-S, R-32-S</b>	
15. DATE SPUNDED <b>11-8-64</b>		12. COUNTY OR PARISH <b>Lusk</b>	
16. DATE T.D. REACHED <b>12-8-64</b>		13. STATE <b>New Mexico</b>	
17. DATE COMPL. (Ready to prod.) <b>12-15-64</b>		19. ELEV. CASINGHEAD <b>3555</b>	
18. ELEVATIONS (DP, RKS, RT, GR, ETC.)* <b>3555.5 GR</b>		20. TOTAL DEPTH, MD & TVD <b>11300</b>	
21. PLUG BACK T.D., MD & TVD <b>11263</b>		22. IF MULTIPLE COMPL., HOW MANY*	
23. INTERVALS DRILLED BY <b>11300</b>		24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* <b>11,194 - 11,204) (11,209 - 11,223) Strawn</b>	
25. TYPE ELECTRIC AND OTHER LOGS RUN <b>Sonic - Gamma Ray</b>		26. WAS DIRECTIONAL SURVEY MADE <b>No</b>	
27. WAS WELL CORED <b>No</b>		28. CASING RECORD (Report all strings set in well)	
29. LINER RECORD		30. TUBING RECORD	
31. PERFORATION RECORD (Interval, size and number)		32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.	
33. PRODUCTION		34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)	
35. LIST OF ATTACHMENTS		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	

\*(See Instructions and Spaces for Additional Data on Reverse Side)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEYSUBMIT IN TRIPLICATE  
(Other instructions on  
reverse side)Form approved.  
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

LC 068019

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

Lusk Deep

8. FARM OR LEASE NAME

9. WELL NO.

10

10. FIELD AND POOL, OR WILDCAT

Lusk Strawn

11. SEC., T., R., M., OR BLK. AND  
SURVEY OR AREA

Sec 19, T-19-S, R-32-E

12. COUNTY OR PARISH

Lea

13. STATE  
New Mexico

## SUNDRY NOTICES AND REPORTS ON WELLS

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

1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>	2. NAME OF OPERATOR Southern New Mexico Oil Corporation	3. ADDRESS OF OPERATOR Box 1659 Midland, Texas	4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 1,650' from the North Line and 1,678' from the West Line of Section 19, T-19-S, R-32-E, NMPM. Same	14. PERMIT NO.	15. ELEVATIONS (Show whether DF, RT, OK, etc.) 3553.5 Gr
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## 16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

## NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETION

ABANDON\*

CHANGE PLANS

## SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT\*

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

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

Well #10 was spudded November 6, 1964 at 9 p.m. 709" of 13 3/8" of new H-40 casing was circulated with 775 sacks of cement at 730' November 6, 1964. Plug down at 10:45 p.m. After 24 hours a pressure of 800 PSI was applied at the surface. There was no pressure drop.

Drilling was resumed to 3,640' where on November 13, 3,620' of 8 5/8 - 32# casing was cemented at 3,640'. A. D. U. packer tool was set at 2,391'. 600 sacks of cement were pumped in the first stage from 3,640 to 2,391'. 1650 sacks of Litewater cement were pumped in the second stage. Both stages circulated. Plugged down at 1:30 a.m. After 24 hours a pressure of 1,200 PSI was applied at the surface. There was no pressure loss.

Drilling will be resumed.

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

SIGNED O. H. CrewsTITLE AgentDATE November 16, 1964

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

\*See Instructions on Reverse Side

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN TRIP  
(Other instruction  
verse side)

Form approved.  
Budget Bureau No. 42-21424.

5. LEASE DESIGNATION AND SERIAL NO.

LC 068019

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

SUNDRY NOTICES AND REPORTS ON WELLS

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

1. OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR

El Paso Products Company

3. ADDRESS OF OPERATOR

c/o Hobbs Pipe & Supply Co., Box 2010 Hobbs, N. M.

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.  
See also space 17 below.)  
At surface

1650/71 + 1678/71

7. UNIT AGREEMENT NAME

Lusk Deep Unit

8. FARM OR LEASE NAME

Lusk Deep

9. WELL NO.

10

10. FIELD AND POOL, OR WILDCAT

11. SEC. 2, S. 1, E. 1, OR B.L. AND SURVEY OR AREA

19-19S-32E

14. PERMIT NO.

15. ELEVATIONS (Show whether OF, RT, OR, etc.)

UK

12. COUNTY OR PARISH

Lea

13. STATE

N.M.

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

FULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON\*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT\*

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

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

- 1 - Spotted a 25 sk cement plug to cover existing perfs. 11,194-11,223'
- 2 - Spotted a 25 sk cement plug at stub of 4 1/2" csg. @ 7560'
- 3 - Spotted a 25 sk cement plug at base of 8 5/8" csg. @ 3760'
- 4 - spotted a 25 sk cement plug at 2300'-2400'
- 5 - spotted a 25 sk cement plug at 700' - 800'
- 6 - spotted a 10 sk cement plug at top.
- 7 - Hole was loaded with mud-laden fluids and a 4" reg. marker erected
- 8 - Well was plugged and abandoned on 10/20/71

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

SIGNED

TITLE

Agent

DATE

10/25/71

(This space for Federal or State office use)

APPROVED BY

TITLE

APPROVED DATE

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions on Reverse Side

UN-~~ED~~ STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE

(See other in-  
structions on  
reverse side)Form approved,  
Budget Bureau No. 42-R355.6.

## WELL COMPLETION OR RECOMPLETION REPORT AND LOG \*

1a. TYPE OF WELL: OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> DRY <input type="checkbox"/> Other _____		5. LEASE DESIGNATION AND SERIAL NO. LC - 068019	
b. TYPE OF COMPLETION: NEW WELL <input type="checkbox"/> WORK OVER <input checked="" type="checkbox"/> DEEP-EN <input type="checkbox"/> PLUG BACK <input type="checkbox"/> DIFF. REVEN <input type="checkbox"/> Other _____		6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
2. NAME OF OPERATOR Jack Plemons		7. UNIT AGREEMENT NAME	
3. ADDRESS OF OPERATOR Box 385, Artesia, New Mexico 88210		8. FARM OR LEASE NAME Gulf Federal	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)* At surface 1650' from North, 1678' from West, Sec 19, T-19, R-32 At top prod. interval reported below At total depth		9. WELL NO. 3	
14. PERMIT NO.		10. FIELD AND POOL, OR WILDCAT Lusk	
DATE ISSUED		11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA 19-19-32	
15. DATE SPUNDED		12. COUNTY OR PARISH T & R	
16. DATE T.D. REACHED		13. STATE N.M.	
17. DATE COMPL. (Ready to prod.) 1-15-81		18. ELEVATIONS (DV, RKB, RT, OR, ETC.)*	
19. ELEV. CASINGHEAD		20. TYPE ELECTRIC AND OTHER LOGS RUN Gamma Ray Neutron	
21. PLUG BACK T.D., MD & TVD 2760		22. IF MULTIPLE COMPL., HOW MANY*	
23. INTERVALS DRILLED BY		24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*	
25. TOTAL DEPTH, MD & TVD 11223		26. WAS DIRECTIONAL SURVEY MADE ACCEPTED FOR RECORD PETER V. CHESTER JUL 24 1981	
27. WAS WELL CORED		28. WAS SURVEY MADE	
29. WAS WELL CEMENTED		29. WAS WELL CEMENTED	
30. WAS WELL CEMENTED		30. WAS WELL CEMENTED	
31. WAS WELL CEMENTED		31. WAS WELL CEMENTED	
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97. WAS WELL CEMENTED		97. WAS WELL CEMENTED	
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99. WAS WELL CEMENTED		99. WAS WELL CEMENTED	
100. WAS WELL CEMENTED		100. WAS WELL CEMENTED	

(See Instructions and Spaces for Additional Data on Reverse Side)

**LUSK DEEP UNIT A 014**  
**(3002534573)**

UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
SUNBELT OIL CORP. Division  
1825 N. French Dr.  
Hobbs, NM 88240

FORM APPROVED  
OMB NO. 1004-0137  
Expires: February 28, 1995

5. LEASE DESIGNATION AND SERIAL NO.

LC-065863

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG\***

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

LUSK DEEP UNIT

8. FARM OR LEASE NAME, WELL NO.

LUSK DEEP UNIT A #14

9. API WELL NO.

30-025-34573

10. FIELD AND POOL, OR WILDCAT

LUSK MORROW (GAS)

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA

SEC. 19-T19S-R32E

12. COUNTY OR PARISH

LEA

13. STATE

NM

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ Other ☐

b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other ☐

2. NAME OF OPERATOR

MARBOB ENERGY CORPORATION

3. ADDRESS AND TELEPHONE NO.

P.O. BOX 227, ARTESIA, NM 88210 505-748-3303

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)

At surface

1650 FNL 990 FWL

At top prod. interval reported below

SAME

At total depth

SAME

14. PERMIT NO.

DATE ISSUED

12. COUNTY OR PARISH

13. STATE

15. DATE SPUDDED 12/17/99 16. DATE T.D. REACHED 01/22/00 17. DATE COMPL. (Ready to prod.) 02/15/00 18. ELEVATIONS (DF, RKB, RT, GE, ETC.)\* 3556' GR 19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD 12540' 21. PLUG, BACK T.D., MD & TVD 12495' 22. IF MULTIPLE COMPL., HOW MANY\* 23. INTERVALS DRILLED BY 0-12540' ROTARY TOOLS CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION-TOP, BOTTOM, NAME (MD AND TVD)\* 12140-12416' MORROW 25. WAS DIRECTIONAL SURVEY MADE No

26. TYPE ELECTRIC AND OTHER LOGS RUN DLL, DSNL

27. WAS WELL CORED No

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

CASING SIZE/GRADE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	TOP OF CEMENT, CEMENTING RECORD	AMOUNT PULLED
13 3/8"	48#	830'	17 1/2"	CMTD W/400 SX	CIRC 155 SX
8 5/8", J-55	24#	4500'	12 1/4"	CMTD W/1610 SX	CIRC 316 SX
5 1/2", J-55	17#	12540'	7 7/8"	CMTD W/1480 SX	TOC 4200'

29. LINER RECORD

30. TUBING RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					2 3/8"	12426'	

31. PERFORATION RECORD (Interval, size and number)

12140-12416' 36 HOLES

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

DEPTH INTERVAL (MD) AMOUNT AND KIND OF MATERIAL USED  
12140-12416' 750 GALS ACID

33. PRODUCTION

DATE FIRST PRODUCTION 02/16/00 PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) FLOWING WELL STATUS (Producing or shut-in) PROD

DATE OF TEST 02/19/00 HOURS TESTED 24 CHOKE SIZE 35/64" PROD'N FOR TEST PERIOD OIL—BBL. 18 GAS—MCF. 2415 WATER—BBL. 3 GAS-OIL RATIO  
FLOW. TUBING PRESS. 500 CASING PRESSURE CALCULATED 24-HOUR RATE OIL—BBL. GAS—MCF. WATER—BBL. OIL GRAVITY-API (CORR.)

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) SOLD

TEST WITNESSED BY SHANE GRAY

35. LIST OF ATTACHMENTS

LOGS, DEVIATION SURVEY

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED

Robin Cockburn

TITLE PRODUCTION ANALYST

DATE 02/22/00

\*(See Instructions and Spaces for Additional Data on Reverse Side)

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



**LUSK DEEP UNIT A 021**  
**(3002535291)**

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE

FORM APPROVED  
OMB NO. 1004-0137  
28. 1995  
N.M. Oil Cons. Division  
1625 N. French Dr.  
Hobbs, NM 88240  
LEASE DESIGNATION AND SERIAL NO.  
LC-068947  
LOTTEE OR TRIBE NAME

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. TYPE OF WELL: OIL WELL ☒ GAS WELL ☒ DRY ☐ Other ☐

b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other ☐

2. NAME OF OPERATOR  
MARBOB ENERGY CORPORATION

3. ADDRESS AND TELEPHONE NO.  
PO BOX 227, ARTESIA, NM 88210 505-748-3303

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)  
At surface  
660 FSL 1750 FWL, UNIT N  
At top prod. interval reported below  
SAME  
At total depth  
SAME

7. UNIT AGREEMENT NAME  
LUSK DEEP UNIT

8. FARM OR LEASE NAME, WELL NO.  
LUSK DEEP UNIT "A" #21

9. API WELL NO.  
30-025-35291 0051

10. FIELD AND POOL, OR WILDCAT  
LUSK MORROW (GAS)

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA  
SEC. 19-T19S-R32E

12. COUNTY OR PARISH 13. STATE  
LEA NM

14. PERMIT NO. DATE ISSUED

15. DATE SPUDDED 16. DATE T.D. REACHED 17. DATE COMPL. (Ready to prod.) 18. ELEVATIONS (DF, RKB, RT, GE, ETC.)\* 19. ELEV. CASINGHEAD  
04/24/01 06/03/01 07/21/01 3539' GR

20. TOTAL DEPTH, MD & TVD 21. PLUG, BACK T.D., MD & TVD 22. IF MULTIPLE COMPL., HOW MANY\* 23. INTERVALS DRILLED BY 24. PRODUCING INTERVAL(S), OF THIS COMPLETION-TOP, BOTTOM, NAME (MD AND TVD)\* 25. WAS DIRECTIONAL SURVEY MADE  
12718' 12631' 0-12718' 12458' - 12469' MORROW C No

26. TYPE ELECTRIC AND OTHER LOGS RUN  
DLL, CSNG

27. WAS WELL CORED  
No

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

CASING SIZE/GRADE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	TOP OF CEMENT, CEMENTING RECORD	AMOUNT PULLED
13 3/8", H-40	48#	795'	17 1/2"	CMTD W/ 650 SX, CIRC 248 SX	NONE
8 5/8", J-55	32#	4352'	12 1/4"	CMTD W/ 1450 SX	NONE
5 1/2", M95-110	17#	12714'	7 7/8"	CMTD W/ 2250, CIRC 65 SX	NONE

29. LINER RECORD 30. TUBING RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					2 3/8"	12334'	

31. PERFORATION RECORD (Interval, size and number) 32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.  
12458' - 12469' DEPTH INTERVAL (MD) AMOUNT AND KIND OF MATERIAL USED  
12458' - 12469' 750 GAL 7 1/2% NEFE ACID

33. PRODUCTION

DATE FIRST PRODUCTION 07/22/01 PRODUCTION METHOD (Flowing, gas lift, pumping--size and type of pump) FLOWING WELL STATUS (Producing or shut-in) PROD

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N FOR TEST PERIOD	OIL---BBL.	GAS---MCF.	WATER---BBL.	GAS-OIL RATIO
07/23/01	24	20/64"		22	1831	2	

FLOW. TUBING PRESS. CASING PRESSURE CALCULATED 24-HOUR RATE OIL---BBL. GAS---MCF. WATER---BBL. OIL GRAVITY-API (CORR.)

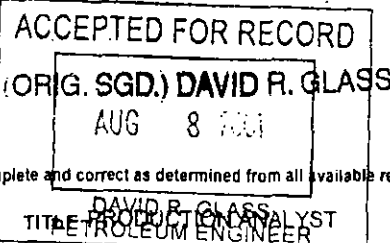
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)  
SOLD

35. LIST OF ATTACHMENTS  
LOGS, DEVIATION SURVEY

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED

*David R. Glass*



TEST WITNESSED BY  
SHANE GRAY

DATE 08/07/01

\*(See Instructions and Spaces for Additional Data on Reverse Side)

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

*KZ*

Form 3160-5  
(June 1990)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.  
Use "APPLICATION FOR PERMIT-" for such proposals

**SUBMIT IN TRIPLICATE**

1. Type of Well

Oil Well ☒ Gas Well ☐ Other ☐

2. Name of Operator

MARBOB ENERGY CORPORATION

3. Address and Telephone No.

P.O. BOX 227, ARTESIA, NM 88210 505-748-3303

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

660 FSL 1750 FWL, SEC. 19-T19S-R32E UNIT N

5. Lease Designation and Serial No.  
LC-068947

6. If Indian, Allottee or Tribe Name

7. If Unit or CA. Agreement Designation

LUSK DEEP UNIT

8. Well Name and No.

LUSK DEEP UNIT A #21

9. API Well No.

30-025-35291

10. Field and Pool, or Exploratory Area

LUSK MORROW GAS

11. County or Parish, State

Lea CO., NM

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

TYPE OF SUBMISSION

Notice of Intent

☒ Subsequent Report

Final Abandonment Notice

TYPE OF ACTION

Abandonment

Recompletion

Plugging Back

Casing Repair

Altering Casing

☒ Other SPUD, CMT CSG

Change of Plans

New Construction

Non-Routine Fracturing

Water Shut-Off

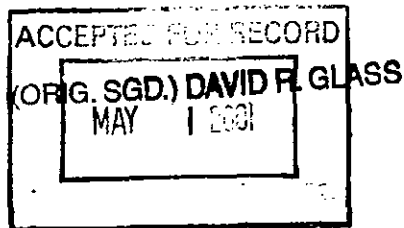
Conversion to Injection

Dispose Water

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

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

SPUD WELL @ 5:30 A.M. 4/24/01. DRLD 17 1/2" HOLE TO 795', RAN 18 JTS 13 3/8" 48# H-40 CSG TO 795', CMTD W/ 400 SX HALL LITE & 250 SX PREM PLUS, PLUG DOWN @ 8:30 A.M. 4/27/01, CIRC 248 SX TO SURF. WOC 18 HRS, TSTD CSG TO 600# FOR 20 MINUTES - HELD OK.



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

Signed

*Adam Cochran*

Title PRODUCTION ANALYST

Date 04/30/01

(This space for Federal or State office use)

Approved by

Conditions of approval, if any:

Title

Date

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

\*See instruction on Reverse Side

5 GWW

A

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

N.M. Oil Cons. Division  
1625 N. French Dr.  
Hobbs, NM 88240

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

5. Lease Designation and Serial No.  
LC-068947

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

LUSK DEEP UNIT

8. Well Name and No.

LUSK DEEP UNIT A #21

9. API Well No.

30-025-35291

10. Field and Pool, or Exploratory Area

LUSK MORROW GAS

11. County or Parish, State

LEA CO., NM

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.  
Use "APPLICATION FOR PERMIT-" for such proposals

**SUBMIT IN TRIPLICATE**

1. Type of Well

Oil Well ☒ Gas Well ☐ Other ☐

2. Name of Operator

MARBOB ENERGY CORPORATION

3. Address and Telephone No.

P.O. BOX 227, ARTESIA, NM 88210 505-748-3303

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

660 FSL 1750 FWL, SEC. 19-T19S-R32E UNIT N

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

TYPE OF SUBMISSION

Notice of Intent

☒ Subsequent Report

Final Abandonment Notice

TYPE OF ACTION

Abandonment

Recompletion

Plugging Back

Casing Repair

Altering Casing

☒ Other INTERMEDIATE CSG, CMT

Change of Plans

New Construction

Non-Routine Fracturing

Water Shut-Off

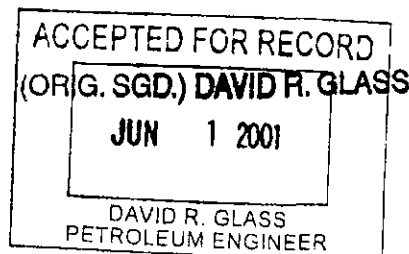
Conversion to Injection

Dispose Water

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

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

5/6/01 DRLD 12 1/4" HOLE TO 4352', RAN 102 JTS 8 5/8" 32# CSG TO 4352', CMTD W/ 1200 SX PP, TAIL IN W/ 250 SX PREM NEAT, PLUG DOWN @ 7:30 A.M. 5/7/01, TOC 1700' BY TEMP SURVEY. WOC 18 HRS, TSTD CSG TO 1500# FOR 30 MINUTES - HELD OK.



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

Signed *Robin Cockburn*  
(This space for Federal or State office use)

Title PRODUCTION ANALYST

Date 05/08/01

Approved by  
Conditions of approval, if any:

Title

Date

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

\*See Instruction on Reverse Side

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

N.M. Oil Cons. Division  
1025 N. French Dr.  
Hobbs, NM 88240

FORM APPROVED  
Bureau of Land Management No. 1004-0135  
Expires: March 31, 1993

5. Lease Designation and Serial No.  
LC-068947

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

LUSK DEEP UNIT

8. Well Name and No.

LUSK DEEP UNIT A #21

9. API Well No.

30-025-35291

10. Field and Pool, or Exploratory Area

LUSK MORROW GAS

11. County or Parish, State

LEA CO., NM

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.

Use "APPLICATION FOR PERMIT-" for such proposals

**SUBMIT IN TRIPLICATE**

1. Type of Well

Oil Well ☒ Gas Well ☒ Other ☐

2. Name of Operator

MARBOB ENERGY CORPORATION

3. Address and Telephone No.

P.O. BOX 227, ARTESIA, NM 88210 505-748-3303

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

660 FSL 1750 FWL, SEC. 19-T19S-R32E UNIT N

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

TYPE OF SUBMISSION

Notice of Intent

☒ Subsequent Report

Final Abandonment Notice

TYPE OF ACTION

Abandonment

Recompletion

Plugging Back

Casing Repair

Altering Casing

☒ Other TD, CMT CSG

Change of Plans

New Construction

Non-Routine Fracturing

Water Shut-Off

Conversion to Injection

Dispose Water

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

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

TD WELL @ 1:30 AM 6/3/01. DRLD 7 7/8" HOLE TO 12718', RAN 311 JTS 5 1/2" 17# CSG TO 12714', CMTD 1ST STAGE W/ 550 SX SUPER H, PLUG DOWN & 2:15 PM 6/7/01, CIRC W/ 65 SX OFF DV TOOL, CMTD 2ND STAGE W/ 1600 SX H/L, TAILED IN W/ 100 SX SUPER H, LANDED PLUG @ 9:00 PM 6/7/01, CIRC NO SX TO SURF. WOC 18 HRS, TSTD CSG TO 1500# FOR 30 MINUTES - HELD OK.

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

Signed

*Deana J. Cannon*

Title PRODUCTION ANALYST

Date 06/13/01

(This space for Federal or State office use)

Approved by

Conditions of approval, if any

ACCEPTED FOR RECORD

(Orig. SGD.) DAVID R. GLASS

JUN 26 2001

Title

Date

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

DAVID R. GLASS  
PETROLEUM ENGINEER

\*See Instruction on Reverse Side

**LUSK DEEP UNIT 008**  
**(3001510382)**



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE

(See other instructions on reverse side)

Form approved.  
Budget Bureau No. 42-R355.5.

RECEIVED

## WELL COMPLETION OR RECOMPLETION REPORT

JUN 5 1964

1a. TYPE OF WELL:		OIL WELL <input checked="" type="checkbox"/>	GAS WELL <input type="checkbox"/>	DRY <input type="checkbox"/>	Other <input type="checkbox"/>				
b. TYPE OF COMPLETION:		NEW WELL <input checked="" type="checkbox"/>	WORK OVER <input type="checkbox"/>	DEEP-EN <input type="checkbox"/>	PLUG BACK <input type="checkbox"/>	DIFF. RESER. <input type="checkbox"/>	Other <input type="checkbox"/>		
2. NAME OF OPERATOR						O. C. C.			
3. ADDRESS OF OPERATOR						ARTESIA, OFFICE			
Southern New Mexico Oil Corporation									
3. ADDRESS OF OPERATOR									
P. O. Box 1659, Midland, Texas									
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*									
At surface 1650' from South Line & 990' from the East Line of									
At top prod. interval reported below Sec. 24									
At total depth									
14. PERMIT NO.		DATE ISSUED							
15. DATE SPUDDED		16. DATE T.D. REACHED		17. DATE COMPL. (Ready to prod.)		18. ELEVATIONS (DF, REB, RT, OR, ETC.)*		19. ELEV. CASINGHEAD	
4/26/64		5/29/64		6/1/64		3551 GR.		3550	
20. TOTAL DEPTH, MD & TVD		21. PLUG, BACK T.D., MD & TVD		22. IF MULTIPLE COMPL., HOW MANY*		23. INTERVALS DRILLED BY		24. ROTARY TOOLS	
11,540		11,454				All		CABLE TOOLS	
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*						25. WAS DIRECTIONAL SURVEY MADE			
(11397-11445) Strawn						No			
26. TYPE ELECTRIC AND OTHER LOGS RUN						27. WAS WELL CORDED			
Sonic Gamma Ray									
28. CASING RECORD (Report all strings set in well)									
29. LINER RECORD									
30. TUBING RECORD									
31. PERFORATION RECORD (Interval, size and number)									
32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.									
33. PRODUCTION									
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)									
35. LIST OF ATTACHMENTS									

15. DATE SPUDDED		16. DATE T.D. REACHED		17. DATE COMPL. (Ready to prod.)		18. ELEVATIONS (DF, REB, RT, OR, ETC.)*		19. ELEV. CASINGHEAD	
4/26/64		5/29/64		6/1/64		3551 GR.		3550	
20. TOTAL DEPTH, MD & TVD		21. PLUG, BACK T.D., MD & TVD		22. IF MULTIPLE COMPL., HOW MANY*		23. INTERVALS DRILLED BY		24. ROTARY TOOLS	
11,540		11,454				All		CABLE TOOLS	
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*						25. WAS DIRECTIONAL SURVEY MADE			
(11397-11445) Strawn						No			
26. TYPE ELECTRIC AND OTHER LOGS RUN						27. WAS WELL CORDED			
Sonic Gamma Ray									

28. CASING RECORD (Report all strings set in well)						
CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD		AMOUNT PULLED
13 3/8	48	737	17	775 Sacks		None
8 5/8	24	3800	12	2350 Sacks		None
4 1/2	13.5	11515	7 7/8	800 Sacks		None

29. LINER RECORD					30. TUBING RECORD		
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					2"	11400	

31. PERFORATION RECORD (Interval, size and number)				32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.			
(11397-11403), (11415-11445)				DEPT. INTERVAL (MD)			
				11397-11445			
				AMOUNT AND KIND OF MATERIAL USED			
				1000 gal. acid			

33. PRODUCTION							
DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)					
6/1/64		Natural Flow					
DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
6/3/64	4	15/64	→	131.2	249	0	1900 to 1
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
900	1400	→	787	1494	0	46	

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)						TEST WITNESSED BY	
Gas sold to Phillips Pet. Co. (awaiting connections)						Geo. Roy (Great Western D.C)	

35. LIST OF ATTACHMENTS							
Heater and 2 stage gas separation							

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Chapman TITLE Agent DATE 6/6/64

\*(See Instructions and Spaces for Additional Data on Reverse Side)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN TR .CATE\*  
(Other instructions on re-  
verse side)

Form approved.  
Budget Bureau No. 42-B1424.

SUNDRY NOTICES AND REPORTS ON WELLS

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

1. OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> <b>Drilling Well</b>	5. LEASE DESIGNATION AND SERIAL NO. <b>LC-029358</b>
2. NAME OF OPERATOR <b>Southern New Mexico Oil Corp.</b>	6. IF INDIAN, ALLOTTEE OR TRIBE NAME <b>upst</b>
3. ADDRESS OF OPERATOR <b>P. O. Box 1659, Midland, Texas</b>	7. UNIT AGREEMENT NAME <b>LOSS</b>
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface <b>1650' from the South Line &amp; 990' from the East Line of Sec. 24</b>	8. FARM OR LEASE NAME
14. PERMIT NO.	9. WELL NO. <b>8</b>
15. ELEVATIONS (Show whether OF, RT, OR, etc.) <b>3551' G.R.</b>	10. FIELD AND POOL, OR WILDCAT <b>Lusk Strawn</b>
	11. SEC., T., R., M., OR BLE. AND SURVEY OR AREA <b>N2/4 of SE/4 of Sec. 24</b>
	12. COUNTY OR PARISH <b>Eddy</b>
	13. STATE <b>New Mexico</b>

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF ☐

FRACTURE TREAT ☐

SHOOT OR ACIDIZE ☐

REPAIR WELL ☐

(Other) ☐

PULL OR ALTER CASING ☐

MULTIPLE COMPLETE ☐

ABANDON\* ☐

CHANGE PLANS ☐

SUBSEQUENT REPORT OF:

WATER SHUT-OFF ☒

FRACTURE TREATMENT ☐

SHOOTING OR ACIDIZING ☐

(Other) ☐

REPAIRING WELL ☐

ALTERING CASING\* ☐

ABANDONMENT\* ☐

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

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

The Lusk Deep Unit #8 was spudded 4/26/64 at 1:00 AM. On April 26 718' of N-40, 13 3/8" 48# casing was cemented at 737' with 775 sacks of regular cement plus 2% CACL<sub>2</sub>. The plug was down at 7:00 AM. The cement circulated. After 24 hrs. a pressure of 1000 psi was applied at the surface - there was no pressure drop.

RECEIVED

MAY 1964

G. O. G.  
ARTESIA OFFICE

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

SIGNED G. H. Greve

**G. H. Greve**

TITLE

**Agent**

DATE

**4/28/64**

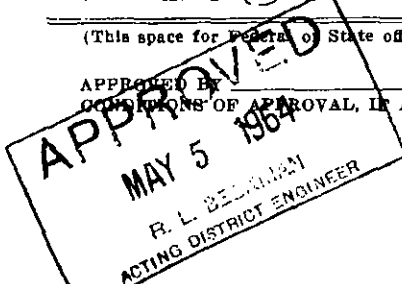
(This space for use of State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE



\*See Instructions on Reverse Side

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN THE MANNER  
(Other instructions on re-  
verse side)

Form approved.  
Budget Bureau No. 42-R1424.

SUNDRY NOTICES AND REPORTS ON WELLS

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

1. OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> <b>Drilling well</b>		5. LEASE DESIGNATION AND SERIAL NO. <b>LC-029358</b>
2. NAME OF OPERATOR <b>Southern New Mexico Oil Corp.</b>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME <b>Copy to 54.</b>
3. ADDRESS OF OPERATOR <b>P. O. Box 1037, Midland, Texas</b>		7. UNIT AGREEMENT NAME <b>Lusk Deep</b>
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) <b>At surface 1650' from the South line &amp; 990' from the East line of Sec. 24</b>		8. FARM OR LEASE NAME
14. PERMIT NO.		9. WELL NO. <b>8</b>
15. ELEVATIONS (Show whether DF, RT, GR, etc.) <b>3551 Gr.</b>		10. FIELD AND POOL, OR WILDCAT <b>Lusk Stream</b>
		11. SEC., T., R., M., OR E.L. AND SURVEY OR AREA <b>N2/4 of S2/4 of Sec. 24 T-17-S, R-31-E</b>
		12. COUNTY OR PARISH <b>Hddy</b>
		13. STATE <b>New Mexico</b>

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input checked="" type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETION <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input type="checkbox"/>	

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

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

On May 3, 1964, 3800' of 6 5/8" new 240 H-40 casing was cemented at 3815' as follows:

1st stage at shoe (3815') with 500 sacks ancore, 87 gal plus 100 sacks seal.

2nd stage through a D. V. Pool (2400'), 1650 sacks Trinity Lite water plus 100 sacks seal. Plug down @ 2:30 PM. After 24 hrs. a pressure of 1000 psi was applied at the surface. There was no pressure loss during the 10 minute test.

Top of the cement is laced inside the surface pipe at 100'.

RECEIVED

MAY

E. L. BEEKMAN  
DISTRICT ENGINEER

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

SIGNED E. L. BEEKMAN TITLE Agent DATE 5/4/64

(This space for Federal or State office use)

APPROVED BY E. L. BEEKMAN TITLE DISTRICT ENGINEER DATE MAY 7 1964

COMMISSIONS ON APPROVAL, IF ANY:

\*See Instructions on Reverse Side

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN T  
(Other Instruc.  
verse side)

Form approved.  
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

LC-024358

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

SUNDRY NOTICES AND REPORTS ON WELLS

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

1.

OIL WELL ☐ GAS WELL ☒ OTHER ☐ *Artificial Well*

2. NAME OF OPERATOR

Southern New Mexico Oil Corp.

3. ADDRESS OF OPERATOR

P. O. Box 1610, Midland, Texas

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.\*

See also space 17 below.)  
At surface

1050' from the south line and 700' from the  
west line of Sec. 24.

7. UNIT AGREEMENT NAME

Unit 800

8. FARM OR LEASE NAME

9. WELL NO.

8

10. FIELD AND POOL, OR WILDCAT

Unit 800

11. SEC. T., R., M., OR ELEV. AND  
SURVEY OR AREA

10/4 of 30/4 of Sec. 24  
1-17-3, 1-31-5

14. PERMIT NO.

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

3551 ft.

12. COUNTY OR PARISH

Artesia

13. STATE

New Mexico

16.

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON\*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other) *(see perforating)*

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

REPAIRING WELL

ALTERING CASING

ABANDONMENT\*

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

11,515' on new 4 1/2" - 11.5 and 10-5/8" - 10-5/8" casing was cemented at 11,531' with 60% sacks of regular of a 200 cu. ft. of diatomaceous earth. Plug was down at 12:45 PM May 10, 1964. After 74 hrs. a pressure of 1500 psi was applied for 30 min. at the surface. There was no pressure loss.

The well was logged and the intervals 11,437-11,443', 11,443-11,445' perforated with 2 shots per ft. May 31.

The well will be washed with 1000 gal of mud acid and a potential test made.

RECEIVED

JUN 10 1964

O. C. C.  
ARTESIA, OFFICE

RECEIVED  
JUN 10 1964  
U.S. GEOLOGICAL SURVEY  
ARTESIA, NEW MEXICO

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

SIGNED

TITLE

DATE

(This space for Federal or State office use)

APPROVED BY  
CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

JUN 3 1964  
N. L. McMANIS  
ACTING DISTRICT ENGINEER

\*See Instructions on Reverse Side

dsf

Form 3160-5  
 (June 1990)

UNITED STATES  
 DEPARTMENT OF THE INTERIOR  
 BUREAU OF LAND MANAGEMENT

NOV 22 1994

FORM APPROVED

Budget Bureau No. 1004-0135  
 Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

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

SUBMIT IN TRIPLICATE

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

Phillips Petroleum Company

3. Address and Telephone No.

4001 Penbrook St., Odessa, Texas 79762

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Unit I, 1650' FSL & 990' FEL of Section 24, T-19-S, R-31-E

5. Lease Designation and Serial No.

LC-029358

6. If Indian, Allotment or Tribe Name

7. If Unit or CA, Agreement Designation

Lusk Deep Unit "A"

8. Well Name and No.

8

9. API Well No.

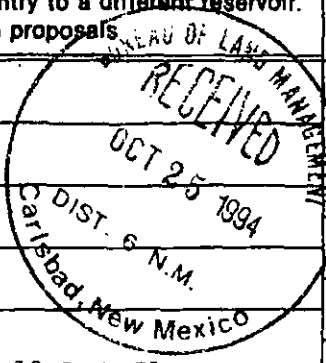
30-015-10382

10. Field and Pool, or Exploratory Area

Lusk Strawn

11. County or Parish, State

Eddy



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

TYPE OF SUBMISSION	TYPE OF ACTION
<input type="checkbox"/> Notice of Intent	<input checked="" type="checkbox"/> Abandonment
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> Altering Casing
	<input type="checkbox"/> Other
	<input type="checkbox"/> Change of Plans
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Conversion to Injection
	<input type="checkbox"/> Dispose Water

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

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

10/12/94 Set 4-1/2" CIBP @ 11,300'. Plug #1 spotted 25 sxs class H cmt, 5.2 gal F/W per sx @ 15.6 gal, from 11300' to 10962'. Plug #2 spotted 25 sxs class H cmt from 8606' to 8268'. Perforated 4-1/2" csg @ 7098'. Set 4-1/2" ret @ 6975'. Sqz'd 50 sxs cmt under ret. Spotted 5 sxs class H cmt on top of ret. plug from 7098' to 6908'.

10/13/94 Plug #4 spotted 50 sxs class H cmt @ 4325' to 4117' & tagged TOC @ 4128'.

10/14/94 Plug #5 spotted 65 sxs class C cmt @ 3915' to 3670' & tagged TOC @ 3670'. Plug #6 spotted 45 sxs class C cmt @ 2462' to 2291' & (Calc) TOC. Plug #7 spotted 30 sxs class C cmt @ 787 to 677' (Calc) TOC. Plug #8 Spotted 15 sxs class C cmt @ 54' to 3'. Tagged TOC @ 3'.

10/17/94 Ran 1" pipe down 8-5/8" x 13-3/8" annulus to 75'. pumped 145 sxs cmt 75' to 3' Cut and pulled csg from 4274'. P & A'd 10/17/94

Prod ID-2  
 12-9-94  
 PFA

Surface restoration is completed.

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

Signed

(ORIG. SGD.) JOE G. LARA

Title Supv., Reg. Affairs

Date 10/24/94

915/368-1488

Approved by

Conditions of approval, if any:

Title

PETROLEUM ENGINEER

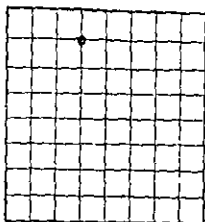
Date

11/17/94

**DEHLI FEDERAL 001**  
**(30020025)**



H. M. C. C. C.

New Mexico No. 42 (11-11-51)  
Revised 11-30-50Scribner Office Santa Fe.  
Lease Owner No. 0127698  
To ProspectUNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

LOCATE WELL CORRECTLY

## LOG OF OIL OR GAS WELL

Company ..... Delhi-Taylor Oil Corporation Address ..... P.O. Box 1821, Midland, Texas  
 Lessor or Tract ..... Delhi-Taylor et al. Federal Field ..... Leak State ..... New Mexico  
 Well No. .... 1 Sec. 30 T. 19S R. 32E Meridian ..... 106M County ..... Lea  
 Location 660 ft. [N.] of ..... Line and 1980 ft. [E.] of ..... Line of ..... Sec. 30 Elevation ..... 3543  
 (Elevation above sea level)

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

Signed James L. HestonDate ..... April 3, 1963 Title ..... District Clerk

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

Commenced drilling ..... February 2 1963. Finished drilling ..... March 23 1963.

## OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from ..... 11,200' ..... to ..... 11,286' ..... No. 4, from ..... to .....  
 No. 2, from ..... to ..... No. 5, from ..... to .....  
 No. 3, from ..... to ..... No. 6, from ..... to .....

## IMPORTANT WATER SANDS

No. 1, from ..... to ..... No. 3, from ..... to .....  
 No. 2, from ..... to ..... No. 4, from ..... to .....

## CASING RECORD

Size	Weight per foot	Threads per foot	Grade	Amount	Kind of shoe	Set and pulled from	Perforated	Purpose
							From	To
13-3/8"	48	8	507	507'	Flange			Surface
8-5/8"	32	8	4050	4050'	Base			Intermediate
4-1/2"	11	8	11400	11400'	Base			Oil string

## MUDGING AND CEMENTING RECORD

Size of casing	Direction	Number sacks of cement	Mixed used	Mud gravity	Amount of mud used
13-3/8"	507'	500	Pump		
8-5/8"	4050'	2150	"		
4-1/2"	11400'	740	"		

## PLUGS AND ADAPTERS

Heaving plug—Material ..... Length ..... Depth set .....  
 Adapters—Material ..... Size .....

## SHOOTING RECORD

Size	Shoe used	Explosives used	Quantity	Date	Depth shot	Depth cleared out

## TOOLS USED

Rotary tools were used from ..... feet to ..... feet, and from ..... feet to ..... feet  
 Guide tools were used from ..... feet to ..... feet, and from ..... feet to ..... feet

## DATES

..... 19..... Put to producing ..... March 30 1963.

The production for the first 24 hours was ..... barrels of fluid of which ..... was oil; ..... G production ..... water and ..... G sediment.

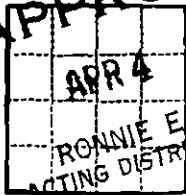
If gas well, G. ft. per 24 hours ..... Gals. gasline per 1,000 cu. ft. of gas .....  
 (If gas well, G. ft. per 24 hours .....)

## EMPLOYEES

..... J. M. Brumby ..... Driller ..... Dr. B. Hancock ..... Driller  
 ..... Donald Murphy ..... Driller

## FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
0	510	510	Red beds & sand
510	770	260	Anhydrite
770	990	220	Anhydrite & gyp
990	2,310	1,320	Salt
2,310	2,470	160	Anhydrite & salt
2,470	2,800	330	Anhydrite, sand & lime
2800	3,750	950	Anhydrite
3,750	8,310	4,560	Anhydrite
8,310	10,240	1,930	Lime, shale & sand
10,240	11,200	960	Lime & shale
11,200	11,400	200	Lime
			FORMATION TOPS
			Rustler 772'
			Salt 955'
			Tansill 2294'
			Yates 2474'
			Capitan 2800'
			Delaware 4450'
			Bone Springs 7080'
			1st B.S. sd 8310'
			2nd B.S. sd 9036'
			3rd B.S. sd 9865'
			Wolfcamp 10245'
			Strawn 11096'

**APPROVED**

(SUBMIT IN TRIPLICATE)

**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY**

Land Office Santo FeLease No. NM-0107697Unit C**RECEIVED**

## SUNDRY NOTICES AND REPORTS ON WELLS

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

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

Delhi-Taylor Et Al

April 2, 1963

Federal

Well No. 1 is located 660 ft. from [N] line and 1980 ft. from [E] line of sec. 30

<u>NE/4 NW/4</u> (1/4 Sec. and Sec. No.)	<u>19S</u> (Twp.)	<u>32E</u> (Range)	<u>NMPM</u> (Meridian)
<u>Lusk Strawn</u> (Field)	<u>Lee</u> (County or Subdivision)	<u>New Mexico</u> (State or Territory)	

The elevation of the derrick floor above sea level is 3548 ft.

### DETAILS OF WORK

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

Drilled 17 1/2" hole to 510'. Set 507' of 13-3/8" 48# H-40 casing w/500 sacks Incor 2% HA-5. Circulated cement. Tested to 700#. Okay.

Drilled to 4050'. Set 4050' of 8 5/8" 32# & 24# casing. Cemented in two stages.

First stage: 150 sacks 50-50 No. "8" w/6% Jel & 2% calcium chloride and 100 sacks Heat w/2% calcium chloride. DV tool at 2998'.

Second Stage: 1700 sacks Incor Pozmix 8% Gel, 2% calcium chloride w/16# salt to sack. Ran HMC temperature survey. Found top of cement at 850'. Cemented down annulus w/200 sacks neat w/2% HA-5. Cement to surface.

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

Company DELHI-TAYLOR OIL CORPORATIONAddress P. O. Box 1821Midland, TexasBy Eugene S. WiddowTitle District Clerk



**SL DEEP FEDERAL 003**  
**(3002539441)**

RECEIVED

FORM 3160-4  
(August 2007)

SEP 08 2009

OCD-HOBBS

UNITED STATES

DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED

OMB NO 1004-0137

Expires July 31, 2010

## WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5 LEASE DESIGNATION AND SERIAL NO

NM-0107698

1a Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other

b Type of Completion ☒ New Well ☐ Workover ☐ Deepen ☐ Plug Back ☐ Drill Reserv

6 INDIAN ALLOTTEE OR TRIBE NAME

7 UNIT AGREEMENT

2 Name of Operator

Marbob Energy Corporations

8 FARM OR LEASE NAME

S L Deep Federal #3

3 Address

P.O. Box 227  
Artesia, NM 88211-0227

3a Phone No (include area code)

575-748-3303

9 API WELL NO

30-025-39441

4 Location of Well (Report location clearly and in accordance with Federal requirements)

At surface 990' FNL &amp; 1650' FWL, Unit C (NENW)

10. FIELD NAME

Lusk; Bone Spring 414407

At top prod. Interval reported below

Same

11 SEC T. R. M. OR BLOCK AND SURVEY  
OR AREA 30 T 19S R 32E12 COUNTY OR PARISH 13 STATE  
Lea NM

At total depth

Same

14 Date Spudded  
6/15/0915 Date TD Reached  
7/6/0916 Date Completed 8/18/09  
☐ D & A ☒ Ready to Prod17 ELEVATIONS (DF, RKB, RT, GR, etc)\*  
3537' GR 3554' KB18. Total Depth MD 9580'  
TVD 9580'19. Plug back TD MD 9536'  
TVD 9536'20 Depth Bridge Plug Set. MD  
TVD

21 Type Electric &amp; other Logs Run (Submit a copy of each)

DLL, DSN

22. Was well cored? ☒ No ☐ Yes (Submit analysis)

Was DST run? ☒ No ☐ Yes (Submit report)

Directional Survey? ☒ No ☐ Yes (Submit copy)

23 Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt (#/ft)	Top (MD)	Bottom(MD)	Stage Cementer Depth	No of Sks & Type of Cement	Slurry Vol (Bbl)	Cement Top*	Amount Pulled
17 1/2"	13 3/8" J55	54.5#	0	839'		700 sx		0	None
12 1/4"	9 5/8" J55	36# & 40#	0	4158'		1800 sx		100' (TS)	None
7 7/8"	5 1/2" J55	17#	0	9555'		1275 sx		1800' (TS)	None

24 Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2 7/8"	9396'							

25 Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No of Holes	Perf Status
A) Bone Spring	8956'	9203'	8956-9203'		16	Open
B)						
C)						
D)						

27 Acid/Fracture Treatment, Cement Squeeze, Etc

Depth Interval	Amount and Type of Material
8956-9203'	Acidz w/2000 gal 7 1/2% NEFE acid; Frac w/254216# 16/30 mesh sand w/ 14439 gal fluid

ACCEPTED FOR RECORD

Is/ Chris Walls

SEP 1 2009

28 Production- Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil Bbl	Gas MCF	Water Bbl	Oil Gravity Corr API	Gas Gravity	Well Status
8/20/09	8/24/09	24	→	106	95	133	N/A	N/A	Producing
Choke Size	Tbg Press Flwg St	Csg Press	24 Hr Rate	Oil Bbl	Gas MCF	Water Bbl	Gas Oil Ratio		
N/A	N/A		→						

Produced by

BUREAU OF LAND MANAGEMENT

CARLSBAD FIELD OFFICE

28a Production- Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil Bbl	Gas MCF	Water Bbl	Oil Gravity Corr API	Gas Gravity	Production Method
			→						
Choke Size	Tbg Press Flwg St	Csg Press	24 Hr Rate	Oil Bbl	Gas MCF	Water Bbl	Gas Oil Ratio	Well Status	
			→						

\* See instructions and spaces for additional data on page 2

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

OCD Hobbs

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

**SUNDRY NOTICES AND REPORTS ON WELLS**  
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*

5. Lease Serial No.  
NMNM0107698

6. If Indian, Allottee or Tribe Name

**SUBMIT IN TRIPLICATE - Other instructions on reverse side.**

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

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

8. Well Name and No.  
S L DEEP FEDERAL 3

2. Name of Operator  
MARBOB ENERGY CORPORATION  
Contact: DEBBIE WILBOURN  
E-Mail: geology@marbob.com

9. API Well No.  
30-025-39441-00-X1

3a. Address  
P. O. BOX 227  
ARTESIA, NM 88211-0227

3b. Phone No. (include area code)  
Ph: 575-748-3303

10. Field and Pool, or Exploratory  
LUSK ; Bone Spring

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 30 T19S R32E NENW 990FNL 1650FWL

Unit-C

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

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

TYPE OF SUBMISSION	TYPE OF ACTION
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Deepen
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Fracture Treat
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Change Plans
	<input type="checkbox"/> Plug and Abandon
	<input type="checkbox"/> Convert to Injection
	<input type="checkbox"/> Plug Back
	<input type="checkbox"/> Production (Start/Resume)
	<input type="checkbox"/> Reclamation
	<input type="checkbox"/> Recomplete
	<input type="checkbox"/> Temporarily Abandon
	<input type="checkbox"/> Water Disposal
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Well Integrity
	<input checked="" type="checkbox"/> Other Drilling Operation

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

06/23/09 @6:15 PM, DRLD 12 1/4" HOLE TO 4160'. RAN 93 JTS (4139.15') 9 5/8" 36/40# J-55 BUTTRESS CSG (3475.07' 36# & 664.08' 40#) TO 4158'. CMTD 1ST STG W/450 SX HLPP, TAILED IN W/250 SX P+, PD @5:00 PM ON 06/23/09, DNC. CMTD 2ND STG W/1000 SX HLPP, TAILED IN W/100 SX HLPP, PD @9:15 PM ON 06/23/09, CIRC W/GRAY WTR. TAG CMT @115'. RUN TEMP SURVEY - TOC @100' WOC 18 HRS. DO 5' BELOW FC W/10# BRINE - NO LOSS OF CIRC.

RECEIVED

AUG 06 2009

HOBBSOC

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

Electronic Submission #71969 verified by the BLM Well Information System

For MARBOB ENERGY CORPORATION, sent to the Hobbs

Committed to AFMSS for processing by KURT SIMMONS on 07/08/2009 (09KMS0925SE)

Name (Printed/Typed) DEBBIE WILBOURN

Title AUTHORIZED REPRESENTATIVE

Signature (Electronic Submission)

Date 07/08/2009

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By **ACCEPTED**

WESLEY INGRAM  
Title PETROLEUM ENGINEER

Date 07/10/2009

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

Office Hobbs

Kaz

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

**\*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\***



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

OCD Hobbs

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

**SUNDRY NOTICES AND REPORTS ON WELLS**  
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*

**SUBMIT IN TRIPLICATE - Other instructions on reverse side.**

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. NMNM0107698
2. Name of Operator MARBOB ENERGY CORPORATION		6. If Indian, Allottee or Tribe Name
3a. Address P. O. BOX 227 ARTESIA, NM 88211-0227		7. If Unit or CA/Agreement, Name and/or No.
3b. Phone No. (include area code) Ph: 575-748-3303		8. Well Name and No. S L DEEP FEDERAL 3
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 30 T19S R32E NENW 990FWL 1650FWL Unit C		9. API Well No. 30-025-39441-00-X1
		10. Field and Pool, or Exploratory LUSK
		11. County or Parish, and State LEA COUNTY, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Deepen
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Alter Casing
	<input type="checkbox"/> Fracture Treat
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Change Plans
	<input type="checkbox"/> Plug and Abandon
	<input type="checkbox"/> Convert to Injection
	<input type="checkbox"/> Plug Back
	<input type="checkbox"/> Production (Start/Resume)
	<input type="checkbox"/> Reclamation
	<input type="checkbox"/> Recomplete
	<input type="checkbox"/> Temporarily Abandon
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Well Integrity
	<input checked="" type="checkbox"/> Other Drilling Operations
	<input type="checkbox"/> Water Disposal

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

TD WELL @11:45 PM ON 07/06/09. DRLG 7 7/8" HOLE TO 9580'. RAN 242 JTS (9549.86') 5 1/2" 17# N-80 8RD LTC CSG TO 9554.86'. CMTD 1ST STG W/300 SX HLP, TAILED IN W/300 SX SUPER H, PD @1:35 pm ON 07/08/09, CIRC 45 BBLS CMT OFF DVT @5987.39'. CMTD 2ND STG W/575 SX H/L, TAILED IN W/100 SX PREM, PD @9:03 PM ON 07/08/09, DNC. RAN TEMP SURVEY - TOC @1800'. WOC 18 HRS.

RECEIVED  
AUG 06 2009  
HOBBSOCD

14. I hereby certify that the foregoing is true and correct. Electronic Submission #72036 verified by the BLM Well Information System For MARBOB ENERGY CORPORATION, sent to the Hobbs Committed to AFMSS for processing by KURT SIMMONS on 07/10/2009 (09KMS0927SE)	
Name (Printed/Typed) DEBBIE WILBOURN	Title AUTHORIZED REPRESENTATIVE
Signature (Electronic Submission)	Date 07/09/2009

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By <b>ACCEPTED</b>	WESLEY INGRAM Title PETROLEUM ENGINEER	Date 07/10/2009
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		
Office Hobbs		

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

**\*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\***

**LUSK DEEP UNIT A 024H**  
**(3002540863)**

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

5. LEASE DESIGNATION AND SERIAL NO.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

NMNM016497

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other  
b. Type of Completion ☒ New Well ☐ Workover ☐ Deepen ☐ Plug Back ☐ Drift Reseal  
Other \_\_\_\_\_

6. INDIAN ALLOTTEE OR TRIBE NAME

2. Name of Operator  
COG Operating LLC

7. UNIT AGREEMENT  
NMNM70982X

APR 17 2013

FARM OR LEASE NAME

Lusk Deep Unit A #24H

3. Address  
2208 W. Main Street  
Artesia, NM 88210

3a. Phone No. (include area code)

575-748-6946

9. API WELL NO.

30-025-40863

4. Location of Well (Report location clearly and in accordance with Federal requirements)\*  
At surface 330' FNL & 660' FWL, Lot 1 (NWNW) of Sec 19-T19S-R32E

10. FIELD NAME

Lusk; Bone Spring

At top prod. Interval reported below

4928' W-10R-10

At total depth 330' FNL & 660' FWL, Lot 4 (SWSW) of Sec 19-T19S-R32E

11. SEC. T. R. M. OR BLOCK AND SURVEY  
OR AREA 19 T 19S R 32E

12. COUNTY OR PARISH 13. STATE

Lea

NM

14. Date Spudded

12/19/12

15. Date T.D. Reached

1/5/13

16. Date Completed

2/28/13

☐ D & A

☒ Ready to Prod.

17. ELEVATIONS (DF, RKB, RT, GR, etc.)\*

3569'

GR

3587'

KB

18. Total Depth:

MD

13660'

TVD

9276'

19. Plug back T.D.:

MD

13600'

TVD

9274'

20. Depth Bridge Plug Set:

MD

13600'

TVD

9274'

21. Type Electric & other Logs Run (Submit a copy of each)

None

22. Was well cored?

☒ No

☐ Yes (Submit analysis)

Was DST run?

☒ No

☐ Yes (Submit report)

Directional Survey?

☐ No

☒ Yes (Submit copy)

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom(MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (Bbl)	Cement Top*	Amount Pulled
17 1/2"	13 3/8" J55	54.5#	0	770'	None	675 sx		0	None
12 1/4"	9 5/8" J55	36#	0	4455'	2696'	1575 sx		0	None
7 7/8"	5 1/2" P110	17#	0	13660'	None	1875 sx		0	None

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2 7/8"	8553'							

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. of Holes	Perf. Status
A) Bone Spring	9400'	13570'	See Attached	0.43	460	Open
B)			13560-13570'		60	Open
C)						
D)						

27. Acid, Fracture Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
See Attached	See Attached

RECLAMATION  
DUE 8-28-13

28. Production- Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil Bbl	Gas MCF	Water Bbl	Oil Gravity Corr. API	Gas Gravity	Production Method
3/4/13	4/1/13	24	→	570	235	1242			Pumping
Choke Size	Tbg. Press Flwg.	Csg. Press.	24 Hr. Rate	Oil Bbl	Gas MCF	Water Bbl	Gas: Oil Ratio	Well Status	
	520#	280#	→	570	235	1242			Producing

28a. Production- Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil Bbl	Gas MCF	Water Bbl	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						2013
Choke Size	Tbg. Press Flwg.	Csg. Press.	24 Hr. Rate	Oil Bbl	Gas MCF	Water Bbl	Gas: Oil Ratio	Well Status	
	SI		→						

\* See instructions and spaces for additional data on page 2)

K2

BUREAU OF LAND MANAGEMENT  
CARLSBAD FIELD OFFICE

APR 30 2013

HOBBS OOD

OCD Hobbs

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OMB NO. 1004-0135  
Expires: July 31, 2010

JAN 15 2013

## SUNDRY NOTICES AND REPORTS ON WELLS

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

RECEIVED

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. NMNM016497
2. Name of Operator COG OPERATING LLC		6. If Indian, Allottee or Tribe Name
3a. Address 2208 WEST MAIN STREET ARTESIA, NM 88210		7. If Unit or CA/Agreement, Name and/or No. NM 70982X
3b. Phone No. (include area code) Ph: 575-748-6946 Fx: 575-748-6968		8. Well Name and No. LUSK DEEP UNIT A 24H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 19 T19S R32E NWNW 330FNL 660FWL		9. API Well No. 30-025-40863
		10. Field and Pool, or Exploratory LUSK; BONE SPRING
		11. County or Parish, and State LEA COUNTY, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Deepen
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Fracture Treat
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Plug and Abandon
	<input type="checkbox"/> Plug Back
	<input type="checkbox"/> Production (Start/Resume)
	<input type="checkbox"/> Reclamation
	<input type="checkbox"/> Recomplete
	<input type="checkbox"/> Temporarily Abandon
	<input type="checkbox"/> Water Disposal
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Well Integrity
	<input checked="" type="checkbox"/> Other Drilling Operations

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

12/19/12 Spud well.

12/20/12 TD 17 1/2" hole @ 770'. Set 13 3/8" 54.5# J-55 csg @ 770'. Cmt w/425 sx Class C. Tailed in w/250 sx. Circ 250 sx to surface. WOC 18 hrs. Test csg to 1500# for 30 mins. Drilled out 5' below FS w/10# brine - no loss of circ.

12/25/12 TD 12 1/4" hole @ 4455'. Set 9 5/8" 36# csg @ 4455'. Set ECP @ 2696'. Cmt 1st Stage w/425 sx Class C. Tailed in w/250 sx. Circ 295 sx thru ECP. Cmt 2nd Stage w/ 800 sx Class C. Tailed in w/100 sx. Circ 49 sx to surface. WOC 18 hrs. Test csg to 1500#. Test ok. Drilled out 5' below FS w/10# brine - no loss of circ.



14. I hereby certify that the foregoing is true and correct. Electronic Submission #176500 verified by the BLM Well Information System For COG OPERATING LLC, sent to the Hobbs Committed to AFMSS for processing by KURT SIMMONS on 01/08/2013 ()	
Name (Printed/Typed) STORMI DAVIS	Title PREPARER
Signature (Electronic Submission)	Date 01/04/2013

## THIS SPACE FOR FEDERAL OR STATE OFFICE USE

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

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

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

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

OCD Hobbs

HOBBS OCD

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

**SUNDRY NOTICES AND REPORTS ON WELLS**  
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*

JAN 29 2013

**SUBMIT IN TRIPLICATE - Other instructions on reverse side.**

RECEIVED

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. NMNM016497
2. Name of Operator COG OPERATING LLC		6. If Indian, Allottee or Tribe Name
Contact: STORMI DAVIS E-Mail: sdavis@concho.com		7. If Unit or CA/Agreement, Name and/or No.
3a. Address 2208 WEST MAIN STREET ARTESIA, NM 88210	3b. Phone No. (include area code) Ph: 575-748-6946 Fx: 575-748-6968	8. Well Name and No. LUSK DEEP UNIT A 24H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 19 T19S R32E NWNW 330FNL 660FWL		9. API Well No. 30-025-40863-40863
		10. Field and Pool, or Exploratory LUSK; BONE SPRING
		11. County or Parish, and State LEA COUNTY, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Drilling Operations
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/B1A. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

12/30/12 TD 7 7/8" vertical hole @ 8706' (KOP).

1/5/13 TD 7 7/8" lateral @ 13660'. Set 5 1/2" 17# P-110 csg @ 13660'. Cmt w/925 sx Class H. Tailed in w/950 sx. Circ 93 sx to surface.

1/7/13 Released rig.

ACCEPTED FOR RECORD

JAN 26 2013

BUREAU OF LAND MANAGEMENT  
CARLSBAD FIELD OFFICE

14. I hereby certify that the foregoing is true and correct.	
Electronic Submission #179512 verified by the BLM Well Information System For COG OPERATING LLC, sent to the Hobbs Committed to AFMSS for processing by KURT SIMMONS on 01/11/2013 ()	
Name (Printed/Typed) STORMI DAVIS	Title PREPARER
Signature (Electronic Submission)	Date 01/09/2013

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By	Title Petroleum Engineer	Date
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office	JAN 30 2013

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

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

## **APPENDIX B**

### **Land information on Tracts within one Mile of Proposed Zia AGI #1 and AGI #2**

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**APPENDIX B**  
**Land information on Tracts within one Mile of**  
**Proposed Zia AGI #1 and AGI #2**

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7. **Land Status Reports by Tract (Basis for Table B-4)**

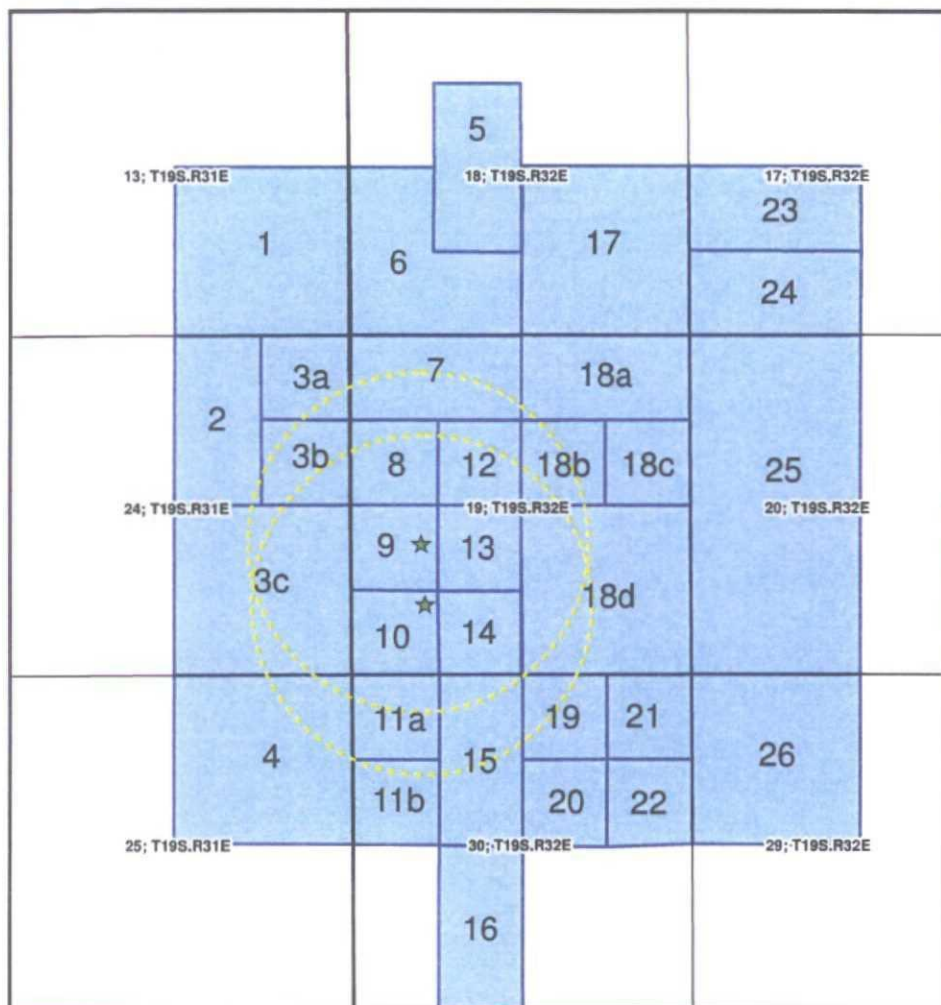


Figure B-1a: Mineral Ownership by Tract

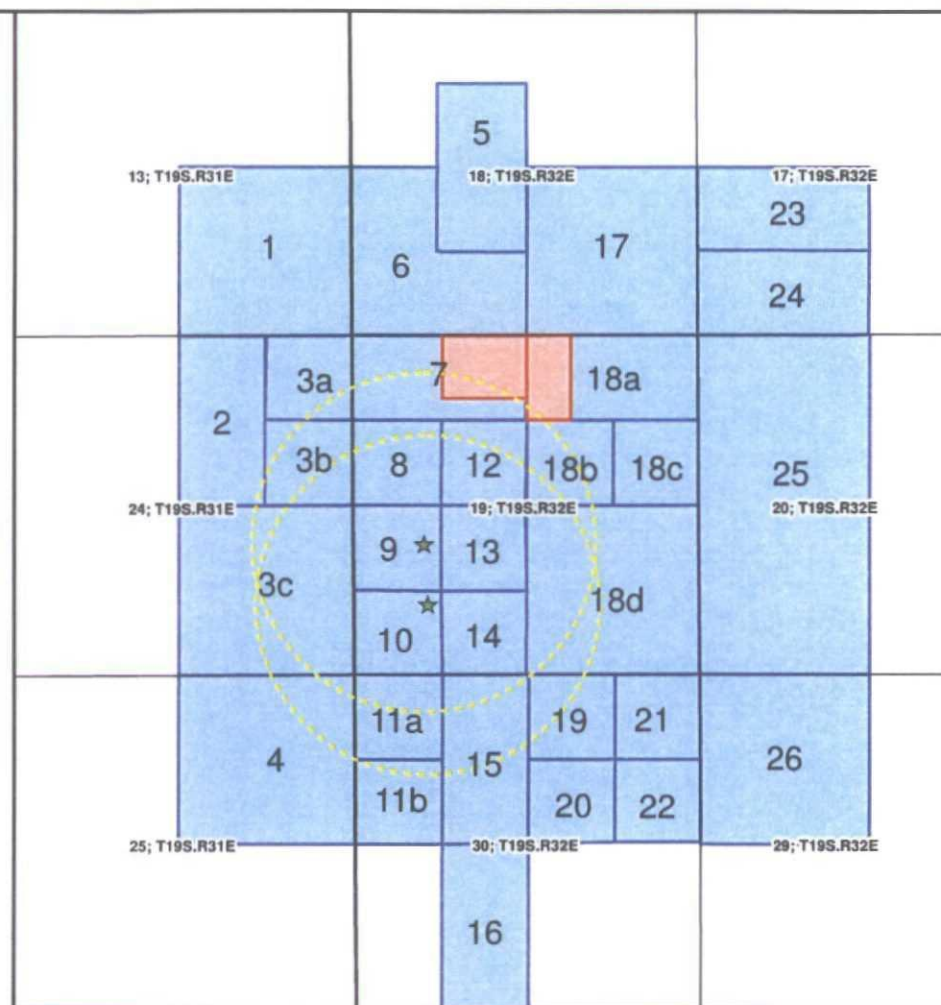


Figure B-1b: Surface Ownership by Tract

Legend

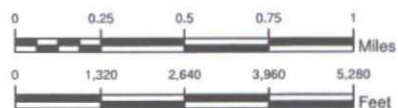
USA BLM

DCP

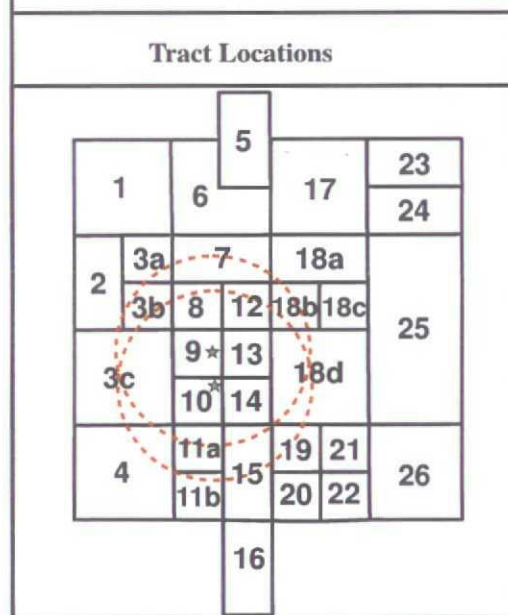
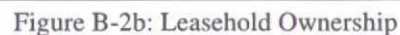
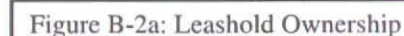
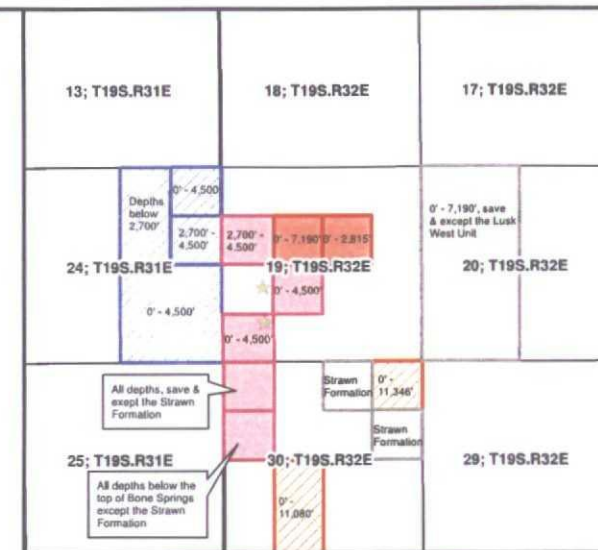
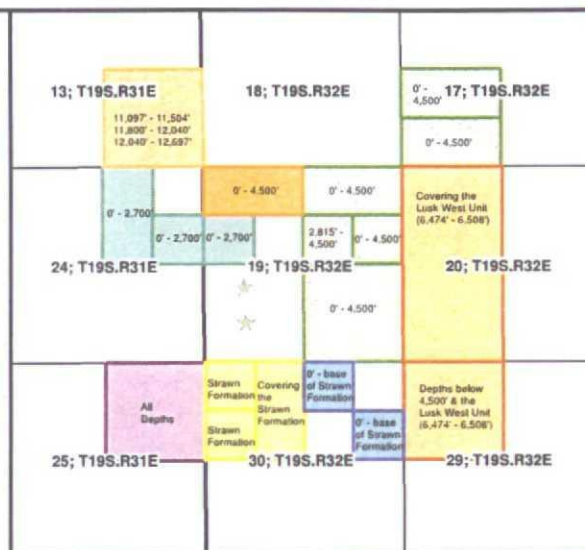
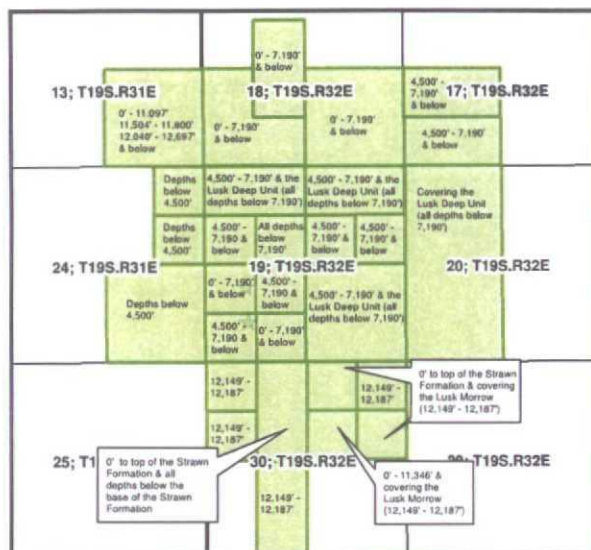
★ Proposed AGI Wells

1/2 mile radius

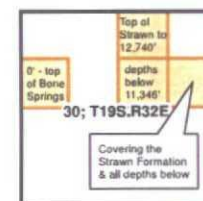
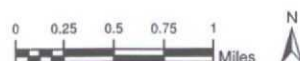
8 Tract #



**GEOLEX**  
INCORPORATED



- ★ Proposed AGI Wells
- ★ 1/2 mile radius
- Big Three Energy
- Chase Oil Corp.
- Chisos, Ltd.
- Cimarex Energy
- Concho Oil & Gas, LLC/COG Operating, LLC
- ConocoPhillips Co.
- Devon Energy Corp.
- Lynx Petroleum
- OXY USA, Inc./OXY Y-1
- Prize Energy
- Tandem Energy Corp.
- Tom R. Cone
- Apache, Chisos, Cross Borders
- Bluestem Energy, D2 Resources, OXY Y-1, Sharbro Energy, Solis Energy, Yates
- Dan Wallace Irwin, Kathleen Irwin, Prize Energy, WK Land
- Dan W. Irwin, Kathleen Irwin Schuster, Wallfam Limited, WK Land Co.
- McVay Drilling, Seven Rivers, Devon Energy, COG Operating, Concho Oil & Gas
- OXY Y-1, Sharbro Energy, Tenison, Yates



Note: COG Operating, LLC is the operator of a well that entirely covers section 30-19S-32E as to the Lusk Morrow (12,149' - 12,187'). This description is not present on figures B-2b - B-2e and should be considered accordingly.

**TABLE B-1**  
**SURFACE AND MINERAL OWNERS**

**SURFACE OWNERS**

United States of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

DCP Midstream  
5718 Westheimer, Ste 1900  
Houston, TX 77057

**MINERAL OWNERS**

United States of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**TABLE B-2**  
**OPERATORS**

Chisos, Ltd  
670 Dona Ana Rd. SW  
Deming, NM 88030

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

Cimarex Energy Co  
600 N. Marienfeld, Ste 600  
Midland, TX 79701

Tom R. Cone  
1304 W. Broadway Place  
Hobbs, NM 88240

Devon Energy Corporation  
20 N. Broadway Ave.  
Oklahoma City, OK 73102

Lynx Petroleum Consultants  
PO Box 1708  
Hobbs, NM 88241

Tandem Energy Corporation  
200 N Loraine, Ste 500  
Midland, TX 79701

Oxy USA Inc  
PO Box 4294  
Houston, TX 77210

**TABLE B-3**  
**MINERAL LEASEHOLD OWNERS**

Apache Corporation  
2000 Post Oak Blvd., Ste 100  
Houston, TX 77056

Big Three Energy Group  
1801 W. 2<sup>nd</sup> St  
Roswell, NM 88201

Bluestem Energy Assets, LLC  
301 Commerce St.  
Fort Worth, TX 76102

Chase Oil Corporation  
P.O. Box 1767  
Artesia, NM 88211

Chisos, Ltd  
670 Dona Ana Rd SW  
Deming NM 88030

COG Operating LLC  
Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

ConocoPhillips Company  
P.O. Box 7500  
Bartlesville, OK 74005

Cross Borders  
2515 McKinney Ave., Ste 900  
Dallas, TX 75201

D2 Resources LLC  
P.O. Box 10187  
Midland, TX 79702

Devon Energy Corporation  
20 N. Broadway Ave  
Oklahoma City, OK 73102

Dan Wallace Irwin, ssp  
118 N. Grant St.  
Hinsdale, IL 60521

Lynx Petroleum Consultants Inc  
PO Box 1708  
Hobbs, NM 88241

**TABLE B-3**  
**MINERAL LEASEHOLD OWNERS**

McVay Drilling Co  
PO Box 2450  
Hobbs, NM 88241

OXY Y-1  
PO Box 27570  
Houston, TX 77227

Prize Energy Resources, L.P.  
20 E. 5th Street, Ste 1400  
Tulsa, OK 74103

Kathleen Irwin Schuster as  
Trustee of the Kathleen Irwin Schuster Trust  
u/t/a 12/20/2007  
3213 Pepperwood Ln.,  
Fort Collins, CO 80525

Seven Rivers  
PO Box 1598  
Carlsbad, NM 88220

Sharbro Energy LLC  
PO Box 890  
Artesia, NM 88210

Solis Energy LLC  
P.O. Box 51451  
Midland, TX 79710

Tenison  
8140 Walnut Hill Ln  
Dallas, TX 75231

Wallfam Limited  
1811 Heritage Blvd, Ste 200  
Midland, TX 79707

WK Land Company  
911 Kimbark St.  
Longmont, CO 80501

Yates Industries, Inc  
PO Box 1091  
Artesia, NM 88210



**Table B-4  
Summary Land Index  
(Land Status Report By Tract)**

Tract #	Tract Location S/T/R	Surface Owner	Mineral Owner	Operator	Lease Holder	Depth (tract)	Map Reference
1	13-195-31E SE/4	USA Bureau of Land Management	USA Bureau of Land Management				Figures B-1a & B-1b
					COG Operating, LLC	Surface to 11,097' 11,504' to 11,800' 12,040' to 12,697' & all depths below 12,697'	Figure B-2a
					Concho Oil & Gas, LLC	Surface to 11,097' 11,504' to 11,800' 12,040' to 12,697' & all depths below 12,697'	Figure B-2a
					Lynx Petroleum Consultants, Inc.	12,040' to 12,697'	Figure B-2b
				Lynx Petroleum Consultants, Inc.		11,097' to 11,504' 11,800' to 12,040'	Figure B-2b
2	24-195-31E W/2-NE/4	USA Bureau of Land Management	USA Bureau of Land Management				Figures B-1a & B-1b
				Tandem Energy Corp.		Surface to 2,700'	Figure B-2b
					McVay Drilling Co.	Depths below 2,700'	Figure B-2c
					Seven Rivers	Depths below 2,700'	Figure B-2c
					Devon Energy Corp.	Depths below 2,700'	Figure B-2c
					COG Operating, LLC	Depths below 2,700'	Figure B-2c
					Concho Oil & Gas, LLC	Depths below 2,700'	Figure B-2c
3	24-195-31E NE/4-NE/4 (3a) SE/4-NE/4 (3b) SE/4 (3c)	USA Bureau of Land Management	USA Bureau of Land Management				Figures B-1a & B-1b
				Tandem Energy Corp.		Surface to 2,700' (3b)	Figure B-2b
					McVay Drilling Co.	2,700' to 4,500' (3b) Surface to 4,500' (3a, 3c)	Figure B-2c
					Seven Rivers	2,700' to 4,500' (3b) Surface to 4,500' (3a, 3c)	Figure B-2c
					Devon Energy Corp.	2,700' to 4,500' (3b) Surface to 4,500' (3a, 3c)	Figure B-2c
					COG Operating, LLC	2,700' to 4,500' (3b) Surface to 4,500' (3a, 3c) Depths below 4,500' (3a, 3b, 3c)	Figures B-2a & B-2c
					Concho Oil & Gas, LLC	2,700' to 4,500' (3b) Surface to 4,500' (3a, 3c) Depths below 4,500' (3a, 3b, 3c)	Figures B-2a & B-2c
4	25-195-31E NE/4	USA Bureau of Land Management	USA Bureau of Land Management				Figures B-1a & B-1b
				Devon Energy Corp.		All Depths	Figure B-2b
5	18-195-32E SE/4-NW/4, NE/4- SW/4	USA Bureau of Land Management	USA Bureau of Land Management				Figures B-1a & B-1b
					COG Operating, LLC	Surface to 7,190'	Figure B-2a
					Concho Oil & Gas, LLC	Surface to 7,190'	Figure B-2a
				COG Operating, LLC		Covering the Lusk Deep Unit (Being all depths below 7,190')	Figure B-2a
6	18-195-32E Lot 3: NW/4-SW/4, Lot 4: SW/4-SW/4, SE/4-SW/4	USA Bureau of Land Management	USA Bureau of Land Management				Figures B-1a & B-1b
					COG Operating, LLC	Surface to 7,190'	Figure B-2a
					Concho Oil & Gas, LLC	Surface to 7,190'	Figure B-2a
				COG Operating, LLC		Covering the Lusk Deep Unit (Being all depths below 7,190')	Figure B-2a
7	19-195-32E Lot 1 NE-NW	USA Bureau of Land Management (Lot 1, S/2-S/2-NE/4-NW/4) DCP Midstream (N/2-NE/4-NW/4, N/2-S/2-NE/4-NW/4)	USA Bureau of Land Management				Figures B-1a & B-1b
					Big Three Energy Group	Surface to 4,500'	Figure B-2b
					COG Operating, LLC	4,500' to 7,190'	Figure B-2a
					Concho Oil & Gas, LLC	4,500' to 7,190'	Figure B-2a
				COG Operating, LLC		Covering the Lusk Deep Unit (Being all depths below 7,190')	Figure B-2a
8	19-195-32E Lot 2: SW/4-NW/4	USA Bureau of Land Management	USA Bureau of Land Management				Figures B-1a & B-1b
				Tandem Energy Corp.		Surface to 2,700'	Figure B-2b
					Apache Corp.	2,700' to 4,500'	Figure B-2c
					Chkos, Ltd.	2,700' to 4,500'	Figure B-2c
					Cross Borders Resources, Inc.	2,700' to 4,500'	Figure B-2c
					COG Operating, LLC	4,500' to 7,190'	Figure B-2a
					COG Oil & Gas, LLC	4,500' to 7,190'	Figure B-2a
				COG Operating, LLC		Covering the Lusk Deep Unit (Being all depths below 7,190')	Figure B-2a

Tract #	Tract Location	Surface Owner	Mineral Owner	Operator	Lease Holder	Depth (tract)	Map Reference
9	19-195-32E Lot 3: NW/4-SW/4	USA Bureau of Land Management	USA Bureau of Land Management		COG Operating, LLC	Surface to 7,190'	Figures B-1a & B-1b Figure B-2a
					Concho Oil & Gas, LLC	Surface to 7,190'	Figure B-2a
				COG Operating, LLC		Covering the Lusk Deep Unit (Being all depths below 7,190')	Figure B-2a
10	19-195-32E Lot 4: SW/4-SW/4	USA Bureau of Land Management	USA Bureau of Land Management		Apache Corp.	Surface to 4,500'	Figures B-1a & B-1b Figure B-2c
					Chisos, Ltd.	Surface to 4,500'	Figure B-2c
					Cross Borders Resources, Inc.	Surface to 4,500'	Figure B-2c
					COG Operating, LLC	4,500' to 7,190'	Figure B-2a
					Concho Oil & Gas, LLC	4,500' to 7,190'	Figure B-2a
				COG Operating, LLC		Covering the Lusk Deep Unit (Being all depths below 7,190')	Figure B-2a
11	30-195-32E Lot 1: NW/4-NW/4 (11a) Lot 2: SW/4-NW/4 (11b)	USA Bureau of Land Management	USA Bureau of Land Management	COG Operating, LLC		Covering the Lusk Morrow (12,149' to 12,187') (11a, 11b)	Figures B-1a & B-1b Figure B-2a
					Apache Corp.	All depths, save & except the Lusk Morrow & Strawn Formation (11a) All Depths below the Top of the Bone Springs, save & except the Strawn and Lusk Morrow Formations (11b)	Figure B-2c
					Chisos, Ltd.	All depths, save & except the Lusk Morrow & Strawn Formation (11a) All Depths below the Top of the Bone Springs, save & except the Strawn and Lusk Morrow Formations (11b)	Figure B-2c
					Cross Borders Resources, Inc.	All depths, save & except the Lusk Morrow & Strawn Formation (11a) All Depths below the Top of the Bone Springs, save & except the Strawn and Lusk Morrow Formations (11b)	Figure B-2c
				OKY USA, Inc.		Surface to the top of the Bone Springs (11b)	Figure B-2d
				Chisos, Ltd.		Covering the Strawn Formation (11a, 11b)	Figure B-2b
12	19-195-32E SE/4-NW/4	USA Bureau of Land Management	USA Bureau of Land Management	Tom R. Cone		Surface to 7,190'	Figures B-1a & B-1b Figure B-2c
				COG Operating, LLC		Covering the Lusk Deep Unit (Being all depths below 7,190')	Figure B-2a
13	19-195-32E NE/4-SW/4	USA Bureau of Land Management	USA Bureau of Land Management		Apache Corp.	Surface to 4,500'	Figures B-1a & B-1b Figure B-2c
					Chisos, Ltd.	Surface to 4,500'	Figure B-2c
					Cross Borders Resources, Inc.	Surface to 4,500'	Figure B-2c
					COG Operating, LLC	4,500' to 7,190'	Figure B-2a
					Concho Oil & Gas, LLC	4,500' to 7,190'	Figure B-2a
				COG Operating, LLC		Covering the Lusk Deep Unit (Being all depths below 7,190')	Figure B-2a
14	19-195-32E SE/4-SW/4	USA Bureau of Land Management	USA Bureau of Land Management		COG Operating, LLC	Surface to 7,190'	Figures B-1a & B-1b Figure B-2a
					Concho Oil & Gas, LLC	Surface to 7,190'	Figure B-2a
				COG Operating, LLC		Covering the Lusk Deep Unit (Being all depths below 7,190')	Figure B-2a
15	30-195-32E E/2-NW/4	USA Bureau of Land Management	USA Bureau of Land Management	COG Operating, LLC		Surface to Top of the Strawn Formation & Covering the Lusk Morrow (12,149' to 12,187')	Figures B-1a & B-1b Figure B-2a
				Chisos, Ltd.		Covering the Strawn Formation	Figure B-2b
					COG Operating, LLC	All depths below the base of the Strawn Formation	Figure B-2a
					Concho Oil & Gas, LLC	All depths below the base of the Strawn Formation	Figure B-2a
					ConocoPhillips Company	All depths below the base of the Strawn Formation	Figure B-2e

Tract #	Tract Location S/T/R	Surface Owner	Mineral Owner	Operator	Lease Holder	Depth (tract)	Map Reference
16	30-195-32E SE/2-SW/4	USA Bureau of Land Management	USA Bureau of Land Management	COG Operating, LLC		Covering the Lusk Morrow (12,149' to 12,187')	Figures B-1a & B-1b
				OXY Y-1		Surface to 11,080'	Figures B-2c & B-2e
				Sharbro Energy, LLC		Surface to 11,080'	Figures B-2c & B-2e
				Tension		Surface to 11,080'	Figure B-2c
				Yates Industries, Inc.		Surface to 11,080'	Figures B-2c & B-2e
				Bluestem Energy Assets, LLC		Depths below 11,080'	Figure B-2e
				D2 Resources, LLC		Depths below 11,080'	Figure B-2e
				Solis Energy, LLC		Depths below 11,080'	Figure B-2e
17	18-195-32E SE/4	USA Bureau of Land Management	USA Bureau of Land Management	COG Operating, LLC		Surface to 7,190'	Figures B-1a & B-1b
				Concho Oil & Gas		Surface to 7,190'	Figure B-2a
				COG Operating, LLC		Covering the Lusk Deep Unit (being all depths below 7,190')	Figure B-2a
18	19-195-32E N/2-NE/4 (18a) SW/4-NE/4 (18b) SE/4-NE/4 (18c) SE/4 (18d)	USA Bureau of Land Management (E/2-NW/4-NE/4, NE/4-NE/4, S/2-NE/4, SE/4 DCP Midstream (NW/4-NW/4-NE/4, SW/4-NW/4-NE/4)	USA Bureau of Land Management				Figures B-1a & B-1b
							Figure B-1b
				Dan W. Irwin		Surface to 4,500' (18a, 18c, 18d) From 2,815' to 4,500' (18b)	Figure B-2b
				Kathleen Irwin Schuster as Trustee of the Kathleen Irwin Schuster Trust		Surface to 4,500' (18a, 18c, 18d) From 2,815' to 4,500' (18b)	Figure B-2b
				Waffam Limited		Surface to 4,500' (18a, 18c, 18d) From 2,815' to 4,500' (18b)	Figure B-2b
				WK Land Company		Surface to 4,500' (18a, 18c, 18d) From 2,815' to 4,500' (18b)	Figure B-2b
				COG Operating, LLC		4,500' to 7,190' (18a, 18b, 18c, 18d)	Figure B-2a
				Concho Oil & Gas, LLC		4,500' to 7,190' (18a, 18b, 18c, 18d)	Figure B-2a
				Tom R. Cone		Surface to 2,815' (18b)	Figure B-2c
				COG Operating, LLC		Covering the Lusk Deep Unit (Being all depths below 7,190' - 18a, 18b, 18c, 18d)	Figure B-2a
19	30-195-32E NW/4-NE/4	USA Bureau of Land Management	USA Bureau of Land Management	COG Operating, LLC		Covering the Lusk Morrow (12,149' to 12,187')	Figures B-1a & B-1b
				COG Operating, LLC		Surface to the Top of the Strawn Formation	Figure B-2a
				Concho Oil & Gas, LLC		Surface to the Top of the Strawn Formation	Figure B-2a
				Chase Oil Corp.		Surface to the Top of the Strawn Formation & Covering the Strawn Formation	Figure B-2b
				OXY Y-1		Covering the Strawn Formation	Figure B-2d
				Prize Energy Resources, LP		Covering the Strawn Formation	Figure B-2c
				OXY USA, Inc.		From the base of the Strawn Formation to 12,740'	Figure B-2d
				ConocoPhillips Company		Depths below 12,740'	Figure B-2e
20	30-195-32E SW/4-NE/4	USA Bureau of Land Management	USA Bureau of Land Management	COG Operating, LLC		Surface to 11,346' & Covering the Lusk Morrow (12,149' to 12,187')	Figures B-1a & B-1b
				OXY USA, Inc.		Depths below 11,346' except the Lusk Morrow	Figure B-2a
21	30-195-32E NE/4-NE/4	USA Bureau of Land Management	USA Bureau of Land Management	COG Operating		Covering the Lusk Morrow (12,149' to 12,187')	Figures B-1a & B-1b
				OXY Y-1		Surface to 11,346', except the Lusk Morrow	Figures B-2c & B- 2e
				Sharbro Energy, LLC		Surface to 11,346' Depths below 11,346', except the Lusk Morrow	Figures B-2c & B- 2e
				Tension		Surface to 11,346'	Figure B-2c
				Yates Industries, Inc.		Surface to 11,346' Depths below 11,346', except the Lusk Morrow	Figures B-2c & B- 2e
				Bluestem Energy Assets, LLC		Depths below 11,346', except the Lusk Morrow	Figure B-2e
				D2 Resources, LLC		Depths below 11,346', except the Lusk Morrow	Figure B-2e
				Solis Energy, LLC		Depths below 11,346', except the Lusk Morrow	Figure B-2e

Tract #	Tract Location	Surface Owner	Mineral Owner	Operator	Lease Holder	Depth (tract)	Map Reference
22	30-195-32E SE/4-NE/4	USA Bureau of Land Management	USA Bureau of Land Management	COG Operating		Covering the Lusk Morrow (12,149' to 12,187')	Figures B-1a & B-1b
				COG Operating, LLC		Surface to the top of the Strawn Formation	Figure B-2a
				Concho Oil & Gas, LLC		Surface to the top of the Strawn Formation	Figure B-2a
				Chase Oil Corp.		Surface to the top of the Strawn Formation	Figure B-2b
				Prize Energy Resources, LP		Covering the Strawn Formation	Figure B-2c
				OXY Y-1 Company		Covering the Strawn Formation	Figure B-2d
				OXY USA, Inc.		All depths below the base of the Strawn Formation, except the Lusk Morrow	Figure B-2d
23	17-195-32E N/2-SW/4	USA Bureau of Land Management	USA Bureau of Land Management		Dan W. Irwin	Surface to 4,500'	Figures B-1a & B-1b
					Kathleen Irwin Schuster as Trustee of the Kathleen Irwin Schuster Trust	Surface to 4,500'	Figure B-2b
					Walflam Limited	Surface to 4,500'	Figure B-2b
					WK Land Company	Surface to 4,500'	Figure B-2b
					COG Operating, LLC	4,500' to 7,190'	Figure B-2a
					Concho Oil & Gas, LLC	4,500' to 7,190'	Figure B-2a
				COG Operating, LLC		Covering the Lusk Deep Unit (being all depths below 7,190')	Figure B-2a
24	17-195-32E S/2-SW/4	USA Bureau of Land Management	USA Bureau of Land Management		Dan W. Irwin	Surface to 4,500'	Figures B-1a & B-1b
					Kathleen Irwin Schuster as Trustee of the Kathleen Irwin Schuster Trust	Surface to 4,500'	Figure B-2b
					Walflam Limited	Surface to 4,500'	Figure B-2b
					WK Land Company	Surface to 4,500'	Figure B-2b
					COG Operating, LLC	4,500' to 7,190'	Figure B-2a
					Concho Oil & Gas, LLC	4,500' to 7,190'	Figure B-2a
				COG Operating, LLC		Covering the Lusk Deep Unit (being all depths below 7,190')	Figure B-2a
25	20-195-32E W/2	USA Bureau of Land Management	USA Bureau of Land Management		Prize Energy Resources, LP	Surface to 7,190', save & except the Lusk West Unit	Figures B-1a & B-1b
				Cimarex Energy Company		Covering the Lusk West Unit (being depths from 6,474' to 6,508')	Figure B-2c
				COG Operating, LLC		Covering the Lusk Deep Unit (being all depths below 7,190')	Figure B-2a
26	29-195-32E NW/4	USA Bureau of Land Management	USA Bureau of Land Management		Dan W. Irwin	Surface to 4,500'	Figures B-1a & B-1b
					Kathleen Irwin Schuster as Trustee of the Kathleen Irwin Schuster Trust	Surface to 4,500'	Figure B-2e
					Prize Energy Resources, LP	Surface to 4,500'	Figure B-2e
					WK Land Company	Surface to 4,500'	Figure B-2e
				Cimarex Energy Company		Depths below 4,500' & the Lusk West Unit (6,474' to 6,508')	Figure B-2b

**Land Status Reports by Tract**

**(Basis for Table B-4)**

**LAND SERVICES**

A Division of MBF Inspection Services, Inc.  
PO Box 2428  
805 N. Richardson  
Roswell, NM 88202  
Telephone (575) 625-0599  
Fax (575) 625-0687

**OWNERSHIP REPORT**

PROSPECT: Zia Plant  
TRACT: Tract #1

Township 19 South, Range 31 East, N.M.P.M.  
Section 13: SE/4  
Containing 160.00 acres more or less  
Eddy County, NM

RECORD DATE: Federal 3/28/2013  
RECORD DATE: County 8/22/2013  
REPORT DATE: 8/26/2013

LANDMAN: Mary Helen Ormseth

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**

United States Of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	160.000000	HPB OGL: DATE:

TOTAL MINERAL  
OWNERSHIP

100.000000% 160.000000

# LEASEHOLD OWNERSHIP

SE/4

Surface to 11,097'  
and from 11,504' to 11,800'  
and all depths below 12,697'

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

# LEASEHOLD OWNERSHIP

SE/4

From 11,097' to 11,504'

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

PRODUCING WELL:

HJ 13 Federal Com #1 Gas Well  
API: 30-015-23781  
S/2 proration unit  
Producing from 11,790' to  
11,954'

Operator:

Lynx Petroleum Consultants  
PO Box 1708  
Hobbs, NM 88241

Working Interest:

Basin Petroleum Co  
PO Box 4028  
Albuquerque, NM 87196

Amity Oil Co., Inc  
4925 Greenville Ave, Ste 700  
Dallas, TX 75206

DNA Petroleum  
PO Box 7118  
Houston, TX 79702



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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

**LEASEHOLD OWNERSHIP**  
**SE/4**  
**From 11,800' to 12,040'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**PRODUCING WELL:**

HJ 13 Federal Com #1 Gas Well  
API: 30-015-23781  
S/2 proration unit  
Producing from 11,790' to  
11,954'

**Operator:**

Lynx Petroleum Consultants  
PO Box 1708  
Hobbs, NM 88241

**Working Interest:**

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

Lynx Petroleum Consultants  
PO Box 1708  
Hobbs, NM 88241

ConocoPhillips  
600 N Dairy Ashford  
Houston, TX 77079

# LEASEHOLD OWNERSHIP

SE/4

Covering the Morrow  
(12,040' to 12,697)

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

Lynx Petroleum Consultants Inc  
PO Box 1708  
Hobbs, NM 88241

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

**LAND SERVICES**

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Roswell, NM 88202  
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Fax (575) 625-0687

**OWNERSHIP REPORT**

PROSPECT: Zia Plant  
TRACT: Tract #2

Township 19 South, Range 31 East, N.M.P.M.  
Section 24: W/2NE/4  
Containing 80.00 acres more or less  
Eddy County, NM

RECORD DATE: Federal 3/28/2013  
RECORD DATE: County 8/22/2013  
REPORT DATE: 8/26/2013

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**

United States Of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	80.000000	<u>HBP</u> OGL: NM 0107697 DATE: 1/1/1940

TOTAL MINERAL  
OWNERSHIP

100.000000%

80.000000

**LEASEHOLD OWNERSHIP****W/2NE/4****Surface to 2,700'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**PRODUCING WELL**

Ohio Jones # 2 Oil Well

API: 30-015-05786

40 acre proration covering

SWNE

Producing from 2,476' to 2,480',

2,547' to 2,550', 2,632' to 2,640'

**Operator:**

Tandem Energy Corporation

200 N Loraine, Ste 500

Midland, TX 79701

**Working Interest:**

Tandem Energy Corporation

200 N Loraine, Ste 500

Midland, TX 79701

**LEASEHOLD OWNERSHIP****W/2NE/4****Depths below 2,700'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

McVay Drilling Co

PO Box 2450

Hobbs, NM 88241

Seven Rivers

PO Box 1598

Carlsbad, NM 88220

Devon Energy Corporation

20 N. Broadway Ave

Oklahoma City, OK 73102

COG Operating LLC

600 W. Illinois Ave

One Concho Center

Midland, TX 79701

Concho Oil &amp; Gas LLC

600 W. Illinois Ave

One Concho Center

Midland, TX 79701

**MBF** LAND SERVICES  
A Division of MBF Inspection Services, Inc.  
PO Box 2428  
805 N. Richardson  
Roswell, NM 88202  
Telephone (575) 625-0599  
Fax (575) 625-0687

## **OWNERSHIP REPORT**

PROSPECT: Zia Plant  
TRACT: #3a, 3b, 3c

Township 19 South, Range 31 East, N.M.P.M.  
Section 24: SE/4NE/4, SE/4, NE/4NE/4  
Containing 240.00 acres more or less  
Eddy County, NM

RECORD DATE: Federal 3/28/2013  
RECORD DATE: County 8/22/2013  
REPORT DATE: 8/26/2013

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

### **SURFACE OWNERSHIP**

United States Of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

### **MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	240.000000	<u>HBP</u> OGL: LC 029358 DATE: 1/1/1940

<b>TOTAL MINERAL OWNERSHIP</b>	<u>100.000000%</u>	<u>240.000000</u>
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**LEASEHOLD OWNERSHIP****SE/4NE/4****Surface to 2,700'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**PRODUCING WELL**

Ohio Jones #1 Oil Well  
API: 30-015-05785  
40 acre proration covering  
SENE  
Producing from 2,456' to 2,470'

**Operator:**

Tandem Energy Corporation  
200 N Loraine, Ste 500  
Midland, TX 79701

**Working Interest:**

Tandem Energy Corporation  
200 N Loraine, Ste 500  
Midland, TX 79701

**LEASEHOLD OWNERSHIP****SE/4NE/4****From 2,700' to 4,500'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

McVay Drilling Co  
PO Box 2450  
Hobbs, NM 88241

Seven Rivers  
PO Box 1598  
Carlsbad, NM 88220

Devon Energy Corporation  
20 N. Broadway Ave  
Oklahoma City, OK 73102

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

**LEASEHOLD OWNERSHIP**

**SE/4, NE/4NE/4**

**Surface to 4,500'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

McVay Drilling Co  
PO Box 2450  
Hobbs, NM 88241

Seven Rivers  
PO Box 1598  
Carlsbad, NM 88220

Devon Energy Corporation  
20 N. Broadway Ave  
Oklahoma City, OK 73102

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

**LEASEHOLD OWNERSHIP**

**SE/4NE/4, SE/4, NE/4NE/4**

**Depths below 4,500'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701



**LAND SERVICES**

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805 N. Richardson  
Roswell, NM 88202  
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Fax (575) 625-0687

**OWNERSHIP REPORT**

PROSPECT: Zia Plant  
TRACT: #4

Township 19 South, Range 31 East, N.M.P.M.  
Section 25: NE/4  
Containing 160.00 acres more or less  
Eddy County, NM

RECORD DATE: Federal 3/28/2013  
RECORD DATE: County 8/22/2013  
REPORT DATE: 8/26/2013

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**

United States Of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	160.000000	<u>HBP</u> OGL: NM 0107697 DATE: 1/1/1940

TOTAL MINERAL  
OWNERSHIP

100.000000%

160.000000

**LEASEHOLD OWNERSHIP**  
**ALL Depths**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**PRODUCING WELLS:**

Spica 25 Federal #2H Oil Well  
API: 30-015-40222  
160 ac proration unit covering  
S/2N/2  
Producing from 9,700' to 13,703'

Spica 25 Federal #3H Oil Well  
API: 30-015-40220  
160 ac proration unit covering  
N/2S/2  
Producing from 9,550' to 13,589'

**Operator:**  
Devon Energy Corporation  
20 N. Broadway Ave  
Oklahoma City, OK 73102

**Working Interest:**

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

McVay Drilling Co  
PO Box 2450  
Hobbs, NM 88241

Seven Rivers  
PO Box 1598  
Carlsbad, NM 88220

Devon Energy Corporation  
20 N. Broadway Ave  
Oklahoma City, OK 73102

**LAND SERVICES**

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PO Box 2428  
805 N. Richardson  
Roswell, NM 88202  
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Fax (575) 625-0687

**OWNERSHIP REPORT**

PROSPECT: Zia Plant  
TRACT: Tracts #5 and #14

Township 19 South, Range 32 East, N.M.P.M.  
Section 18: SENW, NESW  
Section 19: SESW  
Containing 120.00 acres more or less  
Lea County, NM

RECORD DATE: Federal 3/28/2013  
RECORD DATE: County 8/22/2013  
REPORT DATE: 8/26/2013

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**

United States of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	120.000000	<u>HBP</u> OGL: NMNM 068947 DATE: 4/1/1952

**TOTAL MINERAL  
OWNERSHIP**

100.000000%

120.000000

**LEASEHOLD OWNERSHIP**  
**Surface to 7,190'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

**LEASEHOLD OWNERSHIP**  
**Covering the Lusk Deep Unit**  
**(Being all depths below 7,190')**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

**OPERATOR:**

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

**MBF** LAND SERVICES  
A Division of MBF Inspection Services, Inc.

PO Box 2428  
805 N. Richardson  
Roswell, NM 88202  
Telephone (575) 625-0599  
Fax (575) 625-0687

**OWNERSHIP REPORT**

PROSPECT: Zia Plant  
TRACT: #6

Township 19 South, Range 32 East, N.M.P.M.  
Section 18: Lots 3, 4, SESW  
Containing 120.00 acres more or less  
Lea County, NM

RECORD DATE: Federal 3/28/2013  
RECORD DATE: County 8/22/2013  
REPORT DATE: 8/26/2013

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**

United States Of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	120.000000	HPB OGL: NMNM 038690 DATE: 10/1/1958

TOTAL MINERAL  
OWNERSHIP

100.000000%

120.000000

**LEASEHOLD OWNERSHIP**  
**Surface to 7,190'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

**LEASEHOLD OWNERSHIP**  
**Covering the Lusk Deep Unit**  
**(Being all depths below 7,190')**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

OPERATOR:

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

**LAND SERVICES**

A Division of MBF Inspection Services, Inc.

PO Box 2428

805 N. Richardson

Roswell, NM 88202

Telephone (575) 625-0599

Fax (575) 625-0687

**OWNERSHIP REPORT**

PROSPECT: Zia Plant

TRACT: #7

Township 19 South, Range 32 East, N.M.P.M.Section 19: Lot 1, NENWContaining 80.00 acres more or lessLea County, NM

RECORD DATE: Federal 3/28/2013

RECORD DATE: County 8/22/2013

REPORT DATE: 8/26/2013

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**N/2NE/4NW/4, N/2S/2NE/4NW/4,

30.00 Acres, more or less:

DCP Midstream

5718 Westheimer, Ste 1900

Houston, TX 77057

Lot 1, S/2S/2NE/4NW/4,

United States of America

Bureau of Land Management

1474 Rodeo Rd.

Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	80.000000	<u>HBP</u> OGL: NMNM 016497 DATE: 1/1/1955

**TOTAL MINERAL  
OWNERSHIP**100.000000%80.000000

**LEASEHOLD OWNERSHIP**  
**Surface to 4,500'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

Big Three Energy Group  
1801 W. 2<sup>nd</sup> St  
Roswell, NM 88201

**LEASEHOLD OWNERSHIP**  
**From 4,500' to 7,190'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

**LEASEHOLD OWNERSHIP**  
**Covering the Lusk Deep Unit**  
**(Being all depths below 7,190')**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

OPERATOR:

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



**LAND SERVICES**

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805 N. Richardson  
Roswell, NM 88202  
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Fax (575) 625-0687

**OWNERSHIP REPORT**

PROSPECT: Zia Plant  
TRACT: #8, #10, #13

Township 19 South, Range 32 East, N.M.P.M.  
Section 19: Lot 2 & 4, NESW  
Containing 120.00 acres more or less  
Lea County, NM

RECORD DATE: Federal 3/28/2013  
RECORD DATE: County 8/22/2013  
REPORT DATE: 8/26/2013

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**

United States Of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	120.000000	<u>HBP</u> OGL: NMNM 065863 DATE: 1/1/1940

TOTAL MINERAL  
OWNERSHIP

100.000000%

120.000000

**LEASEHOLD OWNERSHIP**

**Lot 4, NE/4SW/4**

**Surface to 4,500'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

Apache Corporation  
303 Veterans Airpark Lane, Ste  
3000  
Midland, TX 79705

Chisos, Ltd  
670 Dona Ana Rd SW  
Deming, NM 88030

Cross Borders Resources, Inc  
22610 US Hwy 281 N, Ste 218  
San Antonio, TX 78258

**LEASEHOLD OWNERSHIP**

**Lot 4, NE/4SW/4**

**From 4,500' to 7,190'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

**LEASEHOLD OWNERSHIP****Lot 2****Surface to 2,700'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**PRODUCING WELL:**

Miller Federal #1  
API: 30-025-00902  
40 acre proration SWNW  
producing from 2,634'

**Operator:**

Tandem Energy Corporation  
2700 Post Oak, Ste 1000  
Houston, TX 77056

**Working Interest:**

Tandem Energy Corporation  
2700 Post Oak, Ste 1000  
Houston, TX 77056

**LEASEHOLD OWNERSHIP****Lot 2****From 2,700' to 4,500'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

Apache Corporation  
303 Veterans Airpark Lane, Ste  
3000  
Midland, TX 79705

Chisos, Ltd  
670 Dona Ana Rd SW  
Deming, NM 88030

Cross Borders Resources, Inc  
22610 US Hwy 281 N, Ste 218  
San Antonio, TX 78258

**LEASEHOLD OWNERSHIP**

**Lot 2**

**From 4,500' to 7,190'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

**COG Operating LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701**

**Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701**

**LEASEHOLD OWNERSHIP**

**Lot 2 & 4, NE/4SW/4**

**Covering the Lusk Deep Unit  
(Being all depths below 7,190')**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

**OPERATOR:**

**COG Operating LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701**

**LAND SERVICES**

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PO Box 2428  
805 N. Richardson  
Roswell, NM 88202  
Telephone (575) 625-0599  
Fax (575) 625-0687

**OWNERSHIP REPORT**

PROSPECT: Zia Plant  
TRACT: #9

Township 19 South, Range 32 East, N.M.P.M.  
Section 19: Lot 3  
Containing 40.00 acres more or less  
Lea County, NM

RECORD DATE: Federal 3/28/2013  
RECORD DATE: County 8/22/2013  
REPORT DATE: 8/26/2013

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**

United States Of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	40.000000	<u>HBP</u> OGL: NMNM 0149956 DATE: 12/1/1961

TOTAL MINERAL  
OWNERSHIP

100.000000% 40.000000

**LEASEHOLD OWNERSHIP**  
**Surface to 7,190'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

**LEASEHOLD OWNERSHIP**  
**Covering the Lusk Deep Unit**  
**(Being all depths below 7,190')**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
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Working Interest:

OPERATOR:

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

**LAND SERVICES**

A Division of MBF Inspection Services, Inc.  
PO Box 2428  
805 N. Richardson  
Roswell, NM 88202  
Telephone (575) 625-0599  
Fax (575) 625-0687

**OWNERSHIP REPORT**

PROSPECT: Zia Plant  
TRACT: #8, #10, #13

Township 19 South, Range 32 East, N.M.P.M.  
Section 19: Lot 2 & 4, NESW  
Containing 120.00 acres more or less  
Lea County, NM

RECORD DATE: Federal 3/28/2013  
RECORD DATE: County 8/22/2013  
REPORT DATE: 8/26/2013

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**

United States Of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	120.000000	<u>HBP</u> OGL: NMNM 065863 DATE: 1/1/1940

TOTAL MINERAL  
OWNERSHIP

100.000000%

120.000000

**LEASEHOLD OWNERSHIP**

**Lot 4, NE/4SW/4**

**Surface to 4,500'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
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**Working Interest:**

Apache Corporation  
303 Veterans Airpark Lane, Ste  
3000  
Midland, TX 79705

Chisos, Ltd  
670 Dona Ana Rd SW  
Deming, NM 88030

Cross Borders Resources, Inc  
22610 US Hwy 281 N, Ste 218  
San Antonio, TX 78258

**LEASEHOLD OWNERSHIP**

**Lot 4, NE/4SW/4**

**From 4,500' to 7,190'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701



## LEASEHOLD OWNERSHIP

Lot 2

Surface to 2,700'

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

### PRODUCING WELL:

Miller Federal #1  
API: 30-025-00902  
40 acre proration SWNW  
producing from 2,634'

### Operator:

Tandem Energy Corporation  
2700 Post Oak, Ste 1000  
Houston, TX 77056

### Working Interest:

Tandem Energy Corporation  
2700 Post Oak, Ste 1000  
Houston, TX 77056

## LEASEHOLD OWNERSHIP

Lot 2

From 2,700' to 4,500'

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

### Working Interest:

Apache Corporation  
303 Veterans Airpark Lane, Ste  
3000  
Midland, TX 79705

Chisos, Ltd  
670 Dona Ana Rd SW  
Deming, NM 88030

Cross Borders Resources, Inc  
22610 US Hwy 281 N, Ste 218  
San Antonio, TX 78258

**LEASEHOLD OWNERSHIP**

**Lot 2**

**From 4,500' to 7,190'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

**LEASEHOLD OWNERSHIP**

**Lot 2 & 4, NE/4SW/4**

**Covering the Lusk Deep Unit  
(Being all depths below 7,190')**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

**OPERATOR:**

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

**LAND SERVICES**

A Division of MBF Inspection Services, Inc.

PO Box 2428

805 N. Richardson

Roswell, NM 88202

Telephone (575) 625-0599

Fax (575) 625-0687

**OWNERSHIP REPORT****PROSPECT: Zia Plant****TRACT: #11a, 11b****Township 19 South, Range 32 East, N.M.P.M.****Section 30: Lot 1 & 2****Containing 80.00 acres more or less****Lea County, NM****RECORD DATE: Federal 3/28/2013****RECORD DATE: County 8/22/2013****REPORT DATE: 8/26/2013**

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**

United States Of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	80.000000	<b><u>HBP</u></b> OGL: NMNM 107697 DATE: 1/1/1940

**TOTAL MINERAL  
OWNERSHIP****100.000000%****80.000000**

There is a producing well that covers the entire section as to the Lusk Morrow 12,149' to 12,187':

SL Deep Federal Com #1  
API: 30-025-35088  
640 acre proration entire section  
Producing from Lusk Morrow 12,149' to 12,187'

Operator:

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

**LEASEHOLD OWNERSHIP**

**Lot 1**

**All depths, save & except the Strawn Formation**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

Chisos, Ltd  
670 Dona Ana Rd SW  
Deming NM 88030

Apache Corporation  
2000 Post Oak Blvd., Ste 100  
Houston, TX 77056

Cross Borders  
2515 McKinney Ave., Ste 900  
Dallas, TX 75201

**LEASEHOLD OWNERSHIP**  
**Lot 2**  
**Surface to the Top of the Bone Spring**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

OXY Y-1  
PO Box 27570  
Houston, TX 77227

Myco Industries Inc  
105 S 4<sup>th</sup> St  
Artesia, NM 88210

PRODUCING WELLS:

Federal #1 Well  
API: 30-025-31039  
40 acre proration NWSW  
Producing from Lusk Delaware  
6,805' to 7,118'

Operator:

Oxy USA Inc  
PO Box 4294  
Houston, TX 77210

**LEASEHOLD OWNERSHIP**  
**Lot 2**  
**All depths below the Top of the Bone Spring, save & except the Strawn  
Formation**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

Chisos, Ltd  
670 Dona Ana Rd SW  
Deming NM 88030

Apache Corporation  
2000 Post Oak Blvd., Ste 100  
Houston, TX 77056

Cross Borders  
2515 McKinney Ave., Ste 900  
Dallas, TX 75201

**LEASEHOLD OWNERSHIP**  
**Lot 1 & 2**  
**Covering the Strawn Formation**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**PRODUCING WELL:**

Delhi Federal #1 Oil Well  
API: 30-025-20025  
S/2 proration unit  
Producing from Strawn  
160 acre proration NW

**Operator:**

Chisos, Ltd  
670 Dona Ana Rd. SW  
Deming, NM 88030

**Working Interest:**

Chisos, Ltd  
670 Dona Ana Rd SW  
Deming NM 88030

Apache Corporation  
2000 Post Oak Blvd., Ste 100  
Houston, TX 77056

Cross Borders  
2515 McKinney Ave., Ste 900  
Dallas, TX 75201

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

Concho Oil & Gas Company  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

**LAND SERVICES**

A Division of MBF Inspection Services, Inc.  
PO Box 2428  
805 N. Richardson  
Roswell, NM 88202  
Telephone (575) 625-0599  
Fax (575) 625-0687

**OWNERSHIP REPORT**

**PROSPECT:** Zia Plant  
**TRACT:** #12

**Township 19 South, Range 32 East, N.M.P.M.**

**Section 19: SENW**

**Containing 40.00 acres more or less**

**Lea County, NM**

**RECORD DATE:** Federal 3/28/2013  
**RECORD DATE:** County 8/22/2013  
**REPORT DATE:** 8/26/2013

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**

United States Of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	40.000000	<u>HBP</u> OGL: NMLC 068019 DATE: 4/1/1951

TOTAL MINERAL  
OWNERSHIP

100.000000%

40.000000

**LEASEHOLD OWNERSHIP**  
**Surface to 7,190'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**PRODUCING WELLS:**

Gulf Federal #001 Oil Well  
API 30-025-00909  
40 acre proration SENW  
producing 2,429' to 2,433'

Gulf Federal #0012 Oil Well  
API 30-025-00910  
40 acre proration SENW  
producing 2,440' to 2,500'

Gulf Federal #003 Oil Well  
API 30-025-20876  
40 acre proration SENW  
producing 2,616' to 2,641',  
2,419' to 2,510'

**Operator:**

Tom R. Cone  
1304 W. Broadway Place  
Hobbs, NM 88240

**Working Interest:**

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701



**LEASEHOLD OWNERSHIP**  
**Covering the Lusk Deep Unit**  
**(Being all depths below 7,190')**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

**OPERATOR:**

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

**LAND SERVICES**

A Division of MBF Inspection Services, Inc.  
PO Box 2428  
805 N. Richardson  
Roswell, NM 88202  
Telephone (575) 625-0599  
Fax (575) 625-0687

**OWNERSHIP REPORT**

PROSPECT: Zia Plant  
TRACT: #8, #10, #13

Township 19 South, Range 32 East, N.M.P.M.  
Section 19: Lot 2 & 4, NESW  
Containing 120.00 acres more or less  
Lea County, NM

RECORD DATE: Federal 3/28/2013  
RECORD DATE: County 8/22/2013  
REPORT DATE: 8/26/2013

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**

United States Of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	120.000000	<u>HBP</u> OGL: NMNM 065863 DATE: 1/1/1940

TOTAL MINERAL  
OWNERSHIP

100.000000% 120.000000

**LEASEHOLD OWNERSHIP**

**Lot 4, NE/4SW/4**

**Surface to 4,500'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

Apache Corporation  
303 Veterans Airpark Lane, Ste  
3000  
Midland, TX 79705

Chisos, Ltd  
670 Dona Ana Rd SW  
Deming, NM 88030

Cross Borders Resources, Inc  
22610 US Hwy 281 N, Ste 218  
San Antonio, TX 78258

**LEASEHOLD OWNERSHIP**

**Lot 4, NE/4SW/4**

**From 4,500' to 7,190'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

# LEASEHOLD OWNERSHIP

Lot 2

Surface to 2,700'

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

## PRODUCING WELL:

Miller Federal #1  
API: 30-025-00902  
40 acre proration SWNW  
producing from 2,634'

Operator:  
Tandem Energy Corporation  
2700 Post Oak, Ste 1000  
Houston, TX 77056

## Working Interest:

Tandem Energy Corporation  
2700 Post Oak, Ste 1000  
Houston, TX 77056

# LEASEHOLD OWNERSHIP

Lot 2

From 2,700' to 4,500'

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

## Working Interest:

Apache Corporation  
303 Veterans Airpark Lane, Ste  
3000  
Midland, TX 79705

Chisos, Ltd  
670 Dona Ana Rd SW  
Deming, NM 88030

Cross Borders Resources, Inc  
22610 US Hwy 281 N, Ste 218  
San Antonio, TX 78258

**LEASEHOLD OWNERSHIP**

**Lot 2**

**From 4,500' to 7,190'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

**LEASEHOLD OWNERSHIP**

**Lot 2 & 4, NE/4SW/4**

**Covering the Lusk Deep Unit  
(Being all depths below 7,190')**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

**OPERATOR:**

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

**LAND SERVICES**

A Division of MBF Inspection Services, Inc.  
PO Box 2428  
805 N. Richardson  
Roswell, NM 88202  
Telephone (575) 625-0599  
Fax (575) 625-0687

**OWNERSHIP REPORT**

PROSPECT: Zia Plant  
TRACT: Tracts #5 and #14

Township 19 South, Range 32 East, N.M.P.M.

Section 18: SENW, NESW

Section 19: SESW

Containing 120.00 acres more or less

Lea County, NM

RECORD DATE: Federal 3/28/2013

RECORD DATE: County 8/22/2013

REPORT DATE: 8/26/2013

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**

United States of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	120.000000	<u>HBP</u> OGL: NMNM 068947 DATE: 4/1/1952

TOTAL MINERAL  
OWNERSHIP

100.000000%

120.000000

**LEASEHOLD OWNERSHIP**  
**Surface to 7,190'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

**LEASEHOLD OWNERSHIP**  
**Covering the Lusk Deep Unit**  
**(Being all depths below 7,190')**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

**OPERATOR:**

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

**LAND SERVICES**

A Division of MBF Inspection Services, Inc.

PO Box 2428

805 N. Richardson

Roswell, NM 88202

Telephone (575) 625-0599

Fax (575) 625-0687

**OWNERSHIP REPORT**

PROSPECT: Zia Plant

TRACT: #15 and #22

Township 19 South, Range 32 East, N.M.P.M.Section 30: E2NW, SENEContaining 120.00 acres more or lessLea County, NM

RECORD DATE: Federal 3/28/2013

RECORD DATE: County 8/22/2013

REPORT DATE: 8/26/2013

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**

United States Of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	120.000000	<u>HBP</u> OGL: NM 0107698 DATE: 8/1/1951

**TOTAL MINERAL  
OWNERSHIP**

100.000000%

120.000000



There is a producing well that covers the entire section as to the Lusk Morrow 12,149' to 12,187':

SL Deep Federal Com #1  
API: 30-025-35088  
640 acre proration entire section  
Producing from Lusk Morrow 12,149' to 12,187'

Operator:

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

**LEASEHOLD OWNERSHIP**  
**E/2NW/4**  
**Surface to the Top of the Strawn**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

PRODUCING WELL:

SL Deep Federal #2  
API: 30-025-36257  
40 acre proration SENW  
Producing from Lusk Bone  
Spring 8,886' to 9,265'

SL Deep Federal #3  
API: 30-025-39441  
40 acre proration NENW  
Producing from Lusk Bone  
Spring 8,956'' to 9,203'

Operator:

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

Working Interest:

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

Chisos, Ltd  
670 Dona Ana Rd SW  
Deming, NM 88030

Apache Corporation  
2000 Post Oak Blvd., Ste 100  
Houston, TX 77056

**LEASEHOLD OWNERSHIP**  
**E/2NW/4**  
**Covering the Strawn**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**PRODUCING WELL:**

**Delhi Federal #1 Oil Well**  
**API: 30-025-20025**  
**S/2 proration unit**  
**Producing from Strawn**  
**160 acre proration NW**

**Operator:**

**Chisos, Ltd**  
**670 Dona Ana Rd. SW**  
**Deming, NM 88030**

**Working Interest:**

**COG Operating LLC**  
**600 W. Illinois Ave,**  
**One Concho Center**  
**Midland, TX 79701**

**Concho Oil & Gas LLC**  
**600 W. Illinois Ave,**  
**One Concho Center**  
**Midland, TX 79701**

**Apache Corporation**  
**2000 Post Oak Blvd., Ste 100**  
**Houston, TX 77056**

**Prize Energy Resources, L.P.**  
**20 E. 5<sup>th</sup> Street, Ste 1400**  
**Tulsa, OK 74103**

**Chisos, Ltd**  
**670 Dona Ana Rd. SW**  
**Deming, NM 88030**

**LEASEHOLD OWNERSHIP**

**E/2NW/4**

**All depths below the Base of the Strawn**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

**COG Operating LLC  
600 W. Illinois Ave,  
One Concho Center  
Midland, TX 79701**

**Concho Oil & Gas LLC  
600 W. Illinois Ave,  
One Concho Center  
Midland, TX 79701**

**ConocoPhillips Company  
P.O. Box 7500  
Bartlesville, OK 74005**

**LEASEHOLD OWNERSHIP**  
**SE/4NE/4**  
**Surface to the Top of the Strawn**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

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

Concho Oil & Gas LLC  
600 W. Illinois Ave,  
One Concho Center  
Midland, TX 79701

Chase Oil Corporation  
P.O. Box 1767  
Artesia, NM 88211

**LEASEHOLD OWNERSHIP**  
**SE/4NE/4**  
**Covering the Strawn Formation**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

Chase Oil Corporation  
P.O. Box 1767  
Artesia, NM 88211

Prize Energy Resources, L.P.  
20 E. 5<sup>th</sup> Street, Ste 1400  
Tulsa, OK 74103

Oxy Y-1 Company  
PO Box 4294  
Houston, TX 77210-4294

**LEASEHOLD OWNERSHIP**  
**SE/4NE/4**  
**All depths below the Base of the Strawn**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

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

Concho Oil & Gas LLC  
600 W. Illinois Ave,  
One Concho Center  
Midland, TX 79701

ConocoPhillips Company  
P.O. Box 7500  
Bartlesville, OK 74005

PRODUCING WELLS:

Elliott Hall A#001  
API: 30-025-20104  
160 acre proration NE  
Producing from Lusk Strawn 11,260' to 12,061'

Operator:

Oxy USA Inc  
PO Box 4294  
Houston, TX 77210

**LAND SERVICES**

A Division of MBF Inspection Services, Inc.  
PO Box 2428  
805 N. Richardson  
Roswell, NM 88202  
Telephone (575) 625-0599  
Fax (575) 625-0687

**OWNERSHIP REPORT**

PROSPECT: Zia Plant  
TRACTS: #16, #21

Township 19 South, Range 32 East, N.M.P.M.  
Section 30: NENE, E/2SW  
Containing 120.00 acres more or less  
Lea County, NM

RECORD DATE: Federal 3/28/2013  
RECORD DATE: County 8/22/2013  
REPORT DATE: 8/26/2013

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**

United States Of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	120.000000	HPB OGL: NMNM 01218 DATE: 8/1/1952

TOTAL MINERAL  
OWNERSHIP

100.000000%

120.000000

There is a producing well that covers the entire section as to the Lusk Morrow 12,149' to 12,187':

SL Deep Federal Com #1  
API: 30-025-35088  
640 acre proration entire section  
Producing from Lusk Morrow 12,149' to 12,187'

Operator:

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

**LEASEHOLD OWNERSHIP**

**NE/4NE/4**

**Surface to 11,346'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

Tenison  
8140 Walnut Hill Ln  
Dallas, TX 75231

Sharbro Energy LLC  
PO Box 890  
Artesia, NM 88210

Yates Industries, Inc  
PO Box 1091  
Artesia, NM 88210

OXY Y-1  
PO Box 27570  
Houston, TX 77227

**LEASEHOLD OWNERSHIP**  
**NE/4NE/4**  
**Depths below 11,346**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

Sharbro Energy LLC  
PO Box 890  
Artesia, NM 88210

Yates Industries, Inc  
PO Box 1091  
Artesia, NM 88210

OXY Y-1  
PO Box 27570  
Houston, TX 77227

Bluestem Energy Assets, LLC  
301 Commerce St.  
Fort Worth, TX 76102

D2 Resources LLC  
P.O. Box 10187  
Midland, TX 79702

Solis Energy LLC  
P.O. Box 51451  
Midland, TX 79710

**LEASEHOLD OWNERSHIP**  
**E/2SW/4**  
**Surface to 11,080'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

Tenison  
8140 Walnut Hill Ln  
Dallas, TX 75231

Sharbro Energy LLC  
PO Box 890  
Artesia, NM 88210

Yates Industries, Inc  
PO Box 1091  
Artesia, NM 88210

OXY Y-1  
PO Box 27570  
Houston, TX 77227



**LEASEHOLD OWNERSHIP**

**E/2SW/4**

**Depths below 11,080'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

**Sharbro Energy LLC  
PO Box 890  
Artesia, NM 88210**

**Yates Industries, Inc  
PO Box 1091  
Artesia, NM 88210**

**OXY Y-1  
PO Box 27570  
Houston, TX 77227**

**Bluestem Energy Assets, LLC  
301 Commerce St.  
Fort Worth, TX 76102**

**D2 Resources LLC  
P.O. Box 10187  
Midland, TX 79702**

**Solis Energy LLC  
P.O. Box 51451  
Midland, TX 79710**

**LAND SERVICES**

A Division of MBF Inspection Services, Inc.  
PO Box 2428  
805 N. Richardson  
Roswell, NM 88202  
Telephone (575) 625-0599  
Fax (575) 625-0687

**OWNERSHIP REPORT**

PROSPECT: Zia Plant  
TRACT: #17

Township 19 South, Range 32 East, N.M.P.M.  
Section 18: SE/4  
Containing 160.00 acres more or less  
Lea County, NM

RECORD DATE: Federal 3/28/2013  
RECORD DATE: County 8/22/2013  
REPORT DATE: 8/26/2013

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**

United States Of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	160.000000	HPB OGL: NMLC 064198-A DATE: 8/1/1951

**TOTAL MINERAL  
OWNERSHIP**

100.000000%

160.000000

**LEASEHOLD OWNERSHIP**

**SE/4**

**Surface to 7,190'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

**COG Operating LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701**

**Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701**

**LEASEHOLD OWNERSHIP**

**SE/4**

**Covering the Lusk Deep Unit  
(Being all depths below 7,190')**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**UNIT OPERATOR:**

**COG Operating LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701**

**PRODUCING WELL**

**Crazy Horze 18 Federal Gas  
Well  
API: 30-015-05785  
320 acre proration covering all  
section  
Producing from 12,217 to  
12,332'**

**Lusk Deep Unit A #13 Gas Well  
API: 30-025-35053**

**Operator:**

**COG Operating LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701**

**LAND SERVICES**

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PO Box 2428  
805 N. Richardson  
Roswell, NM 88202  
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Fax (575) 625-0687

**OWNERSHIP REPORT**

PROSPECT: Zia Plant  
TRACT: #18a, 18b, 18c, 18d

**Township 19 South, Range 32 East, N.M.P.M.**  
**Section 19: E/2**  
**Containing 320.00 acres more or less**  
**Lea County, NM**

RECORD DATE: Federal 3/28/2013  
RECORD DATE: County 8/22/2013  
REPORT DATE: 8/26/2013

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**

**NW/4NW/4NE/4, SW/4NW/4NE/4**  
20.00 Acres, more or less:

DCP Midstream  
5718 Westheimer, Ste 1900  
Houston, TX 77057

**E/2NW/4NE/4, NE/4NE/4, S/2NE/4, SE/4**  
United States Of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	320.000000	<b><u>HBP</u></b> OGL: NMNM 025566 DATE: 9/1/1956

TOTAL MINERAL OWNERSHIP      100.000000%      320.000000

**LEASEHOLD OWNERSHIP**  
**N/2NE/4, SE/4NE/4, SE/4**  
**Surface to 4,500'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

Wallfam Limited  
1811 Heritage Blvd, Ste 200  
Midland, TX 79707

Dan W. Irwin  
118 N. Grant Street  
Hinsdale, IL 60521

Kathleen Irwin Schuster as  
Trustee of the Kathleen Irwin  
Schuster Trust u/t/a 12/20/2007  
3213 Pepperwood Ln.,  
Fort Collins, CO 80525

WK Land Company  
911 Kimbark St  
Longmont, CO 80501

**LEASEHOLD OWNERSHIP**  
**N/2NE, SE/4NE, SE/4**  
**From 4,500' to 7,190'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

# LEASEHOLD OWNERSHIP

SW/4NE/4

Surface to 2,815'

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

## PRODUCING WELLS:

Southern California Pet Federal  
#001 Oil Well  
API 30-025-00906  
40 acre proration SWNE  
producing 2,498' to 2,510', 2,516  
to 2,538'

## Operator:

Tom R. Cone  
1304 W. Broadway Place  
Hobbs, NM 88240

## Working Interest:

Glenn Plemmons  
Box 688  
Morton, TX 79346

Lucy Lee Plemons  
8216 Chicago  
Lubbock, TX 79424

Mack Energy Corporation  
PO Box 960  
Artesia, NM 88211

**LEASEHOLD OWNERSHIP****SW/4NE/4****From 2,815' to 4,500'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

Wallfam Limited  
1811 Heritage Blvd, Ste 200  
Midland, TX 79707

Dan W. Irwin  
118 N. Grant Street  
Hinsdale, IL 60521

Kathleen Irwin Schuster as  
Trustee of the Kathleen Irwin  
Schuster Trust u/t/a 12/20/2007  
3213 Pepperwood Ln.,  
Fort Collins, CO 80525

WK Land Company  
911 Kimbark St  
Longmont, CO 80501

**LEASEHOLD OWNERSHIP****SW/4NE/4****From 4,500' to 7,190'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

**LEASEHOLD OWNERSHIP**

**E/2**

**Covering the Lusk Deep Unit  
(Being all depths below 7,190')**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

**OPERATOR:**

**COG Operating LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701**



**LAND SERVICES**

A Division of MBF Inspection Services, Inc.  
PO Box 2428  
805 N. Richardson  
Roswell, NM 88202  
Telephone (575) 625-0599  
Fax (575) 625-0687

**OWNERSHIP REPORT**

PROSPECT: Zia Plant  
TRACT: #19

Township 19 South, Range 32 East, N.M.P.M.  
Section 30: NWNE  
Containing 40.00 acres more or less  
Lea County, NM

RECORD DATE: Federal 3/28/2013  
RECORD DATE: County 8/22/2013  
REPORT DATE: 8/26/2013

*The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.*

**SURFACE OWNERSHIP**

United States Of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	40.000000	<u>HBP</u> OGL: NMNM 01218-A out of NMNM 01218 DATE: 5/1/1952

**TOTAL MINERAL  
OWNERSHIP**

100.000000%

40.000000

There is a producing well that covers the entire section as to the Lusk Morrow 12,149' to 12,187':

SL Deep Federal Com #1  
API: 30-025-35088  
640 acre proration entire section  
Producing from Lusk Morrow 12,149' to 12,187'

Operator:

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

**LEASEHOLD OWNERSHIP**  
**NW/4NE/4**  
**Surface to the Top of the Strawn**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

Chase Oil Corporation  
PO Box 1767  
Artesia, NM 88211

**LEASEHOLD OWNERSHIP**  
**NW/4NE/4**  
**Covering the Strawn Formation**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

OXY Y-1  
PO Box 27570  
Houston, TX 77227

Prize Energy Resources LP  
20 E. 5<sup>th</sup> St., #1400  
Tulsa, OK 74103

Chase Oil Corporation  
P.O. Box 1767  
Artesia, NM 88211

**LEASEHOLD OWNERSHIP**  
**NW/4NE/4**  
**From the Base of the Strawn Formation to 12,740'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

PRODUCING WELLS:

Elliott Hall A#001  
API: 30-025-20104  
160 acre proration NE  
Producing from Lusk Strawn  
11,260' to 12,061'

Operator:

Oxy USA Inc  
PO Box 4294  
Houston, TX 77210

**PRODUCING WELLS:**  
SL East 30 Federal Com #14  
API: 30-025-40154  
160 acre proration W2E2  
Producing from Lusk Bone  
Spring 9,380' to 13,480'

**Operator:**  
COG Operating LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

**LEASEHOLD OWNERSHIP**  
**NW/4NE/4**  
**Depths below 12,740'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

ConocoPhillips Company  
P.O. Box 7500  
Bartlesville, OK 74005

**LAND SERVICES**

A Division of MBF Inspection Services, Inc.

PO Box 2428

805 N. Richardson

Roswell, NM 88202

Telephone (575) 625-0599

Fax (575) 625-0687

**OWNERSHIP REPORT**

PROSPECT: Zia Plant

TRACT: #20

Township 19 South, Range 32 East, N.M.P.M.Section 30: SWNEContaining 40.00 acres more or lessLea County, NM

RECORD DATE: Federal 3/28/2013

RECORD DATE: County 8/22/2013

REPORT DATE: 8/26/2013

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**

United States Of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	40.000000	<u>HPB</u> OGL: NMNM 0107698-A out of NMNM 0107698 DATE: 8/1/1951

TOTAL MINERAL  
OWNERSHIP

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100.000000%

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40.000000

# LEASEHOLD OWNERSHIP

SW/4NE/4

Surface to 11,346'

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

Tenison  
8140 Walnut Hill Ln  
Dallas, TX 75231

Sharbro Energy LLC  
PO Box 890  
Artesia, NM 88210

Yates Industries, Inc  
PO Box 1091  
Artesia, NM 88210

OXY Y-1  
PO Box 27570  
Houston, TX 77227

PRODUCING WELLS:

Elliott Hall A#001  
API: 30-025-20104  
160 acre proration NE  
Producing from Lusk Strawn  
11,260' to 12,061'

Operator:

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

**LEASEHOLD OWNERSHIP**

**SW/4NE/4**

**Depths below 11,346**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

Sharbro Energy LLC  
PO Box 890  
Artesia, NM 88210

Yates Industries, Inc  
PO Box 1091  
Artesia, NM 88210

OXY Y-1  
PO Box 27570  
Houston, TX 77227

Bluestem Energy Assets, LLC  
301 Commerce St.  
Fort Worth, TX 76102

D2 Resources LLC  
P.O. Box 10187  
Midland, TX 79702

Solis Energy LLC  
P.O. Box 51451  
Midland, TX 79710

**PRODUCING WELLS:**

Elliott Hall A#001  
API: 30-025-20104  
160 acre proration NE  
Producing from Lusk Strawn 11,260' to 12,061'

**Operator:**

Oxy USA Inc  
PO Box 4294  
Houston, TX 77210

**LAND SERVICES**

A Division of MBF Inspection Services, Inc.

PO Box 2428

805 N. Richardson

Roswell, NM 88202

Telephone (575) 625-0599

Fax (575) 625-0687

**OWNERSHIP REPORT**

PROSPECT: Zia Plant

TRACTS: #16, #21

Township 19 South, Range 32 East, N.M.P.M.Section 30: NENE, E/2SWContaining 120.00 acres more or lessLea County, NM

RECORD DATE: Federal 3/28/2013

RECORD DATE: County 8/22/2013

REPORT DATE: 8/26/2013

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**

United States Of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	120.000000	<u>HPB</u> OGL: NMNM 01218 DATE: 8/1/1952

TOTAL MINERAL  
OWNERSHIP

100.000000%

120.000000



There is a producing well that covers the entire section as to the Lusk Morrow 12,149' to 12,187':

SL Deep Federal Com #1

API: 30-025-35088

640 acre proration entire section

Producing from Lusk Morrow 12,149' to 12,187'

Operator:

COG Operating LLC

600 W. Illinois Ave

One Concho Center

Midland, TX 79701

**LEASEHOLD OWNERSHIP**

**NE/4NE/4**

**Surface to 11,346'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

Tenison

8140 Walnut Hill Ln

Dallas, TX 75231

Sharbro Energy LLC

PO Box 890

Artesia, NM 88210

Yates Industries, Inc

PO Box 1091

Artesia, NM 88210

OXY Y-1

PO Box 27570

Houston, TX 77227

**LEASEHOLD OWNERSHIP**

**NE/4NE/4**

**Depths below 11,346**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

Sharbro Energy LLC  
PO Box 890  
Artesia, NM 88210

Yates Industries, Inc  
PO Box 1091  
Artesia, NM 88210

OXY Y-1  
PO Box 27570  
Houston, TX 77227

Bluestem Energy Assets, LLC  
301 Commerce St.  
Fort Worth, TX 76102

D2 Resources LLC  
P.O. Box 10187  
Midland, TX 79702

Solis Energy LLC  
P.O. Box 51451  
Midland, TX 79710

**LEASEHOLD OWNERSHIP**

**E/2SW/4**

**Surface to 11,080'**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

Tenison  
8140 Walnut Hill Ln  
Dallas, TX 75231

Sharbro Energy LLC  
PO Box 890  
Artesia, NM 88210

Yates Industries, Inc  
PO Box 1091  
Artesia, NM 88210

OXY Y-1  
PO Box 27570  
Houston, TX 77227

**LEASEHOLD OWNERSHIP****E/2SW/4****Depths below 11,080'**

<b>INTEREST OWNERS</b>	<b>WORKING INTEREST</b>	<b>NET REVENUE INTEREST</b>	<b>STATUS &amp; REMARKS</b>
------------------------	-----------------------------	---------------------------------	-----------------------------

**Working Interest:**

**Sharbro Energy LLC**  
**PO Box 890**  
**Artesia, NM 88210**

**Yates Industries, Inc**  
**PO Box 1091**  
**Artesia, NM 88210**

**OXY Y-1**  
**PO Box 27570**  
**Houston, TX 77227**

**Bluestem Energy Assets, LLC**  
**301 Commerce St.**  
**Fort Worth, TX 76102**

**D2 Resources LLC**  
**P.O. Box 10187**  
**Midland, TX 79702**

**Solis Energy LLC**  
**P.O. Box 51451**  
**Midland, TX 79710**

**LAND SERVICES**

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Fax (575) 625-0687

**OWNERSHIP REPORT**

PROSPECT: Zia Plant  
TRACT: #15 and #22

Township 19 South, Range 32 East, N.M.P.M.  
Section 30: E2NW, SENE  
Containing 120.00 acres more or less  
Lea County, NM

RECORD DATE: Federal 3/28/2013  
RECORD DATE: County 8/22/2013  
REPORT DATE: 8/26/2013

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**

United States Of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	120.000000	<u>HBP</u> OGL: NM 0107698 DATE: 8/1/1951

TOTAL MINERAL  
OWNERSHIP

100.000000%

120.000000

There is a producing well that covers the entire section as to the Lusk Morrow 12,149' to 12,187':

SL Deep Federal Com #1  
API: 30-025-35088  
640 acre proration entire section  
Producing from Lusk Morrow 12,149' to 12,187'

Operator:

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

**LEASEHOLD OWNERSHIP**  
**E/2NW/4**  
**Surface to the Top of the Strawn**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

PRODUCING WELL:

SL Deep Federal #2  
API: 30-025-36257  
40 acre proration SENW  
Producing from Lusk Bone  
Spring 8,886' to 9,265'

SL Deep Federal #3  
API: 30-025-39441  
40 acre proration NENW  
Producing from Lusk Bone  
Spring 8,956'' to 9,203'

Operator:

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

Working Interest:

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

Chisos, Ltd  
670 Dona Ana Rd SW  
Deming, NM 88030

Apache Corporation  
2000 Post Oak Blvd., Ste 100  
Houston, TX 77056

# LEASEHOLD OWNERSHIP

E/2NW/4

Covering the Strawn

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

## PRODUCING WELL:

Delhi Federal #1 Oil Well  
API: 30-025-20025  
S/2 proration unit  
Producing from Strawn  
160 acre proration NW

## Operator:

Chisos, Ltd  
670 Dona Ana Rd. SW  
Deming, NM 88030

## Working Interest:

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

Concho Oil & Gas LLC  
600 W. Illinois Ave,  
One Concho Center  
Midland, TX 79701

Apache Corporation  
2000 Post Oak Blvd., Ste 100  
Houston, TX 77056

Prize Energy Resources, L.P.  
20 E. 5<sup>th</sup> Street, Ste 1400  
Tulsa, OK 74103

Chisos, Ltd  
670 Dona Ana Rd. SW  
Deming, NM 88030

**LEASEHOLD OWNERSHIP**  
**E/2NW/4**  
**All depths below the Base of the Strawn**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

**COG Operating LLC**  
**600 W. Illinois Ave,**  
**One Concho Center**  
**Midland, TX 79701**

**Concho Oil & Gas LLC**  
**600 W. Illinois Ave,**  
**One Concho Center**  
**Midland, TX 79701**

**ConocoPhillips Company**  
**P.O. Box 7500**  
**Bartlesville, OK 74005**

**LEASEHOLD OWNERSHIP**  
**SE/4NE/4**  
**Surface to the Top of the Strawn**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

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

Concho Oil & Gas LLC  
600 W. Illinois Ave,  
One Concho Center  
Midland, TX 79701

Chase Oil Corporation  
P.O. Box 1767  
Artesia, NM 88211

**LEASEHOLD OWNERSHIP**  
**SE/4NE/4**  
**Covering the Strawn Formation**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

**Working Interest:**

Chase Oil Corporation  
P.O. Box 1767  
Artesia, NM 88211

Prize Energy Resources, L.P.  
20 E. 5<sup>th</sup> Street, Ste 1400  
Tulsa, OK 74103

Oxy Y-1 Company  
PO Box 4294  
Houston, TX 77210-4294



**LEASEHOLD OWNERSHIP**  
**SE/4NE/4**  
**All depths below the Base of the Strawn**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
-----------------	---------------------	-------------------------	------------------

Working Interest:

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

Concho Oil & Gas LLC  
600 W. Illinois Ave,  
One Concho Center  
Midland, TX 79701

ConocoPhillips Company  
P.O. Box 7500  
Bartlesville, OK 74005

PRODUCING WELLS:

Elliott Hall A#001  
API: 30-025-20104  
160 acre proration NE  
Producing from Lusk Strawn 11,260' to 12,061'

Operator:

Oxy USA Inc  
PO Box 4294  
Houston, TX 77210

**LAND SERVICES**

A Division of MBF Inspection Services, Inc.  
PO Box 2428  
805 N. Richardson  
Roswell, NM 88202  
Telephone (575) 625-0599  
Fax (575) 625-0687

**OWNERSHIP REPORT**

PROSPECT: Zia Plant  
TRACT: #23

Township 19 South, Range 32 East, N.M.P.M.  
Section 17: N2SW  
Containing 80.00 acres more or less  
Lea County, NM

RECORD DATE: Federal 3/28/2013

RECORD DATE: County 8/22/2013

REPORT DATE: 8/26/2013

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**

United States Of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	80.000000	<u>HPB</u> OGL: NM 01087 DATE: 3/1/1950

TOTAL MINERAL  
OWNERSHIP

100.000000%

80.000000

## LEASEHOLD OWNERSHIP

Surface to 4,500'

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
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Working Interest:

Dan Wallace Irwin, ssp  
118 N. Grant St.  
Hinsdale, IL 60521

Wallfam Limited  
1811 Heritage Blvd, Ste 200  
Midland, TX 79707

WK Land Company  
911 Kimbark St.  
Longmont, CO 80501

Kathleen Irwin Schuster as  
Trustee of the Kathleen Irwin  
Schuster Trust u/t/a 12/20/2007  
3213 Pepperwood Ln.,  
Fort Collins, CO 80525

## LEASEHOLD OWNERSHIP

From 4,500' to 7,190'

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
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Working Interest:

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

**LEASEHOLD OWNERSHIP**  
**Covering the Lusk Deep Unit**  
**(Being all depths below 7,190')**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
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Working Interest:

**OPERATOR:**

**COG Operating LLC**  
**600 W. Illinois Ave**  
**One Concho Center**  
**Midland, TX 79701**

**LAND SERVICES**

A Division of MBF Inspection Services, Inc.  
PO Box 2428  
805 N. Richardson  
Roswell, NM 88202  
Telephone (575) 625-0599  
Fax (575) 625-0687

**OWNERSHIP REPORT**

PROSPECT: Zia Plant  
TRACT: #24

Township 19 South, Range 32 East, N.M.P.M.  
Section 17: S2SW  
Containing 80.00 acres more or less  
Lea County, NM

RECORD DATE: Federal 3/28/2013  
RECORD DATE: County 8/22/2013  
REPORT DATE: 8/26/2013

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**

United States Of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	80.000000	<u>HPB</u> OGL: NM 01088 DATE: 3/1/1950

TOTAL MINERAL  
OWNERSHIP

100.000000% 80.000000

## LEASEHOLD OWNERSHIP

Surface to 4,500'

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
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Working Interest:

Dan Wallace Irwin, ssp  
118 N. Grant St.  
Hinsdale, IL 60521

Wallfam Limited  
1811 Heritage Blvd, Ste 200  
Midland, TX 79707

WK Land Company  
911 Kimbark St.  
Longmont, CO 80501

Kathleen Irwin Schuster as  
Trustee of the Kathleen Irwin  
Schuster Trust u/t/a 12/20/2007  
3213 Pepperwood Ln.,  
Fort Collins, CO 80525

## LEASEHOLD OWNERSHIP

From 4,500' to 7,190'

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
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Working Interest:

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

Concho Oil & Gas LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

**LEASEHOLD OWNERSHIP**  
**Covering the Lusk Deep Unit**  
**(Being all depths below 7,190')**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
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**UNIT OPERATOR:**

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

**PRODUCING WELL**

Lusk Deep Unit A #2H Oil Well  
API: 30-025-40705  
160 acre proration E/2W/2

**Operator:**  
COG Operating LLC  
600 W. Illinois Ave  
One Concho Center  
Midland, TX 79701

**LAND SERVICES**

A Division of MBF Inspection Services, Inc.  
PO Box 2428  
805 N. Richardson  
Roswell, NM 88202  
Telephone (575) 625-0599  
Fax (575) 625-0687

**OWNERSHIP REPORT**

PROSPECT: Zia Plant  
TRACT: #25

Township 19 South, Range 32 East, N.M.P.M.  
Section 20: W/2  
Containing 320.00 acres more or less  
Lea County, NM

RECORD DATE: Federal 3/28/2013  
RECORD DATE: County 8/22/2013  
REPORT DATE: 8/26/2013

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**

United States Of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	320.000000	HPB OGL: LC 065710-A DATE: 10/1/1951

TOTAL MINERAL  
OWNERSHIP

100.000000%

320.000000



**LEASEHOLD OWNERSHIP**  
**Surface to 7,190', save & except the Lusk West Unit**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
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Working Interest:

Prize Energy Resources, LP  
3500 William D. Tate, Ste 200  
Grapevine, TX 76051

**LEASEHOLD OWNERSHIP**  
**Covering the Lusk West Unit (Being depths from 6,474' to 6,508')**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
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Working Interest:

OPERATOR:

Cimarex Energy Company  
1700 Lincoln St, Ste 1800  
Denver, CO 80203

**LEASEHOLD OWNERSHIP**  
**Covering the Lusk Deep Unit (Being all depths below 7,190')**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
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Working Interest:

OPERATOR:

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

**LAND SERVICES**

A Division of MBF Inspection Services, Inc.  
PO Box 2428  
805 N. Richardson  
Roswell, NM 88202  
Telephone (575) 625-0599  
Fax (575) 625-0687

**OWNERSHIP REPORT**

PROSPECT: Zia Plant  
TRACT: #26

Township 19 South, Range 32 East, N.M.P.M.  
Section 29: NW/4  
Containing 160.00 acres more or less  
Lea County, NM

RECORD DATE: Federal 3/28/2013  
RECORD DATE: County 8/22/2013  
REPORT DATE: 8/26/2013

The conclusions reported herein are based upon the landman's review of the instruments recorded in the county as indexed by the abstractor used.

**SURFACE OWNERSHIP**

United States Of America  
Bureau of Land Management  
1474 Rodeo Rd.  
Santa Fe, NM 87505

**MINERAL OWNERSHIP**

NAME OF MINERAL OWNERS	INTEREST	NET ACRES	LEASEHOLD STATUS
United States Of America Bureau of Land Management 1474 Rodeo Rd. Santa Fe, NM 87505	100.000000%	160.000000	<u>HPB</u> OGL: LC 063586 DATE: 10/1/1947

TOTAL MINERAL  
OWNERSHIP

100.000000%

160.000000

# LEASEHOLD OWNERSHIP

Surface to 4,500'

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
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Working Interest:

Dan Wallace Irwin, ssp  
118 N. Grant St.  
Hinsdale, IL 60521

WK Land Company  
911 Kimbark St.  
Longmont, CO 80501

Kathleen Irwin Schuster as  
Trustee of the Kathleen Irwin  
Schuster Trust u/t/a 12/20/2007  
3213 Pepperwood Ln.,  
Fort Collins, CO 80525

Prize Energy Resources, L.P.  
20 E. 5<sup>th</sup> Street, Ste 1400  
Tulsa, OK 74103

**LEASEHOLD OWNERSHIP**  
**Depths below 4,500', save & except the Lusk West Unit**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
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**PRODUCING WELL:**

Southern California 29 Fed  
#16H Gas Well  
API: 30-025-39853  
S/2N/2 proration unit  
Producing from 9,713' to 13,502'

Southern California 29 Fed  
#18H Gas Well  
API: 30-025-39889  
N/2N/2 proration unit  
Producing from 9,270' to 13,953'

**Operator:**

Cimarex Energy Co  
600 N. Marienfeld, Ste 600  
Midland, TX 79701

**Working Interest:**

Prize Energy Resources, L.P.  
20 E. 5<sup>th</sup> Street, Ste 1400  
Tulsa, OK 74103

Cimarex Energy Co  
600 N. Marienfeld, Ste 600  
Midland, TX 79701

**LEASEHOLD OWNERSHIP**  
**Covering the Lusk West Unit (Being depths from 6,474' to 6,508')**

INTEREST OWNERS	WORKING INTEREST	NET REVENUE INTEREST	STATUS & REMARKS
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**Working Interest:**

**OPERATOR:**

Cimarex Energy Company  
1700 Lincoln St, Ste 1800  
Denver, CO 80203