

May 16, 2011

Mr. Richard Ezeanyim, PE
Bureau Chief, Engineering & Geological Services
NM Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

Case 14664

VIA E-MAIL and FEDERAL EXPRESS

RE: FRONTIER FIELD SERVICES LLC. C-108 APPLICATION FOR MALJAMAR AGI#1

Dear Mr. Ezeanyim:

Pursuant to our conversations and meetings last month enclosed you will find two copies of the above-referenced C-108 application for an acid gas injection well at the Frontier Maljamar Gas Processing Plant located south of Maljamar in Lea County, NM. By copy of this letter a copy of this application is being transmitted also to the Hobbs District Office. Copies of the proposed legal notice and the notice letter to be sent to all required parties are included in Appendix D to the application

As we discussed, Frontier Field Services LLC requests that this application be placed on the docket for the Division Examiner Hearing set for June 23, 2011.

Sincerely,
Geolex, Inc.



Alberto A. Gutiérrez, RG
President
Consultant to Frontier Field Services, LLC.



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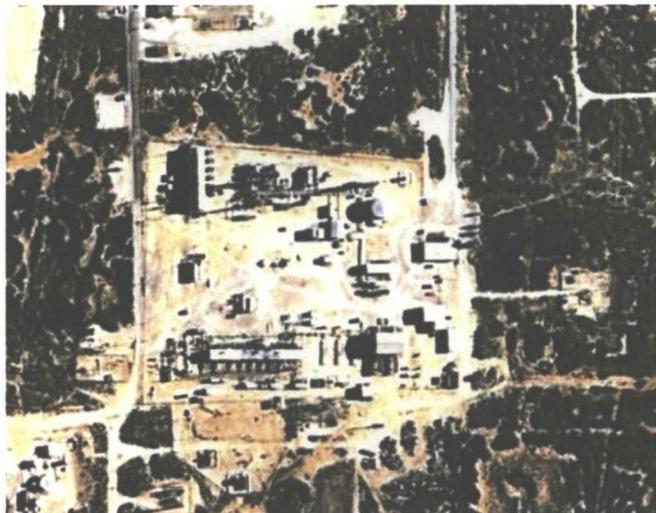
Enclosure

cc: w/ enclosure Buddy Holt, NMOCD Hobbs District Office
w/o enclosure Jamie Bailey, NMOCD Director, Santa Fe
w/o enclosure Florene Davidson, NMOCD, Santa Fe
w/enclosure John Prentiss, Frontier Field Services, Maljamar Plant
w/enclosure Matt Franzen, Frontier Field Services, Tulsa OK
w/enclosure Ocean Munds-Dry, Holland and Hart, Santa Fe

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**C-108 Application for Approval to Drill and Operate a New Well
For The Injection of Acid Gas
Frontier Field Services, LLC Maljamar Natural Gas Processing Plant
(Unit O, Section 21, Township 17 S, Range 32 E)**



May 16, 2011

Prepared For:

**Frontier Field Services, LLC
4200 E. Skelly Dr., #700
Tulsa, OK 74135**

Submitted To:

**New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505**

Prepared By:

**Geolex, Inc.
500 Marquette Avenue, NE, Suite 1350
Albuquerque, New Mexico 87102
Telephone: (505) 842-8000**

GEOLEX
INCORPORATED

APPLICATION FOR AUTHORIZATION TO INJECT

Case 14601

- I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance Disposal _____ Storage
Application qualifies for administrative approval? _____ Yes No
- II. OPERATOR: Frontier Field Services, LLC.
ADDRESS: 4200 Skelly Dr., #700, Tulsa, OK 74135
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 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 B, C and D.**
- 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.
SECTIONS 4 and 5; APPENDICES A, B and C.
- VII. Attach data on the proposed operation, including:
- Proposed average and maximum daily rate and volume of fluids to be injected; **SECTIONS 1, 2, and 3**
 - Whether the system is open or closed; **SECTIONS 1, 2, 4 and 7**
 - Proposed average and maximum injection pressure; **SECTIONS 1 and 3**
 - Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, **SECTION 4 and APPENDIX A**
 - 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; APPENDIX A**
- *VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval. **SECTION 4 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). **WELL IS 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 and APPENDIX A.**
- 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 D**
- 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.[®]; Consultant to Frontier Field Services LLC
- SIGNATURE: _____ DATE: 5/16/11
- 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. **Section 21, T17S, R32 E, 130' FSL, 1813' FEL - SECTIONS 1, 3 and 4.**
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined. **SEE SECTION 3 FOR PROPOSED WELL DESIGN. FINAL DESIGN WILL BE SUBMITTED WHEN PROPOSED WELL IS DRILLED AND COMPLETED.**
- (3) A description of the tubing to be used including its size, lining material, and setting depth. **SECTION 3 AND FIGURE 4 FOR PROPOSED WELL DESIGN**
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used. **SECTION 3**

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

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

- (1) The name of the injection formation and, if applicable, the field or pool name. **SECTIONS 1 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- WELL IS 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, B and C**

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; APPENDICES C and D. WE WILL NOTIFY OPERATORS AND LEASEHOLD OWNERS AND SURFACE OWNERS WITHIN THE AREA OF REVIEW PURSUANT TO NMOCD 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 APPENDICES C and D 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.

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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- Appendix D: Identification of Operators, Surface Owners, Lessees, and other Interested Parties for Notices; Copies of Notice Letters and Certified Mail Receipts, and Copies of Draft Public Notices for Hearing

1.0 EXECUTIVE SUMMARY

On behalf of Frontier Field Services, LLC (Frontier), Geolex[®], Inc. (Geolex) has prepared and is hereby submitting a complete C-108 application for approval to drill, complete and operate a combined acid gas injection and CO₂ sequestration well (Maljamar AGI #1) adjacent to the Frontier Gas Plant which is located on approximately 19 acres in Section 21, T17S, R32E near Maljamar in Lea County, New Mexico (Figure 1). The well will be drilled vertically at 130 feet from the south line and 1,813 feet from the east line of Section 21 (Figure 2).

The Maljamar AGI #1 is anticipated to have a total depth of approximately 10,000 feet in the lower Leonard and Wolfcamp series along the northern margin of the Delaware Basin (Permian). The primary proposed injection zone will be within a porous debris and algal mound carbonate facies in the Wolfcamp with secondary potential targets in the lower Leonard. All of these zones are between 9,300 and 10,000 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 Frontier for disposal of acid gas and sequestration of CO₂ from the plant. Frontier needs to safely inject up to 2.0 million standard cubic feet (MMSCF) per day of treated acid gas (TAG) for 30 years. 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 CO₂ 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 include:

- Identification and characterization of all hydrocarbon-producing zones of wells that surround and are present on the plant site;
- The depths of perforated pay intervals in those wells relative to the depth of the target injection zones (lower Leonard and Wolfcamp);
- The past and current uses of the proposed intervals;
- Total feet of net porosity in the Wolfcamp;
- 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 well;
- The identification of all wells within a two mile radius and of all operators within a one mile radius of the proposed injection well;
- Identification and characterization of all plugged wells within a one mile radius 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 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;
- The preliminary revision of the existing Rule 11 plan for the facility to accommodate the proposed changes in operation and the new AGI facility (to be submitted in final form before commencing injection of acid gas).

Based upon this detailed evaluation, as summarized in this application, Frontier has determined that the proposed injection well is 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 CO₂ which would otherwise continue to be released to the atmosphere and the flaring of H₂S which currently takes place at the Plant. At the expected ratio of 12% H₂S and 88% CO₂, injecting 2.0 MMSCFD will sequester 10.7 tons of H₂S and 101.2 tons of CO₂ per day.

Our research has identified one primary and two secondary AGI targets in the algal-mound and slope-debris facies of the lower Leonard and Wolfcamp intervals, a series of thick (up to 200 feet) porous deposits formed along the former shelf break of the Delaware Basin isolated within tight mudstones and micrites, located approximately 9,000 to 10,000 feet below the plant.

Our geological evaluation shows that the most promising zone is the lower Wolfcamp Reservoir. This unit lies between approximately 9,800 to 10,000 feet, has an area of 190 acres, and an estimated net capacity of 24.2 million barrels of TAG. Additional potential reservoirs lie in the lower Leonard, above the Wolfcamp, and include:

- The lower Leonard Reservoir #1, lying at depths of approximately 9,300 to 9,400 feet, with an extent of 64 acres, a net porosity of 33 feet, and an estimated capacity of 9 million barrels of TAG, and
- The lower Leonard Reservoir #2, at depths from 9,450 to 9,550 feet, with an area of 53 acres, 17 feet of net porosity, and a estimated capacity of 3.8 million barrels of TAG.

Although the Wolfcamp reservoir is our primary target, we will log and, if promising, perforate and test the lower Leonard zones to determine their feasibility for TAG injection.

These reservoirs are effectively sealed laterally and above and below by the much less permeable adjacent facies. These less permeable rocks consist of finer-grained deeper water sediments from the transgressive units that were deposited during and after the deposition of the porous algal mound/detrital facies.

At the anticipated reservoir conditions (130°F and 3400 psi), each million standard cubic feet of TAG will be compressed to 425 barrels (2,387 cubic feet).

As an example of the injectibility of these reservoirs, we have researched the injection capacity of two salt water injection (SWD) wells completed in the lower Wolfcamp located south of the Frontier plant:

- COG Operating LLC Federal BI 001, 0.9 miles south in Section 28 (injected 3,900 BBL/Day in 2010),
- COG Operating LLC Maljamar SWD 29 001, 1.2 miles south in Section 29 (injected 2,500 BBL/Day in 2010)

The performance of these wells clearly demonstrates the capacity of similar, though not connected, units in this formation. Based on these data, we have concluded that the Leonard and Wolfcamp mounds provide ample porosity, permeability and volume to serve Frontier's injection needs.

Although 201 wells are listed within one mile of the proposed AGI, only 12 wells, of which six are active and six plugged, penetrate into or through the Wolfcamp. NMOCD files show that all of the twelve wells have been completed and/or plugged in a manner that will effectively isolate the Wolfcamp interval.

None of the six active wells produce from the Wolfcamp. The nearest well active in the Wolfcamp is the Federal B1 001 salt water injection well, approximately one mile south of the plant. Two other active wells have been plugged back to shallower zones (ie, San Andres), again isolating the Wolfcamp. The remaining two active producing wells are producing from the Devonian (13,600 feet) and the McKee (14,800 feet). Therefore, the proposed AGI activities into the confined lower Wolfcamp algal mound will not cause any impacts to existing production and/or plugged wells.

In addition to providing a safe and adequate reservoir for H₂S and CO₂, the geologic environment is ideal to demonstrate the required capture and sequestration of CO₂ to obtain future credits or offsets.

Active oil and gas leases in the one-mile area are held by ConocoPhillips Company and COG Operating LLC. With the exception of plant property owned by Frontier and Mid-America, all of the adjacent lands within one mile are federal lands administrated by the Bureau of Land Management and some minor amount of state land. All surface owners and operators within a one-mile radius of the proposed injection well will be notified at least 20 days prior to the NMOCD hearing pursuant to the requirements of NMOCD.

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 that only one water well (owned by Reliant Processing, approximately 0.1 miles southwest of the Gas Plant) lies within one mile of the proposed AGI. This well has a total depth of 158 feet. Available information shows that groundwater occurs at a depth of approximately 70 to 85 feet, and is hosted by the sandstones in the underlying Triassic Dockum Group. The planned well design will completely isolate the fresh water-bearing zones through the Rustler (source of the deepest groundwater) by surface casing that will be cemented to the surface. The proposed injection zone is a closed system, and there are no open faults, fractures, or other structures that could potentially serve as a pathway between the proposed injection zone and any sources of fresh water.

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 to evaluate and approve the submitted Form C-108 – Application for Authorization to Inject. This information is presented in the following categories:

- A detailed description of the location, construction and operation of the proposed injection well (Section 3.0)
- A summary of the regional and local geology, 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: Wolfcamp Formation Fluid Analysis and Analyses of Frontier Maljamar Gas Plant TAG.
- Appendix B: Table and Map of Water Wells within One Mile Area of Review and Groundwater Analyses
- Appendix C: Maps and spreadsheets showing all active, temporarily abandoned, abandoned and plugged oil and gas wells included within two mile, and one mile areas and associated plugging reports, and a CD with complete NMOCD file on each plugged and active well penetrating the Wolfcamp within one mile of the proposed AGI.
- Appendix D: Maps and spreadsheets identifying operators, lessees, surface owners and other interested parties for notices, copies of notice letters and certified mail receipts, and copies of the public notices for the hearing.

It is anticipated that this application shall be the subject of a NMOCD hearing on June 23, 2011.

3.0 PROPOSED CONSTRUCTION AND OPERATION OF MALJAMAR AGI #1 WELL

The proposed injection well will be drilled adjacent to the Frontier Plant Site in Unit O, 130 feet from the south line and 1813 feet from the east line of Section 21, T17S, and R32E at. Figure 2 shows the proposed location of the new well. Frontier will apply for an operator number and file the required bond for the proposed Maljamar AGI #1 upon approval of this C-108 and prior to commencement of drilling.

3.1 CALCULATED MAXIMUM INJECTION PRESSURE

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

- 88% CO₂
- 12% H₂S
- Trace Components of C₁ – C₇

The total volume of TAG to be injected under this scenario will be approximately 425 barrels per day for each million cubic feet at reservoir conditions. Pressure reduction valves will be incorporated to assure that maximum surface injection pressure allowed by NMOCD will not be exceeded.

The calculated maximum allowable injection pressure would be approximately 2,973 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:

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

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

SG_{tag} = specific gravity of treated acid gas (pressure and temperature dependent; calculated as the average density in the tubing, using surface conditions of 100°F and 1,500 psi, and bottom hole conditions of 100°F and 3,400 psi; see Table 1 for details)

For the maximum requested injection volume (2 MMSCF/Day) it is assumed that:

$$\begin{array}{l} SG_{\text{tag}} = 0.78 \\ D_{\text{top}} = 9,500 \text{ feet} \end{array}$$

Therefore:

$$PG = 0.2 + 0.433 (1.04 - 0.78) = 0.313$$

$$IP_{\max} = PG(D_{\text{top}}) = 0.313 \times 9,500 = 2,973 \text{ psi}$$

Based on the performance of the existing injection well, it is anticipated that the average injection pressure would not exceed 2,973 psi. Based on the above calculations, Frontier is requesting approval of a maximum injection pressure to be 2,973 psi at the surface.

Table 1: Pressure and Volume Calculations for TAG, Proposed Frontier Maljamar AGI #1

PROPOSED INJECTION STREAM CHARACTERISTICS

TAG	H ₂ S	CO ₂	H ₂ S	CO ₂	TAG
Gas vol MMSCFD	conc. mol %	conc. mol %	inject rate lb/day	inject rate lb/day	inject rate lb/day
2	12.00	88.00	22781	215734	238516

CONDITIONS AT WELL HEAD

Well Head Conditions		TAG							
Temp F	Pressure psi	Gas vol MMSCFD	Comp CO ₂ :H ₂ S	Inject Rate lb/day	Density ¹ kg/m ³	SG ²	density lb/gal	volume ft ³	volume bbl
100	1500	2	88:12	238516	663.70	0.66	5.54	5754	1025

CONDITIONS AT BOTTOM OF WELL

Injection Zone Conditions					TAG				
Temp F	Pressure ³ psi	Depth _{top} ft	Depth _{bottom} ft	Ave. Thick. ft	Density ¹ kg/m ³	SG ²	density lb/gal	volume ft ³	volume bbl
100	3400	9500	9750	250	896.03	0.90	7.48	4262	759

CONDITIONS IN RESERVOIR AT EQUILIBRIUM

Injection Reservoir Conditions					TAG				
Temp ⁵ F	Pressure ³ psi	Ave. Por. %	Swr	Porosity ⁶ ft	Density ¹ kg/m ³	SG ²	density lb/gal	volume ft ³	volume bbl
130	3400	12	0.45	16.5	799.90	0.80	6.68	4774	850

CONSTANTS

	SCF/mol	
Molar volume at STD	0.7915	
	g/mol	lb/mol
Molar weight of H ₂ S	34.0809	0.0751
Molar weight of CO ₂	44.0096	0.0970
Molar weight of H ₂ O	18.015	0.0397

CALCULATION OF MAXIMUM INJECTION PRESSURE LIMITATION

SG _{TAG}	0.78
PG = 0.2 + 0.433 (1.04-SG _{TAG})	0.313 psi/ft
IP _{max} = PG * Depth	2970 psi

Where: SG_{TAG} is specific gravity of TAG; PG is calculated pressure gradient; and IP_{max} is calculated maximum injection pressure.

¹ Density calculated using AQUAlibrium software

² Specific gravity calculated assuming a constant density for water

³ PP is extrapolated using successful Drill Stem Tests at nearby wells

⁴ Thickness is the ave. total thickness of coarse sand units in the reservoir zone

⁵ Reservoir temp. is extrapolated from bottomhole temp. measured at nearby wells

⁶ Porosity is estimated using geophysical logs from nearby wells

CALCULATION OF 30 YEAR AREA OF INJECTION

Cubic Feet/day (5.6146 ft ³ /bbl)	4774 ft ³ /day
Cubic Feet/30 years	52312423 ft ³ /30 years
Area = V/Net Porosity (ft)	3170450 ft ² /30 years
Area = V/Net Porosity (ft) (43560 ft ² /ac)	72.8 acres/30 years
Radius =	1005 ft
	0.19 miles

Calculations presented in Table 1 (incorporating the compressibility of the TAG at reservoir conditions) show that, given a more detailed calculation of well pressure,. Over 30 years, a daily injection volume of 2 MMSCF/Day of TAG will occupy approximately 52.3 million cubic feet in the reservoir. As discussed in Section 4.3, a calculated gross net porosity of 30 feet in the reservoir is reduced to an effective net porosity of 16.5 feet after correcting for a residual water content of 45%. Based on a net porosity of 16.5 feet, we calculate that the 30-year injection volume will occupy approximately 72.8 acres of the reservoir, with a radius of 0.19 miles.

3.2 WELL DESIGN

While the injected fluid will be dehydrated, the line that will convey the TAG to the well from the compression facilities will be a 3 inch steel line (304 or 316) to provide added corrosion protection. The final design for the compression facilities and associated piping and layout of H₂S alarms and other safety equipment will be submitted for NMOCD review prior to commencement of injection operations as part of a revised Rule 11 plan. The schematic of the new AGI facilities and tie-in to the existing Frontier Plant are shown in Figure 3, and the preliminary design for the injection well is shown on Figure 4.

The proposed well (Maljamar AGI #1) will be a vertical well, spudded on property leased by the Frontier Field Services LLC. This design will allow Frontier to access the primary injection zone and potentially two other zones from this location. The well will be drilled vertically to a final total depth of approximately 10,000 feet.

The well will have each string of the telescoping casing cemented to the surface and will include a subsurface safety valve (SSV) 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 such as 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.

Design and materials considerations include: placement of SSV and the packer, double casing through freshwater resources and shallow production zones (Dockum and Rustler Group (groundwater), Artesia Group and San Andres-Grayburg (oil and gas production)), characterization of the zone of injection, and a total depth (TD) ensuring identification of the reservoirs. Three casing strings are proposed (Figure 4):

1. Surface casing to approximately 550 feet, beneath the Triassic "Redbeds", to protect the fresh water.
2. Intermediate casing to approximately 4,200 feet, to isolate the Permian salt units (Salado/Castile) and the productive units in the Artesia Group (Yates and Queen) and the San Andres/Grayburg.
3. Production casing extending down to the final total depth (TVD 10,000 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.

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 ½ inch bit to a depth of approximately 550 feet, and 13 ⅜ 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 ¼ inch bit to a depth of approximately 4,200 feet. There an 8 ⅝ inch, 24.0 ppf, J55, STC surface casing string will be run and cemented to surface with approximately 1,500 sacks of cement. 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 after each cement job.

After verifying the intermediate casing, the well will be drilled to the projected TD of 10,000 feet using a 7 ⁷/₈ 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 lower Leonard and the Wolfcamp and a portion of the caprock and basal seal formations, with rotary sidewall cores in the Wolfcamp. A conventional core will be collected from the Wolfcamp zone to evaluate the permeability of this caprock. Additional sidewall cores may also be obtained from the Wolfcamp to allow more detailed reservoir analysis.

After the logs have been evaluated, the production casing consisting of approximately 10,000 feet of 5½ inch, 15.5 ppf, L80 casing grade will be run and cemented with an approximate total of 1500 sacks of cement. A 30 foot section of Corrosion Resistant Alloy (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 10,000 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 5000) 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. Following successful testing and the release of the drilling rig, a workover rig will be used 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 assure that acid gas 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 500 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 9300 feet of 2 ⁷/₈ inch, 6.5 ppf, L80 ULTRA FX premium thread tubing, and an SSV will be run into the well. A ¼ inch inconel steel 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 H₂S/CO₂ stream of acid gas that is de-watered at the surface through successive stages of compression, downhole components such as the SSV and packer need to be constructed of Inconel 925. The CRA joint 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 tree will be nickel coated as well.

The rest of the Christmas tree 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 tree. 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. The Rule 11 Plan will be finalized when the compression facility design and well connection design is complete and will be submitted for NMOCD review and approval prior to commencement of TAG injection into the Frontier AGI well. A Rule 11 Plan for the current facility at Maljamar was submitted on May 10, 2011.

4.0 REGIONAL AND LOCAL GEOLOGY AND HYDROGEOLOGY

4.1 GENERAL GEOLOGIC SETTING

The Frontier Gas Plant is located in the southern half of Section 21, T 17 S, R 32 E, in Lea County, New Mexico, approximately 3 miles southeast of Maljamar (Figure 1). The Plant is located within a physiographic area which has been referred to as the Querecho Plains by various authors including Nicholson & Clebsch (1961). This area is almost entirely covered at the surface by Holocene reddish brown dune sand underlain by a hard caliche surface or calcareous silts which may be found in buried valleys or internally drained Quaternary playas. These dune sands are locally stabilized with shin oak, mesquite and some burr-grass. There are no 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. A prominent outcrop of the Pliocene Ogallala Formation (Mescalero Ridge) trends to the northwest-southeast, immediately east of Maljamar. Beneath the Holocene and Quaternary deposits lies the underlying Triassic redbeds of the Dockum Group. The Triassic units are in turn underlain by the Rustler Formation and followed by the Ochoa series of evaporites including the Castile and the Salado Formations. Beneath these formations is the Permian sequence of the Delaware Basin described generally below.

4.2 BEDROCK GEOLOGY

Figure 5 is a generalized stratigraphic column showing the Permian Formations that underlie the Plant site. The Plant is located on the northern margin of the Delaware Basin province of the Permian Basin, where Permian rocks generally dip to the south as they transition from a sequence of shelf and shelf-edge carbonates and sandstones to basinal-equivalent shale, sandstones, and limestones to the west. Shallow production in the area is from the Yates, Seven Rivers, Queen, and San Andres Formations. Deeper production has been found in the Permian Paddock, and Yeso/Abo, the Pennsylvanian Cisco, Strawn and Morrow, and other targets in the Devonian and McKee (Ordovician). Please see Appendices A and B for additional information on oil and gas wells within the area of review.

The anticipated depths to formation tops at the proposed well site are:

Formation	Depth (feet)
San Andres	3,880
Glorieta	5,380
Tubbs	6,900
Abo (lower Leonard)	7,580
Wolfcamp	9,550
Pennsylvanian	10,000 (Est. TD at Pennsylvanian top)
Cisco	10,400
Strawn	11,400
Morrow	11,990
Mississippian	12,450
Devonian	13,500

4.3 LITHOLOGIC AND RESERVOIR CHARACTERISTICS OF THE WOLFCAMP

As seen in Figure 6, the area now underlain by the Plant was near to the shelf-basin topographic break in Wolfcamp time (290-270 million years old). Changes in eustatic and tectonic fluctuations in sea levels lead to the formation of numerous algal mound and associated detrital carbonate deposits along the inflection between the shallower shelf and the deeper basin. Higher sea levels favored the formation of algal mounds in this area, while lower sea levels caused the formation of debris fans between and below the mounds. This system has led to the deposition of similar “reef” and fan bodies throughout the Permian system, in the Abo, San Andres and Capitan formations (Figure 7).

The algal mounds and debris fans are tabular bodies, typically elongated along the paleoshoreline, with thickness up to several hundred feet, and lateral extents of hundreds of feet to several miles. Within these units, porosity can be as high as 20%. In the surrounding muddier carbonate lagoon facies, permeability and porosity are much reduced. This geometry creates discrete reservoirs within surrounding seal rocks. These types of reservoirs have produced hydrocarbons, such as in the Abo Empire field, but also have formed barren reservoirs with good potential for AGI development. Other similar, yet isolated and distinct, Wolfcamp mound and fan facies are the three zones completed by COG Operating LLC for two salt water disposal (SWD) wells approximately one mile south of the Frontier Plant (Figure 8).

4.4 SEISMIC INTERPRETATION

Due to the discontinuous nature of the Wolfcamp mounds, we have evaluated 3-D seismic data from a two square-mile area surrounding the Plant to specifically identify and characterize their thickness and lateral extent. Our analyses have allowed us to identify three potential AGI reservoirs (lower Wolfcamp #3, lower Leonard #1, and lower Leonard #2) in the vicinity of the Frontier plant, and to provide quantitative estimates of reservoir extent and volume.

To calibrate the seismic velocities with known log data, three synthetic seismic logs were generated from acoustic logs from wells in the study area (Figure 9). This figure also summarizes a seismic structure interpretation of top of the Wolfcamp. The structure map clearly shows the shelf-basin geometry in this area, and was used as a basic tool in further evaluation of the facies, lithologies and relative porosity of the target units. Seismic analyses, integrated with log data, shows that the Wolfcamp zone has the largest lateral extent and the greatest volume. The lower Leonard units may also have some potential as secondary targets.

Figure 10 is an enhanced seismic cross-section, from the location shown in Figure 9. In this figure, the blue end of the color scale corresponds to high seismic amplitude (denser rocks), while the red end represents low amplitude (more porous units). The three target reservoirs (lower Leonard #1, lower Leonard #2, and lower Wolfcamp #3) are identified by the numbered arrows. Discontinuous low-amplitude events with underlying high-amplitude events, seen along a given horizon, are a good indication of localized porosity. In contrast, persistent low-amplitude events (black arrow in Figure 10) are more consistent with shale beds.

Figures 11 and 12 show the respective time slices and seismic cross-sections for the lower Wolfcamp unit. This unit is the most laterally extensive unit, and has excellent potential for AGI development. Although it trends towards the existing Wolfcamp producing wells to the northeast of the plant (see Figure 8), the seismic data show that there is a clear porosity barrier that isolates this zone.

Figure 13 is a time slice showing the geometry of the lower Leonard #1 (arrow 1 in Figure 10) reservoir in plan view. This map clearly shows the distribution and geometry of the porous facies in this unit, and just importantly shows that the unit is clearly bounded and sealed by much less porous surrounding rocks.

Figure 14 is a time slice showing the distribution of the porosity in the lower Leonard #2 zone (arrow 2 in Figure 10). This map shows that although the lower Leonard #2 unit is smaller and thinner than the lower Leonard #1 it still has useful volume, and is well-isolated by less porous surrounding rocks.

Figure 15 superimposes the areal extents of the three AGI-potential zones, and incorporates the estimated acreage, net porosity, and available capacity of each of the zones. These calculations can be summarized as:

- the primary injection target of lower Wolfcamp Reservoir, at 9,800 to 10,000 feet, has area of 190 acres, and an estimated capacity of 24.2 million barrels of TAG,
- the secondary injection target of the lower Leonard Reservoir #1, lying at depths of approximately 9,300 to 9,400 feet, has an extent of 64 acres, a net porosity of 33 feet, and an estimated capacity of 9 million barrels of TAG,
- the secondary injection target of the lower Leonard Reservoir #2, at depths from 9,450 to 9,550 feet, has an area of 53 acres, 17 feet of net porosity, and a estimated capacity of 3.8 million barrels of TAG.

After analysis of the geophysical logging of the proposed Maljamar AGI #1 well, specific zones will be selected for completion as AGI reservoirs. The seismic evaluation has given us confidence that:

- Effective AGI reservoirs exist in the area of the Frontier gas plant,
- The reservoirs are effectively isolated from any known or potential production in the area, and
- Specific drilling programs, locations and completion targets can be selected in a safe, cost-effective and effective manner.

4.5 CALCULATED AREAS OF FLUID INJECTION

Based on the geology described in Section 4.4, anticipated range of injection volumes, and the injection pressures and temperatures in the reservoir (see Section 3.1 and Table 1) we have calculated the range of injection areas for the anticipated ranges of injection volume, over an estimated 30-year life of the AGI well. These calculations are shown in Table 2, and shown in Figure 156.

As calculated in Section 3.1, each standard million cubic feet (MMSCF) of TAG at the surface will be compressed to approximately 425 barrels of supercritical fluid at reservoir pressures and temperature. Hence, a 30-year lifetime of injection will result in 4.6 million barrels in the reservoir per MMSCFD of TAG. As shown in the Table below, the Wolfcamp zone alone is capable of holding up to 5 times the anticipated injection rate for 30 years.

As shown in Figure 16, the proposed maximum injection rate of 2.0 MMSCFD will generate a “footprint” with an area of approximately 73 acres after considering the effect of irreducible water. This footprint will not impact any of the nearby wells.

Daily TAG Injection Volume (MMSCF)	Daily Volume of TAG in Reservoir (BBL/D)	Total TAG Volume in Reservoir after 30 Years (BBL)	Calculated Reservoir Volume in Wolfcamp (BBL)	Percentage of Reservoir Occupied	Calculated Radii of Affected Area of Reservoir (Miles)	Affected Area of Reservoir (Acres)
2.0	850	9.3 Million	24 Million	38.8%	0.19	72.8

4.5 FORMATION FLUID CHEMISTRY

Formation fluid chemistry for the Wolfcamp is available from two nearby wells: Baish A 012 (API # 3002520568) located in Sec. 21, T17S, R32E, approximately 1 mile southwest of the Frontier gas plant, and Baish B 001 (API# 3002500637) located in Sec. 22, T17S, R32E, approximately 1.25 miles northeast of the Frontier gas plant. The reference information for the formation fluids is included in Appendix A.

Parameter	BAISH A 012	BAISH B 001
Mg ⁺⁺	972	680
Na ⁺	52,298	34,704
CO ₃ ⁼	Nd	Nd
HCO ₃ ⁼	1,220	481
SO ₄ ⁼	4,400	3,900
Cl ⁻	50,000	33,000
Fe (free)	11	14
pH	7.6	7.4
CaCO ₃	1.4	0.9

Analyses show that the formation waters are sodium/chloride brines.

4.6 GROUNDWATER HYDROLOGY IN THE VICINITY OF THE PROPOSED INJECTION WELL

In the area of the Frontier Gas Plant, the surficial deposits are relatively thin layers of aeolian sands and both active and stabilized dunes. These materials are described in the *Soil Survey-Lea County, New Mexico* (United States Department of Agriculture, 1974) as the Kermit Dune Lands and the Maljamar Fine Sands. Under these sandy deposits lie the “redbeds” of the Triassic Dockum Group, in which ground water locally occurs in sandier beds of the mudrocks characterizing the Dockum. Local depth to groundwater in the Dockum is reported to be approximately 70 feet. The only significant aquifer in the area is the Pliocene Ogallala Formation, which crops out in the Mescalero Ridge, a prominent landform seen near Maljamar, approximately 3 miles northeast of the Plant (Nicholson and Clebsh, 1961).

As seen in Figure B-1, one water well is reported within one mile of the Plant, with a total depth of 158 feet. The results of a search of the New Mexico State Engineer’s files for registered water wells in this area are included in Appendix B. Also included are the available groundwater analyses for water wells in this area. The nearest well listed is in Section 3, T17S, R32E, approximately 3 miles north of the plant. This well is completed in the Ogallala Formation, and has a Total Dissolved Solids of approximately 500 mg/L (Nicholson and Clebsh, 1961).

5.0 OIL AND GAS WELLS IN THE MALJAMAR AGI #1 AREA OF REVIEW AND VICINITY

Appendix C contains a complete list based on NMOCD records of all active, temporarily abandoned, abandoned and plugged oil and gas wells within two miles (Figure C1, Table C1) and those within the one-mile radius area of review (Figure B2) of the proposed AGI disposal well.

There are 565 recorded wells within two miles of the Plant, of which 351 are active and 214 are listed as plugged and abandoned. Within one mile of the plant, there are 201 wells, of which 139 are active and 62 are plugged and abandoned. These wells are shown in Figure C2.

A review of the available NMOCD data regarding the wells within one mile of the proposed AGI well shows that of the 201 total wells, only 12 intersect and/or penetrate the proposed injection zone in the Wolfcamp. Of the total 201 wells, 148 (74%) are less than 6,000 feet deep. These wells are or were targeted into the San Andres/Grayburg, Glorieta and Paddock zones. An additional 41 wells are drilled between 6,000 feet and 8,933 feet, targeting the Yeso and/or Abo formations. All of these wells' total depths are well above the Wolfcamp, which lies from 9,100 to 9,300 feet in this area.

5.1 STATUS OF WOLFCAMP-PENETRATING WELLS WITHIN ONE MILE OF FRONTIER GAS PLANT

As shown in the Table 3 below, and in the accompanying Figure C3 in Appendix C, there are a total of 12 wells penetrating the Wolfcamp "deep wells" in the one mile area of review. Information on the wells in the one mile area of review (see Table 2 below) includes their total depth, production or injection interval and current status. A review of the available data on these wells indicates that they are cased and cemented throughout the Wolfcamp interval, effectively sealing that formation and preventing any migration of injected fluids to deeper or shallower units. A copy of the NMOCD files for these 12 wells is included on the CD in Appendix C.

Table 3: Summary of Wells Penetrating Wolfcamp within One Mile of Frontier Gas Plant									
API #	OPERATOR	SPUD DATE	PLUG DATE	TOTAL DEPTH	WELL NAME	WELL TYPE	STATUS	Producing/Target/Injection Zone	Miles From Plant
3002500751 P	CONOCOPHILLIPS COMPANY	9/20/1948	9/17/2004 <i>Sub-24 w/ WC 1982</i>	10,005	QUEEN B 036 (Baish B 36)	Oil	Plugged	Wolfcamp (Dry Hole) <i>(9965-10,040)</i>	0.37
3002521951 P	PAN AMERICAN PETROLEUM CORP	12/20/1966	1/2/1900	13,735	BAISH B FEDERAL 002	Oil	Plugged	Wolfcamp (Dry Hole)	0.40
3002500622 P	CONOCO INC	11/12/1958	1/2/1900	13,670	BAISH A 008 <i>(Dry in WC)</i>	Oil	Plugged	Cisco/Abo (plugged back)	0.57
3002535252 P	COG OPERATING LLC	11/17/2000	na	15,026	MC FEDERAL 006	Gas	Active	Devonian	0.68
3002500745 P	CONOCOPHILLIPS COMPANY	8/8/1961	na	9,680	MCA UNIT 382	Oil	Active	San Andres (plugged back)	0.70
3002500614 P	CONOCO INC	11/1/1993	3/3/1993	12,778	MCA UNIT 355	Injection	Plugged	Abo/Grayburg (plugged back)	0.73
3002500634 P	CONOCO INC	4/26/1951	1/2/1900	13,573	BAISH B 005	Oil	Plugged	Devonian	0.81
3002527068 P	COG OPERATING LLC	10/14/1980	na	12,992	FEDERAL BI 001	Salt Water Disposal	Active	Wolfcamp (plugged back)	0.86
3002508053 P	CONOCO INC	10/28/1959	9/5/1996	13,965	MCA UNIT 303	Injection	Plugged	Grayburg (plugged back)	0.92
3002520647 P	COG OPERATING LLC	10/25/1964	na	9,958	MC FEDERAL 007	Oil	Active	Paddock (plugged back)	0.94
3002534647 P	COG OPERATING LLC	6/16/1999	na	14,912	MC FEDERAL COM 001	Gas	Active	McKee	0.99
3002520568 P	CONOCOPHILLIPS COMPANY	11/22/1963	na	13,717	BAISH A 012	Oil	Active	Abo (plugged back) <i>(To 9900 P 222)</i>	0.99

W.C. 9700-9882

3002530363 Conoco D/22 Baish A OIL ACT. ABO/WC #14

3002500619 Conoco K/21 Baish A ACT. Yates .47

5.2 CEMENTING, COMPLETION AND PLUGGING

The details of the completion and/or plugging design and construction of these 12 wells are summarized in the diagrams included in Appendix C. Also included are the complete NMOCD files for these wells, in electronic form, in the accompanying CD entitled “NMOCD Files for Wolfcamp-Penetrating Wells within One Mile of the Frontier Gas Plant”. Table 4 below summarizes the casing and cementing information for the plugged deep wells.

API #	3002500614	3002500622	3002500634	3002500751	3002508053	3002521951
Well Name	MCA UNIT 355	BAISH A 008	BAISH B 005	QUEEN B 036 (Baish B 036)	MCA UNIT 303 *	BAISH B FEDERAL 002
Distance From Plant (miles)	0.73	0.57	0.81	0.37	0.92	0.40
Status	P&A	P&A	P&A	P&A	P&A	P&A
Total Depth (feet)	12,778	13,670	13,939	10,747	13,965	13,735
Conductor Depth (feet)	178	428	100	825	444	390
Intermediate Casing Depth (feet)	4,181	5,052	2,700	4,198	4,740	4,660
Long String Casing Depth (feet)	11,813	13,642	13,562	10,745	Dry, not cased	10,301
Conductor TOC (feet)	Surface (NMOCD Files)	Surface (NMOCD Files)	Surface (NMOCD Files)	Surface (NMOCD Files)	Surface (NMOCD Files)	Surface (NMOCD Files)
Intermediate Casing TOC (feet)	Surface (NMOCD Files)	Surface (Calculated)	Surface (NMOCD Files)	3391 feet (NMOCD Files)	Surface (NMOCD Files)	Surface (NMOCD Files)
Long String Casing TOC (feet)	4,860 feet (NMOCD Files)	5,300 feet (Calculated)	3,000 feet (NMOCD Files)	5,890 feet (NMOCD Files)	Dry Hole, not cased	6,300 feet (Calculated)
Producing/Target/Zone	Grayburg	Cisco/Abo	Devonian	San Andres	Wolfcamp (Dry Hole)	Grayburg
Top Wolfcamp (Depth)	9,200	9,118	9,090	9,320	9,079	9,105

In the cases of Baish A 008 and Baish B Federal 002, documentation was missing for the tops of cement (TOC) of either the intermediate or long string. In these cases, the TOC was calculated using the annular volumes provided in the Halliburton “Red Book” and the amounts (sacks) of cement provided in the NMOCD files. The length of the annulus filled with the cement was calculated using a very conservative cement yield of 1.0 cubic feet per sack. This indicates that all of the plugged wells’ “long string” is effectively isolated from the lower Leonard and Wolfcamp injection zones. Similarly, Table 5 below summarizes the casing and cementing for the six active deep wells within one mile of the Plant. Only well MCA Unit 383 lacked details on the long string top of cement, and a calculated TOC of 7,700 feet was developed using the method described above. This also indicates that all of the active wells’ “long string” is effectively isolated from the lower Leonard and Wolfcamp injection zones.

API #	3002500745	3002520568	3002520647	3002527068	3002534647	3002535252
WellName	MCA UNIT 382	BAISH A 012	MC FEDERAL 007	FEDERAL BI0 01	MC FEDERAL COM 001	MC FEDERAL 006
Distance From Plant (miles)	0.70	0.99	0.94	0.86	0.99	0.68
Status	Active	Active	Active	Active (SWD)	Active	Active
Total Depth (feet)	9,680	13,717	9,958	12,992	14,912	15,026
Conductor Depth (feet)	360	863	821	723	525	748
Intermediate Casing Depth (feet)	4,576	4,570	4,600	4,500	4,657	4,600
Long String Casing Depth (feet)	9,108	10,825	9,955	12,967	14,909	13,605
Conductor TOC (feet)	Surface (NMOCD Files)	Surface (NMOCD Files)	Surface (NMOCD Files)	Surface (NMOCD Files)	Surface (NMOCD Files)	Surface (NMOCD Files)
Intermediate Casing TOC (feet)	Surface (NMOCD Files)	Surface (NMOCD Files)	Surface (NMOCD Files)	Surface (NMOCD Files)	Surface (NMOCD Files)	Surface (NMOCD Files)
Long String Casing TOC (feet)	7700 feet (Calculated)	3000 feet (NMOCD Files)	2200 feet (NMOCD Files)	1345 feet (NMOCD Files)	705 feet (NMOCD Files)	Surface (NMOCD Files)
Producing/Injection Zone	Grayburg-San Andres	Paddock	Paddock	Wolfcamp	McKee	Devonian
Top Wolfcamp (Depth)	9,230	9,170	9,046	9,320	9,050	9,100

To determine the validity of the calculations for TOC based on annular volumes, number of cement sacks, and a yield of 1.0 cubic feet of cement per sack, the same calculations were applied to the wells where known TOC's were available. A complete set of calculations for the long-string TOCs are included as Table C2 in Appendix C.

The results of this evaluation are shown in Table 6 below. Calculated versus measured TOC's are very similar, with only well Queen B 036 showing a measured TOC (5,890 feet) significantly deeper than the estimated TOC of 4,101 feet.

Well Name	Reported TOC	Calculated TOC	Depth to Top Wolfcamp	Total Depth
MCA UNIT 355	4,860	4,489	9,200	12,778
BAISH A 008	not reported	5,300	9,118	13,670
BAISH B 005	4,480	5,167	9,090	13,939
QUEEN B 036 (Baish B 036)	5,890	4,101	9,320	10,747
MCA UNIT 303	not completed	not completed	9,079	13,965
BAISH B FEDERAL 002	not reported	6,300	9,105	13,735
MCA UNIT 382	not reported	7,700	9,298	9,680
BAISH A 012	3,000	2,710	9,048	13,717
MC FEDERAL 007	2,200	2,000	9,046	9,958
FEDERAL BI 001	1,345	3,400	9,320	12,992
MC FEDERAL COM 001	705	Surface	9,051	14,912
MC FEDERAL 006	Surface	Surface	9,099	15,026

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 County 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 D includes the data from that search.

Table D-1 lists operators within this one-mile radius, and Table D-2 lists the names and addresses of surface owners within the same one mile area of review. As shown in Table D-1, production in the area of review is controlled by two operators as currently listed by the NMOCD internet database. Appendix D also includes Table D-3 which lists the names and addresses surface lessees of record in the area of review, Table D-4 listing businesses included in the area of review, as extracted from the Lea County land records, and Figure D-1 is a map showing the same data.

All of these operators, oil, gas and mineral lessees and surface owners within the one-mile area of review will be provided notice and an opportunity to review this application at least 20 days prior to the OCD Hearing, according to the requirements of Section XIV of the C-108 and NMOCD's current policy on applications for acid gas injection wells. A draft form of this notice to interested parties is included in Appendix D. The proposed public notice that will be published in the Lovington Daily Leader at least 20 days prior to NMOCD Hearing is also included in Appendix D.

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 Maljamar AGI #1 injection well 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. The proposed injection zone is a closed system

FIGURES

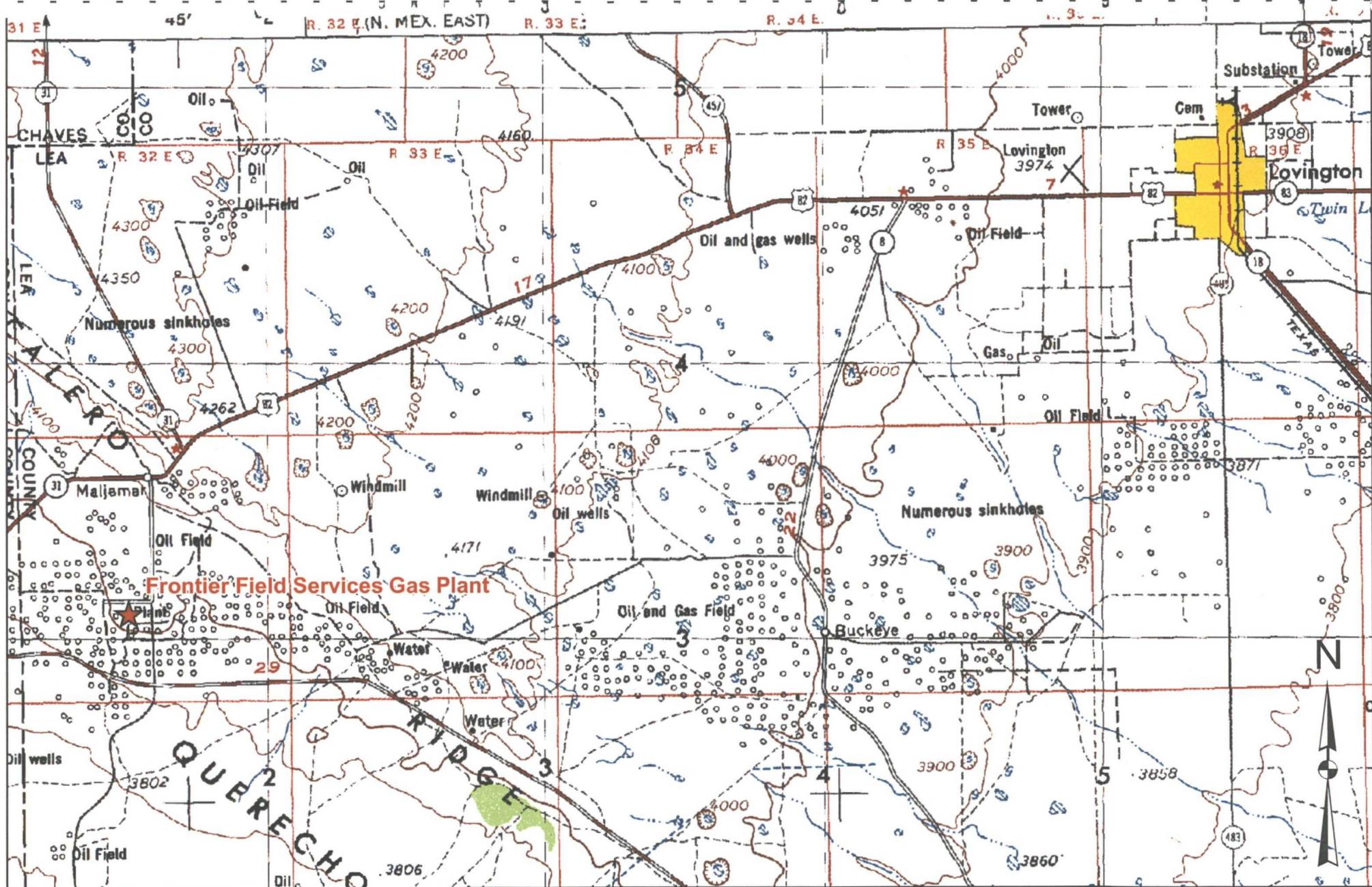


Figure 1: Location of Frontier Field Services, LLC Gas Plant



**Figure 2: Location of Proposed Maljamar AGI #1
(Unit O, Section 21, T17S, R32E, 130 Feet FSL, 1813 Feet FEL, Lea Co., New Mexico))**

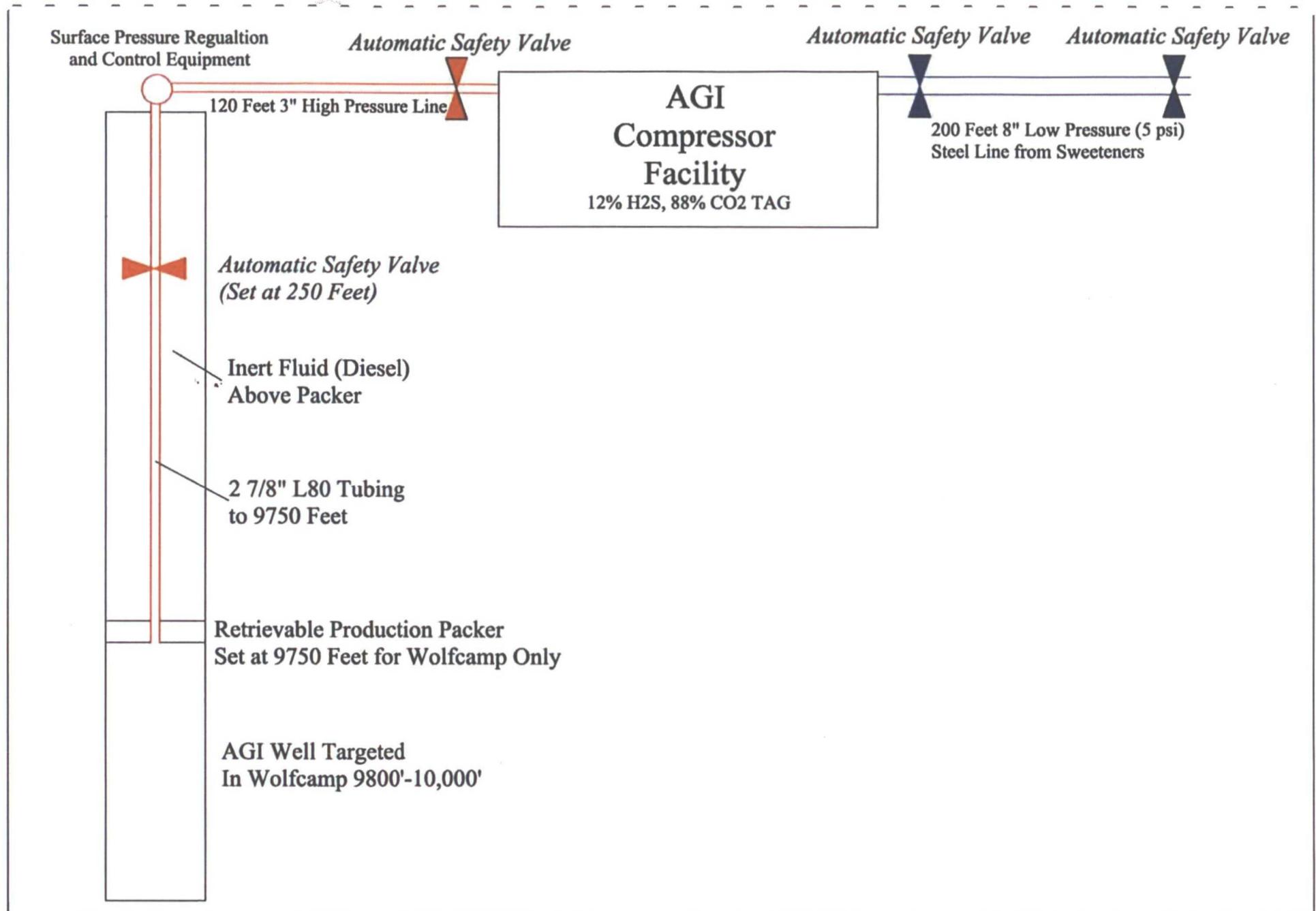


Figure 3: Schematic of Frontier Field Services, LLC Maljamar Gas Plant Acid Gas Injection System Components (Targeted Wolfcamp Completion)

Location: 130' FSL & 1831' FEL
STR: S22-T17S-R32E
County, St.: LEA COUNTY, NEW MEXICO

CONDUCTOR CASING:
13 3/8", 48.00#/ft, H40, STC at ~550'

SURFACE CASING:
8 5/8", 24.0 #/ft, J55, STC at ~4,200'

PRODUCTION CASING:
5 1/2", 15.5 #/ft, L80, STC at ~10,000'

ANNULAR FLUID:
Diesel Fuel from top of packer to surface

TUBING:
Subsurface Safety Valve at ~250 ft

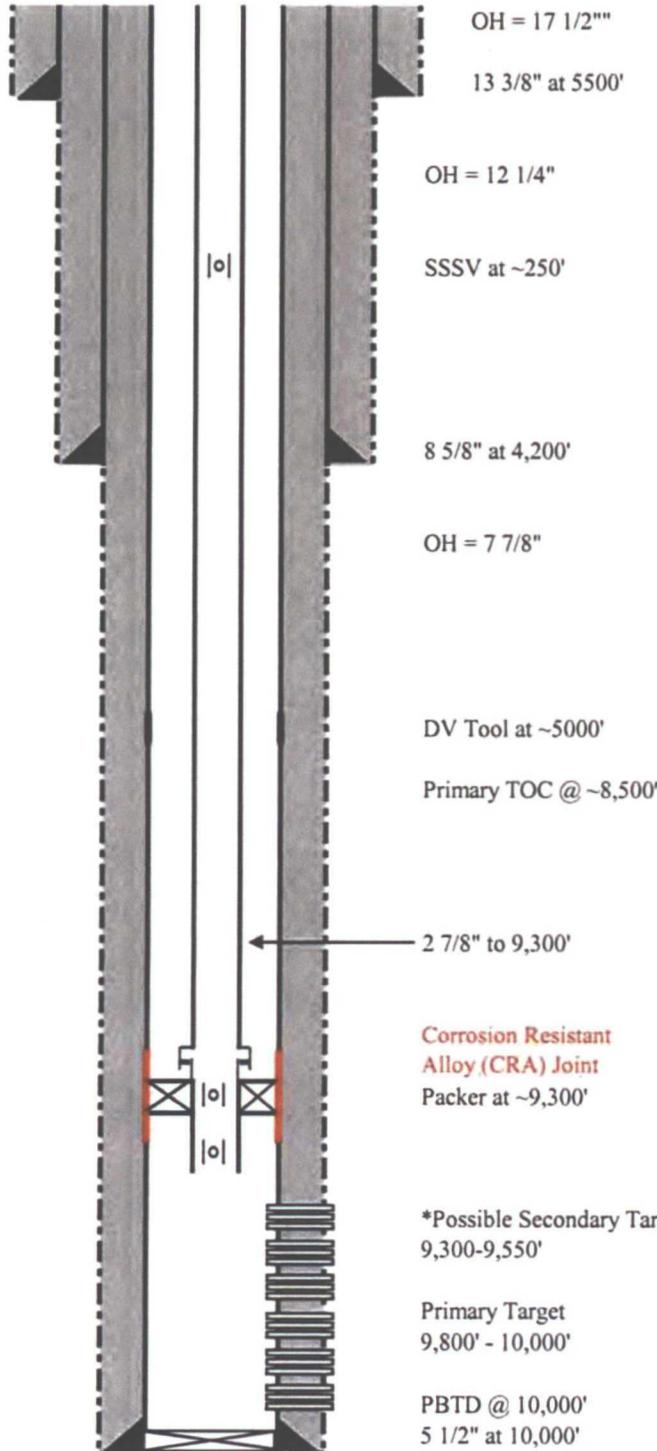
2 7/8", 6.5#/ft, L80, Premium thread at ~9,300'

PACKER:
Permanent Production Packer
Adj. Choke (if needed, placed in nipple below packer)
Check valve (if needed, placed in nipple below packer)

PERFORATIONS:

Primary Target	Secondary Target*
Lower Wolfcamp 9,800' - 10,000'	Lower Leonard #1 9,300' - 9,400'
	Lower Leonard #2 9,450' - 9,550'

* Depending on logging and coring results



TD: 10,000'

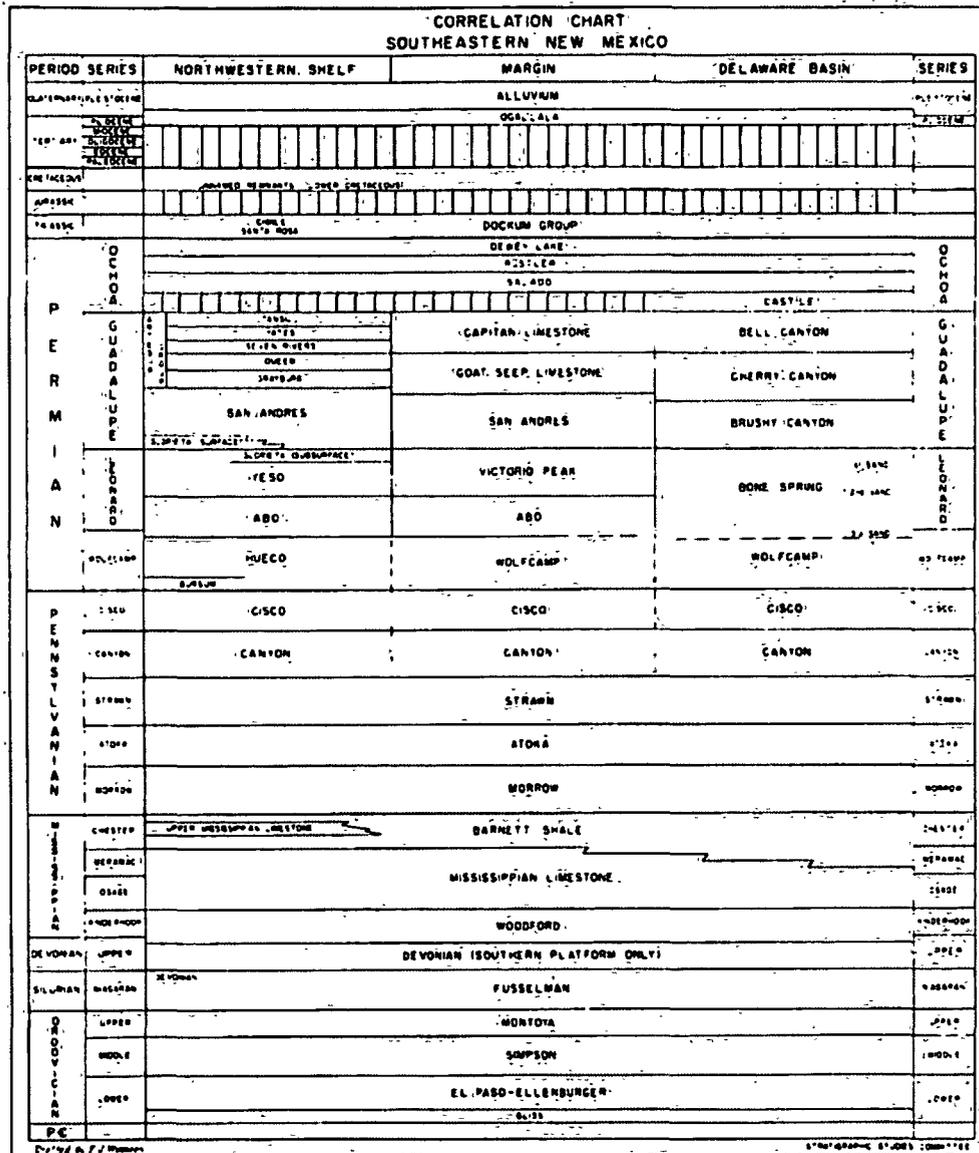


Figure 5: Generalized Stratigraphy for Permian Basin

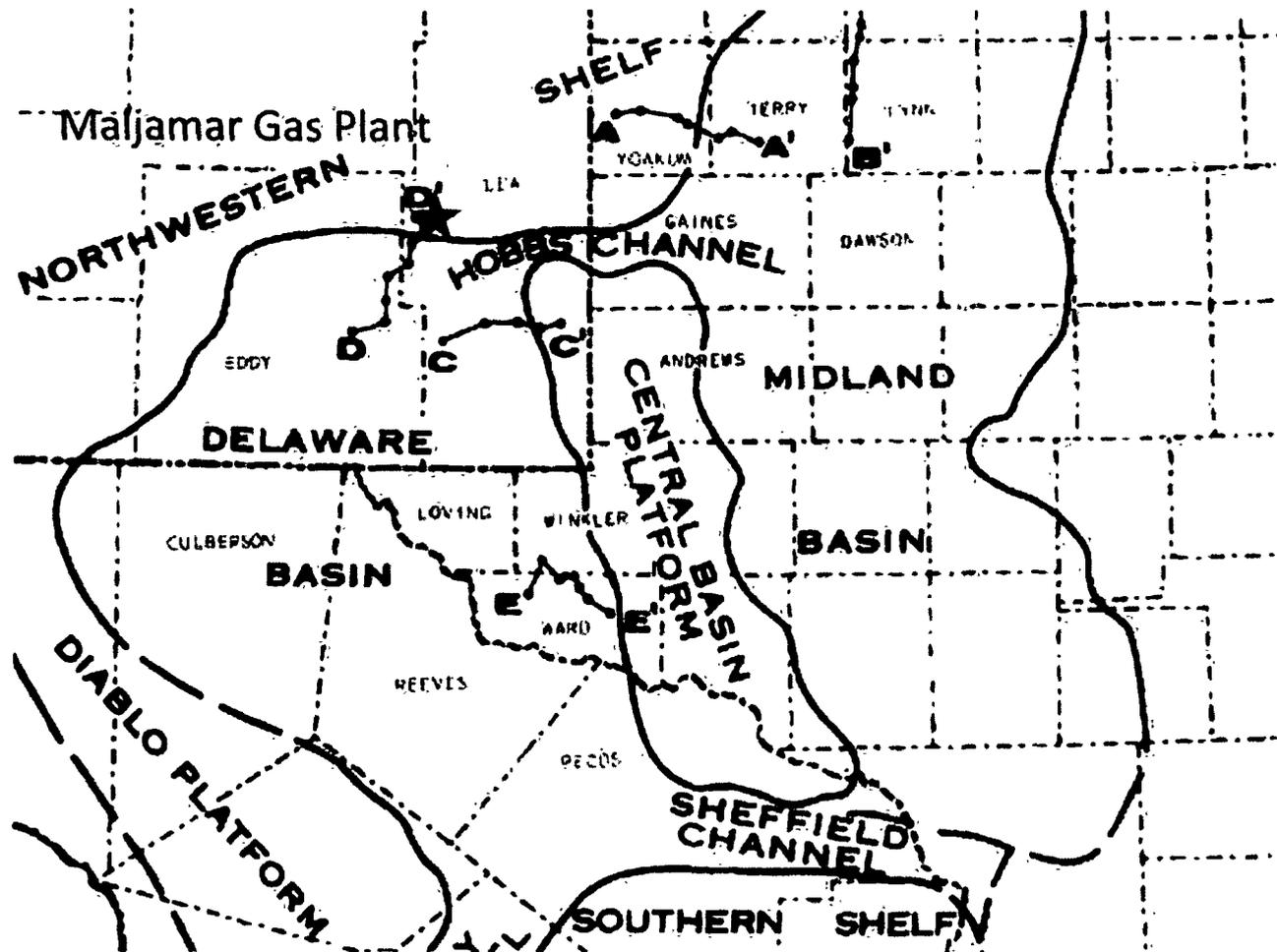


Figure 6: Structural Features of the Permian Basin

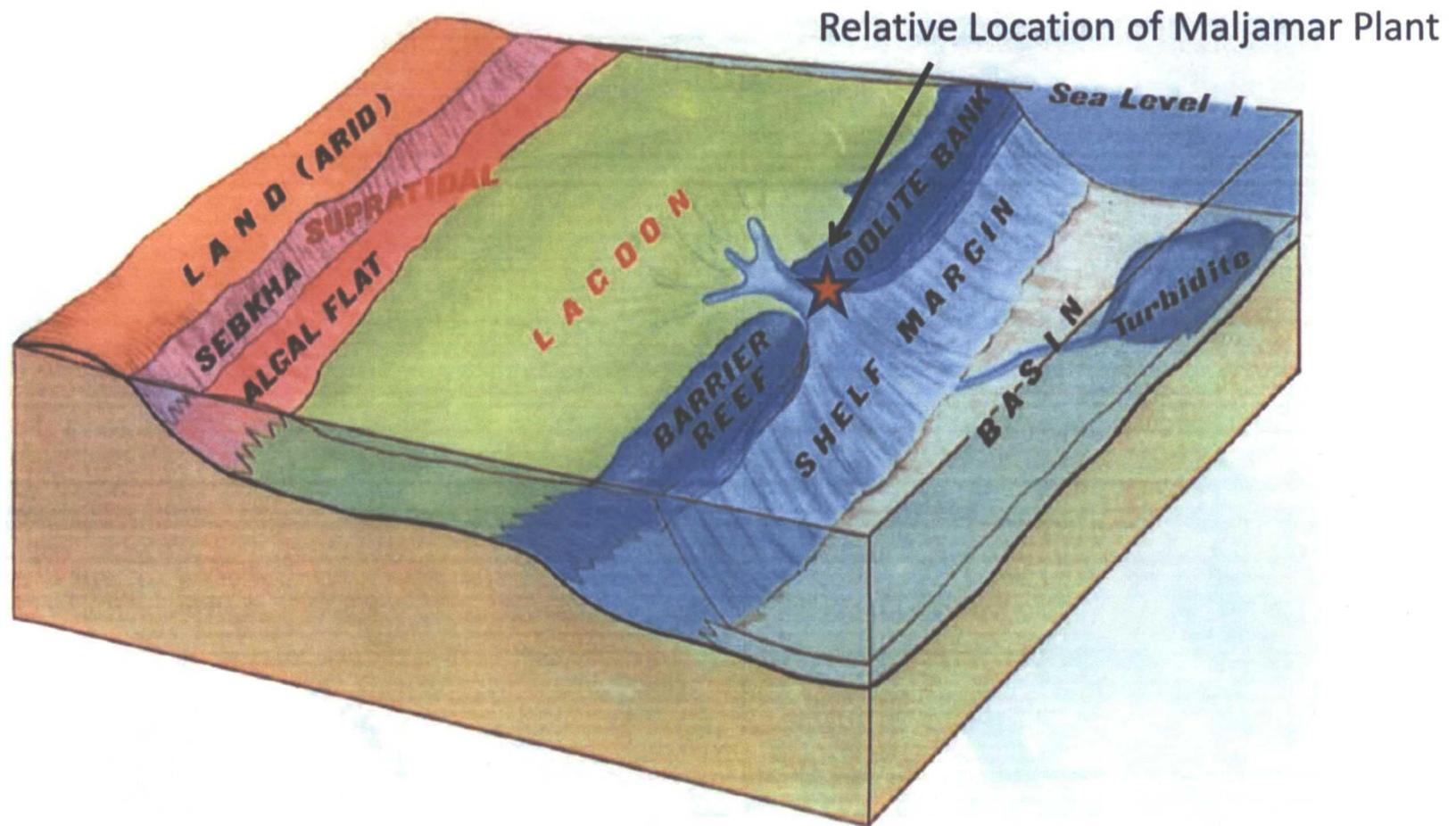


Figure 7: Location of Study Area Relative to Schematic Wolfcamp Depositional Environments

Note: Isolated detrital carbonated and reef mounds in general stratigraphic intervals of lower Leonard and Wolfcamp have limited areal extent and are confined by fine-grained deeper basin sediments.

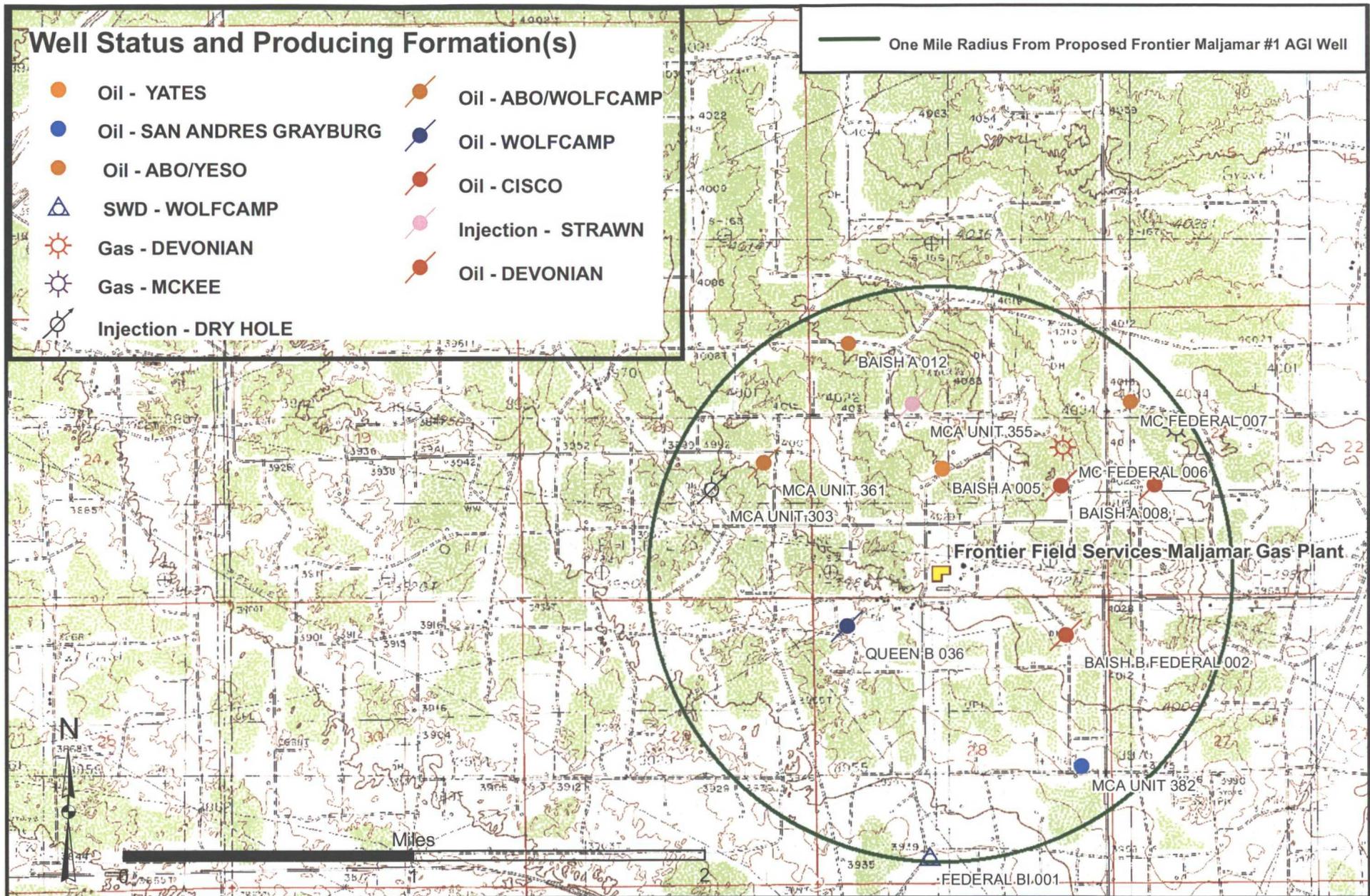


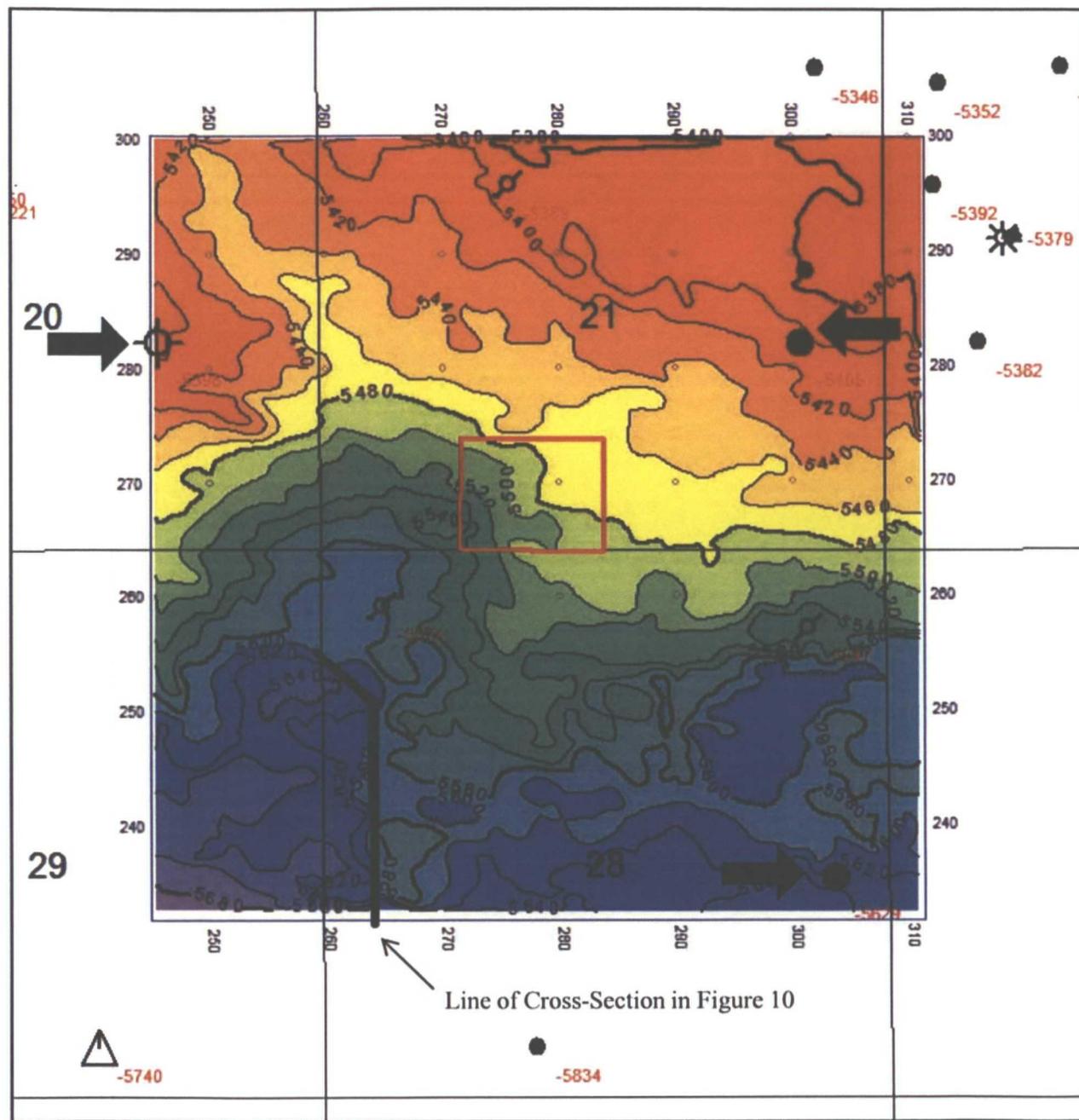
Figure 8: Deep Wells (>9,000 feet) Within Area of Review Around Frontier Field Services, LLC Maljamar Gas Plant

FIGURE 9: STRUCTURE ON TOP OF WOLFCAMP FROM 3-D SEISMIC INTERPRETATION

Elevation on top of Wolfcamp (C. I. = 20 ft).

The location of the Maljamar Plant is indicated by the red outline.

Location of control wells where synthetic seismic profiles were constructed are indicated with black arrows.



**FIGURE 10:
ENHANCED VERTICAL
SEISMIC SECTION**

Expanded scale, color-enhanced vertical section showing the locations of the three zones of interest (red and green arrows).

Yellow and red correspond to lower-amplitude events that, if sporadically developed along a given horizon, more likely indicate porosity development, as opposed to low-amplitude, persistent events (e.g., black arrow) which indicate shale beds.

Additionally, the presence of a strong, localized peak event directly beneath the low amplitude (porosity) events, as we particularly see under #1 and #3 (yellow dashed lines) shows strong density contrast between beds, which may also indicate development of significant porosity above.

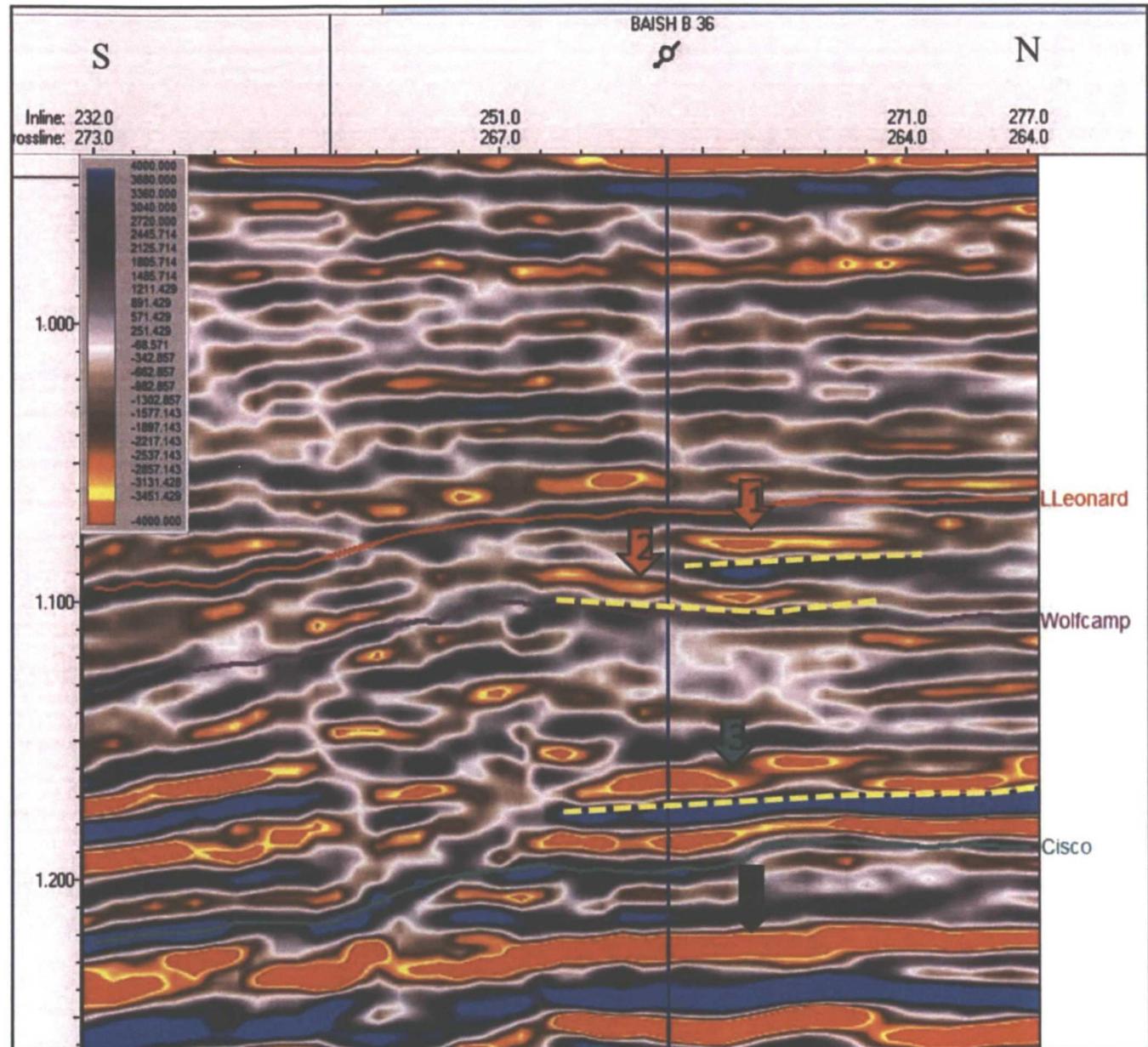


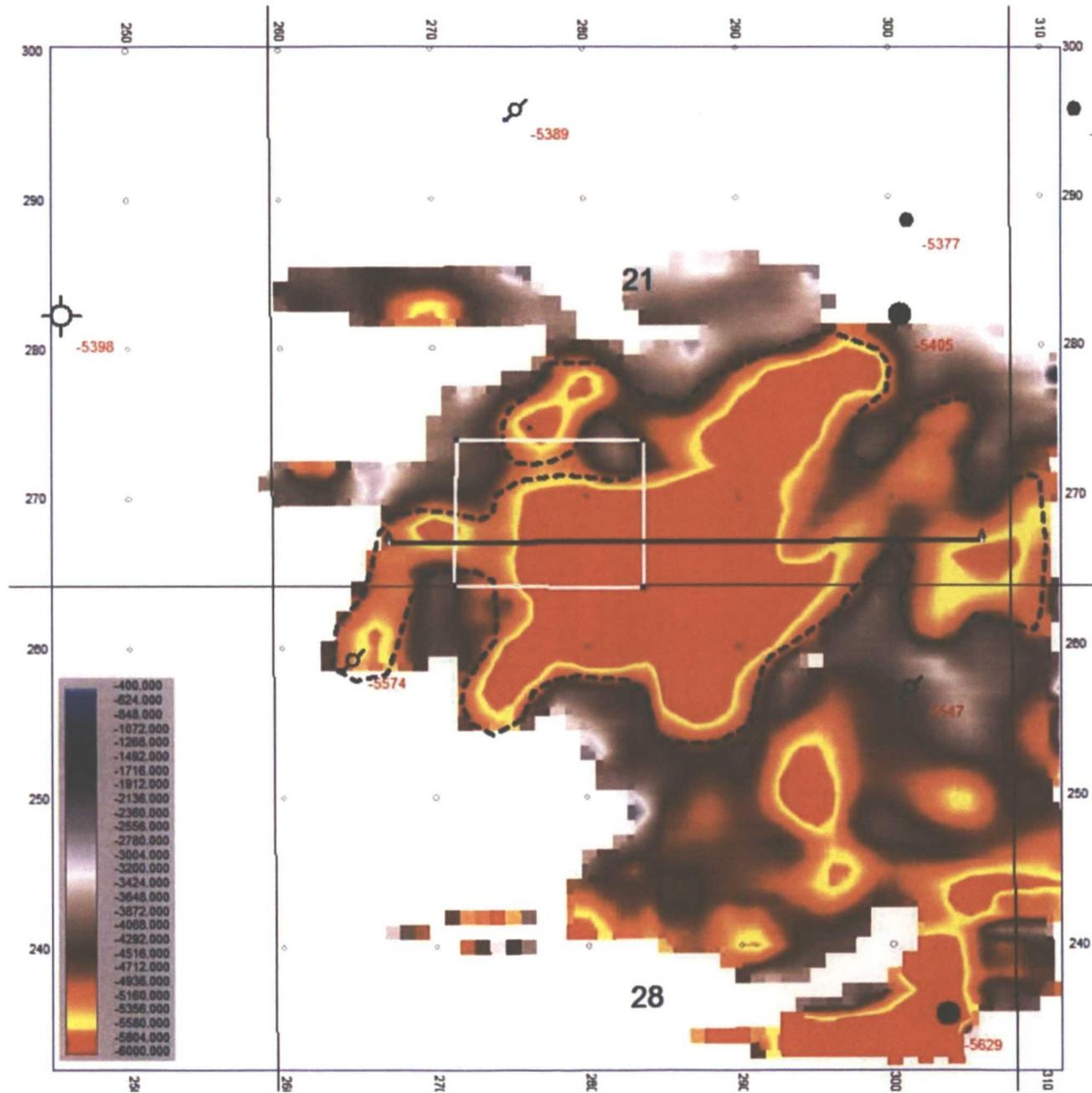
FIGURE 11: AREAL EXTENT OF LOWER WOLFCAMP (Proposed Primary Injection Zone)

Amplitude map along the lower Wolfcamp porosity zone horizon, approximately 410 feet below the top of the Wolfcamp. The black dashed outline shows a coherent porosity trend that is underlain by a sharply contrasted, high amplitude event, and it covers 189 acres. The limits of this map represent the limits of Zone 3, except for that portion that goes off-survey to the east.

This zone is not laterally connected to the wells to the south that inject saltwater into the Wolfcamp.

The geometry of this zone suggests a possible debris apron fed by a narrow channel on its northeast boundary.

A vertical seismic section, whose trace is shown in black, is presented in the next slide.



**FIGURE 12: CROSS-SECTION
SHOWING EXTENT OF
PROPOSED PRIMARY INJECTION
ZONE (LOWER WOLFCAMP)**

Vertical seismic section across the plant area (yellow bar), showing the lower Wolfcamp porosity zone (dashed black line).

Within this zone are pockets of higher porosity, noted where there is a sharper amplitude contrast between the zone and the underlying peak reflector (e.g., at red arrows). The warmer colors are thought to denote higher porosity.

The time thickness of this anomaly suggests an average porosity thickness of approximately 30 feet, with a maximum of 50 feet.

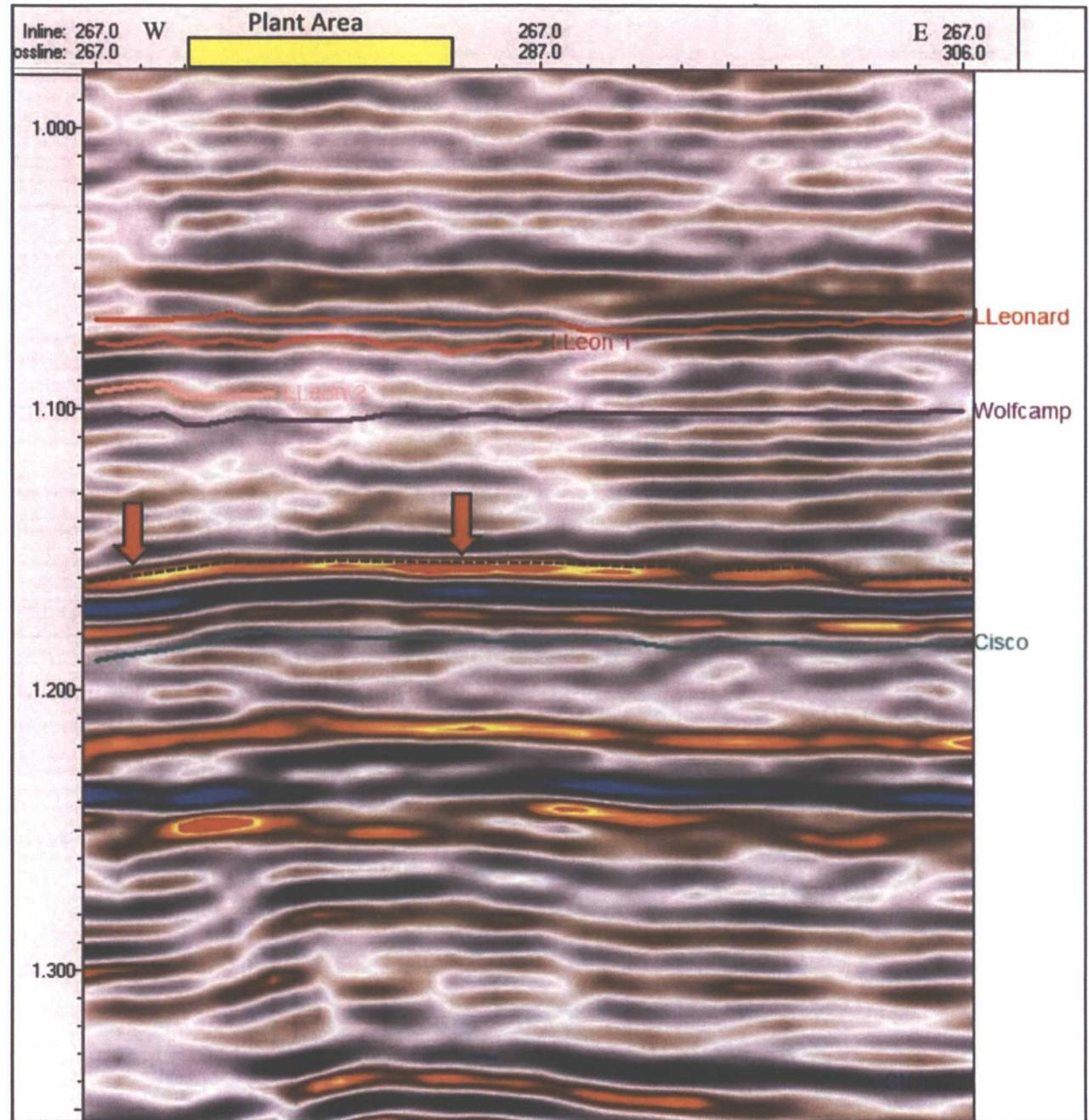


FIGURE 13: AREAL EXTENT OF SECONDARY INJECTION TARGET (LOWER LEONARD ZONE 1)

Amplitude map along the upper Lower Leonard porosity zone horizon, approximately 225 feet above the top of the Wolfcamp. The white outline shows the plant site. The black dashed outline shows a coherent porosity trend that is underlain by a sharply contrasted, high amplitude event, and it covers 64 acres.

The limits of this map represent the limits of Zone 1. The geometry of this zone suggests a possible debris apron or a lowstand carbonate mound.

A vertical seismic section, whose trace is shown in black, is presented in the next slide.

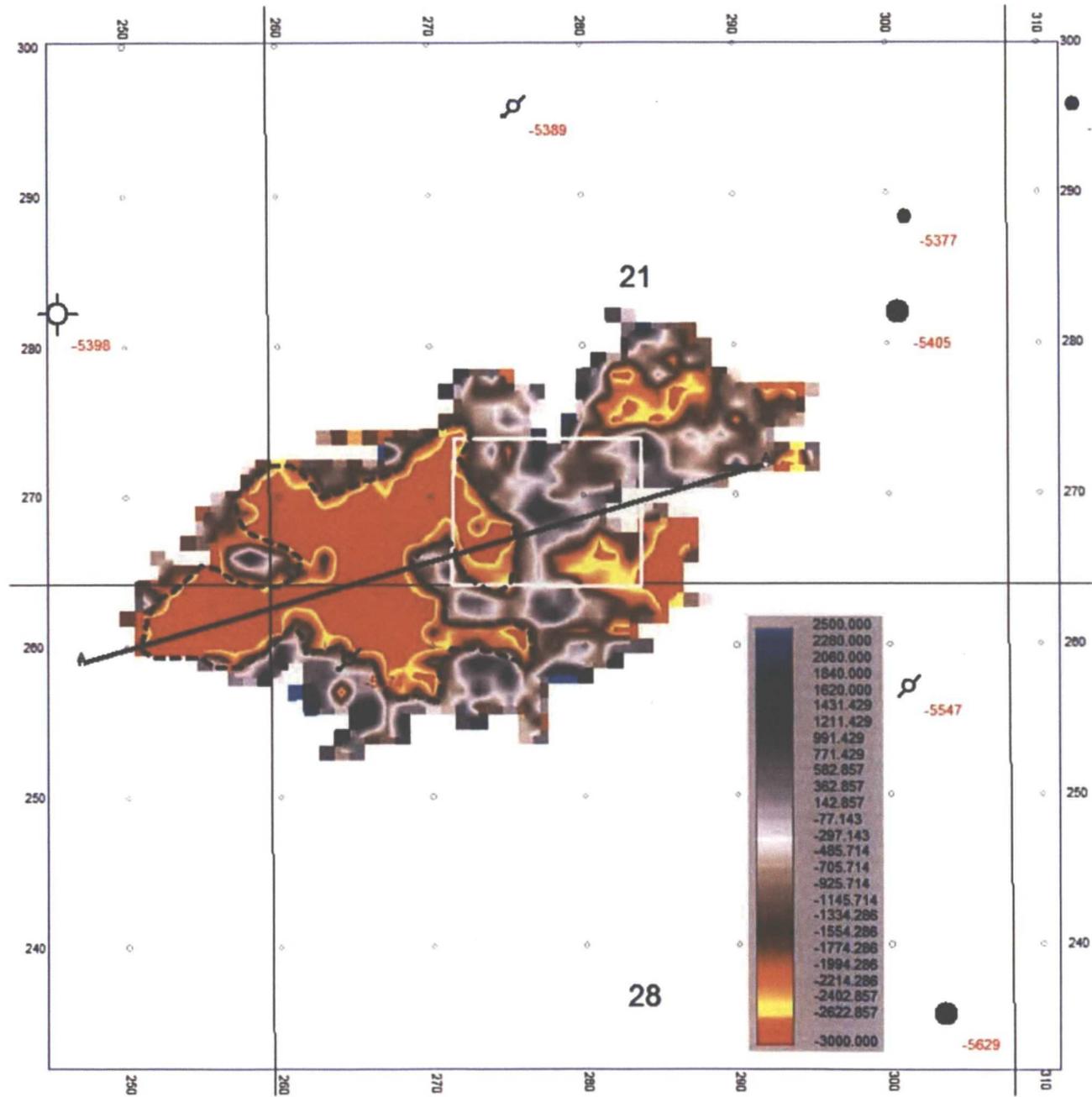


FIGURE 14: AREAL EXTENT OF SECONDARY INJECTION TARGET (LOWER LEONARD ZONE 2)

Amplitude map along the lower Lower Leonard porosity zone horizon, approximately 85 feet above the top of the Wolfcamp.

The white outline shows the plant site. The black dashed outline shows a coherent porosity trend that is underlain by a sharply contrasted, high amplitude event, and it covers 53 acres.

The limits of this map represent the limits of the contiguous portion of Zone 2. The geometry of this zone suggests a composite channelized debris flow. The porosity zone is cut off to the south by the fault that transects the Lower Leonard section.

A vertical seismic section, whose trace is shown in black, is presented in the next slide.

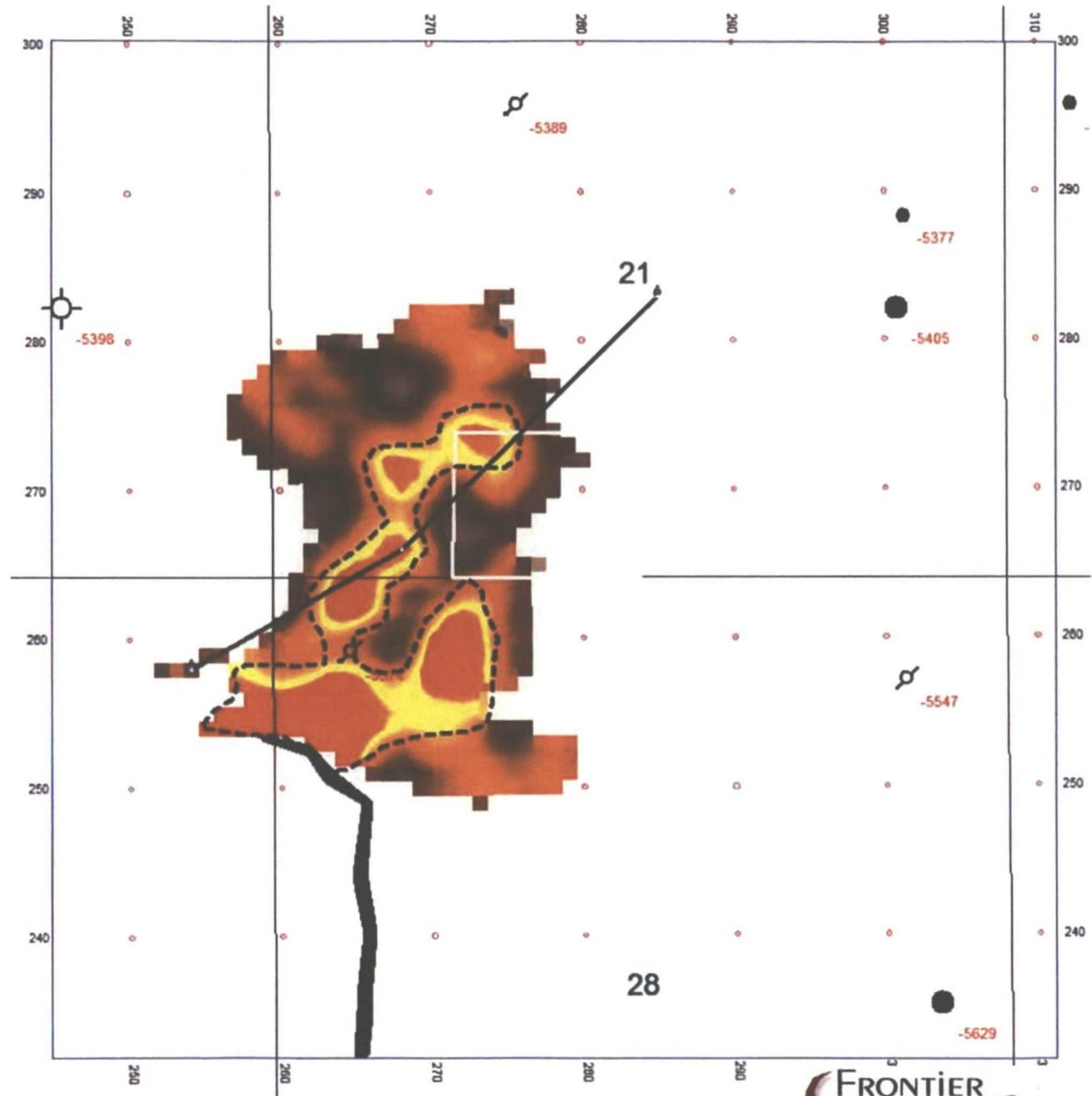


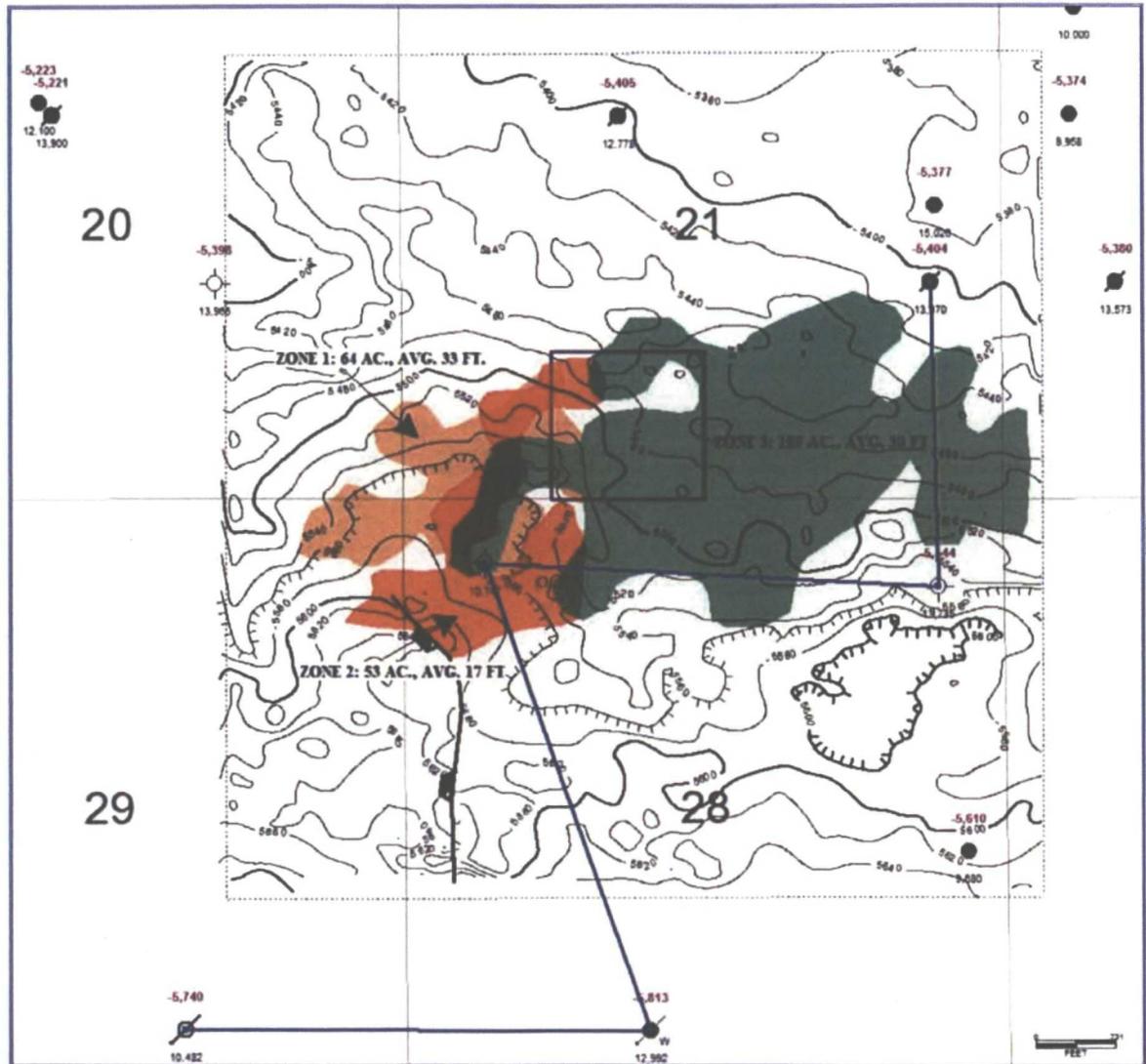
FIGURE 15: SUMMARY OF AREAL EXTENTS OF POTENTIAL AGI RESERVOIRS

Calculated properties are superimposed on the seismic depth map, top of Wolfcamp.

Lower Leonard Zone 1: 64 Acres, average net porosity 33 feet. Capacity 9 million barrels of TAG

Lower Leonard Zone 2: 53 Acres, average net porosity 17 feet. Capacity 3.8 million barrels of TAG

Lower Wolfcamp: 189 Acres, average net porosity 30 feet. Capacity 24.2 million barrels of TAG



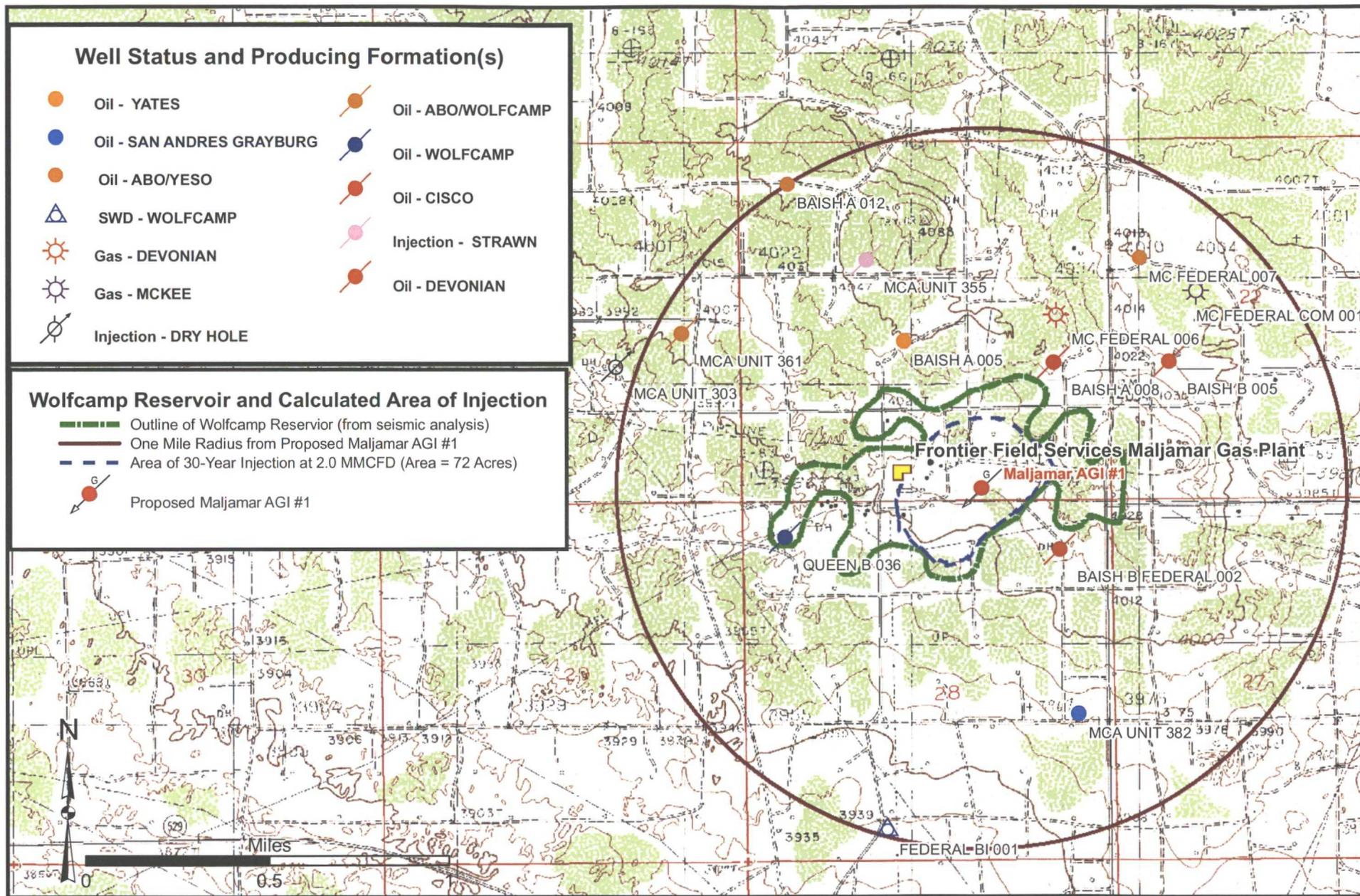


Figure 16: Calculated Area of Injection for 30 Years at 2.0 MMSCFD

APPENDIX A

A-1 Wolfcamp Formation Fluid Analyses and Analyses of Frontier Maljamar Gas Plant TAG

Table A-1. Wolfcamp Formation Fluid Analyses

Parameter	Wolfcamp Formation	
	Baish A - 5/1/81 mg/L	Baish B - 5/1/81 mg/L
Ca ²⁺	972	680
Mg ²⁺	2360	2000
Na ⁺ (calc.)	57,298	34,704
CO ₃ ²⁻	0	0
HCO ₃ ²⁻	1220	481
SO ₄ ²⁻	4400	3900
Cl ⁻	50,000	33,000
H ₂ S	strong	strong
Iron (free)	11	14
pH	7.6	7.4
SG		
O ₂ (free)		
CaCO ₃ S.I.	1.4	0.9
CaSO ₄ S.I.	neg	neg

Data from SWD C-108 application for API # 30-025-00751, NMOCD files

LOCATION

FIELD 1127 10/28

WATER ANALYSIS

	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
(Ca ⁺⁺)						
(Mg ⁺⁺)	972		1080		1507	124
(Na ⁺) Calc.	2360		2000		1723	86
(Na ⁺) Calc.	52297		34704		20655	898
(CO ₃ ⁻)	0		0		0	
(HCO ₃ ⁻)	1220		481		915	15
(SO ₄ ⁻)	4100		3900		1050	21.8
(Cl ⁻)	5000		33000		38000	1071
H ₂ S	SI 2006		STR		1190	693
IRON (Free)	11		14		3.8	
PH (25°F)	7.6		7.4		6.25	
Sp. Gr. @ 25°F					1.04	
O ₂ (Free)	5				9.3	
CaCO ₃ S.I.	1.4		.7		-1.6	
CaSO ₄ S.I.	neg		neg		-1.9	
BY... DATED	Champion S-1-81		Champion S-1-81		CRD	10-19-81
	Baik A		Baik B		MCA	BIT 2

WOLF CAMP WATER
SAMPLE - ZONE
TO BE DISPOSED
INTO

MCA UNIT (G-5A)
WATER TO BE
INJECTED

MANLEY GAS TESTING, INC.

P.O. DRAWER 193
OFFICE(432)367-3024

FAX(432)367-1166

ODESSA, TEXAS 79760
E-MAIL: MANLEYGAST@AOL.COM

CHARGE..... 150 - 0
REC. NO. 14
TEST NUMBER.. 9693

DATE SAMPLED..... 01-24-11
DATE RUN..... 02-02-11
EFFEC. DATE..... 02-01-11

STATION NO. ... 06311001

PRODUCER FRONTIER FIELD SERVICES

SAMPLE NAME.... ACID GAS FLARE TYPE: SPOT

RECEIVED FROM.. FRONTIER FIELD SERVICES LLC - MALJAMAR

FLOWING PRESSURE 14.1 PSIA FLOWING TEMPERATURE 87 F

SAMPLED BY: BM CYLINDER NO. ... 037

FRACTIONAL ANALYSIS
CALCULATED @ 14.650 PSIA AND 60F

	MOL%	GPM (REAL)	
HYDROGEN SULFIDE...	11.500		
NITROGEN.....	0.573		
CARBON DIOXIDE.....	85.850		
METHANE.....	1.602		
ETHANE.....	0.296	0.079	H2S PPMV = 115000
PROPANE.....	0.105	0.029	
ISO-BUTANE.....	0.007	0.002	
NOR-BUTANE.....	0.026	0.008	
ISO-PENTANE.....	0.005	0.002	'Z' FACTOR (DRY) = 0.9940
NOR-PENTANE.....	0.007	0.003	'Z' FACTOR (WET) = 0.9936
HEXANES +.....	0.029	0.013	
TOTALS	100.000	0.136	CALC. MOL. WT. = 42.30

..CALCULATED SPECIFIC GRAVITIES..

REAL, DRY 1.4690

REAL, WET 1.4549

..CALCULATED GROSS HEATING VALUES..

BTU/CF - REAL, DRY 27

BTU/CF - REAL, WET 27

DISTRIBUTION AND REMARKS:

ENTERED

ANALYZED BY: JT
** R **

APPROVED:

APPENDIX B

Table and Map of Water Wells within One Mile Area of Review and Groundwater Analyses

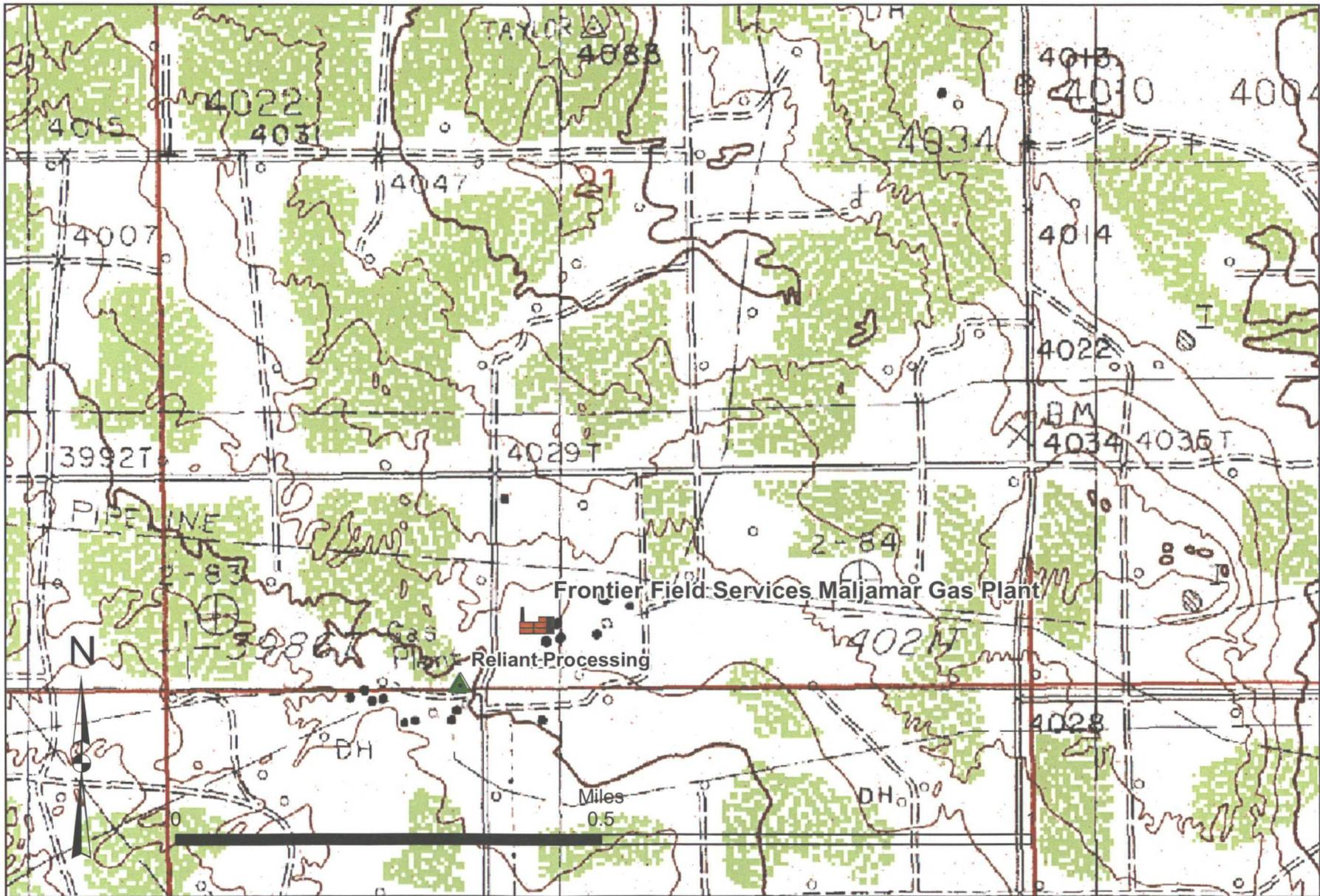


Figure B-1: Location of Known Water Wells Within One Mile of Frontier Field Services, LLC Gas Plant

Table B-1. Water Wells Within a One Mile Radius of Proposed AGI Well

WR File Nbr (POD Number)	Subbasin	Use	Diversion	Owner	County	Source	Depth (feet)	q16	q4	Sec	Tws	Rng	X*	Y*	Distance (miles)
RA 10175		SAN	3	RELIANT PROCESSING FLO CO2	LEA	Shallow	158	2	1	28	17S	32E	614814	3631005	0.1162

*UTM location was derived from PLSS - see Help



New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

POD Number	Q64 Q16 Q4 Sec TwS Rng	X	Y
RA 10175	2 1 28 17S 32E	614814	3631005*

x
Driller License: EADES, ALAN G.
Driller Name: EADES, ALAN

Drill Start Date: 02/04/2002	Drill Finish Date: 02/04/2002	Plug Date:
Log File Date: 03/06/2002	PCW Rcv Date:	Source: Shallow
Pump Type:	Pipe Discharge Size:	Estimated Yield:
Casing Size: 5.75	Depth Well: 158 feet	Depth Water:

x

Water Bearing Stratifications:	Top	Bottom	Description
	87	89	Shallow Alluvium/Basin Fill
	89	116	Shallow Alluvium/Basin Fill
	116	124	Shallow Alluvium/Basin Fill

x

Casing Perforations:	Top	Bottom
	118	158

x

Meter Number: 5380	Meter Make: SENSUS
Meter Serial Number: 560656282	Meter Multiplier: 10.0000
Number of Dials: 6	Meter Type: Diversion
Unit of Measure: Gallons	Return Flow Percent:
Usage Multiplier:	Reading Frequency: Annual

x
Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount
03/20/2002	2002	0	A	RPT		0
05/06/2002	2002	170	A	RPT		0.005
02/13/2003	2002	2410	A	PRT		0.069
02/01/2005	2004	3420	A	ch		0.031

x

**YTD Meter Amounts:	Year	Amount
	2002	0.074
	2004	0.031

x
*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data

GROUND-WATER REPORT 6

Geology and Ground-Water Conditions in Southern Lea County, New Mexico

by *ALEXANDER NICHOLSON, Jr.*
and *ALFRED CLEBSCH, JR.*

UNITED STATES GEOLOGICAL SURVEY

Prepared in cooperation with the
New Mexico Institute of Mining and Technology,
State Bureau of Mines and Mineral Resources Division
and the New Mexico State Engineer

1961

STATE BUREAU OF MINES AND MINERAL RESOURCES
NEW MEXICO INSTITUTE OF MINING & TECHNOLOGY
CAMPUS STATION SOCORRO, NEW MEXICO

TABLE 8. CHEMICAL ANALYSES OF WATER FROM WELLS IN SOUTHERN LEA COUNTY, N. MEX.
(Analyses by U.S. Geological Survey except as noted; chemical constituents in parts per million and equivalents per million [underlined].)

Sample	Location number*	Date of collection	Geologic source†	Depth (ft)	Silica (SiO ₂)	Calcium (Ca)	Magnesium (Mg)	Sodium plus potassium (Na+K)	Bicarbonate (HCO ₃)	Carbonate (CO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Fluoride (F)	Nitrate (NO ₃)	Dissolved solids (sum)	Hardness as CaCO ₃ Calcium Magnesium	Percent sodium	Specific conductance (micro-mhos at 25°C)	pH
1	17.32.5.140	7-21-54	To	—	—	—	—	34	194	0	25	17	—	—	—	156	35	419	—
							<u>2.72</u>	<u>1.46</u>	<u>5.18</u>		<u>.52</u>	<u>.48</u>							
2	17.33.18.322	7-19-54	To	220	—	—	—	27	177	0	40	23	—	—	—	160	27	442	—
							<u>9.20</u>	<u>1.18</u>	<u>2.90</u>		<u>.83</u>	<u>.65</u>							
3	19.32.8.200	12-9-58	Tr	—	19	10	13	131	306	0	74	21	1.2	6.4	426	80	78	682	8.0
						<u>.50</u>	<u>1.10</u>	<u>5.71</u>	<u>5.02</u>		<u>1.54</u>	<u>.59</u>	<u>.06</u>	<u>.10</u>					
4	19.34.9.114	12-9-58	Tr(?)	33	41	430	65	675	189	0	1,680	560	3	159	3,680	1,340	52	4,660	7.1
						<u>21.46</u>	<u>5.34</u>	<u>29.33</u>	<u>3.10</u>		<u>34.98</u>	<u>15.79</u>	<u>.02</u>	<u>2.24</u>					
5	19.36.35.123	4-9-58	To	45	—	—	—	—	—	—	212	31	—	—	—	—	—	562	—
											<u>4.41</u>	<u>.87</u>							
6	19.36.32.110	11-20-29	To	32	—	84	—	158	261	0	225	79	—	6.8	668	222	—	—	—
							<u>4.44</u>	<u>6.86</u>	<u>4.28</u>		<u>4.68</u>	<u>2.23</u>		<u>.11</u>					
7	19.37.4.110	9-19-29	To	29	—	68	—	71	307	0	54	32	—	—	383	198	—	—	—
							<u>5.96</u>	<u>3.09</u>	<u>5.03</u>		<u>1.12</u>	<u>.90</u>							
8	19.37.29.344a	7-15-54	Qal	30±	—	—	—	52	296	0	62	91	—	—	—	322	26	865	—
							<u>6.44</u>	<u>2.27</u>	<u>4.85</u>		<u>1.29</u>	<u>2.57</u>							
9	do.	9-9-58	Qal	30±	—	—	—	—	215	0	54	73	—	—	—	252	—	678	7.6
							<u>5.04</u>		<u>3.52</u>		<u>1.12</u>	<u>2.06</u>							
10	20.36.15.421	3-30-54	Qal	50	—	—	—	—	304	0	1,840	1,080	—	—	—	—	—	6,780	—
									<u>4.98</u>		<u>38.30</u>	<u>30.46</u>							
11	20.36.15.421	9-9-58	Qal	50	—	—	—	—	292	0	2,250	1,240	—	—	—	1,720	—	7,500	7.4
						<u>34.40</u>			<u>4.79</u>		<u>46.84</u>	<u>34.97</u>							
12	20.37.4.111	4-2-54	Qal	40	—	—	—	—	423	0	67	450	—	—	—	—	—	2,180	—
									<u>6.93</u>		<u>1.39</u>	<u>12.69</u>							
13	20.37.4.111	4-22-55	Qal	40	—	—	—	—	438	0	78	425	—	—	—	670	—	2,090	7.2
						<u>13.40</u>			<u>7.18</u>		<u>1.62</u>	<u>11.99</u>							
14	20.37.4.111	9-9-58	Qal	40	—	—	—	—	318	0	108	425	—	—	—	460	—	1,670	7.3
						<u>9.20</u>			<u>5.21</u>		<u>2.25</u>	<u>9.16</u>							

15	20.37.4.221	4-22-55	Qal	45	—	—	—	—	269	0	90	51	—	—	—	278	—	758	8.1
							<u>5.56</u>		<u>4.41</u>		<u>1.87</u>	<u>1.44</u>							
16	20.37.4.221	9-9-58	Qal	45	—	—	—	—	255	0	87	47	—	—	—	246	—	708	8.0
							<u>4.92</u>		<u>4.18</u>		<u>1.69</u>	<u>1.33</u>							
17	20.38.19.320	4-2-54	Qal	115	—	—	—	—	227	0	—	39	—	—	—	—	—	627	—
									<u>3.72</u>			<u>1.10</u>							
18	20.38.19.320	9-9-58	Qal	115	—	—	—	—	104	0	23	49	—	—	—	68	—	376	8.1
							<u>1.56</u>		<u>1.70</u>		<u>.46</u>	<u>1.38</u>							
19	21.33.2.231	9-4-58	Tr	1,150	—	—	—	—	336	0	95	20	—	—	—	22	—	778	8.0
							<u>.44</u>		<u>5.51</u>		<u>1.98</u>	<u>.56</u>							
20	21.33.2.422	6-28-54	To	120	—	—	—	—	116	0	17	1,020	—	—	—	—	—	3,570	—
									<u>1.90</u>		<u>.35</u>	<u>28.77</u>							
21	21.33.2.422	4-22-55	To	120	—	—	—	2.5	115	0	20	1,170	—	13	—	1,770	0.3	3,730	7.3
						<u>35.40</u>		<u>.11</u>	<u>1.88</u>		<u>.42</u>	<u>33.00</u>		<u>.21</u>					
22	21.33.2.422	9-4-58	To	120	—	—	—	—	109	0	43	1,640	—	—	—	2,400	—	5,070	7.1
						<u>48.00</u>			<u>1.79</u>		<u>.90</u>	<u>46.25</u>							
23	21.33.2.442b	4-22-55	To	—	—	—	—	—	345	0	15	12	—	—	—	304	—	600	7.4
							<u>6.08</u>		<u>5.65</u>		<u>.31</u>	<u>.34</u>							
24	21.33.2.442b	9-4-58	To	—	—	—	—	—	354	0	18	7.0	—	—	—	306	—	629	7.5
							<u>6.12</u>		<u>5.80</u>		<u>.37</u>	<u>.20</u>							
25	21.35.27.321a	12-8-58	To	—	—	—	—	—	301	0	170	44	—	—	—	204	—	995	8.0
							<u>4.08</u>		<u>4.93</u>		<u>3.54</u>	<u>1.24</u>							
26	21.36.9.222	7-27-54	Tr	447	—	17	7.8	280	434	0	216	65	4.4	0.1	803	74	89	1,290	—
						<u>.85</u>	<u>.64</u>	<u>12.18</u>	<u>7.11</u>		<u>4.50</u>	<u>1.83</u>	<u>.23</u>	<u>.00</u>					
27	21.36.9.222	9-8-58	Tr	447	—	—	—	—	425	0	213	64	—	—	—	73	—	1,270	8.1
						<u>1.46</u>			<u>6.97</u>		<u>4.43</u>	<u>1.80</u>							
28	21.37.33.110	7-18-42	To	130	73	45	25	96	182	25	108	68	3.5	10	543	216	—	799	—
						<u>2.25</u>	<u>2.06</u>	<u>4.07</u>	<u>2.98</u>	<u>.83</u>	<u>2.25</u>	<u>1.82</u>	<u>.18</u>	<u>.16</u>					
29	21.37.33.111	9-9-58	To	110?	—	—	—	—	240	0	108	61	—	—	—	186	—	785	7.7
						<u>3.72</u>			<u>3.93</u>		<u>2.25</u>	<u>1.72</u>							
30	21.37.33.210	8-1-42	Tr	350	16	50	31	563	360	0	855	208	1.8	.5	1,000	950	—	2,850	—

APPENDIX C

Active Oil and Gas Well Data

Permanently Plugged Oil and Gas Well Data

CD copy of NMOCD Files for Wells Penetrating the Wolfcamp

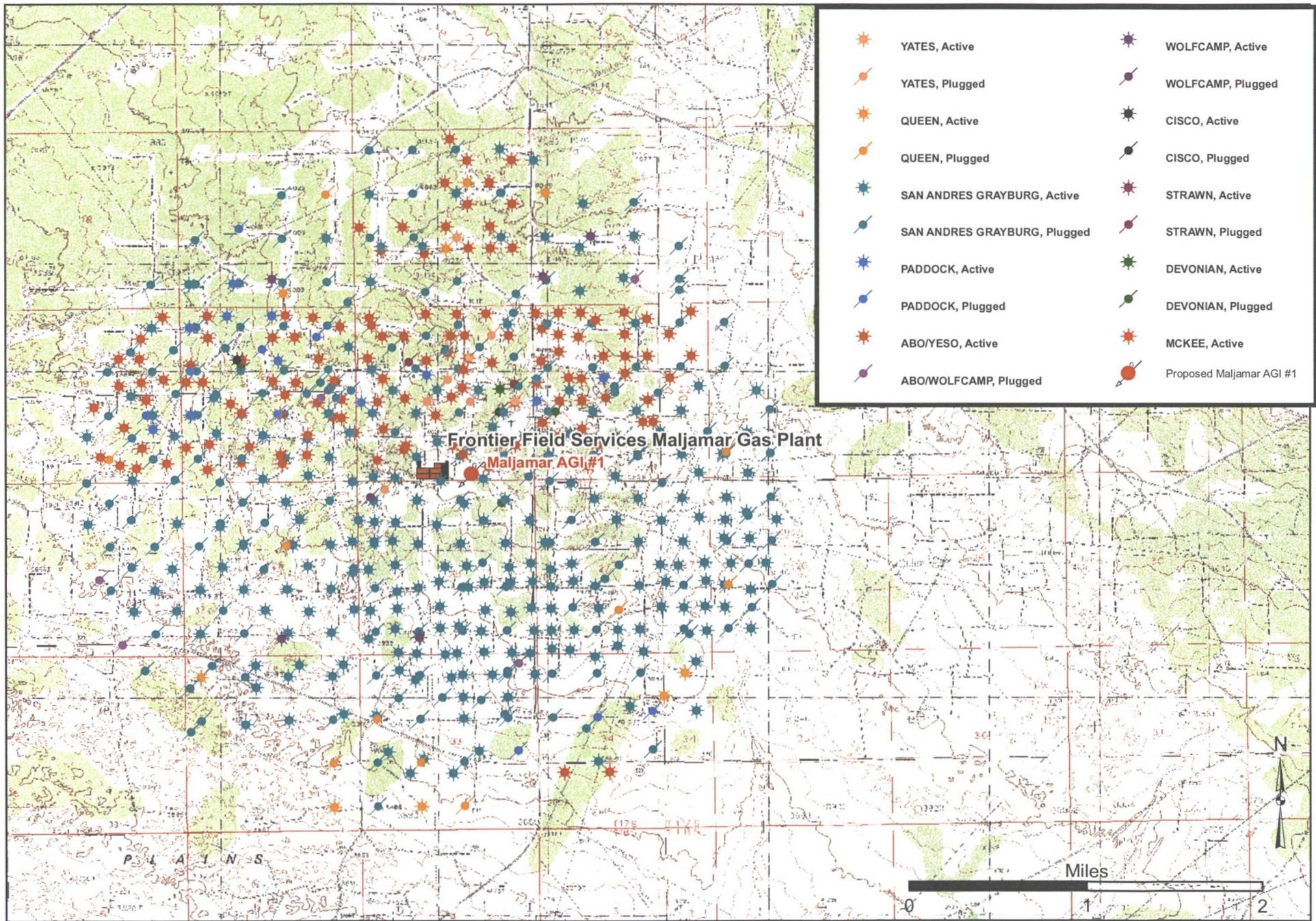


Figure C-1: Wells Within Two Miles of Proposed Maljamar AGI #1 Well

Table C-1: Wells Within Two Miles of Frontier Field Services, LLC Proposed AGI Well

API	OPERATOR	PLUG DATE	RANGE	SDIV_UL	SECTION	SPUD DATE	TOWNSHIP	TVD_DEPTH	WELL_NAME	WELL_TYPE	COMPL STATUS	LATITUDE	LONGITUDE	UTMN	UTME	MilesFromTarget
3002512769	CONOCOPHILLIPS COMPANY		32E	B	28	17 05		4119	MCA UNIT 116	O	Active	32 81262208	-103 7712399	3631182 996	615031 334	0 06
3002500734	CONOCOPHILLIPS COMPANY		32E	C	28	17 05		4086	MCA UNIT 115	O	Active	32 81102022	-103 7735838	3631002 854	614813 954	0 12
3002500737	CONOCO INC	1/2/1900	32E	B	28	17 05		3834	MCA UNIT 117	O	Plugged	32 81100977	-103 7693407	3631006 257	615211 222	0 17
3002530337	CONOCOPHILLIPS COMPANY		32E	B	28	17 05		4110	MCA UNIT 380	I	Active	32 81071703	-103 7689936	3630974 235	615244 095	0 20
3002500609	CONOCOPHILLIPS COMPANY		32E	N	21	17 05		4082	MCA UNIT 092	O	Active	32 81464839	-103 7735891	3631405 094	614808 791	0 20
3002523569	CONOCOPHILLIPS COMPANY		32E	F	28	17 05		4110	MCA UNIT 260	O	Active	32 80895393	-103 77171566	3630775 801	614991 523	0 22
3002520522	CONOCOPHILLIPS COMPANY		32E	N	21	17 05		4100	MCA UNIT 234	O	Active	32 81290857	-103 7757288	3631209 883	614610 707	0 22
3002500617	CONTINENTAL OIL	1/2/1900	32E	O	21	17 05		4080	MCA UNIT 091	O	Plugged	32 81463744	-103 7693487	3631408 494	615205 799	0 23
3002523433	CONOCOPHILLIPS COMPANY		32E	N	21	17 05		4250	MCA UNIT 251	O	Active	32 81585251	-103 7715631	3631540 794	614996 913	0 26
3002539108	COG OPERATING LLC		32E	N	21	10/9/2009	17 05	7197	MC FEDERAL 037	O	Active	32 81522882	-103 7748329	3631468 095	614691 601	0 27
3002500750	KEWANEEO OIL CO	1/2/1900	32E	D	28	17 05		2494	BAISH B 033	O	Plugged	32 81193563	-103 776823	3631100 83	614509 515	0 28
3002534973	COG OPERATING LLC		32E	N	21	9/24/2000	17 05	6908	MC FEDERAL 005	O	Active	32 81555822	-103 7746698	3631504 791	614706 447	0 29
3002524196	CONOCOPHILLIPS COMPANY		32E	A	28	17 05		4200	MCA UNIT 318	O	Active	32 81274888	-103 7671033	3631201 563	615418 445	0 29
3002520496	CONOCOPHILLIPS COMPANY		32E	F	28	17 05		4182	MCA UNIT 235	O	Active	32 80919794	-103 7757272	3630798 503	614616 108	0 29
3002524267	CONOCOPHILLIPS COMPANY		32E	O	21	10/14/1972	17 05	4200	MCA UNIT 328	O	Active	32 81543176	-103 7682712	3631497 733	615305 639	0 32
3002539168	COG OPERATING LLC		32E	P	21	7/25/2009	17 05	7120	J C FEDERAL 030	O	Active	32 81372321	-103 7665665	3631310 171	615467 441	0 34
3002500736	CONOCOPHILLIPS COMPANY		32E	F	28	17 05		4128	MCA UNIT 152	I	Active	32 80739205	-103 77359205	3630600 617	614819 322	0 34
3002539059	COG OPERATING LLC		32E	O	21	5/25/2009	17 05	7017	J C FEDERAL 025	O	Active	32 81581657	-103 7682712	3631540 395	615305 067	0 34
3002523731	CONOCOPHILLIPS COMPANY		32E	A	28	3/18/1971	17 05	4190	MCA UNIT 274	O	Active	32 80925814	-103 7670979	3630814 56	615423 464	0 35
3002500608	CONOCOPHILLIPS COMPANY		32E	M	21	17 05		4104	MCA UNIT 093	O	Active	32 81301037	-103 7779039	3631218 813	614406 941	0 35
3002500733	CONOCOPHILLIPS COMPANY		32E	D	28	9/8/1939	17 05	4071	MCA UNIT 114	O	Active	32 81103136	-103 7779004	3630999 41	614409 805	0 35
3002539163	COG OPERATING LLC		32E	M	21	2/14/2009	17 05	7015	MC FEDERAL 036	O	Active	32 81439736	-103 7774972	3631373 025	614443 238	0 36
3002500739	CONOCOPHILLIPS COMPANY		32E	G	28	17 05		3806	MCA UNIT 151	O	Active	32 807 3811	-103 7693351	3630604 017	615216 428	0 36
3002500751	CONOCOPHILLIPS COMPANY	9/17/2004	32E	D	28	9/20/1948	17 05	10005	QUEEN B 036	O	Plugged	32 81132361	-103 7782476	3631031 435	614376 924	0 37
3002539001	COG OPERATING LLC		32E	O	21	7/9/2009	17 05	7138	MC FEDERAL 033	O	Active	32 81600712	-103 7675529	3631562 305	615372 142	0 37
3002500615	CONOCO INC	9/27/1995	32E	K	21	7/7/1949	17 05	4085	MCA UNIT 068	O	Plugged	32 81667398	-103 7756625	3631627 416	614612 079	0 38
3002537900	CONOCOPHILLIPS COMPANY		32E	E	28	9/25/2006	17 05	4488	MCA UNIT 395	O	Active	32 80767334	-103 7760622	3630629 106	614586 213	0 38
3002537931	CONOCOPHILLIPS COMPANY		32E	D	28	10/16/2006	17 05	4445	MCA UNIT 394	O	Active	32 80928587	-103 7778478	3630805 949	614416 967	0 39
3002521951	PAN AMERICAN PETROLEUM CORP	2/15/1968	32E	A	28	12/20/1966	17 05	13735	BAISH B FEDERAL 002	O	Plugged	32 81072403	-103 7653507	3630978 988	615585 149	0 40
3002539000	COG OPERATING LLC		32E	K	21	8/4/2009	17 05	7042	MC FEDERAL 032	O	Active	32 81805174	-103 7716973	3631784 471	614981 516	0 41
3002500738	CONOCOPHILLIPS COMPANY		32E	A	28	17 05		4145	MCA UNIT 038	O	Active	32 81099803	-103 7650241	3631009 723	615615 371	0 41
3002500611	CONOCOPHILLIPS COMPANY		32E	K	21	17 05		4136	MCA UNIT 069	O	Active	32 81827655	-103 7735946	3631807 333	614803 609	0 44
3002538703	COG OPERATING LLC		32E	L	21	17 05		7027	MC FEDERAL 020	O	Active	32 81695558	-103 7768306	3631658 479	614502 351	0 44
3002500616	CONOCO INC	4/3/2001	32E	P	21	17 05		4124	MCA UNIT 090	O	Plugged	32 81462627	-103 7650314	3631411 961	615609 989	0 44
3002500604	CONOCO INC	1/12/1999	32E	J	21	17 05		4129	MCA UNIT 070	O	Plugged	32 81825561	-103 7693569	3631810 731	615220 339	0 45
3002537939	CONOCOPHILLIPS COMPANY		32E	E	28	10/28/2006	17 05	4460	MCA UNIT 397	O	Active	32 80765056	-103 7778935	3630624 597	614414 784	0 46
3002521489	CONOCOPHILLIPS COMPANY		32E	J	28	17 05		4120	MCA UNIT 177	O	Active	32 80545123	-103 7709345	3630388 316	615069 168	0 46
3002512804	CONOCOPHILLIPS COMPANY		32E	D	28	17 05		4050	MCA UNIT 113	O	Active	32 8126309	-103 7799801	3631174 497	614213 05	0 47
3002523482	CONOCOPHILLIPS COMPANY		32E	D	28	17 05		4080	MCA UNIT 252	O	Active	32 80941354	-103 7794013	3630818 423	614271 356	0 47
3002500735	CONOCO INC	1/2/1900	32E	E	28	17 05		3815	MCA UNIT 153	O	Plugged	32 80740319	-103 777893	3630597 172	614415 147	0 47
3002539002	COG OPERATING LLC		32E	I	21	9/13/2009	17 05	7033	MC FEDERAL 034	O	Active	32 81702034	-103 7661161	3631676 208	615505 341	0 48
3002539356	CONOCOPHILLIPS COMPANY		32E	J	28	7/2/2009	17 05	4170	MCA UNIT 487	O	Active	32 80552826	-103 7688417	3630399 136	615265 016	0 49
3002500619	CONOCOPHILLIPS COMPANY		32E	K	21	3/5/1964	17 05	3717	BAISH A 005	O	Active	32 81918079	-103 7725166	3631908 755	614903 363	0 49
3002523744	CONOCOPHILLIPS COMPANY		32E	E	28	6/9/1971	17 05	4150	MCA UNIT 284	O	Active	32 80565248	-103 7758128	3630405 329	614612 158	0 50
3002523740	CONOCO INC	6/28/2000	32E	G	28	4/11/1971	17 05	4175	MCA UNIT 280	O	Plugged	32 80576783	-103 7672566	3630427 426	615413 174	0 51
3002500740	CONOCOPHILLIPS COMPANY		32E	H	28	17 05		4103	MCA UNIT 150	I	Active	32 80736986	-103 7650185	3630607 483	615620 594	0 52
3002539060	COG OPERATING LLC		32E	P	21	2/24/2009	17 05	7010	J C FEDERAL 026	O	Active	32 81553039	-103 7639541	3631513 385	615709 673	0 52
3002538387	COG OPERATING LLC		32E	J	21	7/3/2007	17 05	7015	MC FEDERAL 011	O	Active	32 81958687	-103 7701121	3631956 393	615127 936	0 53
3002538998	COG OPERATING LLC		32E	K	21	17 05		7025	MC FEDERAL 029	O	Active	32 81946124	-103 7746757	3631937 503	614700 879	0 53
3002500620	CONOCO INC	1/2/1900	32E	J	21	17 05		2325	BAISH A 006	O	Plugged	32 81916988	-103 7682796	3631912 16	615300 023	0 53
3002539354	CONOCOPHILLIPS COMPANY		32E	K	28	7/7/2009	17 05	4142	MCA UNIT 484	O	Active	32 8042434	-103 7715326	3630253 756	615014 724	0 54
3002512796	CONOCO INC	9/4/1997	32E	M	22	17 05		4128	MCA UNIT 089	O	Plugged	32 81287485	-103 7627052	3631220 34	615830 04	0 54
3002500610	CONOCOPHILLIPS COMPANY		32E	L	21	17 05		4125	MCA UNIT 067	I	Active	32 81828769	-103 7779119	3631803 887	614399 428	0 55
3002512763	CONOCOPHILLIPS COMPANY		32E	F	21	10/12/1971	17 05	4124	MCA UNIT 044	I	Active	32 82015913	-103 7715206	3632018 304	614995 343	0 56
3002537879	CONOCOPHILLIPS COMPANY		32E	H	29	9/6/2006	17 05	4450	MCA UNIT 393	O	Active	32 80765065	-103 7800055	3630622 27	614212 409	0 56
3002500622	CONOCO INC	3/7/1986	32E	L	21	11/12/1958	17 05	13670	BAISH A 008	O	Plugged	32 81825566	-103 7653302	3631813 805	615558 592	0 57
3002523807	CONOCOPHILLIPS COMPANY		32E	I	20	6/27/1971	17 05	4120	MCA UNIT 287	O	Active	32 8166853	-103 7801499	3631623 814	614191 966	0 57
3002524186	CONOCOPHILLIPS COMPANY		32E	D	27	17 05		4200	MCA UNIT 317	O	Active	32 80924656	-103 7626178	3630818 176	615842 93	0 58
3002500742	CONOCOPHILLIPS COMPANY		32E	K	28	17 05		4100	MCA UNIT 176	O	Active	32 80375398	-103 7735689	3630197 283	614824 693	0 58
3002539292	COG OPERATING LLC		32E	L	21	5/19/2010	17 05	7035	MC FEDERAL 038	O	Active	32 81919343	-103 7774063	3631904 851	614445 598	0 58
3002500612	CONOCOPHILLIPS COMPANY		32E	I	21	3/4/1942	17 05	4131	MCA UNIT 071	O	Active	32 81825437	-103 7650396	3631814 199	615604 522	0 59
3002538833	COG OPERATING LLC		32E	G	21	8/4/2009	17 05	7035	MC FEDERAL 026	O	Active	32 82030478	-103 7690344	3632037 16	615227 897	0 59
3002524258	CONOCOPHILLIPS COMPANY		32E	P	21	10/6/1972	17 05	4250	MCA UNIT 326	O	Active	32 81622887	-103 7630399	3631591 825	615794 353	0 59
3002500743	CONOCO INC	10/2/1987	32E	J	28	5/17/1941	17 05	3795	MCA UNIT 178	O	Plugged	32 80374293	-103 7693294	3632000 669	615221 656	0 59
3002500752	CONOCO INC	8/14/1996	32E	A	29	17 05		4078	MCA UNIT 112	O	Plugged	32 81103376	-103 782217	3630995 438	614005 663	0 60
3002537976	CONOCOPHILLIPS COMPANY		32E	L	28	11/9/2006	17 05	4450	MCA UNIT 396	O	Active	32 80531428	-103 7784969	3630364 928	614361 281	0 60
3002508031	CONOCOPHILLIPS COMPANY		32E	E	21	17 05		4102	MCA UNIT 046	O	Active	32 82016892	-103 7758378	3632014 701	614591 181	0 60
3002524226	CONOCOPHILLIPS COMPANY		32E	J												

Table with columns: ID, Company Name, State, Locality, Date, Unit, Status, and various numerical values. Rows include entries for CONOCOPHILLIPS COMPANY, CONOCO INC, and COG OPERATING LLC across various units and dates.

3002500747	CONTINENTAL OIL	1/2/1900	32E	O	28	1/2/1900	17.05	4000 MCA UNIT 208	O	Plugged	32 80011476	-103 7693236	3629798 431	615226 881	0.84
3002538988	CONOCOPHILLIPS COMPANY		32E	P	28	11/16/2008	17.05	4322 MCA UNIT 421	O	Active	32 8016141	-103 764568	3629969 85	615670 229	0.84
3002524461	CONOCOPHILLIPS COMPANY	1/3/2003	32E	G	21	7/7/1973	17.05	4175 MCA UNIT 340	O	Plugged	32 82364045	-103 7672923	3632408 879	615386 668	0.84
3002524213	CONOCOPHILLIPS COMPANY		32E	G	29		17.05	4125 MCA UNIT 319	O	Active	32 80566479	-103 784446	3630397 369	613803 825	0.85
3002500767	CONOCOPHILLIPS COMPANY		32E	B	29		17.05	4020 MCA UNIT 111	I	Active	32 8110389	-103 7865335	3630990 935	613601 536	0.85
3002500635	CONOCO INC.	8/8/1996	32E	E	22	3/30/1956	17.05	2351 MCA UNIT 040	O	Plugged	32 82097645	-103 7618078	3632119 529	615903 534	0.85
3002527068	COG OPERATING LLC		32E	N	28	10/14/1980	17.05	12992 FEDERAL BI 001	S	Active	32 79963105	-103 7735603	3629740 194	614830 8	0.86
3002508065	CONOCOPHILLIPS COMPANY		32E	O	20		17.05	4055 MCA UNIT 095	O	Active	32 81466704	-103 786541	3631393 169	613596 217	0.86
3002500601	CONOCO INC.	9/12/1995	32E	C	21	3/30/1930	17.05	4169 MCA UNIT 027	O	Plugged	32 82462787	-103 7725251	3632512 66	614895 554	0.87
3002538979	CONOCOPHILLIPS COMPANY		32E	O	28	12/10/2008	17.05	4304 MCA UNIT 410	O	Active	32.80010993	-103 7674596	3629799 928	615401 422	0.87
3002524076	CONOCOPHILLIPS COMPANY		32E	G	29		17.05	4100 MCA UNIT 308	O	Active	32 80741056	-103 7858721	3630589 383	613668 078	0.87
3002520149	CONTINENTAL OIL	1/2/1900	32E	B	21	1/2/1900	17.05	2436 BAISH A 011	I	Plugged	32 82462322	-103 7704507	3632514 392	615089 742	0.87
3002500602	CONOCO INC.	9/6/1995	32E	H	21	9/24/1934	17.05	4093 MCA UNIT 042	I	Plugged	32 82279468	-103 7639706	3632318 742	615698 771	0.87
3002500728	CONOCOPHILLIPS COMPANY		32E	L	27		17.05	4170 MCA UNIT 180	I	Active	32 80372233	-103 7606962	3630207 826	616030 02	0.87
3002539270	COG OPERATING LLC		32E	O	20	9/22/2009	17.05	7136 GC FEDERAL 032	O	Active	32 81418612	-103 7868183	3631339 552	613570 868	0.87
3002538509	COG OPERATING LLC		32E	C	21	10/17/2007	17.05	7012 MC FEDERAL 012	O	Active	32.82463277	-103 7746837	3632510 848	614693 463	0.88
3002539170	COG OPERATING LLC		32E	N	22	2/7/2009	17.05	7315 J C FEDERAL 032	O	Active	32.81370335	-103 7569834	3631318 478	613664 644	0.88
3002527063	CONOCO INC.	8/30/1988	32E	H	20	11/27/1980	17.05	4150 MCA UNIT 360	O	Plugged	32 82084963	-103 7830147	3632082 411	613918 655	0.88
3002524233	CONOCOPHILLIPS COMPANY		32E	L	27		17.05	4175 MCA UNIT 321	O	Active	32 80198023	-103 7626064	3630012 59	615853 425	0.88
3002538715	COG OPERATING LLC		32E	B	21	5/29/2009	17.05	6920 MC FEDERAL 022	O	Active	32 82461937	-103 7687173	3632515 854	615252 009	0.88
3002500749	CONOCO INC.	11/2/1900	32E	M	28	1/2/1900	17.05	3980 MCA UNIT 210	O	Plugged	32.80013705	-103 7778778	3629791 613	614425 862	0.89
3002524127	CONOCOPHILLIPS COMPANY		32E	E	27		17.05	4250 MCA UNIT 314	O	Active	32.80561157	-103 7586226	3630419 559	616221 714	0.90
3002523509	CONOCO INC.	9/29/2000	32E	J	20	5/11/1970	17.05	4145 MCA UNIT 256	I	Plugged	32 81997118	-103 7843576	3631983 572	613793 863	0.90
3002508054	CONOCOPHILLIPS COMPANY	4/10/2006	32E	H	20	5/11/1937	17.05	4069 MCA UNIT 048	I	Plugged	32 82192421	-103 7822347	3632202 386	613990 101	0.90
3002500768	CONOCO INC.	5/30/1989	32E	G	29	5/30/1989	17.05	3566 MCA UNIT BATTERY 2 155	O	Plugged	32 80741075	-103 7865261	3630588 701	613606 046	0.90
3002539164	COG OPERATING LLC		32E	K	22	7/23/2009	17.05	7119 J C FEDERAL 023	O	Active	32 81678263	-103 757481	3631659 323	616314 854	0.90
3002538815	COG OPERATING LLC		32E	D	21	6/26/2009	17.05	7020 MC FEDERAL 021	O	Active	32 82463764	-103 7768424	3632509 047	614491 402	0.91
3002500720	CONOCOPHILLIPS COMPANY		32E	C	27		17.05	4119 MCA UNIT 120	O	Active	32 81098121	-103 7563909	3631017 333	616423 665	0.91
3002500746	CONOCOPHILLIPS COMPANY	10/6/2004	32E	P	28		17.05	4125 MCA UNIT 207	I	Plugged	32 80010352	-103 765007	3629801 896	615631 08	0.92
3002508053	CONOCO INC.	9/5/1996	32E	J	20	3/13/1959	17.05	13965 MCA UNIT 303	I	Plugged	32 81829503	-103 7860559	3631795 915	613637 013	0.92
3002500626	CONOCO INC.	4/20/2001	32E	N	22		17.05	4124 MCA UNIT 087	I	Plugged	32 81460936	-103 7563958	3631419 571	616148 38	0.92
3002520304	CONTINENTAL OIL	1/2/1900	32E	A	21	1/2/1900	17.05	2410 BAISH A 010	I	Plugged	32 8246136	-103 7661334	3632518 035	615493 894	0.93
3002523715	CONOCOPHILLIPS COMPANY		32E	A	20	2/23/1971	17.05	4163 MCA UNIT 271	O	Active	32 82380662	-103 7801608	3632413 324	614181 834	0.93
3002512707	CONOCOPHILLIPS COMPANY	4/5/2006	32E	B	21	3/15/1965	17.05	4117 MCA UNIT 028	I	Plugged	32 82552786	-103 7693735	3632615 861	615189 41	0.94
3002500623	CONOCO INC.	1/2/1900	32E	E	22	1/2/1900	17.05	4110 BAISH A 002	O	Plugged	32 82188174	-103 7607306	3632221 078	616003 198	0.94
3002525849	CONOCOPHILLIPS COMPANY		32E	M	28		17.05	4170 MCA UNIT 357	O	Active	32.79956163	-103 7785635	3629727 076	614362 413	0.94
3002520647	COG OPERATING LLC		32E	E	22	10/25/1964	17.05	9958 MC FEDERAL 007	O	Active	32 82243252	-103 761386	3632281 423	615941 128	0.94
3002508064	CONOCO INC.	12/15/1998	32E	J	20		17.05	4045 MCA UNIT 065	I	Plugged	32 81829518	-103 7865464	3631795 404	613591 094	0.95
3002524376	CONOCOPHILLIPS COMPANY		32E	L	22		17.05	4150 MCA UNIT 338	O	Active	32 81998676	-103 7586493	3632013 272	616200 5	0.95
3002538856	CONOCOPHILLIPS COMPANY		32E	C	33	9/22/2008	17.05	4345 MCA UNIT 411	O	Active	32 79828495	-103 7738332	3629590 66	614806 977	0.96
3002538972	CONOCOPHILLIPS COMPANY		32E	K	27	12/5/2008	17.05	4348 MCA UNIT 399	O	Active	32 80413087	-103 7585058	3630255 526	616234 578	0.96
3002539166	COG OPERATING LLC		32E	N	22	8/31/2009	17.05	7123 J C FEDERAL 028	O	Active	32 81551578	-103 7560391	3631520 458	616450 686	0.96
3002538980	CONOCOPHILLIPS COMPANY		32E	B	33	10/4/2008	17.05	4360 MCA UNIT 412	O	Active	32 79827463	-103 7698755	3629593 819	615177 577	0.96
3002512785	CONOCOPHILLIPS COMPANY		32E	B	33		17.05	4000 MCA UNIT 222	O	Active	32 79816765	-103 7710197	3629580 713	615070 575	0.96
3002538986	CONOCOPHILLIPS COMPANY		32E	M	27	12/15/2008	17.05	4380 MCA UNIT 418	O	Active	32 80188076	-103 7606933	3630003 659	616032 684	0.96
3002500719	CONOCOPHILLIPS COMPANY	9/17/2004	32E	F	27	12/17/1939	17.05	4150 QUEEN B 006	O	Plugged	32 80735305	-103 7563853	3630615 094	616428 92	0.96
3002523559	CONOCOPHILLIPS COMPANY		32E	N	28		17.05	4135 MCA UNIT 261	O	Active	32 79838587	-103 7756343	3629599 895	614638 198	0.97
3002538716	COG OPERATING LLC		32E	A	21	9/6/2008	17.05	6999 MC FEDERAL 023	O	Active	32 82460986	-103 7644654	3632519 445	615650 039	0.97
3002539480	COG OPERATING LLC		32E	K	22	11/5/2009	17.05	7027 J C FEDERAL 049	O	Active	32 81914643	-103 7574863	3631921 386	616310 469	0.97
3002512755	CONOCOPHILLIPS COMPANY		32E	N	20		17.05	4048 MCA UNIT 096	O	Active	32 81292233	-103 7887591	3631197 356	613390 776	0.98
3002524349	CONOCOPHILLIPS COMPANY		32E	O	28		17.05	4225 MCA UNIT 332	O	Active	32 79836401	-103 7672443	3629606 597	615423 838	0.98
3002534932	COG OPERATING LLC		32E	H	20	2/21/2000	17.05	7028 BC FEDERAL 003	O	Active	32 82283139	-103 7831519	3632301 975	613903 082	0.98
3002508362	BUFFALO OIL CO.	1/2/1900	32E	J	20	1/2/1900	17.05	5359 MITCHELL B 023	O	Plugged	32 81829538	-103 7872431	3631794 678	613525 872	0.98
3002523733	CONOCOPHILLIPS COMPANY	9/30/2004	32E	B	29	3/27/1971	17.05	4083 MCA UNIT 277	O	Plugged	32 80929414	-103 7886066	3630795 273	613409 663	0.99
3002534647	COG OPERATING LLC		32E	E	22	6/16/1999	17.05	14912 MC FEDERAL COM 001	G	Active	32 82106769	-103 7587401	3632133 013	616190 593	0.99
3002500607	CONOCOPHILLIPS COMPANY	11/30/2006	32E	D	21	9/19/1938	17.05	4175 MCA UNIT 026	I	Plugged	32 8255471	-103 7779231	3632608 707	614389 073	0.99
3002520568	CONOCOPHILLIPS COMPANY		32E	A	21	11/22/1963	17.05	13717 BAISH A 012	O	Active	32 8255471	-103 7779231	3632608 707	614389 073	0.99
3002538832	COG OPERATING LLC		32E	C	21	9/10/2009	17.05	7027 MC FEDERAL 025	O	Active	32 82644195	-103 7725279	3632713 77	614892 955	0.99
3002538829	COG OPERATING LLC		32E	G	20	11/18/2008	17.05	6900 BC FEDERAL 032	O	Active	32 82088024	-103 7854711	3632083 159	613688 466	0.99
3002538987	CONOCOPHILLIPS COMPANY		32E	M	27	12/23/2008	17.05	4375 MCA UNIT 419	O	Active	32 80009705	-103 7623746	3629804 061	615877 573	1.00
3002538738	COG OPERATING LLC		32E	B	21	9/3/2008	17.05	7015 MC FEDERAL 014	O	Active	32.82643512	-103 7694737	3632716 337	615178 859	1.00
3002500631	CONOCOPHILLIPS COMPANY		32E	K	22		17.05	4112 MCA UNIT 073	O	Active	32 81823752	-103 7564005	3631821 808	616412 88	1.00
3002500766	CONOCOPHILLIPS COMPANY		32E	O	29		17.05	4000 MCA UNIT 172	O	Active	32 8018				

3002524128	CONOCO INC	12/9/1998	32E	L	27	17	05	MCA UNIT 315	0	Plugged	32	80197341	-103	7586169	3630016	212	616226	983	1	04
3002538989	CONOCOPHILLIPS COMPANY		32E	A	33	11/10/2008	17 05	4385 MCA UNIT 420	0	Active	32	79826079	-103	7645624	3629598	084	615675	097		1 05
3002523846	CONOCOPHILLIPS COMPANY		32E	C	27	8/4/1971	17 05	4185 MCA UNIT 282	0	Active	32	80923224	-103	7543116	3630825	721	616620	621		1 05
3002538262	COG OPERATING LLC		32E	E	22	3/1/2007	17 05	7011 MC FEDERAL 010	0	Active	32	82319932	-103	7596543	3632368	337	616102	238		1 05
3002500730	CONOCOPHILLIPS COMPANY		32E	O	27		17 05	4205 MCA UNIT 183	0	Active	32	80923213	-103	7542431	3630825	784	616627	034		1 05
3002500729	CONOCOPHILLIPS COMPANY		32E	M	27		17 05	4155 MCA UNIT 206	0	Active	32	80009417	-103	7606904	3629805	588	616035	277		1 06
3002538746	COG OPERATING LLC		32E	A	20	6/13/2009	17 05	7033 BC FEDERAL 028	0	Active	32	82546966	-103	7809974	3632596	797	614101	393		1 06
3002539322	CONOCOPHILLIPS COMPANY		32E	C	33	6/15/2009	17 05	4338 MCA UNIT 491	0	Active	32	79691514	-103	7755506	3629436	93	614647	924		1 06
3002524274	CONOCOPHILLIPS COMPANY		32E	O	22	11/14/1972	17 05	4200 MCA UNIT 327	0	Active	32	8161586	-103	7542558	3631593	692	616616	796		1 07
3002512756	CONOCO INC	1/2/1900	32E	F	29	1/2/1900	17 05	3992 MCA UNIT 156	0	Plugged	32	80543189	-103	7887341	3630366	94	613402	631		1 08
3002500724	CONOCOPHILLIPS COMPANY		32E	K	27		17 05	4094 MCA UNIT 181	0	Active	32	80371484	-103	7563796	3630211	741	616434	198		1 08
3002539264	COG OPERATING LLC		32E	N	20	3/2/2009	17 05	7103 GC FEDERAL 027	0	Active	32	81557512	-103	7900385	3631490	092	613267	631		1 08
3002500799	CONOCO INC	1/2/1900	32E	G	33	1/2/1900	17 05	Not Reported MCA UNIT 221	0	Plugged	32	79649763	-103	7735554	3629392	807	614835	287		1 08
3002508056	CONOCO INC	8/17/1996	32E	G	20	4/24/1939	17 05	4038 MCA UNIT 049	0	Plugged	32	82192484	-103	786552	3632197	809	613595	95		1 08
3002500800	CONOCOPHILLIPS COMPANY		32E	B	33		17 05	4135 MCA UNIT 223	0	Active	32	79648658	-103	7693166	3629396	192	615232	217		1 09
3002520231	CONOCO INC	7/25/1996	32E	A	30	5/19/1970	17 05	5445 MCA UNIT 258	0	Plugged	32	82464548	-103	7833183	3632502	919	613885	119		1 09
3002539321	CONOCOPHILLIPS COMPANY		32E	B	33	6/21/2009	17 05	4300 MCA UNIT 490	0	Active	32	79628341	-103	7704606	3629372	421	615125	356		1 09
3002512748	CONOCO INC	1/2/1900	32E	A	21	1/2/1900	17 05	4140 MCA UNIT 029	0	Plugged	32	82642284	-103	7639789	3632720	978	615693	229		1 09
3002530363	CONOCOPHILLIPS COMPANY		32E	D	22	1/14/1989	17 05	10000 BASH A 014	0	Active	32	82509845	-103	7612612	3632577	125	615949	347		1 09
3002500758	CONOCO INC	4/24/2000	32E	C	29	7/16/1940	17 05	4073 MCA UNIT 110	0	Plugged	32	81104017	-103	7907527	3630986	55	613206	52		1 09
3002512782	CONOCOPHILLIPS COMPANY		32E	D	34		17 05	4139 MCA UNIT 225	0	Active	32	79821493	-103	762764	3629594	968	615843	553		1 10
3002539417	COG OPERATING LLC		32E	G	20	10/4/2009	17 05	7010 BC FEDERAL 043	0	Active	32	82101794	-103	7876299	3632096	105	613486	199		1 10
3002539088	COG OPERATING LLC		32E	K	22	3/16/2009	17 05	7008 J C FEDERAL 021	0	Active	32	81934856	-103	7551712	3631946	346	616526	933		1 10
3002535142	CONOCOPHILLIPS COMPANY	11/11/2009	32E	K	27	9/17/2000	17 05	4499 MCA UNIT 387	0	Plugged	32	80430971	-103	7554812	3630278	683	616517	54		1 10
3002508055	CONOCOPHILLIPS COMPANY	1/3/2003	32E	A	20	7/8/1938	17 05	4129 MITCHELL A 004	0	Plugged	32	82555233	-103	7822404	3632604	621	613984	932		1 10
3002539266	COG OPERATING LLC		32E	N	20	9/26/2009	17 05	7123 GC FEDERAL 031	0	Active	32	81429727	-103	7908216	3631347	581	613195	939		1 11
3002508067	CONOCO INC	3/25/1988	32E	N	20	8/23/1945	17 05	4027 MCA UNIT 097	0	Plugged	32	81466831	-103	7907568	3631388	787	613201	535		1 11
3002523984	CONOCOPHILLIPS COMPANY		32E	C	33		17 05	4175 MCA UNIT 300	0	Active	32	79611394	-103	7739798	3629349	807	614796	04		1 11
3002512749	MALJAMAR OIL & GAS	1/2/1900	32E	A	33	1/2/1900	17 05	515 PEARSALL LM 001	0	Plugged	32	79759876	-103	7636621	3629525	672	615760	256		1 11
3002500578	CONOCO INC	1/2/1900	32E	N	16	1/2/1900	17 05	Not Reported MCA UNIT 012	0	Plugged	32	82825602	-103	7725294	3632914	89	614890	479		1 11
3002512772	CONOCOPHILLIPS COMPANY	2/18/2005	32E	K	20	10/1/1948	17 05	4039 MCA UNIT 064	0	Plugged	32	82004116	-103	7887042	3631986	659	613386	872		1 12
3002500815	CONOCO INC	11/9/1993	32E	A	33		17 05	MCA UNIT 383	0	Plugged	32	79737956	-103	7639233	3629501	084	615736	082		1 12
3002539432	CONOCOPHILLIPS COMPANY		32E	A	33	8/1/2009	17 05	4334 MCA UNIT 489	0	Active	32	79647919	-103	766472	3629398	476	615498	591		1 12
3002538740	COG OPERATING LLC		32E	D	22		17 05	6952 MC FEDERAL 019	0	Active	32	82460111	-103	7596575	3632523	747	616100	114		1 12
3002500798	CONOCOPHILLIPS COMPANY	4/18/2007	32E	D	33		17 05	4283 MCA UNIT 220	0	Plugged	32	79650888	-103	7778713	3629389	376	614431	138		1 13
3002500632	CONOCOPHILLIPS COMPANY	4/30/2003	32E	F	22	9/28/1944	17 05	4075 MCA UNIT 039	0	Plugged	32	82184771	-103	7564133	3632225	046	616407	359		1 13
3002531100	CONOCOPHILLIPS COMPANY		32E	F	29		17 05	4350 MCA UNIT 386	0	Active	32	80757418	-103	7906991	3630602	344	613215	933		1 13
3002500801	CONOCO INC	12/11/1999	32E	A	33		17 05	MCA UNIT 224	0	Plugged	32	79675052	-103	7650012	3629430	129	615635	964		1 13
3002500624	CONTINENTAL OIL	1/2/1900	32E	D	22	1/2/1900	17 05	Not Reported MCA UNIT 030	0	Plugged	32	82550989	-103	7607389	3632623	314	615997	704		1 13
3002500760	CONOCO INC	6/29/1990	32E	F	29	8/13/1940	17 05	4070 MCA UNIT 157	0	Plugged	32	80741203	-103	7907479	3630584	314	613211	57		1 14
3002512793	CONOCOPHILLIPS COMPANY	10/12/2004	32E	J	27		17 05	4070 MCA UNIT 182	0	Plugged	32	80545618	-103	7540884	3630407	325	616646	451		1 14
3002538984	CONOCOPHILLIPS COMPANY		32E	N	27	9/2/2008	17 05	4465 MCA UNIT 416	0	Active	32	80009042	-103	7584994	3629807	579	616240	436		1 14
3002528161	ENDURANCE RESOURCES LLC		32E	A	32		17 05	4200 HOVER STATE 006	0	Active	32	79742302	-103	7811099	3629487	224	614126	712		1 14
3002538985	CONOCOPHILLIPS COMPANY		32E	M	27	12/29/2008	17 05	4466 MCA UNIT 417	0	Active	32	79852746	-103	7606879	3629631	894	616037	546		1 14
3002538713	COG OPERATING LLC		32E	G	20	3/17/2010	17 05	7025 BC FEDERAL 031	0	Active	32	8227222	-103	7871093	3632285	589	613532	766		1 14
3002534772	COG OPERATING LLC		32E	F	22	1/7/2000	17 05	5950 J C FEDERAL 002	0	Active	32	8209659	-103	7553318	3632125	48	616509	787		1 15
3002500797	MALJAMAR OIL & GAS	1/2/1900	32E	A	33	1/2/1900	17 05	4339 PEARSALL PERMIT 003	0	Plugged	32	79647534	-103	7650007	3629399	657	615636	367		1 15
3002535989	COG OPERATING LLC		32E	D	22	12/27/2002	17 05	6918 MC FEDERAL 008	0	Active	32	82641867	-103	7618203	3632722	882	615895	295		1 15
3002500715	CONOCOPHILLIPS COMPANY		32E	B	27		17 05	4100 MCA UNIT 121	0	Active	32	81097389	-103	75217	3631021	178	616818	85		1 16
3002530116	CONOCO INC	10/3/1995	32E	J	22	11/17/1987	17 05	4250 MCA UNIT 378	0	Plugged	32	81978131	-103	7542932	3631995	292	616608	562		1 16
3002538983	CONOCOPHILLIPS COMPANY		32E	N	27	1/9/2009	17 05	4412 MCA UNIT 415	0	Active	32	80187284	-103	7561314	3630007	797	616459	84		1 16
3002500599	CONOCO INC	1/2/1900	32E	P	17	1/2/1900	17 05	4147 MCA UNIT 014	0	Plugged	32	82747599	-103	7802156	3632820	079	614172	008		1 16
3002530731	CONOCOPHILLIPS COMPANY	3/23/2007	32E	O	22		17 05	4420 MCA UNIT 385	0	Plugged	32	81446462	-103	7521768	3631408	18	616813	646		1 16
3002500640	CONTINENTAL OIL	1/2/1900	32E	O	22	1/2/1900	17 05	Not Reported MCA UNIT 085	0	Plugged	32	81460205	-103	7521769	3631423	416	616813	457		1 17
3002538539	COG OPERATING LLC		32E	B	20	10/1/2007	17 05	7015 BC FEDERAL 015	0	Active	32	82464581	-103	7854769	3632500	631	613683	125		1 17
3002508066	CONOCO INC	4/27/2000	32E	K	20	9/13/1941	17 05	4027 MCA UNIT 063	0	Plugged	32	81829645	-103	7907621	3631791	022	613196	437		1 17
3002512780	CONOCO INC	1/2/1900	32E	H	22	1/2/1900	17 05	Not Reported MCA UNIT 038	0	Plugged	32	82029086	-103	7543327	3632051	741	616604	198		1 17
3002500765	CONOCOPHILLIPS COMPANY		32E	O	29		17 05	4070 MCA UNIT 212	0	Active	32	80015156	-103	7865112	3629783	913	613617	477		1 18
3002500567	CONOCOPHILLIPS COMPANY	3/9/2007	32E	O	16	8/4/1938	17 05	4109 MCA UNIT 011	0	Plugged	32	82915602	-103	7693808	3633018	098	615184	043		1 19
3002538836	COG OPERATING LLC		32E	C	22	11/1/2008	17 05	6961 J C FEDERAL 016	0	Active	32	82440559	-103	7577437	3632504	174	616279	519		1 19
3002538727	COG OPERATING LLC		32E	A	20	4/12/2008	17 05	7035 BC FEDERAL 027	0	Active	32	82626271	-103	7836479	3632862	361	613852	267		1 19
3002523797	CONOCOPHILLIPS COMPANY		32E	K	29		17 05	4150 MCA UNIT 294	0	Active	3									

3002500789	ENDURANCE RESOURCES LLC	32E	A	32	11/13/1940	17 05	3955 HOVER STATE 001	O	Active	32 79651747	-103 7821872	3629385.666	614026.993	1 23
3002539519	COG OPERATING LLC	32E	O	29	11/9/2009	17 05	10482 MALJAMAR SWD 29 001	S	Active	32 7996851	-103 7870988	3629731.566	613563.05	1 23
3002500579	CONOCOPHILLIPS COMPANY	32E	M	16	2/21/1969	17 05	4150 MCA UNIT 013	O	Active	32 82917525	-103 7779281	3633010.945	614383.953	1 23
3002500627	CONOCOPHILLIPS COMPANY	32E	J	22		17 05	4112 MCA UNIT 074	I	Active	32 81823019	-103 7521816	3631825.655	616808.268	1 23
3002500727	CONOCO INC	32E	N	27	12/18/1998	17 05	MCA UNIT 205	O	Plugged	32 80008668	-103 7563738	3629809.503	616439.472	1 23
3002500754	CONOCOPHILLIPS COMPANY	32E	K	29		17 05	3964 MCA UNIT 170	O	Active	32 80378556	-103 7907432	3630182.264	613216.608	1 23
3002523798	CONTINENTAL OIL	32E	D	29	3/17/1988	17 05	4080 MCA UNIT 290	O	Plugged	32 80979552	-103 7929905	3630790.732	612999.218	1 24
3002539165	COG OPERATING LLC	32E	J	22	11/9/2009	17 05	7148 J C FEDERAL 244	O	Active	32 81732219	-103 7516244	3631725.603	616861.62	1 24
3002529853	CONOCOPHILLIPS COMPANY	32E	E	29		17 05	4150 MCA UNIT 369	O	Active	32 80902066	-103 7929901	3630760.259	612999.604	1 24
3002529852	CONOCOPHILLIPS COMPANY	32E	G	33	11/14/2006	17 05	4396 MCA UNIT 370	O	Plugged	32 7943795	-103 7676194	3629164.437	615393.863	1 25
3002500637	CONOCO INC	32E	C	22	1/2/1900	17 05	13657 BAISH B 001	O	Plugged	32 82550463	-103 7575009	3632626.29	616300.815	1 25
3002539261	COG OPERATING LLC	32E	K	20	3/23/2009	17 05	7020 GC FEDERAL 020	O	Active	32 81920382	-103 7918428	3631890.463	613094.117	1 25
3002538744	COG OPERATING LLC	32E	B	20	9/9/2009	17 05	7024 BC FEDERAL 025	O	Active	32 82464608	-103 7876356	3632498.341	613481.051	1 26
3002508061	CONOCOPHILLIPS COMPANY	32E	B	20	9/16/2004	17 05	4080 MCA UNIT 024	I	Plugged	32 82555298	-103 7865577	3632600.045	613580.798	1 26
3002508050	CONOCOPHILLIPS COMPANY	32E	F	20	12/5/2006	17 05	5500 MCA UNIT 257	O	Plugged	32 82367047	-103 7886932	3632389.043	613383.29	1 26
3002500731	CONTINENTAL OIL	32E	O	27	1/2/1900	17 05	Not Reported - QUEEN B 001	O	Plugged	32 80170179	-103 7541984	3629990.963	616641.056	1 26
3002500817	CONOCOPHILLIPS COMPANY	32E	D	34	12/21/2006	17 05	4270 MCA UNIT 026	O	Plugged	32 796466	-103 7606848	3629403.349	616040.515	1 26
3002538995	COG OPERATING LLC	32E	G	22	3/3/2010	17 05	7042 J C FEDERAL 119	O	Active	32 82137488	-103 7532649	3632173.103	616702.741	1 26
3002523738	CONOCOPHILLIPS COMPANY	32E	H	33		17 05	4230 MCA UNIT 275	O	Active	32 79459253	-103 7649975	3629190.919	615639.104	1 27
3002534914	ENDURANCE RESOURCES LLC	32E	B	32	3/20/2000	17 05	4202 HOVER STATE 008	O	Active	32 79742897	-103 7854258	3629483.234	613722.574	1 28
3002523686	CONOCOPHILLIPS COMPANY	32E	L	20		17 05	4100 MCA UNIT 265	O	Active	32 81674701	-103 7932324	3631616.598	612967.14	1 28
3002508057	CONOCO INC	32E	F	20	5/3/2000	17 05	4081 MCA UNIT 050	O	Plugged	32 82192542	-103 7907675	3632193.35	613191.329	1 29
3002524058	CONOCO INC	32E	A	27	9/11/2001	17 05	MCA UNIT 322	O	Plugged	32 81273697	-103 7498507	3631163.778	617034.336	1 29
3002523707	CONOCOPHILLIPS COMPANY	32E	F	29		17 05	4130 MCA UNIT 270	O	Active	32 80566732	-103 7928221	3630388.664	613019.577	1 29
3002500718	CONOCOPHILLIPS COMPANY	32E	J	27		17 05	4180 MCA UNIT 184	I	Active	32 80370756	-103 7521554	3630215.594	616829.725	1 29
3002500625	CONOCO INC	32E	C	22	9/8/1995	17 05	4157 BAISH B 002	G	Plugged	32 82550286	-103 7564216	3632627.282	616401.849	1 29
3002539415	COG OPERATING LLC	32E	B	20	12/11/2009	17 05	7050 BC FEDERAL 041	O	Active	32 82645999	-103 7863628	3632700.812	613597.887	1 30
3002539272	COG OPERATING LLC	32E	M	20	8/28/2009	17 05	7016 GC FEDERAL 030	O	Active	32 81376232	-103 7941896	3631284.671	613881.304	1 30
3002524369	CONOCOPHILLIPS COMPANY	32E	H	27		17 05	4125 MCA UNIT 335	O	Active	32 80908721	-103 7499262	3630814.488	617031.397	1 30
3002539472	COG OPERATING LLC	32E	M	20	11/16/2009	17 05	7123 GC FEDERAL 041	O	Active	32 81586492	-103 7939474	3631518.039	612901.32	1 30
3002533584	CONOCOPHILLIPS COMPANY	32E	F	20	10/5/1996	17 05	13900 ELVIS 001	O	Active	32 82247514	-103 7907683	3632254.295	613190.557	1 31
3002539089	COG OPERATING LLC	32E	J	22	6/25/2009	17 05	7025 J C FEDERAL 022	O	Active	32 81913536	-103 7511034	3631927.201	616908.019	1 31
3002538366	COG OPERATING LLC	32E	F	20	6/15/2007	17 05	6985 BC FEDERAL 014	O	Active	32 82283244	-103 7906338	3632294.048	613202.301	1 31
3002524236	CONOCOPHILLIPS COMPANY	32E	I	22		17 05	4175 MCA UNIT 325	O	Active	32 81648095	-103 7499389	3631634.201	617020.515	1 32
3002536156	CONOCO INC	32E	P	17	1/2/1900	17 05	Not Reported - MCA UNIT 246	O	Plugged	32 82918046	-103 7822461	3633006.857	613379.764	1 32
3002538982	CONOCOPHILLIPS COMPANY	32E	O	27	1/4/2009	17 05	4510 MCA UNIT 414	O	Active	32 80008299	-103 7542736	3629811.408	616636.129	1 32
3002537964	COG OPERATING LLC	32E	C	22	10/13/2006	17 05	7100 J C FEDERAL 005	O	Active	32 82579909	-103 7560788	3632659.594	616433.562	1 32
3002500804	MARBOB ENERGY CORP	32E	F	33	1/2/1900	17 05	Not Reported - PEARSAI A 003	O	Plugged	32 79286945	-103 773549	3628990.568	614840.551	1 33
3002500807	CONOCO INC	32E	F	33	6/16/2000	17 05	MCA UNIT 322	I	Plugged	32 79284196	-103 773549	3628987.52	614840.586	1 33
3002538859	CONOCOPHILLIPS COMPANY	32E	C	34	8/13/2008	17 05	4566 MCA UNIT 405	O	Active	32 79783308	-103 7565151	3629559.496	616429.179	1 33
3002500803	CONOCOPHILLIPS COMPANY	32E	G	33	6/15/1954	17 05	4280 MCA UNIT 231	O	Active	32 7928584	-103 7693105	3628993.953	615237.469	1 33
3002500633	CONOCO INC	32E	G	22	5/15/2002	17 05	MCA UNIT 037	O	Plugged	32 82186793	-103 7521862	3632228.958	616803.076	1 34
3002533949	CONOCOPHILLIPS COMPANY	32E	F	20	5/22/1997	17 05	12100 ELVIS 004	O	Active	32 82280503	-103 7911416	3632290.47	613155.193	1 34
3002538730	COG OPERATING LLC	32E	K	16	5/17/2008	17 05	7025 EDWARD STATE 004	O	Active	32 83147203	-103 7725993	3633271.365	614879.794	1 34
3002534713	COG OPERATING LLC	32E	B	20	12/17/1999	17 05	5773 BC FEDERAL 002	O	Active	32 82646015	-103 7876384	3632699.459	613478.482	1 35
3002500558	CONOCO INC	32E	M	15	2/5/1992	17 05	4003 MCA UNIT BATTERY 2 009	O	Plugged	32 82913803	-103 7607449	3633025.551	615992.425	1 35
3002500808	CONOCOPHILLIPS COMPANY	32E	E	33		17 05	4165 MCA UNIT 233	O	Active	32 79315556	-103 7778654	3629017.61	614435.986	1 35
3002523672	CONTINENTAL OIL	32E	L	20	1/2/1900	17 05	Not Reported - MCA UNIT 263	O	Plugged	32 81998485	-103 7932372	3631975.562	612962.592	1 35
3002508069	CONOCO INC	32E	M	20	11/22/1999	17 05	MCA UNIT 098	O	Plugged	32 81466961	-103 795074	3631384.316	612797.36	1 35
3002524275	CONOCOPHILLIPS COMPANY	32E	J	27		17 05	4215 MCA UNIT 329	O	Active	32 80544943	-103 7500824	3630411.093	617021.54	1 35
3002521226	CONOCOPHILLIPS COMPANY	32E	M	15	6/24/1965	17 05	9950 HUDSON 001	O	Active	32 82944091	-103 7610724	3633058.771	615961.376	1 35
3002529967	CONOCOPHILLIPS COMPANY	32E	L	20		17 05	4203 MCA UNIT 374	O	Active	32 81974029	-103 7934789	3631948.19	612940.276	1 36
3002500814	KEWANEE OIL CO	32E	H	33	1/2/1900	17 05	Not Reported - PEARSAI AX 007	O	Plugged	32 79313942	-103 7653416	3629029.44	615608.763	1 36
3002500790	ENDURANCE RESOURCES LLC	32E	B	32		17 05	4022 HOVER STATE 002	O	Active	32 7965234	-103 7865031	3629381.679	613622.851	1 36
3002500757	CONOCO INC	32E	N	29	12/29/1999	17 05	4034 MCA UNIT 213	I	Plugged	32 80015741	-103 7907385	3629780.027	613221.648	1 37
3002500805	CONOCO INC	32E	E	33	1/2/1900	17 05	Not Reported - PEARSAI A 001	O	Plugged	32 7928807	-103 7778649	3628987.137	614436.385	1 37
3002530679	COG OPERATING LLC	32E	J	16	7/21/1993	17 05	6060 LEAKER CC STATE 009	O	Active	32 83187952	-103 7704637	3633318.867	615079.165	1 37
3002524499	CONOCOPHILLIPS COMPANY	32E	J	22	3/27/2007	17 05	4150 MCA UNIT 345	O	Plugged	32 81969709	-103 7501066	3631990.582	617000.598	1 38
3002500576	COG OPERATING LLC	32E	K	16		17 05	4350 EDWARD STATE 002	O	Active	32 83207709	-103 7727637	3633338.268	614863.627	1 38
3002500761	CONOCO INC	32E	E	29	9/6/1997	17 05	3779 MCA UNIT 158	O	Plugged	32 80741333	-103 7950645	3630579.844	612807.418	1 38
3002524583	CONOCOPHILLIPS COMPANY	32E	N	27		17 05	4350 MCA UNIT 353	O	Active	32 79874996	-103 7542952	3629663.595	616635.847	1 38
3002538838	COG OPERATING LLC	32E	J	16	11/15/2008	17 05	7004 LEAKER CC STATE 015	O	Active	32 83187472	-103 7683047	3633200.688	615281.257	1 38
3002500802	KEWANEE OIL CO	32E	H	33	1/2/1900	17 05	Not Reported - PEARSAI A FEDERAL 007	O	Plugged	32 79284716	-103 7649946	3628997.418	615641.635	1 39
3002538697	COG OPERATING LLC	32E	B	22	7/7/2008	17 05	7035 J C FEDERAL 013	O	Active	32 82459073	-103 753269	3632529.633	616698.512	1 39
3002523767	CONOCO INC	32E	K	29	2/18/1998	17 05	MCA UNIT 293	O	Plugged	32 80204313	-103 7928175	3629986.867	613024.595	1 39
3002527929	LYNX PETROLEUM CONSULTANTS INC	32E	N	15	1/14/1983	17 05	4212 LYNX FEDERAL 003	O	Active	32 82822574	-103 7570503	3632927.968	616296.856	1 40
3002531092	ENDURANCE RESOURCES LLC	32E	H	32		17 05	4245 HOVER STATE 007	O	Active	32 79322579	-103 7811026	3629033.184	614132.628	1 40
3002500590	CONOCOPHILLIPS COMPANY	32E	O	17		17 05	3514 MITCHELL B 010	O	Active	32 82827408	-103 7865628	3632901.72	613576.856	1 40
3002500716	CONOCOPHILLIPS COMPANY	32E	A	27		17 05	4120 MCA UNIT 122	O	Active	32 81096631	-103 7478534	3631025.116	617222.997	1 41
3002500577	COG OPERATING LLC	32E	L	16	9/28/1994	17 05	4168 EDWARD STATE 003	G	Active	32 83208634	-103 7768527	3633334.855	614480.879	1 41
3002500818	CONOCOPHILLIPS COMPANY	32E	C	34	6/15/1941	17 05	4171 MCA UNIT 227	O	Plugged	32 79645852	-103 7563689	3629407.263	616444.661	1 41

3002508068	CONOCO INC	9/15/1995	32E	L	20	17	05		MCA UNIT 062	I	Plugged	32.81829775	-103.7950794	3631786	551	612792.27	1.41	
3002506639	CONOCOPHILLIPS COMPANY		32E	P	22	17	05		4129 MCA UNIT 084	I	Active	32.81459447	-103.7478596	3631427	355	617217.652	1.42	
3002539320	CONOCOPHILLIPS COMPANY		32E	I	27	5/21/2009	17	05	4390 MCA UNIT 474	O	Active	32.80403296	-103.74954	3630254	563	617074.182	1.42	
3002500723	CONOCOPHILLIPS COMPANY		32E	O	27	17	05		4132 MCA UNIT 204	O	Active	32.8000794	-103.752148	3629813	357	616835.165	1.42	
3002538261	COG OPERATING LLC		32E	G	22	8/31/2007	17	05	7020 J C FEDERAL 009	O	Active	32.82277327	-103.751108	3632330	523	616902.823	1.42	
3002508049	CONTINENTAL OIL	1/2/1900	32E	C	20	1/2/1900	17	05	Not Reported	MCA UNIT 255	O	Plugged	32.82380843	-103.7922748	3632400	501	613047.842	1.43
3002500584	PHILLIPS PETROLEUM CO	1/2/1900	32E	C	16	1/2/1900	17	05	Not Reported	MALJAMAR 002	O	Plugged	32.83279365	-103.7736152	3633416	766	614783.003	1.43
3002508060	CONOCOPHILLIPS COMPANY		32E	C	20	4/8/1944	17	05		4052 MCA UNIT 023	O	Plugged	32.82555356	-103.7907728	3632595	586	613186.23	1.43
3002500569	COG OPERATING LLC		32E	J	16	2/12/1959	17	05		4318 LEAKER CC STATE 003	O	Active	32.83278416	-103.7693853	3633420	337	615178.937	1.43
3002526720	COG OPERATING LLC		32E	C	32	17	05		4275 WALLINGFORD 002	O	Active	32.79743478	-103.7896603	3629479	333	613326.059	1.44	
3002538619	COG OPERATING LLC		32E	L	16	2/26/2008	17	05		7025 LEAKER CC STATE 010	O	Active	32.83186506	-103.7639867	3633324	337	615685.441	1.44
3002500714	CONOCOPHILLIPS COMPANY		32E	H	27	17	05		3798 MCA UNIT 145	I	Active	32.80733815	-103.7478462	3630622	878	617228.435	1.44	
3002508048	CONOCOPHILLIPS COMPANY		32E	L	20	17	05		5442 MITCHELL B 015	O	Active	32.81829794	-103.7957335	3631785	874	612731.035	1.45	
3002538745	COG OPERATING LLC		32E	E	20	8/25/2008	17	05		7000 BC FEDERAL 026	O	Active	32.82101891	-103.7944947	3632088	862	612843.566	1.45
3002500793	KERSEY COMPANY	1/2/1900	32E	H	32	1/2/1900	17	05	Not Reported	HOVER FRITSCHI STATE 005	O	Plugged	32.79288931	-103.7821808	3628893	43	614032.223	1.45
3002500592	CONOCO INC	1/2/1900	32E	O	17	1/2/1900	17	05	Not Reported	MITCHELL B 009	O	Plugged	32.82918111	-103.7865641	3630022	279	613575.58	1.45
3002539345	CONOCOPHILLIPS COMPANY		32E	I	27	4/3/2009	17	05		4405 MCA UNIT 475	O	Active	32.80535016	-103.7483327	3630401	935	617185.494	1.45
3002500732	CONOCOPHILLIPS COMPANY		32E	I	27	8/17/1954	17	05		4266 MCA UNIT 185	O	Active	32.8019587	-103.7500753	3630024	002	617026.78	1.45
3002500755	CONOCOPHILLIPS COMPANY		32E	L	29	17	05		3935 MCA UNIT 169	I	Active	32.80379154	-103.7950598	3630178	313	612812.434	1.46	
3002512711	CONOCOPHILLIPS COMPANY		32E	I	22	17	05		4055 MCA UNIT 075	O	Active	32.81822261	-103.7478643	3631829	594	617212.447	1.47	
3002500575	CONTINENTAL OIL	1/2/1900	32E	E	16	1/2/1900	17	05	Not Reported	GULF STATE E 001	O	Plugged	32.83280934	-103.7779332	3633413	184	614378.824	1.47
3002539479	COG OPERATING LLC		32E	B	22	11/30/2009	17	05		7036 J C FEDERAL 040	O	Active	32.82640481	-103.7532112	3632730	754	616695.93	1.47
3002512764	CONOCOPHILLIPS COMPANY	3/16/2007	32E	P	19	1/7/1947	17	05		3986 MCA UNIT 099	O	Plugged	32.81292506	-103.7973119	3631188	517	612590.05	1.47
3002538699	COG OPERATING LLC		32E	H	22	8/7/2008	17	05		7017 J C FEDERAL 015	O	Active	32.82095577	-103.7489471	3632131	413	617107.493	1.47
3002523741	CONOCOPHILLIPS COMPANY		32E	D	29	17	05		4025 MCA UNIT 281	O	Active	32.80929672	-103.7971436	3630786	433	612610.383	1.48	
3002500636	CONOCOPHILLIPS COMPANY		32E	B	22	9/30/1959	17	05		4033 BAISH B 003	O	Active	32.82549608	-103.7521908	3632631	198	616797.896	1.48
3002500820	CONOCO INC	10/2/2000	32E	E	34	17	05		4440 MCA UNIT BATTERY 2-229	I	Plugged	32.79283784	-103.7606787	3629901	111	616045.799	1.48	
3002500571	COG OPERATING LLC		32E	I	16	17	05		4224 LEAKER CC STATE 005	O	Active	32.83277452	-103.7650673	3633423	984	615583.117	1.48	
3002538834	COG OPERATING LLC		32E	K	16	9/12/2008	17	05		7012 EDWARD STATE 006	O	Active	32.83370314	-103.774696	3633516	445	614680.67	1.50
3002524462	CONOCOPHILLIPS COMPANY		32E	P	22	7/17/1973	17	05		4150 MCA UNIT 341	O	Active	32.81305228	-103.7461896	3631258	229	617376.025	1.50
3002508058	CONOCOPHILLIPS COMPANY	9/20/2004	32E	E	20	1/2/1942	17	05		3990 MCA UNIT 051	O	Plugged	32.82192602	-103.7950847	3632188	801	612787.188	1.50
3002523673	CONOCOPHILLIPS COMPANY		32E	I	19	17	05		4060 MCA UNIT 264	O	Active	32.81655321	-103.7973172	3631590	753	612584.978	1.50	
3002533854	CONOCOPHILLIPS COMPANY		32E	O	17	3/8/1997	17	05		14000 ELVIS 002	O	Active	32.82948359	-103.7876309	3633034	668	613475.338	1.50
3002524515	CONOCOPHILLIPS COMPANY		32E	A	27	17	05		4175 MCA UNIT 347	O	Active	32.80935547	-103.7462151	3630848	344	617378.499	1.51	
3002538981	CONOCOPHILLIPS COMPANY		32E	B	34	1/14/2009	17	05		4620 MCA UNIT 413	O	Active	32.79823728	-103.7518162	3629609	492	618688.643	1.51
3002500721	CONOCO INC	7/31/1996	32E	I	27	17	05		4250 MCA UNIT 186	O	Plugged	32.80370014	-103.7478388	3630219	549	617233.904	1.52	
3002538735	COG OPERATING LLC		32E	I	16	8/19/2008	17	05		7020 LEAKER CC STATE 014	O	Active	32.83368398	-103.7661479	3633523	632	615480.794	1.53
3002500794	MACK ENERGY CORP	8/22/2002	32E	C	32	3/30/1968	17	05		4041 WALLINGFORD 001	O	Plugged	32.79652925	-103.7907348	3629377	789	613226.594	1.53
3002527292	COG OPERATING LLC		32E	C	32	17	05		4700 WALLINGFORD 003	O	Active	32.79562069	-103.7896546	3629278	216	613328.895	1.53	
3002536503	COG OPERATING LLC		32E	J	33	12/27/2003	17	05		6025 PEARSALL A 002	O	Active	32.79012736	-103.7678182	3628692	798	615380.739	1.53
3002534733	COG OPERATING LLC		32E	C	20	10/18/1999	17	05		5900 BC FEDERAL 001	O	Active	32.82646079	-103.7920988	3632694	749	613060.957	1.53
3002536364	COG OPERATING LLC		32E	L	33	10/9/2003	17	05		5100 PEARSALL AX 008	O	Active	32.7901479	-103.7767811	3628685	333	614541.378	1.54
3002508052	CONOCOPHILLIPS COMPANY	12/15/2006	32E	E	20	8/3/1961	17	05		5350 MCA UNIT 253	O	Plugged	32.8219261	-103.7957389	3632188	112	612725.947	1.54
3002538731	COG OPERATING LLC		32E	B	22	12/6/2008	17	05		6999 J C FEDERAL 010	O	Active	32.82585517	-103.7511119	3632671	818	616898.424	1.54
3002538621	COG OPERATING LLC		32E	L	16	2/10/2008	17	05		7040 EDWARD STATE 005	O	Active	32.83371286	-103.7790139	3633512	844	614276.505	1.55
3002536194	COG OPERATING LLC		32E	D	20	5/11/2003	17	05		6598 BC FEDERAL 008	O	Active	32.82464698	-103.7940094	3632491	614	612884.406	1.55
3002500598	CONOCOPHILLIPS COMPANY		32E	E	17	17	05		4240 MCA UNIT 008	O	Active	32.83280859	-103.7822512	3633409	093	613974.65	1.55	
3002538814	COG OPERATING LLC		32E	I	20	2/2/2010	17	05		7041 BC FEDERAL 029	O	Active	32.82244833	-103.7956742	3632246	079	612731.344	1.55
3002536362	COG OPERATING LLC		32E	K	33	12/26/2003	17	05		5125 PEARSALL AX 006	O	Active	32.78953508	-103.7732488	3628621	222	614872.95	1.55
3002500629	CONOCOPHILLIPS COMPANY	3/28/2007	32E	H	22	17	05		4184 MCA UNIT 036	O	Plugged	32.82186106	-103.7478689	3632232	976	617207.238	1.56	
3002512798	CONOCOPHILLIPS COMPANY		32E	I	30	17	05		3995 MCA UNIT 168	O	Active	32.8055408	-103.7976781	3630369	457	612565.076	1.56	
3002512771	CONOCOPHILLIPS COMPANY	9/21/2004	32E	I	20	17	05		4024 MCA UNIT 061	O	Plugged	32.82004371	-103.7971588	3631977	903	612595.403	1.57	
3002500559	LYNX PETROLEUM CONSULTANTS INC		32E	L	15	17	05		4150 LYNX FEDERAL 007	O	Active	32.83276628	-103.7608147	3633427	731	615981.174	1.57	
3002500792	ENDURANCE RESOURCES LLC		32E	G	32	17	05		4156 HOVER STATE 004	O	Active	32.79289523	-103.7864967	3628979	442	613628.065	1.57	
3002538977	CONOCOPHILLIPS COMPANY		32E	P	27	1/19/2009	17	05		4476 MCA UNIT 408	O	Active	32.80185857	-103.7478835	3630015	382	617236.678	1.57
3002500756	CONOCO INC	10/6/1997	32E	M	29	17	05		MCA UNIT 214	O	Plugged	32.80016339	-103.7950551	3629776	077	612817.458	1.57	
3002500759	CONOCOPHILLIPS COMPANY		32E	D	29	8/4/1940	17	05		3965 MCA UNIT 109	I	Active	32.80016339	-103.7950551	3629776	077	612817.458	1.57
3002521840	CONTINENTAL OIL	1/2/1900	32E	K	33	1/2/1900	17	05	Not Reported	PEARSALL AX 004	O	Plugged	32.78923341	-103.7735425	3628587	458	614845.834	1.58
3002500819	CONOCOPHILLIPS COMPANY	1/9/2007	32E	B	34	17	05		4203 MCA UNIT 228	I	Plugged	32.79645124	-103.7521391	3629411	122	616840.744	1.58	
3002536546	MACK ENERGY CORP																	

3002500811	CONOCO INC	1/2/1900	32E	L	33	1/2/1900	17 05	3496 PEARSALEX 001	O	Plugged	32 7892433	-103 7778584	3628583 8776	614441 653	1 63
3002500784	CONOCO INC	5/8/2000	32E	H	30		17 05	MCA UNIT 199	I	Plugged	32 80741838	-103 7993811	3630575 807	612403 262	1 63
3002523824	CONOCOPHILLIPS COMPANY		32E	I	30		17 05	4160 MCA UNIT 295	O	Active	32 80204929	-103 7972976	3629982 77	612605 105	1 63
3002536601	MACK ENERGY CORP	1/6/2005	32E	F	34	3/21/2004	17 05	5360 LEOPARD FEDERAL 001	O	Plugged	32 7919252	-103 7514402	3628903 487	616350 25	1 63
3002526835	MACK ENERGY CORP	6/6/1997	32E	LD	32	6/13/1980	17 05	4250 HOVER 001	O	Plugged	32 7974408	-103 7939729	3629475 387	612922 231	1 63
3002539319	CONOCOPHILLIPS COMPANY		32E	L	26	4/9/2009	17 05	4412 MCA UNIT 463	O	Active	32 80403987	-103 7456485	3630259 644	617438 538	1 63
3002538994	COG OPERATING LLC		32E	I	19		17 05	7021 GC FEDERAL 011	O	Active	32 81712095	-103 7993949	3631651 486	612389 754	1 63
3002500725	CONOCO INC	1/2/1900	32E	P	27	1/2/1900	17 05	Not Reported MCA UNIT 203	TI	Plugged	32 80007198	-103 7478314	3629817 312	617239 36	1 63
3002500589	CONOCOPHILLIPS COMPANY		32E	N	17		17 05	5397 MITCHELL B 011	O	Active	32 82918179	-103 7914316	3632997 133	613119 961	1 63
3002508059	CONOCO INC	1/2/1900	32E	D	20	1/2/1900	17 05	Not Reported MCA UNIT 022	I	Plugged	32 82555416	-103 7950901	3632591 037	612782 096	1 63
3002536502	COG OPERATING LLC		32E	J	33	3/8/2004	17 05	5360 PEARSALEX A 001	O	Active	32 7883191	-103 7703818	3628489 528	615143	1 64
3002538698	COG OPERATING LLC		32E	H	22		17 05	6817 J C FEDERAL 014	O	Active	32 82276635	-103 7467908	3632334 54	617306 971	1 64
3002536361	COG OPERATING LLC		32E	K	33	8/15/2003	17 05	5110 PEARSALEX 005	O	Active	32 78832887	-103 7746199	3628486 005	614746 101	1 64
3002525418	TIPTON OIL, GAS ACQUISITIONS, INC	4/7/2006	32E	O	15		17 05	HUDSON FEDERAL 001	O	Plugged	32 82912422	-103 7521982	3633033 435	616792 454	1 64
3002500649	CONOCOPHILLIPS COMPANY		32E	M	23		17 05	4153 MCA UNIT 083	O	Active	32 81458733	-103 7438694	3631430 996	617591 224	1 65
3002508035	CONOCOPHILLIPS COMPANY		32E	I	19	4/9/1946	17 05	3725 MCA UNIT 060	O	Active	32 81830285	-103 7999967	3631782 518	612388 997	1 65
3002538742	COG OPERATING LLC		32E	H	19	10/3/2008	17 05	6944 BC FEDERAL 023	O	Active	32 82124055	-103 7983217	3632109 355	612485 031	1 66
3002500705	CONOCOPHILLIPS COMPANY		32E	D	26		17 05	4050 MCA UNIT 123	I	Active	32 81095859	-103 7435368	3631029 055	617627 144	1 66
3002539306	CONOCOPHILLIPS COMPANY		32E	E	26	3/27/2009	17 05	4407 MCA UNIT 453	O	Active	32 80911732	-103 7436967	3630824 74	617614 599	1 66
3002500593	CONOCO INC	10/25/1989	32E	J	17	10/25/1989	17 05	4200 MITCHELL B 008	O	Plugged	32 83280923	-103 7865691	3633404 514	613570 493	1 66
3002535715	I. W. INC	2/4/1997	32E	O	30		17 05	599-BRINE STATION 529	M	Plugged	32 81011704	-103 8004933	3630873 817	612295 736	1 66
3002508051	CONOCOPHILLIPS COMPANY		32E	D	20		17 05	5370 MCA UNIT 331	I	Active	32 82555424	-103 7957442	3632590 348	612720 867	1 66
3002500643	WILLIAMS & COCKBURN	8/1/2/1900	32E	M	23	1/2/1900	17 05	Not Reported MILLER 003	O	Plugged	32 81458674	-103 7435424	3631431 294	617621 839	1 66
3002500645	KEWANEE OIL CO	1/2/1900	32E	M	23	1/2/1900	17 05	Not Reported MILLER A FEDERAL 007	O	Plugged	32 81472417	-103 7435425	3631446 53	617621 648	1 67
3002524218	CONOCOPHILLIPS COMPANY		32E	E	26	8/14/1972	17 05	4250 MCA UNIT 322	O	Active	32 80760588	-103 7438571	3630656 991	617601 572	1 67
3002524298	CONOCOPHILLIPS COMPANY	11/20/2006	32E	P	27	11/26/1972	17 05	4400 MCA UNIT 302	O	Plugged	32 79965883	-103 747434	3629772 052	617285 915	1 67
3002531055	COG OPERATING LLC		32E	G	34		17 05	4758 PEARSALEX BX 005	O	Active	32 79373193	-103 7532118	3629108 454	616743 852	1 67
3002539111	COG OPERATING LLC		32E	P	19	7/24/2009	17 05	7037 GC FEDERAL 015	O	Active	32 81558395	-103 8004072	3631479 938	612290 853	1 67
3002523825	CONOCOPHILLIPS COMPANY	4/2/2006	32E	H	19	7/13/1971	17 05	4085 MCA UNIT 298	I	Plugged	32 82367174	-103 7973277	3632379 953	612575 014	1 68
3002524527	CONOCOPHILLIPS COMPANY		32E	I	27		17 05	4400 MCA UNIT 348	O	Active	32 80195113	-103 7457587	3630027 948	617430 967	1 68
3002500581	CONOCO INC	1/2/1900	32E	F	16	1/2/1900	17 05	3760 STATE O 001	G	Plugged	32 83642168	-103 7736203	3633819 012	614777 857	1 68
3002500638	CONOCO INC	1/2/1900	32E	A	22	1/2/1900	17 05	Not Reported BAISH B 004	O	Plugged	32 82548921	-103 7478735	3632635 217	617202 041	1 68
3002500795	MACK ENERGY CORP	7/27/2004	32E	J	32	1/21/1942	17 05	3490 PEARSALEX QUEEN SAND UNIT 001	I	Plugged	32 78925232	-103 7821744	3628580 313	614037 464	1 68
3002500570	COG OPERATING LLC		32E	G	16		17 05	4293 LEAKER CC STATE 004	O	Active	32 8364146	-103 7693896	3633822 831	615173 846	1 68
3002508032	CONOCO INC	7/23/1996	32E	I	19	3/8/1971	17 05	5288 MCA UNIT 259	O	Plugged	32 81830419	-103 8000508	3631781 971	613236 862	1 69
3002525107	V-F PETROLEUM INC		32E	K	15	8/23/1975	17 05	11700 HUDSON FEDERAL 001	O	Active	32 83275914	-103 7664313	3633431 76	616391 473	1 69
3002500711	CONTINENTAL OIL	1/2/1900	32E	E	26	1/2/1900	17 05	Not Reported MCA UNIT 144	M	Plugged	32 80733043	-103 7435296	3630626 817	617632 598	1 69
3002500775	CONOCOPHILLIPS COMPANY		32E	I	30		17 05	3912 MCA UNIT 167	O	Active	32 80379894	-103 7993763	3630174 536	612408 268	1 69
3002538842	COG OPERATING LLC		32E	I	19	6/22/2008	17 05	6815 GC FEDERAL 008	O	Active	32 81956603	-103 8000527	3631921 23	612325 103	1 71
3002500580	CONOCOPHILLIPS COMPANY		32E	E	16		17 05	4040 MCA UNIT 005	O	Active	32 83642881	-103 7779383	3633815 119	614373 697	1 71
3002523732	CONOCOPHILLIPS COMPANY		32E	P	19		17 05	4030 MCA UNIT 276	O	Active	32 81293361	-103 8014656	3631185 048	612201 166	1 72
3002500791	MACK ENERGY CORP	6/16/1997	32E	D	32		17 05	HOVER 003	O	Plugged	32 79653523	-103 7950507	3629973 839	612822 453	1 72
3002500796	COG OPERATING LLC		32E	J	32		17 05	3618 PEARSALEX QUEEN SAND UNIT 002	O	Active	32 79653523	-103 7950507	3629973 839	612822 453	1 72
3002512558	CONOCOPHILLIPS COMPANY	8/11/1960	32E	H	16	9/16/1959	17 05	4147 STATE B 007	O	Plugged	32 83640728	-103 7650716	3633826 736	615578 007	1 72
3002500574	MACK ENERGY CORP	11/19/2002	32E	H	16	9/16/1959	17 05	3933 LEAKER CC 007	O	Plugged	32 83640716	-103 7650062	3633826 794	615584 128	1 72
3002527443	SANDRIDGE EXPLORATION AND PRODUCTION, LLC		32E	F	32		17 05	4200 LEA LL STATE 001	O	Active	32 79257126	-103 7907295	3628938 985	613232 107	1 73
3002523789	CONOCOPHILLIPS COMPANY	3/13/2007	32E	B	30	5/29/1971	17 05	4025 MCA UNIT 289	O	Plugged	32 8096631	-103 8016241	3630822 289	612190 437	1 73
3002508037	CONOCO INC	9/14/2001	32E	H	19		17 05	MCA UNIT 052	O	Plugged	32 82192911	-103 799402	3632184 545	612383 034	1 73
3002538855	CONOCOPHILLIPS COMPANY		32E	L	26	8/5/2008	17 05	4477 MCA UNIT 402	O	Active	32 80547761	-103 7431956	3630421 771	617666 312	1 74
3002523730	CONOCOPHILLIPS COMPANY		32E	L	26		17 05	4260 MCA UNIT 273	I	Active	32 80369243	-103 7438492	3630223 125	617607 467	1 74
3002523739	CONOCO INC	9/20/1995	32E	P	19	4/10/1971	17 05	4050 MCA UNIT 279	O	Plugged	32 81642433	-103 8014708	3631572 048	612196 291	1 74
3002539315	CONOCOPHILLIPS COMPANY		32E	M	26	4/15/2009	17 05	4550 MCA UNIT 458	O	Active	32 79993069	-103 7456401	3629804 079	617444 729	1 75
3002500566	COG OPERATING LLC		32E	G	16		17 05	4202 LEAKER CC STATE 002	O	Active	32 83731982	-103 7683112	3633924 367	615273 611	1 75
3002500704	CONOCO INC	10/26/1989	32E	L	26	8/16/1940	17 05	4073 MCA UNIT BATTERY 4 187	O	Plugged	32 80369172	-103 7435222	3630223 418	617638 085	1 75
3002500822	COG OPERATING LLC		32E	H	34		17 05	3552 PEARSALEX BX 002	O	Active	32 79456465	-103 7498951	3629204 442	617053 342	1 76
3002538695	COG OPERATING LLC		32E	A	22	4/29/2008	17 05	7023 J C FEDERAL 011	O	Active	32 8263945	-103 7467953	3632736 781	617301 781	1 77
3002538992	COG OPERATING LLC		32E	H	19	3/30/2009	17 05	6918 BC FEDERAL 036	O	Active	32 8210235	-103 800048	3632082 996	612283 261	1 77
3002538589	COG OPERATING LLC		32E	H	16	12/5/2007	17 05	7020 LEAKER CC STATE 001	O	Active	32 83731615	-103 7661522	3633926 318	615475 689	1 77
3002500821	COG OPERATING LLC		32E	A	34		17 05	4316 PEARSALEX BX 001	O	Active	32 79644381	-103 7478232	3629415 074	617244 891	1 77
3002529427	CONOCOPHILLIPS COMPANY		32E	D	26		17 05	4250 MCA UNIT 366	O	Active	32 80969903	-103 7416213	3630891 543	617808 143	1 77
3002536511	MACK ENERGY CORP	6/16/2005	32E	G	34	11/13/2004	17 05	6020 PEARSALEX BX 007	O	Plugged	32 79331599	-103 7510529	3629064 725	616946 56	1 78
3002524545	CONOCOPHILLIPS COMPANY		32E	M	23		17 05	4250 MCA UNIT 349	O	Active	32 81297508	-103 7414634	3631254 928	617818 602	1 78
3002523930	CONOCO INC	3/4/1998	32E	G	30		17 05	MCA UNIT 278	O	Plugged	32 80567762	-103 8016188	3630380 437		

3002537891	MARBOB ENERGY CORP	32E	L	34	9/12/2006	17 05	9600 MOE FEDERAL 007	O	Active	32 78829442	-103 759592	3628498 588	616153 468	1 79
3002500781	CONOCO INC	32E	P	30	4/9/2001	17 05	MCA UNIT 215	O	Plugged	32 80017078	-103 7993717	3629772 299	612413 266	1 79
3002538993	COG OPERATING LLC	32E	J	19	12/1/2008	17 05	6805 GC FEDERAL 010	O	Active	32 8173054	-103 8022243	3631668 93	612124 644	1 79
3002523743	CONOCOPHILLIPS COMPANY	32E	I	19	4/24/1971	17 05	4075 MCA UNIT 283	O	Active	32 81991505	-103 8014759	3631959 048	612191 625	1 80
3002527857	LYNX PETROLEUM CONSULTANTS INC	32E	E	15	9/23/1982	17 05	4167 LYNX FEDERAL 002	G	Active	32 8364006	-103 7605737	3633830 727	615982 157	1 80
3002524271	CONOCOPHILLIPS COMPANY	32E	M	23		17 05	4200 MCA UNIT 330	O	Active	32 81632836	-103 7414677	3631626 694	617813 773	1 80
3002527291	MACK ENERGY CORP	32E	D	32	4/17/1995	17 05	4168 HOVER 002	O	Plugged	32 79562966	-103 7961284	3629272 292	612722 681	1 80
3002539314	CONOCOPHILLIPS COMPANY	32E	F	26	5/15/2009	17 05	4454 MCA UNIT 457	O	Active	32 80753263	-103 741339	3630651 674	617837 432	1 81
3002500596	CONOCOPHILLIPS COMPANY	32E	M	17		17 05	5405 MCA UNIT 267	O	Active	32 82918237	-103 7957496	3632992 583	612715 778	1 82
3002524725	COG OPERATING LLC	32E	A	34		17 05	4475 PEARSCALL BX 003	O	Active	32 78919402	-103 7563566	3628601 881	616455 282	1 82
3002538164	COG OPERATING LLC	32E	A	19	6/1/2007	17 05	6720 BC FEDERAL 013	O	Active	32 82646288	-103 7983294	3632688 332	612477 727	1 82
3002500813	COG OPERATING LLC	32E	N	33		17 05	3698 PEARSCALL AX 003	O	Active	32 78560523	-103 773536	3628185 22	614851 106	1 83
3002535652	COG OPERATING LLC	32E	H	19	9/16/2001	17 05	7562 BC FEDERAL 006	O	Active	32 82298896	-103 8006464	3632300 724	612265 211	1 83
3002500560	A H HOVER	32E	P	15	1/2/1900	17 05	Not Reported WILLIAMS 001	O	Plugged	32 82911735	-103 7478802	3633037 454	617196 648	1 83
3002528679	LYNX PETROLEUM CONSULTANTS INC	32E	F	15	4/18/1984	17 05	4250 LYNX FEDERAL 005	O	Active	32 83548843	-103 7570888	3633733 626	616326 371	1 83
3002500810	KEWANEEOIL CO	32E	O	33	1/2/1900	17 05	Not Reported PEARSCALL A 016	O	Plugged	32 78559552	-103 7692983	3628188 753	615247 979	1 83
3002500561	LYNX PETROLEUM CONSULTANTS INC	32E	J	15	11/12/1961	17 05	4202 LYNX FEDERAL 008	O	Active	32 83275236	-103 7522062	3633435 67	616786 955	1 83
3002524546	CONOCO INC	32E	L	26	10/13/1973	17 05	4350 MCA UNIT 350	O	Plugged	32 80543263	-103 7414492	3630418 729	617829 886	1 84
3002508030	CONOCOPHILLIPS COMPANY	32E	A	19		17 05	4030 MCA UNIT 021	O	Active	32 82555726	-103 7994074	3632586 781	612377 959	1 85
3002500769	CONOCOPHILLIPS COMPANY	32E	B	30	2/22/2005	17 05	4010 MCA UNIT 107	O	Plugged	32 81105532	-103 8037025	3630974 436	611994 101	1 85
3002524009	CONOCOPHILLIPS COMPANY	32E	I	30		17 05	4175 MCA UNIT 304	O	Active	32 80205785	-103 8014507	3629979 304	612216 229	1 85
3002520280	CONOCO INC	32E	K	17	1/2/1900	17 05	Not Reported MITCHELL B 019	O	Plugged	32 83371685	-103 7907847	3633500 616	613174 759	1 85
3002500707	CONOCO INC	32E	M	26	4/5/2001	17 05	MCA UNIT 202	O	Plugged	32 80006356	-103 7435148	3629821 172	617643 557	1 85
3002508043	CONOCO INC	32E	O	19	11/12/1941	17 05	3695 MCA UNIT 101	O	Plugged	32 81468348	-103 8037086	3631376 672	611988 978	1 85
3002500812	CONOCO INC	32E	M	33	1/2/1900	17 05	Not Reported PEARSCALL AX 002	O	Plugged	32 78561513	-103 7778519	3628181 64	614446 909	1 85
3002538741	COG OPERATING LLC	32E	A	19	8/17/2009	17 05	7040 BC FEDERAL 022	O	Active	32 82465164	-103 8004854	3632485 232	612278 119	1 87
3002500770	CONOCOPHILLIPS COMPANY	32E	G	30	12/22/2003	17 05	MCA UNIT 160	O	Plugged	32 80742716	-103 8036977	3630572 199	611999 102	1 87
3002535813	COG OPERATING LLC	32E	G	19	1/26/2004	17 05	6620 BC FEDERAL 007	O	Active	32 82075142	-103 8026382	3632050 541	612081 568	1 88
3002500594	CONOCO INC	32E	G	17	1/2/1900	17 05	Not Reported MITCHELL B 003	O	Plugged	32 83643419	-103 7865747	3633806 399	613565 4	1 88
3002527776	CHEVRON U S A INC	32E	E	32	1/2/1900	17 05	Not Reported LEA LE STATE 002	O	Plugged	32 79290707	-103 7950459	3628571 602	612827 485	1 88
3002539318	CONOCOPHILLIPS COMPANY	32E	K	26	3/16/2009	17 05	4480 MCA UNIT 462	O	Active	32 80327472	-103 7413304	3630179 618	617843 857	1 88
3002524095	CONTINENTAL OIL	32E	H	19	1/2/1900	17 05	Not Reported MCA UNIT 309	O	Plugged	32 82353977	-103 8014813	3632360 904	612186 363	1 89
3002508042	CONOCOPHILLIPS COMPANY	32E	J	19	9/22/2004	17 05	3995 MCA UNIT 059	O	Plugged	32 81831163	-103 803714	3631778 908	611983 921	1 89
3002500653	CONOCO INC	32E	D	23	11/30/1999	17 05	MCA UNIT 031	O	Plugged	32 82548244	-103 7435564	3632639 263	617606 187	1 89
3002539110	COG OPERATING LLC	32E	O	19	6/9/2009	17 05	7025 GC FEDERAL 014	O	Active	32 81489122	-103 8045004	3631398 865	611914 59	1 90
3002538362	MARBOB ENERGY CORP	32E	K	34	11/3/2007	17 05	9663 MOE FEDERAL 005	O	Active	32 78828448	-103 7552761	3628502 233	616557 654	1 91
3002500706	CONOCO INC	32E	C	26	4/18/1940	17 05	4028 SEARS A 002	O	Plugged	32 81095077	-103 7392202	3631032 999	618031 291	1 91
3002530115	CONOCOPHILLIPS COMPANY	32E	K	23		17 05	4255 MCA UNIT 377	O	Active	32 81983101	-103 7404747	3632016 133	617902 109	1 91
3002500644	CONOCOPHILLIPS COMPANY	32E	N	23	9/8/2004	17 05	4065 MCA UNIT 082	O	Plugged	32 81457892	-103 7392251	3631435 239	618026 035	1 91
3002521710	COG OPERATING LLC	32E	P	32		17 05	4182 PEARSCALL QUEEN SAND UNIT 003	O	Active	32 78562502	-103 7821678	3628178 076	614042 712	1 92
3002500710	CONOCOPHILLIPS COMPANY	32E	N	26	4/27/2006	17 05	MCA UNIT 201	O	Plugged	32 80180393	-103 7411965	3630016 705	617858 335	1 93
3002539324	CONOCOPHILLIPS COMPANY	32E	K	26	3/21/2009	17 05	4480 MCA UNIT 465	O	Active	32 80547024	-103 7397816	3630424 758	617985 973	1 93
3002500583	CONOCO INC	32E	C	16	1/2/1900	17 05	Not Reported MCA UNIT 004	O	Plugged	32 84004988	-103 7736255	3634221 25	614772 701	1 93
3002500776	CONOCO INC	32E	J	30	1/2/1900	17 05	Not Reported MCA UNIT 166	O	Plugged	32 80380772	-103 8036929	3630170 929	612004 092	1 93
3002500572	MACK ENERGY CORP	32E	B	16	5/27/1998	17 05	4196 LEAKER CC 006	O	Plugged	32 84004274	-103 7693939	3634225 071	615168 758	1 93
3002539468	COG OPERATING LLC	32E	G	19	11/27/2009	17 05	6920 BC FEDERAL 050	O	Active	32 82301077	-103 8026416	3632301 025	612078 412	1 94
3002500712	CONOCO INC	32E	F	26	6/18/1941	17 05	4075 MCA UNIT 143	O	Plugged	32 80732261	-103 7392133	3630630 761	618036 762	1 94
3002500816	ANDERSON PLANK AR	32E	J	34	1/2/1900	17 05	Not Reported VIRGINIA SHAW 002	O	Plugged	32 79008891	-103 7510456	3628706 955	616951 468	1 94
3002538974	CONOCOPHILLIPS COMPANY	32E	F	26	3/6/2009	17 05	4417 MCA UNIT 401	O	Active	32 80910829	-103 738713	3630829 294	618081 214	1 95
3002530438	COG OPERATING LLC	32E	A	31	10/4/2006	17 05	4200 BROWN FEDERAL 003	O	Plugged	32 79713578	-103 8004464	3629434 677	612316 454	1 95
3002500646	CONOCO INC	32E	K	23	4/16/1941	17 05	4150 MCA UNIT 077	O	Plugged	32 81820707	-103 7392297	3631837 48	618020 807	1 95
3002500565	MACK ENERGY CORP	32E	I	15	6/29/2005	17 05	4105 LYNX FEDERAL 002	O	Plugged	32 83183846	-103 7478862	3633339 432	617192 511	1 95
3002529272	LYNX PETROLEUM CONSULTANTS INC	32E	D	15	7/6/1985	17 05	4150 LYNX FEDERAL 006	O	Active	32 8391232	-103 7618364	3634131 388	615877 282	1 95
3002536521	COG OPERATING LLC	32E	H	34	2/6/2004	17 05	5312 PEARSCALL BX 009	O	Active	32 79330849	-103 746737	3629068 674	617350 72	1 96
3002500582	CONOCO INC	32E	D	16	1/25/1990	17 05	3985 MCA UNIT 003	O	Plugged	32 84005695	-103 7779435	3634217 357	614368 558	1 96
3002500591	CONOCO INC	32E	L	17	10/25/1989	17 05	4336 MITCHELL B 007	O	Plugged	32 83281041	-103 7951012	3633395 506	612771 884	1 96
3002508038	CONOCOPHILLIPS COMPANY	32E	G	19	5/30/1942	17 05	3987 MCA UNIT 053	O	Plugged	32 82193469	-103 8037199	3632180 58	611978 878	1 97
3002539315	CONOCOPHILLIPS COMPANY	32E	N	26	4/21/2009	17 05	4602 MCA UNIT 459	O	Active	32 80005885	-103 7413238	3629823 09	617848 719	1 97
3002500573	COG OPERATING LLC	32E	A	16		17 05	4080 LEAKER CC STATE 008	O	Active	32 84003541	-103 7650759	3634228 974	615572 902	1 97
3002537023	FOREST OIL CORPORATION	32E	E	32	3/25/2005	17 05	5000 LEA LE STATE 004	O	Plugged	32 7920015	-103 7961237	3628870 055	612727 7	1 97
3002512762	CONOCOPHILLIPS COMPANY	32E	C	30	3/21/2006	17 05	3975 MCA UNIT 106	O	Plugged	32 81273639	-103 8059011	3631158 484	611786 157	1 97
3002520425	FOREST OIL CORP	32E	J	30	1/2/1900	17 05	Not Reported CARPER 001	O	Plugged	32 80471693	-103 8047733	3630270 586	611901 794	1 97
3002524057	CONOCOPHILLIPS COMPANY	32E	B	30		17 05	4020 MCA UNIT 306	O	Active	32 80931414	-103 8057768	3630779 202	611802 08	1 97
3002500563	CHEVRON U S A INC	32E	P	15	1/2/1900	17 05	Not Reported MAJAMAR GRAYBURG UNIT 076	O	Plugged	32 83548155	-103 7522123	3633738 244	616782 81	1 98
3002508023	CONOCO INC	32E	G	18	1/2/1900	17 05	Not Reported MITCHELL B 012	O	Plugged	32 8291854	-103 7994133	3632989 016	612372 837	1 98
3002535814	COG OPERATING LLC													

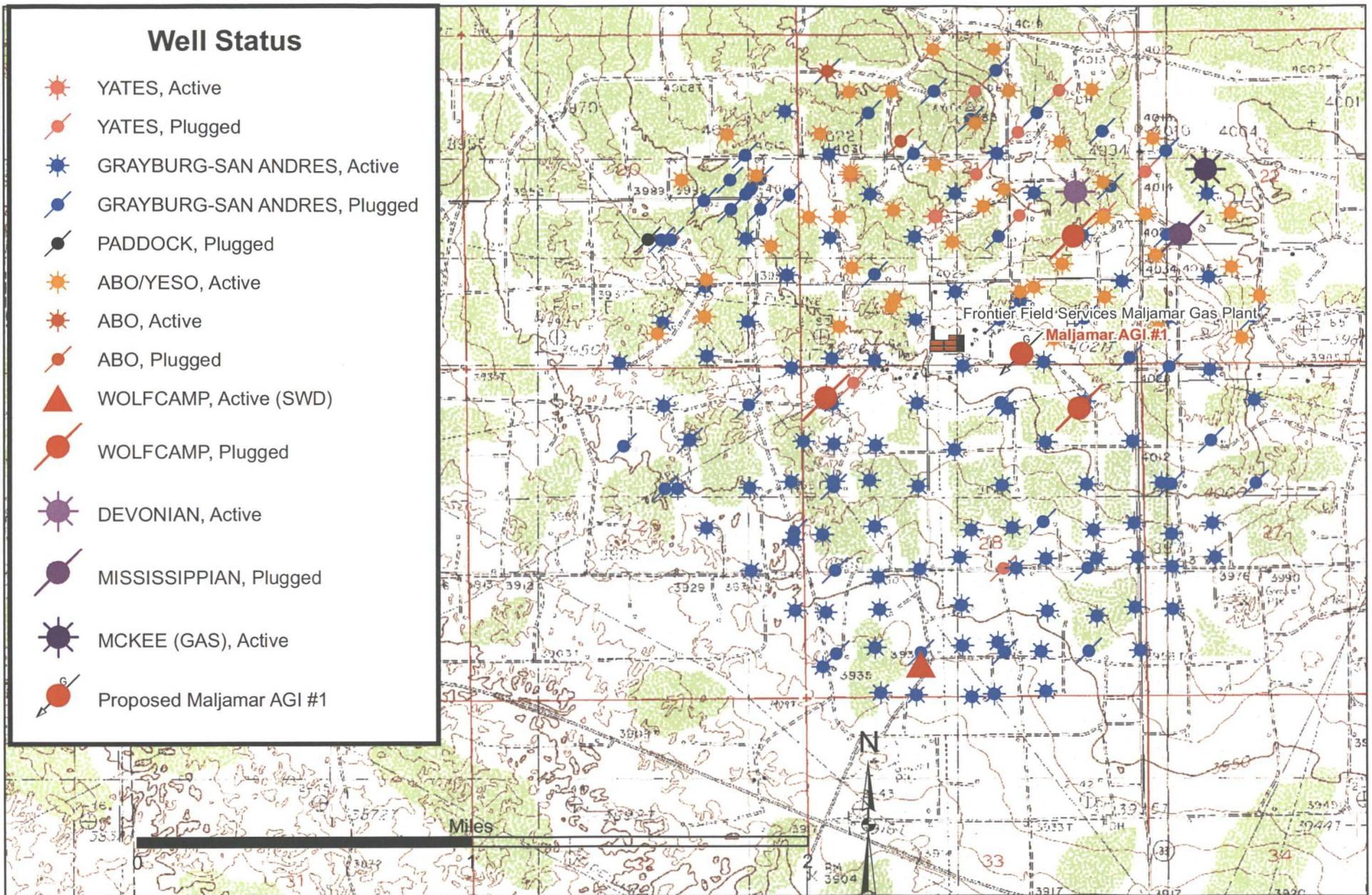


Figure C-2: Location and Status of Wells within One Mile of Proposed Maljamar AGI #1 Well

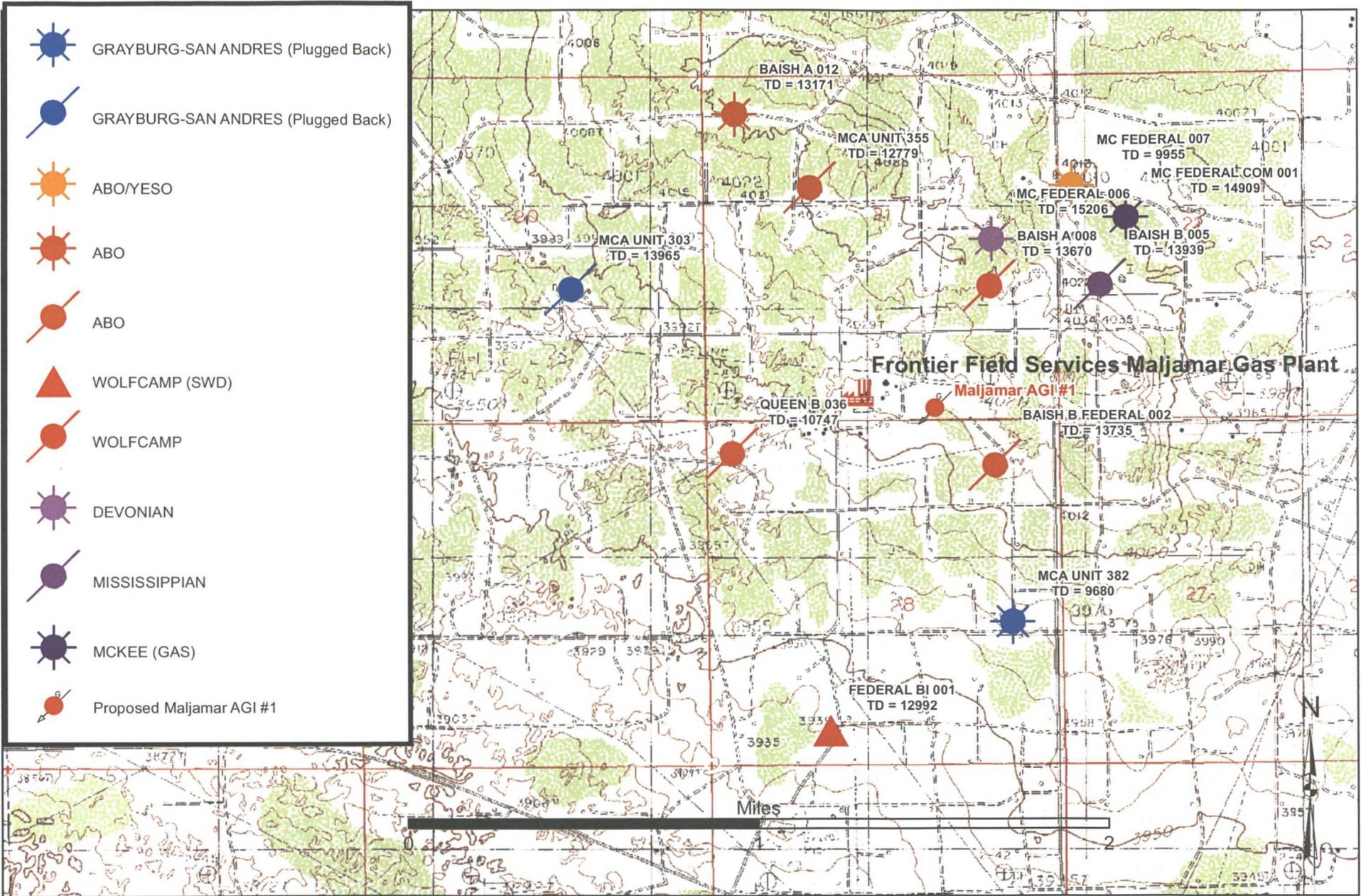
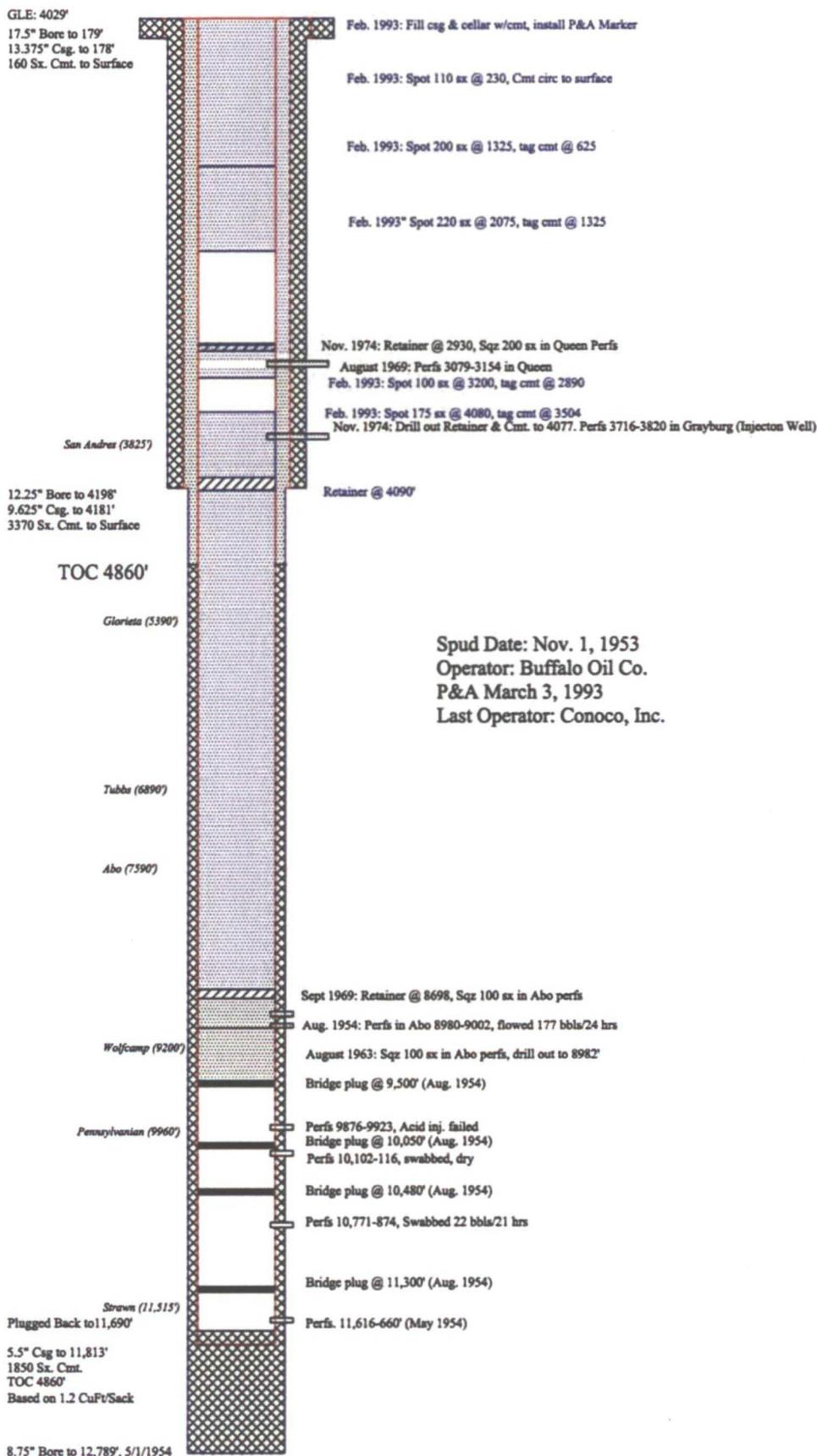
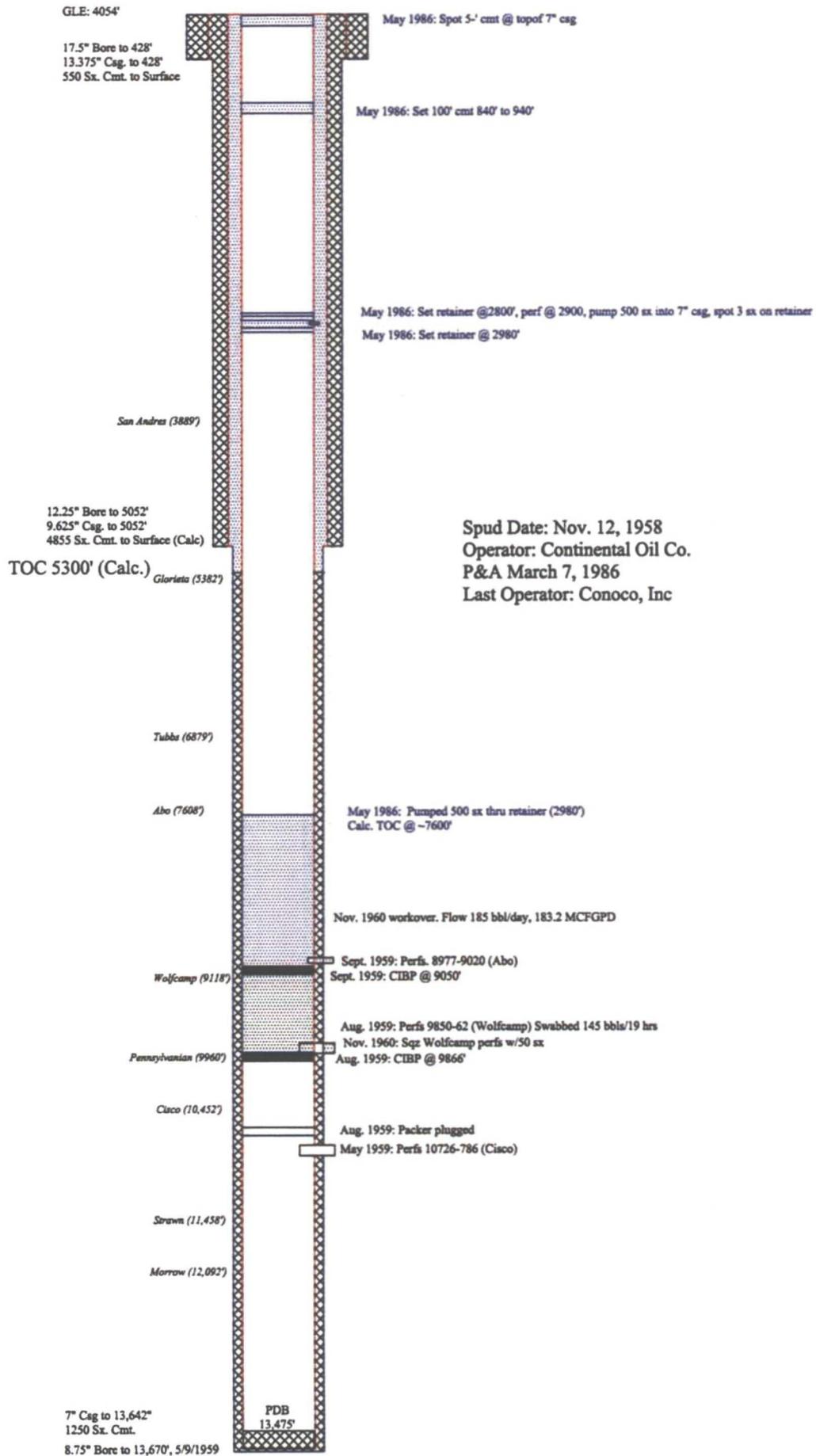


Figure C3: Location and Status of Deep (>9000') Wells within One Mile of Proposed Maljamar AGI #1 Well

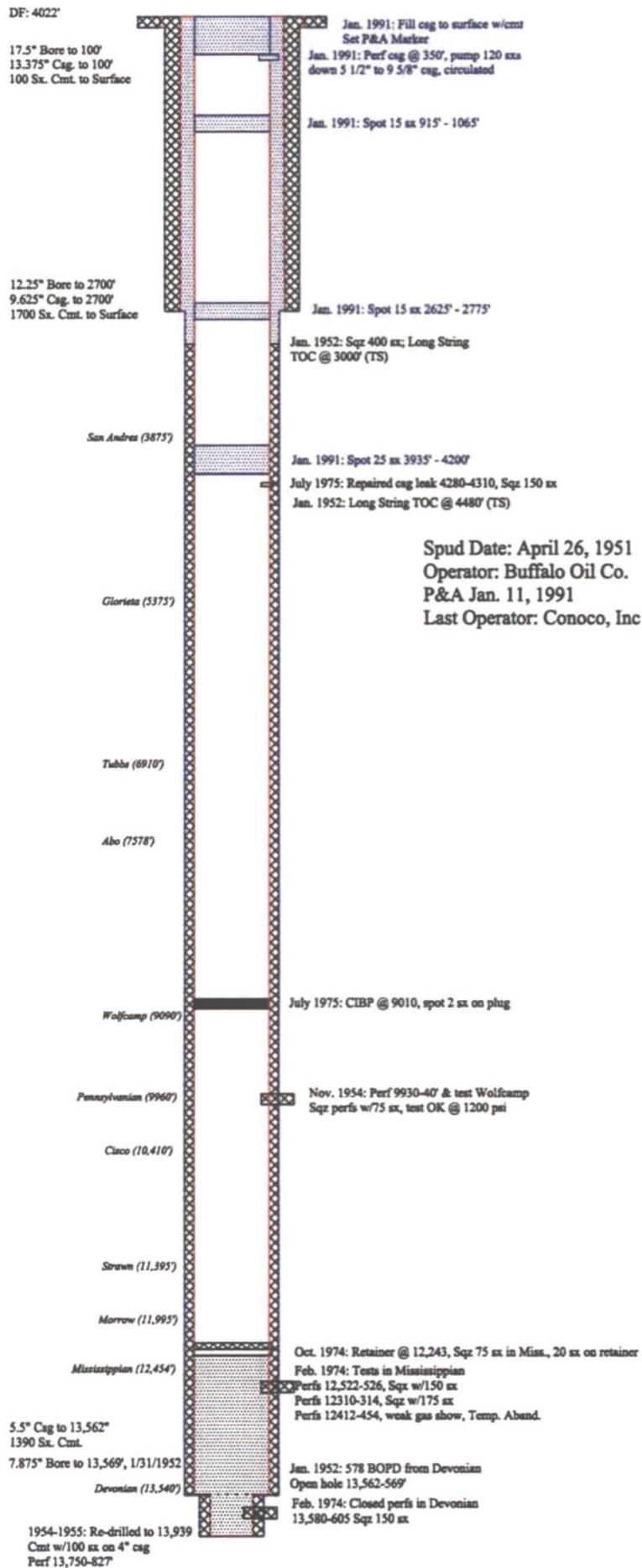
MCA Unit 355
 API # 3002500614
 1780' FNL 1780' FWL, Sec. 21, T17S R32E



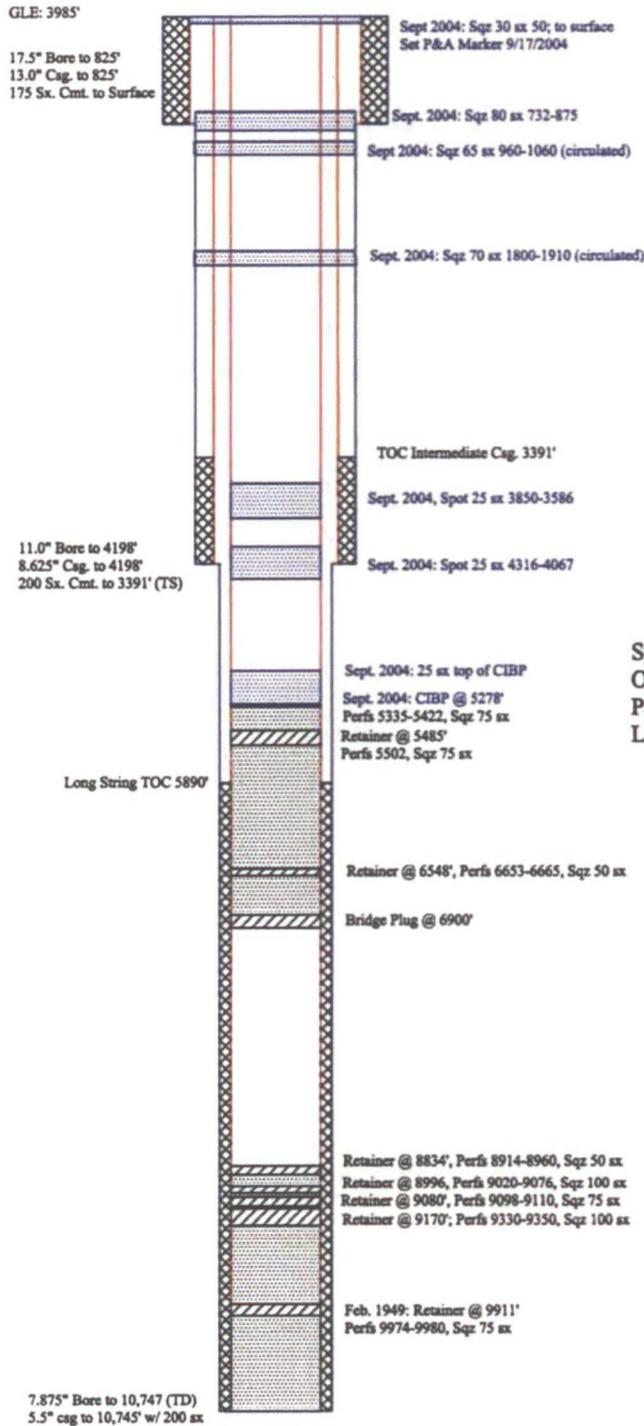
BAISH A 008
 API # 3002500622
 1980' FSL 810' FEL, Sec. 21, T17S R32E



BAISH B 005
API # 3002500634
1980' FSL 860' FWL, Sec. 22, T17S R32E

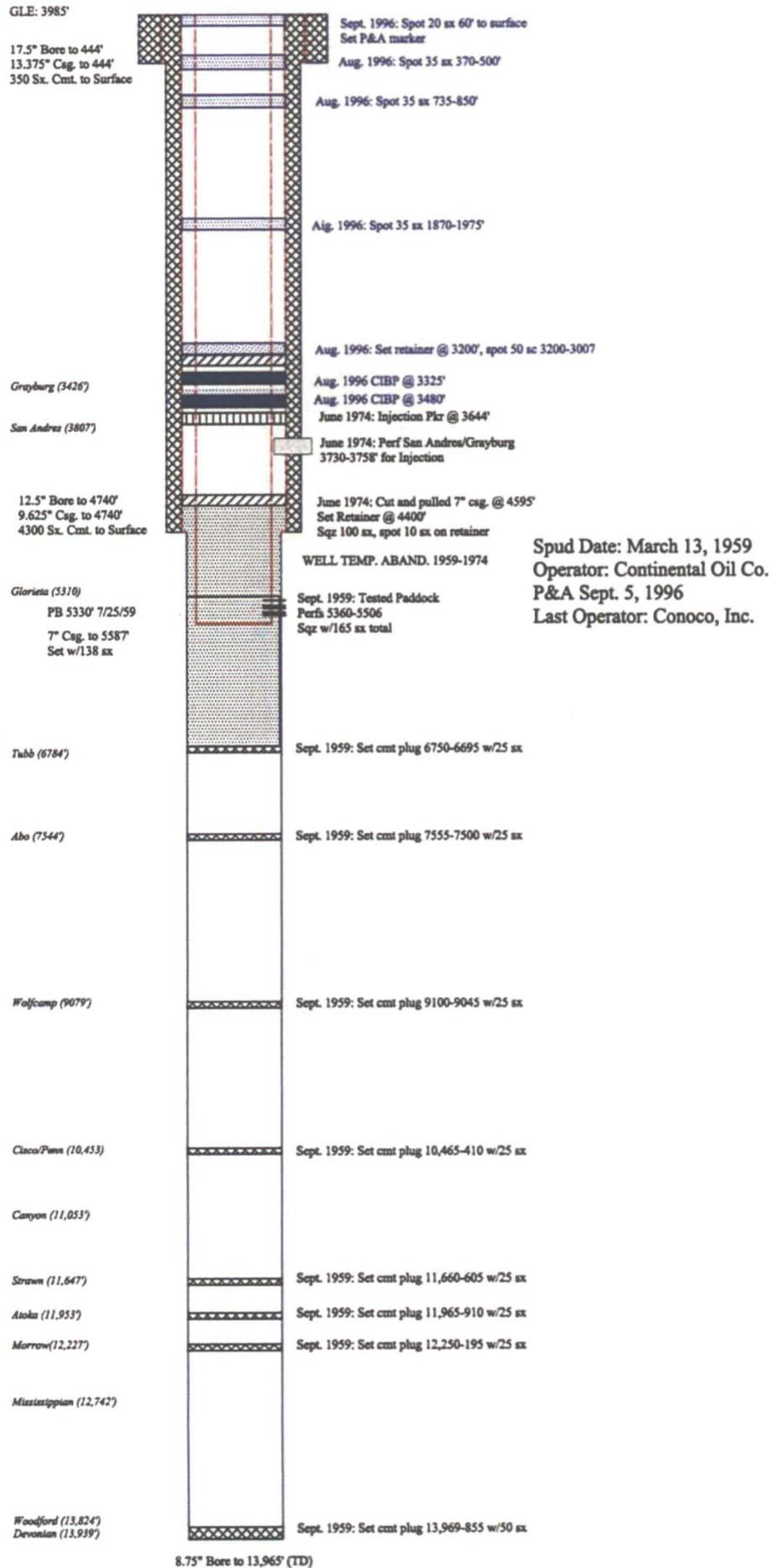


QUEEN B 036
 API # 3002500751
 554' FNL 554' FWL, Sec. 28, T17S R32E

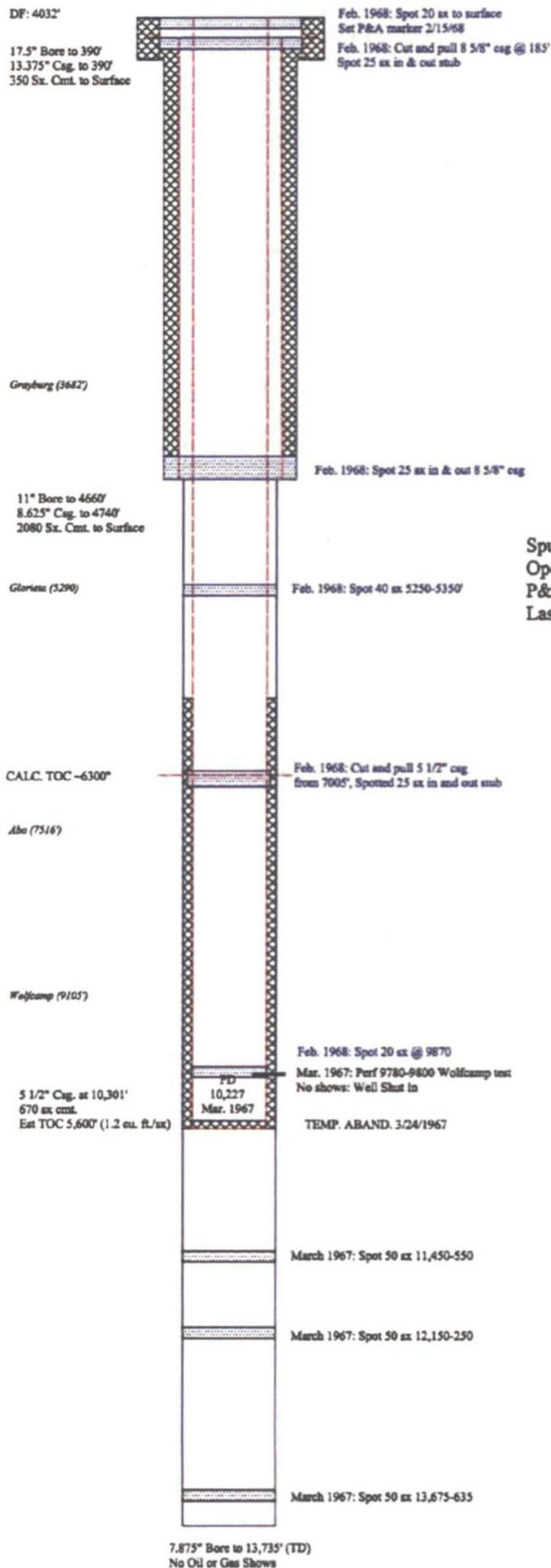


Spud Date: Sept. 20, 1948
 Operator: Kewanee Oil Co.
 P&A Sept. 17, 2004
 Last Operator: ConocoPhillips Co.

MCA UNIT 303
 API # 3002508053
 1980' FSL 1830' FEL, Sec. 20, T17S R32E

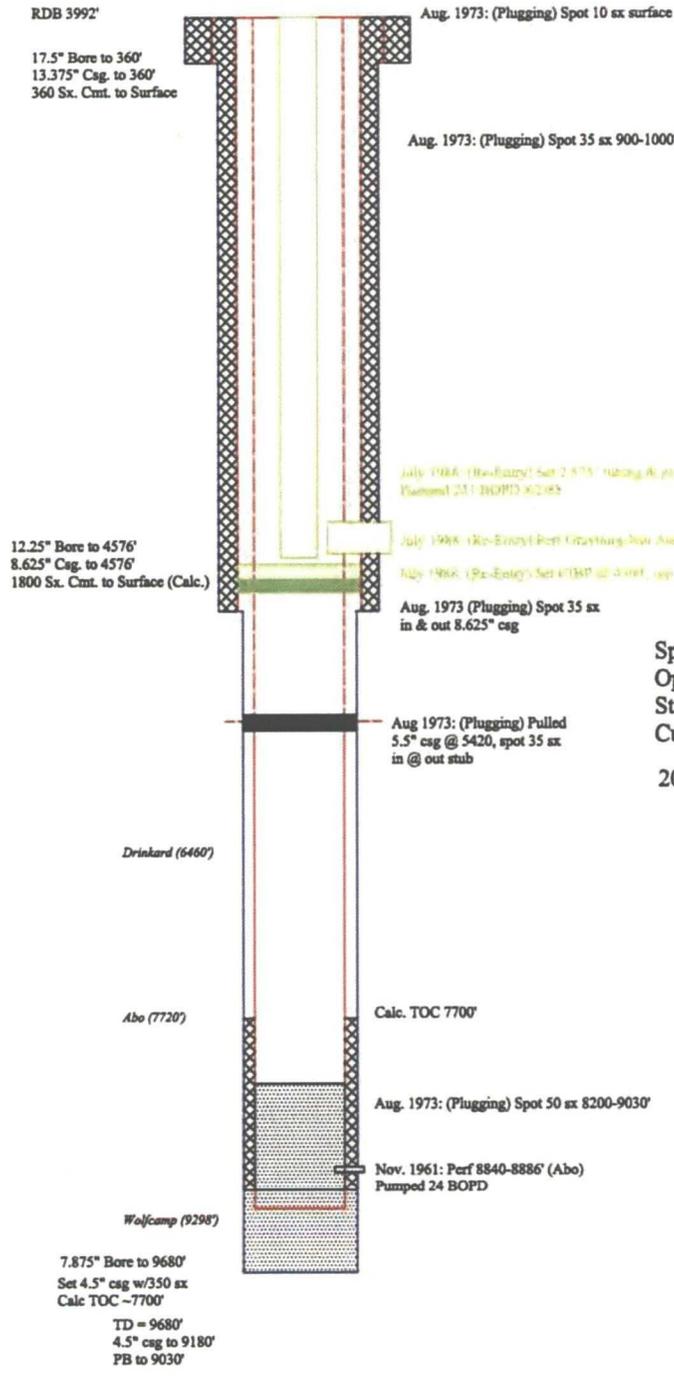


BAISH B FEDERAL 002
 API # 3002521951
 760' FNL 760' FEL, Sec. 28, T17S R32E



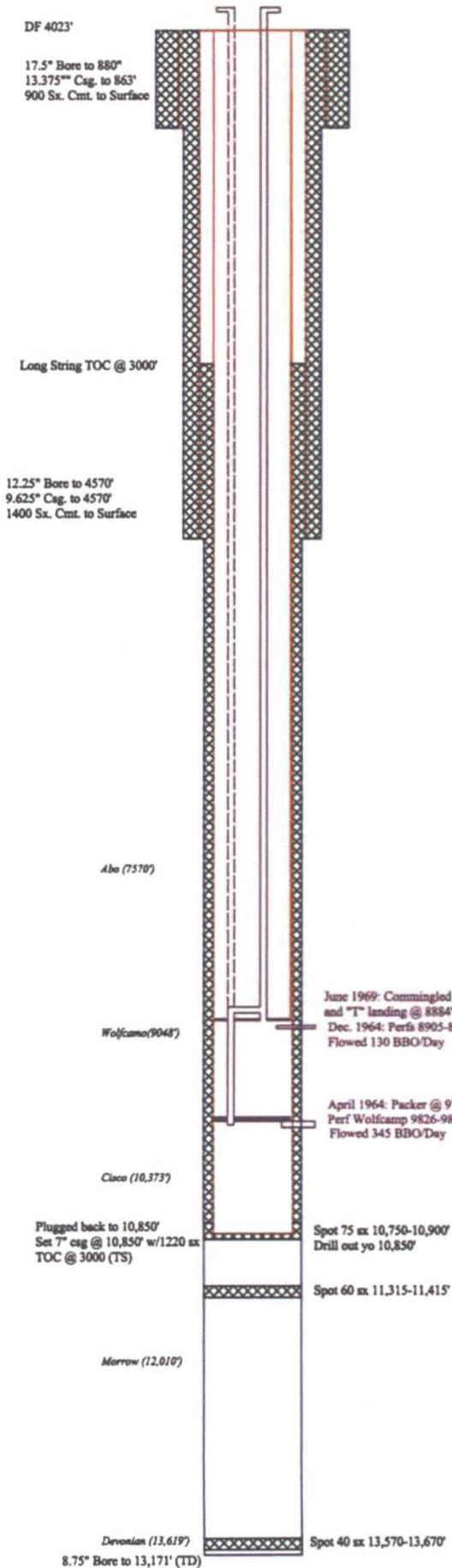
Spud Date: Dec. 20, 1966
 Operator: Pan American Corp.
 P&A Feb. 15, 1968
 Last Operator: Pan American Corp.

MCA UNIT 382
 API # 3002500745
 2120' FSL 519' FEL, Sec. 28, T17S R32E



Spud Date: Aug. 8, 1961
 Operator: Pan American Petroleum Corp.
 Status: Active
 Current Operator: ConocoPhillips Co.
 2010 Production: 1582 MMCFG, 1791 BBO

BAISH A 012
 API # 3002520568
 660' FNL 660' FEL, Sec. 21, T17S R32E

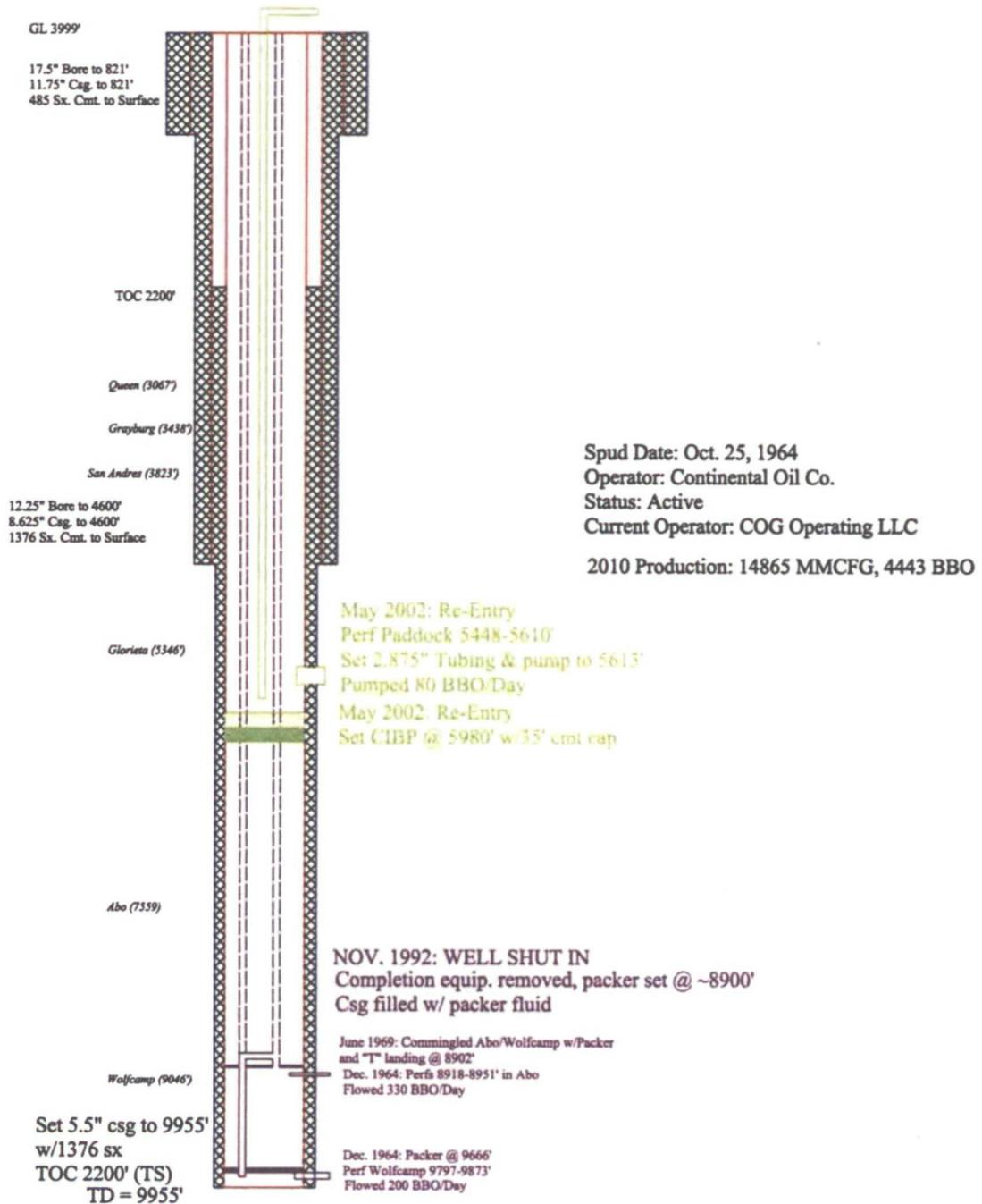


Spud Date: Nov. 22, 1963
 Operator: Continental Oil Co.
 Status: Active
 Current Operator: COG Operating LLC
 2010 Production: 4195 MMCFG, 1965 BBO

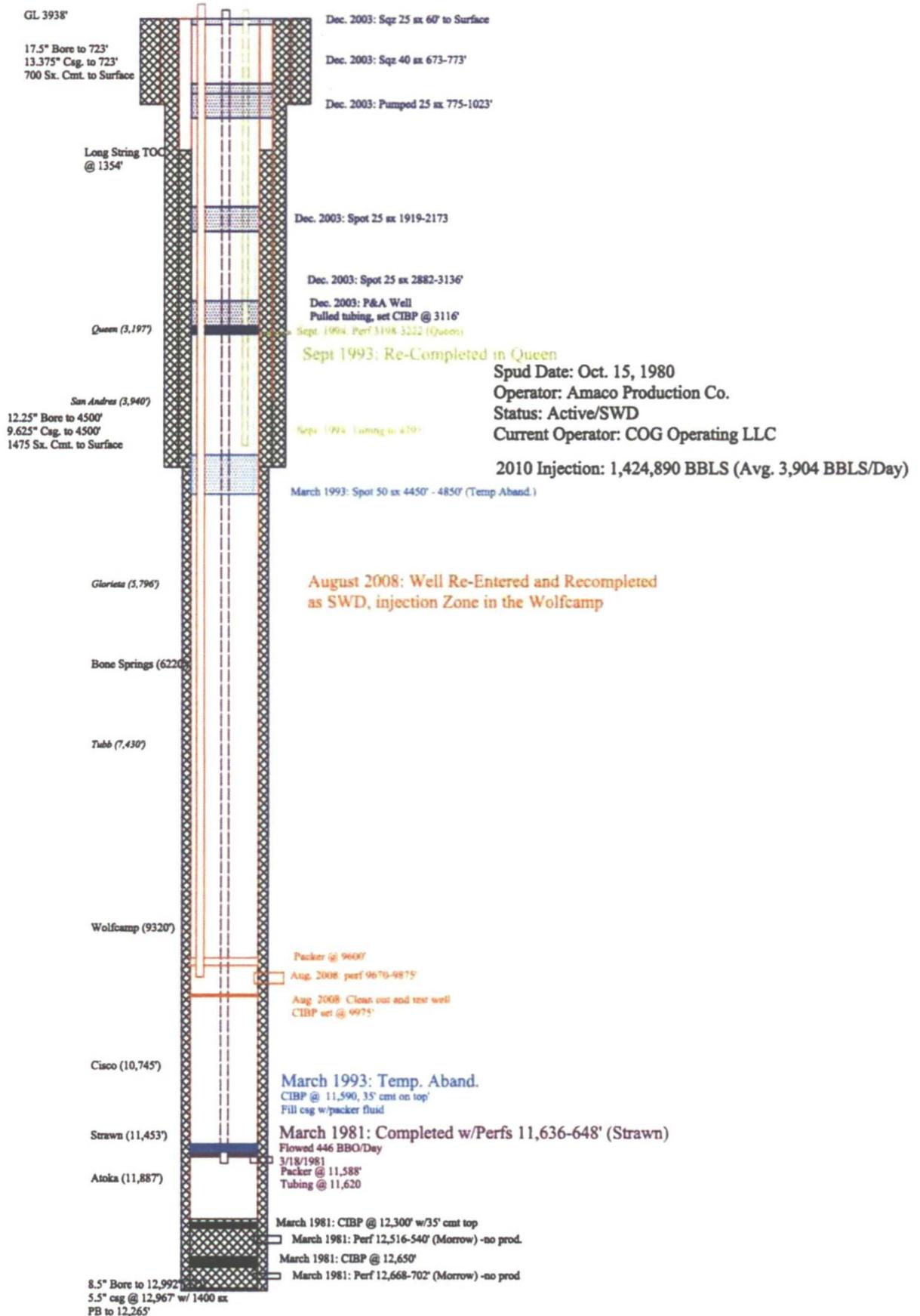
MC Federal 007 (Formerly BAISH A 013)

API # 3002520647

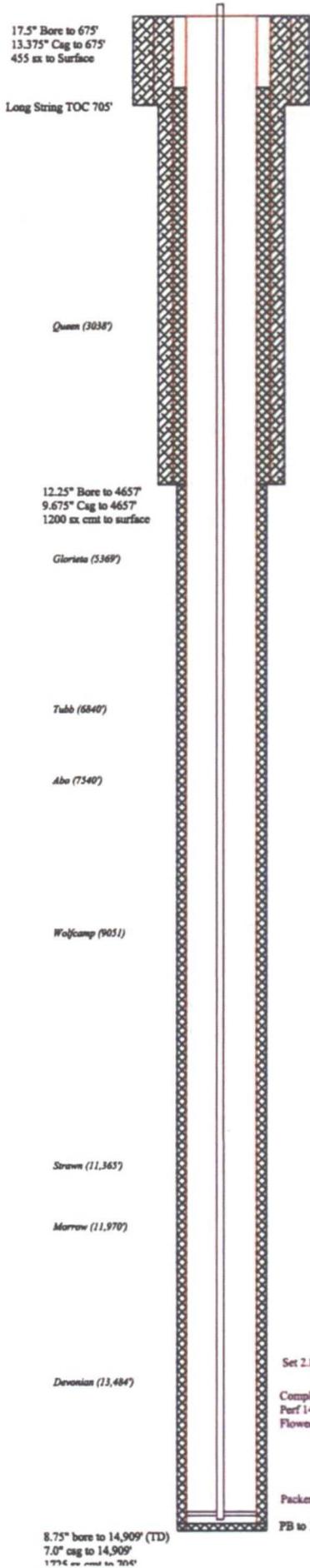
1780' FNL 460 FWL, Sec. 22, T17S R32E



Federal BI 001
 API # 3002527068
 480' FSL 1980 FWL, Sec. 28, T17S R32E



MC Federal 001
 API # 3002534647
 225' FNL, 1094' FWL, Sec. 22, T17S, R32E

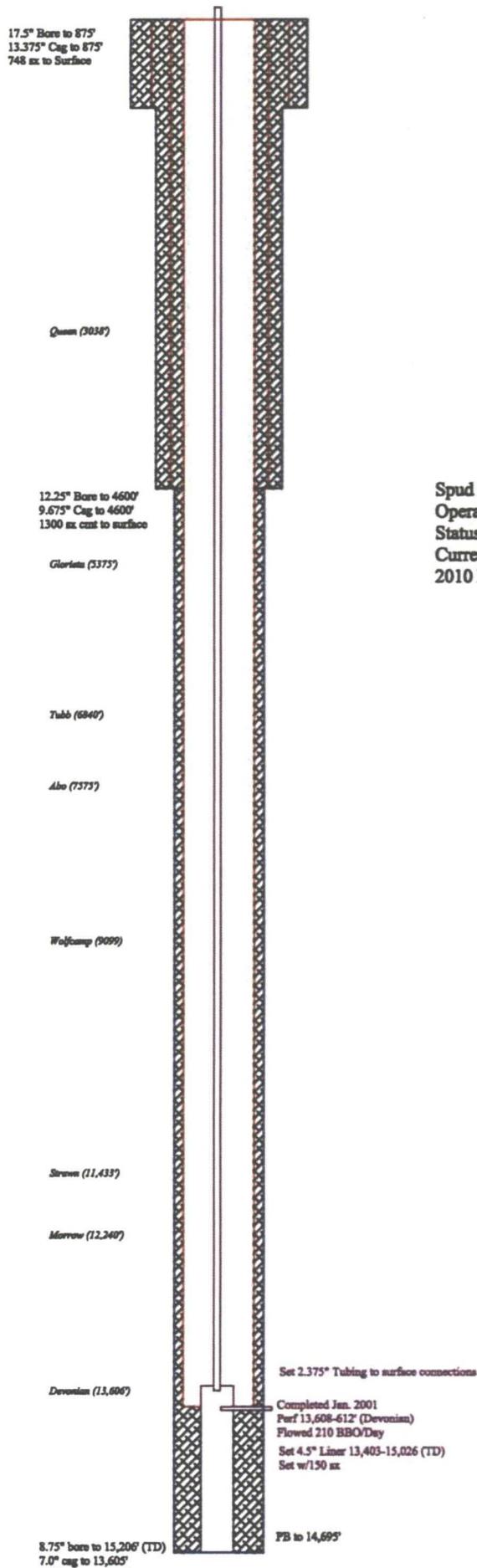


Spud Date: June 19, 1999
 Operator: Mack Energy Corp.
 Status: Active
 Current Operator: COG Operating LLC
 2010 Production: 41,589 MMCFG, 596 BBO

Set 2.875" Tubing to surface connections
 Completed Sept. 1999
 Perf 14,805-821' (McKee)
 Flowed 1.3 MMCFG and 21 BBL Condensate/Day

Packer @ 14,726'
 PB to 14,844'

MC Federal 006
API # 3002535252
2600 FNL, 760' FEL, Sec. 21, T17S, R32E



Spud Date: Nov. 17, 2000
Operator: Mack Energy Corp.
Status: Active
Current Operator: COG Operating LLC
2010 Production: 3480 BBO

CD PLACEHOLDER

APPENDIX D

Identification of Operators, Surface Owners, Lessees, and other Interested Parties for Notices; Copies of Notice Letters and Certified Mail Receipts; Copy of Draft Public Notice for Hearing

TABLE D-1

**OPERATORS WITHIN ONE MILE RADIUS
OF PROPOSED MALJAMAR AGI #1**

Conoco Phillips Company
3401 E. 30th Street
Farmington, NM 87402

Endurance Resources, LLC
15455 Dallas Parkway
Suite 600
Addison, TX 75234

TABLE D-2

**SURFACE OWNERS ON WITHIN ONE MILE RADIUS
OF PROPOSED MALJAMAR AGI #1**

Section 15, Southwest Quarter (SW/4), 17 South, Range 32 East

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

Surface Lessee:

LaDoyce & Olane Caswell
1702 Gillham
Brownfield, TX 79316

Section 16, South Half (S/2), 17 South, Range 32 East

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

Surface Lessee:

LaDoyce & Olane Caswell
1702 Gillham
Brownfield, TX 79316

Section 17, South Half (S/2), 17 South, Range 32 East

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

Surface Lessee:

LaDoyce & Olane Caswell
1702 Gillham
Brownfield, TX 79316

Section 20, ALL, 17 South, Range 32 East

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

Surface Lessee:

LaDoyce & Olane Caswell
1702 Gillham
Brownfield, TX 79316

**Section 21, North Half Northwest Quarter Northwest Quarter Southeast Quarter,
(N/2 NW/4 NW/4 SE/4)**

Mid America Pipeline Company LLC
Tax Department
P. O. Box 4018
Houston, TX 77210

Section 21, 19.08 acre tract in South part of Section 21 & North part of Section 28

Frontier Field Services LLC
1900 Dalrock Rd.
Rowlett, TX 75088

Section 21, ALL less & except the above 2 tracts

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

Surface Lessee:

LaDoyce & Olane Caswell
1702 Gillham
Brownfield, TX 79316

Section 22, ALL, 17 South, Range 32 East

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

Surface Lessee:

LaDoyce & Olane Caswell
1702 Gillham
Brownfield, TX 79316

Section 27, ALL, 17 South, Range 32 East

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

Surface Lessee:

LaDoyce & Olane Caswell
1702 Gillham
Brownfield, TX 79316

Section 28, ALL, 17 South, Range 32 East

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

Surface Lessee:

LaDoyce & Olane Caswell
1702 Gillham
Brownfield, TX 79316

Section 29, ALL, 17 South, Range 32 East

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

Surface Lessee:

LaDoyce & Olane Caswell
1702 Gillham
Brownfield, TX 79316

Section 32, North Half (N/2), 17 South, Range 32 East

State of New Mexico
Commissioner of Public Land
310 Old Santa Fe Trail
Santa Fe, NM 87501-2708

Surface Lessee:

Williams & Son Cattle Company
P. O. Box 30
Maljamar, NM 88264

Section 33, North Half (N/2), 17 South, Range 32 East

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

Surface Lessee:

LaDoyce & Olane Caswell
1702 Gillham
Brownfield, TX 79316

Section 34, North Half (N/2), 17 South, Range 32 East

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

Surface Lessee:

LaDoyce & Olane Caswell
1702 Gillham
Brownfield, TX 79316

TABLE D-3

**LEASE HOLDERS WITHIN ONE MILE RADIUS
OF PROPOSED MALJAMAR AGI #1**

**V-F Petroleum Inc.
P. O. Box 1889
Midland, TX 79702**

Section 15, Southwest Quarter (SW/4), 17 South, Range 32 East

**Conoco Phillips Company
3401 E. 30th Street
Farmington, NM 87402**

Section 15, Southwest Quarter (SW/4), 17 South, Range 32 East
Section 16, South Half (S/2), 17 South, Range 32 East
Section 17, Southeast Quarter (SE/4), 17 South, Range 32 East
Section 20, (ALL), 17 South, Range 32 East
Section 21, (ALL), 17 South, Range 32 East
Section 22, West Half (W/2), 17 South, Range 32 East
Section 27, ALL, 17 South, Range 32 East
Section 28, ALL, 17 South, Range 32 East
Section 29, ALL, 17 South, Range 32 East
Section 32, North Half (N/2), 17 South, Range 32 East
Section 33, North Half (N/2), 17 South, Range 32 East
Section 34, North Half (N/2), 17 South, Range 32 East

**Cimerax Energy Company of Colorado
600 N. Marienfeld
Suite 600
Midland, TX 79701**

Section 16, South Half (S/2), 17 South, Range 32 East;

COG Operating, LLC
550 W. Texas
Suite 1300
Midland, TX 79701

Section 16, South Half (S/2), 17 South, Range 32 East
Section 17, Southeast Quarter (SE/4), 17 South, Range 32 East
Section 20, (ALL), 17 South, Range 32 East
Section 21, (ALL), 17 South, Range 32 East
Section 22, West Half (W/2), 17 South, Range 32 East
Section 28, ALL, 17 South, Range 32 East
Section 29, ALL, 17 South, Range 32 East
Section 32, North Half (N/2), 17 South, Range 32 East
Section 33, North Half (N/2), 17 South, Range 32 East
Section 34, North Half (N/2), 17 South, Range 32 East

Endurance Resources, LLC
15455 Dallas Parkway
Suite 600
Addison, TX 75234

Section 32, North Half (N/2), 17 South, Range 32 East

Lynx Petroleum Consultants, Inc.
P. O. Box 1708
Hobbs, NM 88241

Section 15, Southwest Quarter (SW/4), 17 South, Range 32 East

TABLE D-3

**LEASE HOLDERS WITHIN ONE MILE RADIUS
OF PROPOSED MALJAMAR AGI #1**

**V-F Petroleum Inc.
P. O. Box 1889
Midland, TX 79702**

Section 15, Southwest Quarter (SW/4), 17 South, Range 32 East

**Conoco Phillips Company
3401 E. 30th Street
Farmington, NM 87402**

Section 15, Southwest Quarter (SW/4), 17 South, Range 32 East
Section 16, South Half (S/2), 17 South, Range 32 East
Section 17, Southeast Quarter (SE/4), 17 South, Range 32 East
Section 20, (ALL), 17 South, Range 32 East
Section 21, (ALL), 17 South, Range 32 East
Section 22, West Half (W/2), 17 South, Range 32 East
Section 27, ALL, 17 South, Range 32 East
Section 28, ALL, 17 South, Range 32 East
Section 29, ALL, 17 South, Range 32 East
Section 32, North Half (N/2), 17 South, Range 32 East
Section 33, North Half (N/2), 17 South, Range 32 East
Section 34, North Half (N/2), 17 South, Range 32 East

**Cimerax Energy Company of Colorado
600 N. Marienfeld
Suite 600
Midland, TX 79701**

Section 16, South Half (S/2), 17 South, Range 32 East;

COG Operating, LLC
550 W. Texas
Suite 1300
Midland, TX 79701

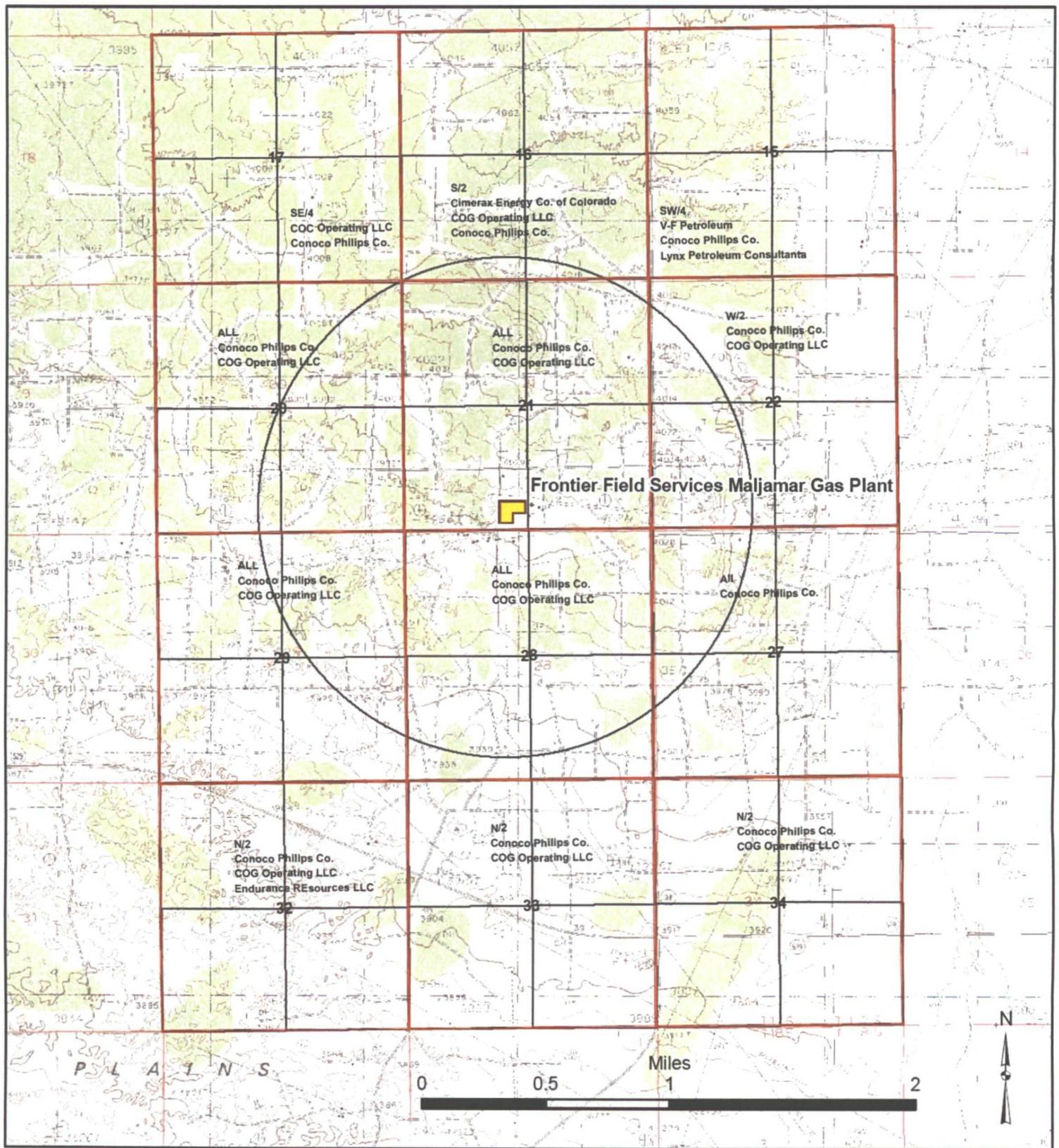
Section 16, South Half (S/2), 17 South, Range 32 East
Section 17, Southeast Quarter (SE/4), 17 South, Range 32 East
Section 20, (ALL), 17 South, Range 32 East
Section 21, (ALL), 17 South, Range 32 East
Section 22, West Half (W/2), 17 South, Range 32 East
Section 28, ALL, 17 South, Range 32 East
Section 29, ALL, 17 South, Range 32 East
Section 32, North Half (N/2), 17 South, Range 32 East
Section 33, North Half (N/2), 17 South, Range 32 East
Section 34, North Half (N/2), 17 South, Range 32 East

Endurance Resources, LLC
15455 Dallas Parkway
Suite 600
Addison, TX 75234

Section 32, North Half (N/2), 17 South, Range 32 East

Lynx Petroleum Consultants, Inc.
P. O. Box 1708
Hobbs, NM 88241

Section 15, Southwest Quarter (SW/4), 17 South, Range 32 East



**Figure D-1:
Lease owners within one mile of Proposed Maljamar AGI #1 Well**

TABLE D-4

**BUSINESSES WITHIN ONE MILE RADIUS
OF PROPOSED MALJAMAR AGI #1**

Gas Processing Plant

Frontier Field Services, LLC
1900 Dalrock
Rowlett, TX 75088

Compressor Station (unmanned)

Mid America Pipeline Company, LLC
Tax Department
P.O. Box 4018
Houston, TX 77210

Conoco Philips Warehouse (unmanned)

Conoco Phillips Company
3401 E 30th Street
Farmington, NM 87402

May 15, 2011

Generic Notified Party
Mailing Address
City, State Zip Code

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

RE: Frontier Field Services, LLC Proposed Maljamar AGI #1

This letter is to advise you that Frontier Field Services, LLC ("Frontier") filed the enclosed application on May 15, 2011 with the New Mexico Oil Conservation Division ("NMOCD" or "the Division") seeking authorization to drill an Acid Gas Injection (AGI) well at the Frontier Gas Processing Plant near Maljamar, New Mexico. The proposed well will be located 130 feet from the South line and 1813 feet from the East line of Section 21, Township 17 South, Range 32 East, in Lea County. Frontier plans to inject up to 2MMCFD of acid gas from the Plant at a maximum pressure of 2973 psi into this well into the lower Wolfcamp Formation and possibly into the lower Leonard Formation, approximately 9300 to 10000 feet below the surface. The proposed well will serve as the disposal well for acid gas currently being flared at the Frontier Processing Plant.

This application has been set for hearing before a Division Examiner at 8am on June 23, 2011 in Porter Hall at the NMOCD's Santa Fe office located at 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505. You are not required to attend this hearing, but as an owner of an interest that may be affected by Frontier's application, you may appear and present testimony. Failure to appear at that time and become a party of record will preclude you from challenging the application at a later date.

A party appearing at the hearing is required by the Division's rules to file a Pre-Hearing Statement with the NMOCD's Santa Fe office no later than one week prior to the hearing date. This statement must be served on counsel for Frontier and on all other parties and should include: your name and the name of your attorney, if any; a concise statement of the case; the names of all witnesses you will call to testify at the hearing; the approximate time you will need to present your case; and an identification of any procedural matters that need to be resolved prior to the hearing.

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

Sincerely,
Geolex, Inc.

Alberto A. Gutiérrez, C.P.G.
President
Consultant to Frontier Field Services LLC

Enclosure
AAG/lh

C:\Projects\10-014\Reports\C-108\notices\Final Frontier Notice Letter.docx

**FRONTIER FIELD SERVICES, LLC
DRAFT PUBLIC NOTICE FOR HEARING**

Case No. : *Application of Frontier Field Services, LLC for authority to inject, Lea County, New Mexico.* Frontier Field Services, LLC requests an order authorizing it to inject acid gas and carbon dioxide (CO₂) from the Maljamar Processing Plant into its proposed Maljamar AGI#1 well. The well will be located in Section 21, Township 17 South, Range 32 East, NMPM, in Lea County, New Mexico. Frontier Field Services seeks approval to drill and complete a well for injection of acid gas and CO₂ into the lower Leonard and Wolfcamp formations in injection intervals approximately from 9300 feet to 10000 feet, and approval of a maximum injection pressure of 2973 psi and a maximum daily injection rate of 2MMCFD. The proposed Maljamar AGI #1 will be located eight approximately three miles south of the town of Maljamar, New Mexico.