| 10/20/2016 DATE IN | SUSPENSE | ENGINEER | 10/20/2016 LOGGED IN | AGI (SWD) TYPE | APP NO. pPRG1629931324 |
|---|---|---|---|---|---|

ABOVE THIS LINE FOR DIVISION USE ONLY

**NEW MEXICO OIL CONSERVATION DIVISION**
- Engineering Bureau -
1220 South St. Francis Drive, Santa Fe, NM 87505

# ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

**Application Acronyms:**

**[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]**
**[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]**
**[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]**
**[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]**
**[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]**
**[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]**

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

Targa Midstream
Monument AGI No. 2
API 30-025-Pending

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

[D] Other: Specify R-13502

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☐ Offset Operators, Leaseholders or Surface Owner

[C] ☐ Application is One Which Requires Published Legal Notice

[D] ☐ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

**Note: Statement must be completed by an individual with managerial and/or supervisory capacity.**

| Alberto Gutierrez | See Cover Letter | President, Geolex, Inc. | 10/19/2016 |
|---|---|---|---|
| Print or Type Name | Signature | Title | Date |

aag@geolex.com
e-mail Address

GEOLEX®
INCORPORATED

Alberto A. Gutiérrez, C.P.G.

October 19, 2016

Mr. David Catanach, Director
NM Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Application of Targa Midstream Services LLC for Administrative Approval of Replacement Well for the Targa Monument AGI#1

Dear Mr. Catanach:

Enclosed, please find two hard bound copies and one electronic copy (on a thumb drive) of the above-referenced application filed on behalf of Targa Midstream Services LLC.

As discussed in my meeting regarding this application with Mr. Phillip Goetze on Friday September 23, 2016, Targa is not requesting any changes in the approved injection zone, injection volume or MAOP already approved under Order R-13052 and Administrative Order I-416. We are merely requesting the ability to replace the original well which had to be plugged and abandoned as approved by OCD due to casing damage. Pursuant to the attached application, Targa has designed this well and has requested operating procedures consistent with current best practices in AGI wells. We look forward to the speedy approval of this application as Targa is ready to proceed with the replacement well. All required notices have been sent and the application notice published in the Hobbs paper. Copies of the notice letters, certified mail receipts and the affidavit of publication are included as Appendix C to the application.

Please call me or James Hunter at 505-842-8000 if you have any questions or require further information.

Sincerely,
Geolex, Inc.

Alberto A. Gutierrez, RG
President
Consultant to Targa Midstream Services LLC

cc: Phillip Goetze, via email w/encl.
NMOCD, Engineering Bureau
Clark White, via email w/encl
Targa Midstream Services LLC, Houston
James Lingnau, via email w/encl
Targa Midstream Services LLC, Monument

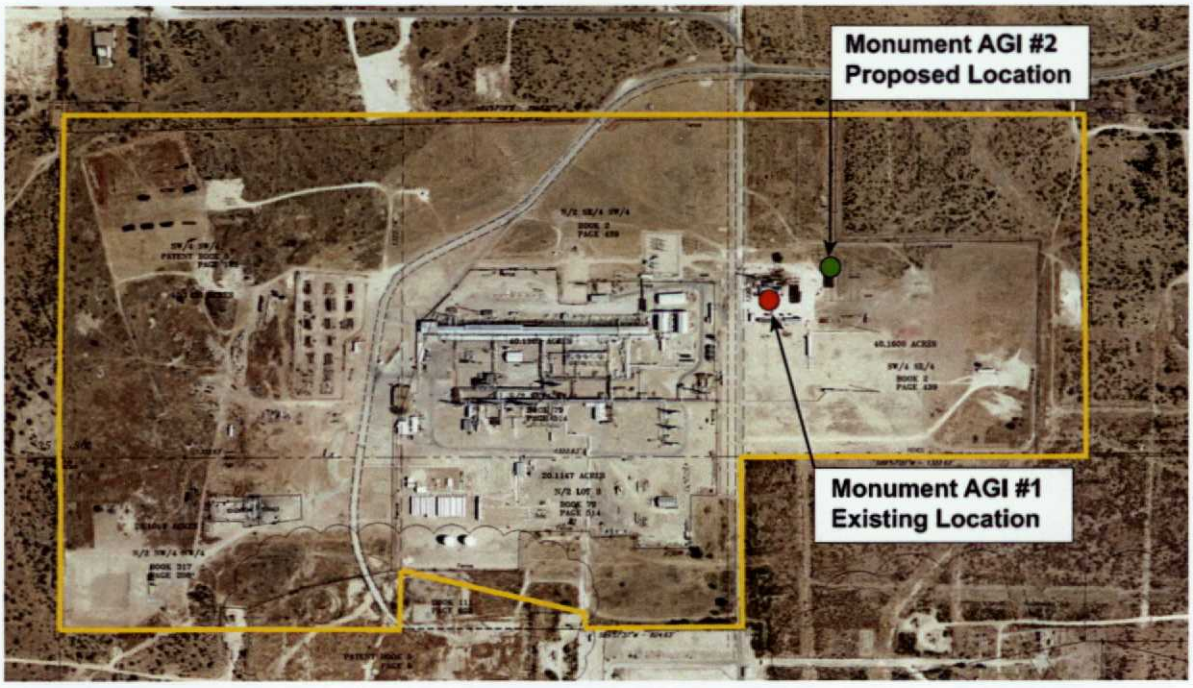
Projects/16-011/Reports/Goetze001.ltr.docx

phone: 505-842-8000
fax: 505-842-7380
500 Marquette Avenue NW, Suite 1350
Albuquerque, New Mexico 87102
email: aag@geolex.com
web: www.geolex.com

# Application for Administrative Authorization To Replace Targa Monument AGI #1

## Targa Monument AGI #2

**770'FSL & 2268' FWL**
**Section 36, T19S, R36E**
**Lea County, New Mexico**




**October 19, 2016**


***Prepared For:***

**Targa Midstream Services LLC**
**1000 Louisiana, Suite 4300**
**Houston, Texas 77022-5032**

***Prepared By:***

**Geolex, Inc.**
**500 Marquette Avenue, NW, #1350**
**Albuquerque, New Mexico 87102**
**(505)-842-8000**

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL
RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

## APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____Secondary Recovery _____Pressure Maintenance __X__Disposal _____Storage
Application qualifies for administrative approval? __X__Yes _____No

II. OPERATOR: **Targa Midstream Services LLC**
ADDRESS: **1000 Louisiana, Suite 4300, Houston, TX 77022-5036**
CONTACT PARTY: **Alberto A. Gutierrez, R.G.- GEOLEX, INC. aag@geolex.com** 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? ____ X_____Yes ____ ____No
If yes, give the Division order number authorizing the project: _Order R-13053 (replacement of failed well bore in API #3002540002)_____

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review. **SECTIONS 5 and 6; APPENDICES A and B.**

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
**SECTION 5; APPENDIX A.**

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected; **SECTIONS 1, 2, and 3**
2. Whether the system is open or closed; **SECTIONS 1, 2, 4 and 7**
3. Proposed average and maximum injection pressure; **SECTIONS 1 and 3**
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, **SECTIONS 3 and 4**
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.). **SECTIONS 3 and 4**

*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval. **SECTIONS 4 and 5 and APPENDIX A**

IX. Describe the proposed stimulation program, if any. **N/A**

*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted). **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.**

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
**SECTION 7**

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form. **APPENDIX B**

XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: Alberto A. Gutierrez, C.P.G. TITLE: President, Geolex, Inc.®; Consultant to DCP Midstream LP

SIGNATURE: _____ DATE: 10/19/2016

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**

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

III. WELL DATA

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

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

**AGI #2 Surface: 770' FSL, 2268' FEL Section 36, T19S, R36 E, - SECTIONS 1, 3 and 4. (Vertical Well)**

(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 AS-BUILTS 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 7 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 NOT YET DRILLED**

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

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

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.
**NO CHANGES FROM ORIGINAL APPLICATION AND THESE PARTIES HAVE BEEN NOTIFIED (APPENDIX C)**

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:
**NO CHANGES FROM ORIGINAL APPLICATION AND A NEW NOTICE HAS BEEN PUBLISHED (APPENDIX C)**

(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.

## TABLE OF CONTENTS



## LIST OF TABLES
**(Embedded in text)**

## LIST OF FIGURES



## LIST OF APPENDICES

## 1.0 EXECUTIVE SUMMARY

On behalf of Targa Midstream Services LP (Targa), Geolex®, Inc. (Geolex) has prepared and is hereby submitting a complete C-108 application for approval to drill, complete and operate a replacement acid gas injection well (Targa Monument AGI #2) at the Targa Monument Gas Plant in Section 36, T19S, R36E approximately 2.5 miles west of Monument in Lea County, New Mexico (Figure 1).

After consultation with the NMOCD Director and technical staff, Geolex is submitting this administrative request for approval to replace the damaged (now plugged and abandoned in September 2016) Targa Monument AGI #1 (API # 3002540002). No additional injection capacity or increased pressures are requested.

Until recently Targa was injecting approximately 2.5 million standard cubic feet per day (MMSCFD) of treated acid gas (TAG) in Monument AGI #1 under NMOCC Order R-13052. This submission is an application a replacement in the same Devonian Wristen, and Fusselman Formations permitted for the Monument AGI #1.

The Targa Monument AGI #2 well will be drilled as a vertical well with the surface location at approximately 770 feet from the south line (FSL) and 2268 feet from the east line (FEL) of Section 36 (Figure 2). Monument AGI #2 will be a vertical well with a bottom hole location essentially identical to the surface location.

There is no proposed change in the approved injection zone (Order R-13052) for the well which will be in the Devonian Wristen, and Fusselman, at vertical depths of approximately 8,300 to 9,200 feet as was the original well. Analysis of the reservoir characteristics of these units confirms that these zones act as excellent closed-system reservoirs that will accommodate the future needs of Targa for disposal of acid gas and sequestration of $H_2S$ and $CO_2$ from the Targa Plant.

Geolex has reviewed all of the operators within one half mile of the proposed replacement well and the three operators identified in the original order (Apache Corporation, XTO Energy and Chevron) remain the only operators within one half mile. There are only two operators with wells penetrating the injection zone within one mile (Apache Corporation and Chevron) and these are the same operators identified in this area in the original application (see Part XIX of the original C-108, included as Appendix B, also Appendix C).

Targa needs to continue to safely inject up to a maximum of 2.5 MMSCFD of treated acid gas (TAG) for at least 30 years. Under normal operations it is anticipated that the TAG will be injected primarily into the new Targa Monument AGI #2. Geologic studies conducted for the selection of this location demonstrate that the proposed injection zone is readily capable of accepting and containing the proposed acid gas and $CO_2$ injection volumes within NMOCD's recommended maximum injection pressures.

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

- Identification and characterization of all hydrocarbon-producing zones of wells that surround and are present on the proposed plant site (no changes from the original application).
- The depths of perforated pay intervals in those wells relative to the depth of the target injection zones (Devonian, Wristen, and Fusselman (no changes from the original application)).

- The past and current uses of the proposed injection interval (no changes from the original application).
- Total feet of net porosity in the proposed Devonian, Wristen and Fusselman injection intervals (no changes from the original application).
- The stratigraphic and structural setting of the targeted injection zone relative to any nearby active or plugged wells, and other wells penetrating the interval (no changes from the original application).
- The identification of surface owners within a one half mile radius of the proposed injection well and theye are the same as identified in the original application.
- The identification of all wells within a two-mile radius and of all operators, and of all wells within a one-mile area of review penetrating the injection zone that completed and is identical to those wells identified in the original application.
- Identification and characterization of all active and plugged wells within the one-mile area of review of the proposed injection well (only one minor plug back of a well since the original application).
- The details of the proposed injection operation, including general well design and average and maximum daily rates of injection and injection pressures as set forth in Administrative Order IPI-416 and Order R-13052.
- Sources and predicted composition of injection fluid and compatibility with the formation fluid of the injection zone (no changes from the original application).
- 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 (no changes from the original application).
- A Rule 11 Plan has been approved for the facility. Once approval has been granted for the new *Targa Monument AGI #2, the Rule 11 Plan will be amended to reflect the changes in operations.* Since we are requesting no change in the amount or concentrations of $H_2S$ in the TAG stream, no change is required in the approved Rule 11 $H_2S$ Contingency Plan. However, if the well is successfully completed in the Devonian, Wristen and Fusselman interval, the Rule 11 plan will be amended to reflect this change. The revised Rule 11 Plan will be submitted to NMOCD for the file prior to commencement of TAG injection into the Targa Monument AGI #2 well. No changes are planned to the volumes and $H_2S$ concentrations of the TAG.

Based upon this detailed evaluation, as summarized in this application, Targa has determined that the proposed AGI well is a safe and environmentally-sound replacement well for the disposal of acid gas into the already-approved injection zone. Furthermore, the project provides additional environmental benefit by permanently sequestering a significant volume of $CO_2$ which would otherwise be released to the atmosphere if $H_2S$ was flared or if a sulfur reduction unit (SRU) was operated at the Plant.

At the anticipated reservoir conditions of 125° F and 3,800 psi, each MMSCFD of TAG will occupy a volume of 2,548 cubic feet (454 barrels). At the anticipated maximum operational capacity of 2.5 MMSCFD, the compressed TAG will occupy 6,370 cubic feet (1,134 barrels) per day. After 30 years of operation, the TAG will occupy an area of approximately 57 acres in the proposed injection zone, or a radius of approximately 890 feet (0.17 miles) from the Targa Monument AGI #2D well (see Sections 3.1 and 3.2).

The proposed well will be constructed using a three-casing string design, with the intermediate casing advanced to a depth of approximately 8,200 feet (in the cap rock) to assure isolation of the current injection zone during drilling and completion (Section 3.3) . The well will also be completed incorporating Corrosion Resistant Alloys (CRA) in the tubing and casing, and corrosion-resistant cement

will be used for the lower half of the intermediate and production strings. In addition, the replacement well will include bottom-hole pressure and temperature monitoring equipment.

Our research has identified porous and permeable carbonate units within this proposed injection zone including the Devonian, Wristen, and Fusselman formations, located approximately 8,800 to 9,200 feet below the plant. These formations are sufficiently isolated from active pay zones above by hundreds of feet of tight, Mississippian limestones and shales, including the immediately overlying Woodford Shale.

One hundred and twenty seven recorded wells were identified in the one-mile radius of the proposed AGI location (see Section 5.0). Of these wells, 94 are active, 27 are plugged and abandoned, 4 are temporarily plugged, and 2 are new proposed wells (not drilled). A complete list and maps showing the locations of these wells are included in Appendix A.

There are 9 wells that penetrate the injection zone, not including the recently plugged Targa Monument AGI #1. Of these wells 4 are currently active. Two have been plugged back to approximately 3,400 to 3,900 feet and are producing from the Eumont-Seven Rivers formations, one well has been plugged back to the Monument-Abo Formation (6,965 to 7,685 feet), and the remaining well is completed in the deeper McKee-Ellenburger Formation (9,490 to 9,800 feet), approximately 500 feet below the current injection zone (8,350 to 9,208 feet). Completion and/or plugging diagrams for these wells are included in Appendix A. All of these wells within one mile of the proposed Targa Monument AGI #2D are properly completed and/or plugged, and pose no risks to act as potential conduits that would allow escape of injection fluids from the proposed injection zone.

There is no current production in the proposed injection zone in the one-mile area and the zone was approved for acid gas injection in Order R-13052.

The 94 active leases in the one mile area are operated by Apache Corporation, Chevron USA, Cimarex Energy Company, Evervest Operating LLC, Jack Huff, Momentum Operating Company, Inc., Rice Operating Company, Targa Midstream Services LLC, and XTO Energy, Inc.

Mineral ownership in the one mile area is a mixture of Federal (1), private (38) and state (55) active leases. Details on all operators, lessees, and surface and mineral owners are included in Appendix B.

There is no permanent body of surface water within several miles of the plant. A search of the New Mexico State Engineer's files shows 31 water wells within one mile of the proposed AGI (see Section 4.6). Data from these wells show that groundwater occurs at a depth of approximately 35 to 50 feet, and is hosted by alluvium. Available analyses of groundwater in the alluvium, form a well in Section 29, T19S, R37E (approximately 7 miles east of the proposed AGI well) showed a specific conductivity of 865 micromhos (Nicholson and Clebsch, 1961).

## 2.0 INTRODUCTION AND ORGANIZATION OF THIS C-108 APPLICATION

The completed NMOCD Form C-108 is included before the Table of Contents of this document and references appropriate sections where data required to be submitted are included herein.

This application organizes and details all of the information required by NMOCD and NMOCC to evaluate and approve the submitted Form C-108 – Application for Authorization to Inject. This information is presented in the following categories:

- A detailed description of the location, construction and operation of the proposed injection well (Section 3.0) – Replacement well adjacent to original approved well
- 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) – No changes from original application
- The identification, location, status, production zones, and other relevant information on oil and gas wells within the area of review (Section 5.0) – No changes from original application
- The identification and required notification for operators and surface land owners that are located within the area of review (Section 6.0) – No changes from original application
- 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) – No changes from original application; new certification

In addition, this application includes the following supporting information:

- **Appendix A:** Spreadsheets showing all active, temporarily abandoned, abandoned and plugged oil and gas wells included within a two-mile radius and the wells penetrating the injection zone within the one-mile area of review, and associated plugging reports for wells which penetrate the proposed injection zone.
- **Appendix B:** Original Application for Authorization to Inject (C-108), NMOCD Case No. 14161, June 2, 2008 and NMOCD Order R-13052
- **Appendix C:** Copies of Notice Letters, Documentation and Affidavit of Publication of Newspaper Notice

## 3.0 PROPOSED CONSTRUCTION AND OPERATION OF TARGA MONUMENT AGI #2

The Targa Monument AGI #2 will be drilled at 770 feet from the south line (FSL) and 2268 feet from the east line (FEL) of Section 19 T19S, R32E. The location is plotted on a topographic map in Figure 2.

TAG from the plant's sweeteners will be routed to a central compressor facility, located east of the well head. Compressed TAG will then be routed to the wells via high-pressure rated lines. Figure 4 summarizes the well design elements that will be used in the proposed well. Design details are provided in Section 3.3 below.

### 3.1 CALCULATED MAXIMUM INJECTION PRESSURE

The NMOCD Administrative Order IPI-416 (June 14, 2012, Appendix F) approves a maximum allowable operation pressure (MAOP) of 3,000 psi. Targa Midstream requests no change in the currently approved MAOP for Targa Monument AGI #2D. This MAOP will not be exceeded, since the maximum pressure of the compressor system is 2,500 psi, and the safety "kill" pressure is set at 2,450 psi.

### 3.2 WELL DESIGN

The AGI facilities and wells are integrated components of the Targa Gas Plant design. The schematic of the AGI facilities and tie-in to the Targa Gas Plant are shown in Figures 4 and 5, and the preliminary well design for the new injection well is shown on Figure 7.

The well will have three strings of the telescoping casing cemented to the surface and will include a subsurface safety valve on the production tubing to assure that fluid cannot flow back out of the well in the event of a failure of the injection equipment (Figure 7). In addition, the annular space between the production tubing and the well bore will be filled with an inert fluid (corrosion-inhibited 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.
The well will be advanced vertically to its anticipated total depth of approximately 9,210 feet. The injection zone (8,350 to 9,210 feet) will be completed as an open hole interval.

Design and material considerations include: Placement of Subsurface Safety Valve (SSSV) and the packer; triple casing through freshwater resources (Ogallala and Santa Rosa Formations – groundwater, Rustler – saline groundwater); characterization of the zone of injection; and a total depth (TD) ensuring identification of the reservoir. All casing strings will be cemented to the surface and the cement jobs will be verified by pressure testing. Radial 360° cement bond logs will be conducted for all casing strings as well.

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

The three casing strings shown in Figure 7 are summarized below:

1. Surface casing to the base of the Rustler Formation, approximately 1,040 feet depth, will be installed to protect fresh water in the Ogallala and Santa Rosa Formations. The borehole for the surface casing will be drilled with a 17 ½ -inch bit to a depth of approximately 1,040 feet (above the uppermost salt beds), and 13 3/8-inch, 48 ppf, J-55, STC casing will be installed and cemented to the surface.

2. The intermediate casing will isolate the Salado salt beds, as well as any production zones above the injection zone. It will be drilled with a 12 ¼ -inch bit to a depth of approximately 8,200 feet be constructed and installed in two segments:
   A. The first segment will consist of 9 5/8-inch casing, using 40.0 ppf, J-55, STC casing to approximately 7,900 feet
   B. The second segment will be constructed of 40.0 ppf SM2535 VAM TOP corrosion-resistant casing from 7,900 to 8,200 feet
   C. All casing will be cemented to the surface and this string will have a 4,000' tail of "Well-Lock" corrosion resistant cement.

3. The production casing will be emplaced in a 8 ¾ inch borehole and will be constructed and installed in 2 segments:
   A. The first segment will comprise approximately 8,050 feet of 7-inch, 29.0 ppf, HCP-110 LTC casing grade.
   B. The second segment (8,050 to 8,350 feet) will include a 300-foot section of 7-inch 32.0 ppf SM2535 VAM TOP Corrosive Resistant Alloy (CRA) material. This segment is designed to protect the casing from potential corrosion from the acid gasses injected into this interval from the existing AGI #1.
   C. All casing will be cemented to the surface and this string will have a 4,000' tail of "Well-Lock" corrosion resistant cement..

Following the installation, cementing and testing of the production string, a final open-hole injection interval from 8,350 to 9,210 feet will be advanced using a 5 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 injection zone.

Cement will be returned to the surface for all strings. The intermediate and production strings will have a tail of "Well-Lock" corrosion resistant cement for the approximately 4,000 feet basal sections of these strings. Circumferential cement bond logs with an ultrasonic tool will be used to confirm the quality of the cement job on each string of casing.

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

Once the integrity of the cement job has been determined 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 reservoir has been tested, the final tubing string will be emplaced. The tubing schedule is:

1. 3 ½ - inch 9.3 ppf HL80 VAM TOP from 0 to 250 feet
2. Subsurface Safety Valve Assembly, 250 to 280 feet
3. 3 ½ - inch 9.3 ppf HL80 VAM TOP from 280 to 8,000 feet
4. 3 ½ - inch 9.3 ppf G3-125 or equivalent CRA material VAM TOP from 8,000 to 8,300 feet
5. Bottom0hole pressure/temperature sub (Halliburton)
6. 7 inch 26 32# BWD Incoloy 925 Permanent Packer at 8,303 feet

Permanent, continuous-recording sensors will be incorporated into the packer assembly and appropriate connections will be run through the annulus and out of the well head. These sensors will provide real-time temperature and pressure in the reservoir. Data will be transmitted to the plant's control room for observation, analysis and recording. Section 3.4 below addresses how that data will be used and supplemented in the event of downhole sensor failure.

The SSSV will be run into the well at a depth of approximately 250 feet. A ¼-inch stainless steel line will connect the SSSV to a hydraulic panel at the surface.

The National Association of Corrosion Engineers (NACE) issues guidelines for metals exposed to various corrosive gases like the ones in this well. For a $H_2S/CO_2$ stream of acid gas that is de-watered at the surface through successive stages of compression, downhole components such as the SSSV and packer need to be constructed of Inconel 925. The CRA joints will be constructed of a similar alloy from a manufacturer such as Sumitomo. A product like SM2550 (with 50% nickel content) will likely be used. The gates, bonnets and valve stems within the Christmas 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. An emergency shutdown (ESD) valve and a Fisher control valve control compressor backpressure, and both are hydraulically operated on the well head. The SSSV provides a redundant safety feature to shut in the well in case the wing valve does not close properly. After the AGI well is drilled and tested to assure that it will be able to accept the volume of injection fluid (without using acid gas), it will be completed with the approved injection equipment for the acid gas stream.

## 3.3 RESERVOIR TESTING AND PRESSURE MONITORING

The Targa Monument AGI #2 will be equipped with bottom hole pressure and temperature monitoring equipment. This equipment is designed to provide real-time monitoring of reservoir conditions as it is installed immediately above the packer. While this equipment is useful in gathering data that will ultimately be used to evaluate reservoir and well performance, it is only a portion of the overall data collection and analysis program to evaluate the reservoir over time and to compare the predicted reservoir performance discussed above in Section 3.2 with actual performance at any future reporting period.

The collection and analysis of injection and annular pressure data has a two-fold purpose. The primary purpose being to provide an early warning of any mechanical well issues which may arise and the second purpose is to provide data for reservoir performance evaluation. While the initial purpose of monitoring the mechanical integrity of the well only requires the surface injection pressure, temperature, rate and annular pressure monitoring, the bottom hole data provides the ability to analyze the performance of the

reservoir. Surface pressure/temperature/annular pressure monitoring equipment has extremely high reliability. In contrast, our initial experience with bottom hole pressure/temperature monitoring equipment has shown that this equipment is more complex and suffers from periodic data collection and transmission issues.

While Targa will use its best efforts to improve performance and reliability, we have developed a process to assure necessary data are collected in the event of bottom hole sensor failures. The simultaneous collection of the surface and bottom hole data allows us develop empirical relationships with actual observed data that, in conjunction with the use of established models (such as Aqualibrium™ or equivalent) will allow us to fill in gaps when bottom hole data loss occurs due to sensor or data transmission failures. This approach will allow us to provide NMOCD with reliable monitoring data and interpretations and provides the basis for the reservoir evaluation which will be performed periodically during the lifetime of the well.

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

1. Obtain initial bottom hole pressure and temperature after drilling (during logging).
2. Perform detailed SRT and 10 day falloff test to provide baseline reservoir data prior to injection.
3. Monitor surface parameters (injection pressure, temperature and rate, and annular pressure) to provide early warning system for any potential mechanical issues in the well.
4. Monitor bottom hole pressure/temperature with a device to provide real time reservoir condition data for analysis of reservoir performance.
5. Use bottom hole reservoir and surface pressure/temperature data to develop well-specific empirical relationship between observed surface and bottom hole data.
6. Use TAG/wellbore models to predict bottom hole P/T conditions based on surface data and test with empirical relationships observed in #5 above to calibrate models.
7. Use surface data along with tools in #5 and #6 above to fill in missing bottom hole data when data drops or sensor failure occurs.
8. In the event of an extended period of bottom-hole pressure/temperature sensor failure, perform periodic bottom hole pressure monitoring using slickline pressure bombs only if data from such temporary device is necessary to fill in data for relevant analyses. After approximately 10 years of operation, perform another detailed SRT and falloff test to compare with baseline prior to injection.
9. Use all data collected along with test results from #2 and #9 above to produce the required analysis of reservoir performance and comparison with predicted reservoir performance discussed above in Section 3.2. This would be the basis of the NMOCC required 10 year evaluation of actual reservoir performance vs predicted performance.

# 4.0 REGIONAL AND LOCAL GEOLOGY AND HYDROGEOLOGY

## 4.1 GENERAL GEOLOGIC SETTING/SURFICIAL GEOLOGY

The Targa Gas Plant is located in Section 36, T 19 S, R 36 E, in Lea County, New Mexico, about 9 miles west of Hobbs (Figure 1). The plant location is within a portion of the Pecos River basin referred to as the Querecho Plains reach (Nicholson & Clebsch, 1961). This area is relatively flat and largely covered by sand dunes underlain by a hard caliche surface. The dune sands are locally stabilized with shin oak, mesquite and some burr-grass. There are no natural surface bodies of water or groundwater discharge sites within one mile of the Plant and where drainages exist in interdunal areas, they are ephemeral, discontinuous, dry washes. The proposed plant site is underlain by Quaternary alluvium overlying the Triassic redbeds of the Santa Rosa Formation (Dockum Group), both of which are local sources of groundwater. The thick sequences of Permian through Ordovician rocks that underlie these deposits are described generally below

.

## 4.2 BEDROCK GEOLOGY

The plant and the proposed well are located at the northern margin of the Delaware Basin, a sub-basin of the larger, encompassing Permian Basin, which covers a large area of southeastern New Mexico and west Texas. The Permian Basin lies within the area of the larger, ancestral (pre-Mississippian) Tabosa Basin, which covered an area that included the entire present-day Permian Basin area and beyond. The Tabosa Basin was a shallow sub-tropical basin throughout the period between the Ordovician and early Mississippian (Osagean).

The entire lower Paleozoic interval (Ellenburger through Devonian) was periodically subjected to subaerial exposure and prolonged periods of karsting, most especially in the Fusselman and Devonian. The result of this exposure was development of systems of karst-related secondary porosity, which included solution-enlargement of fractures and vugs, and development of small cavities and caves. Particularly in the Fusselman, solution features from temporally-distinct karst events became interconnected with each successive episode, so there could be some degree of vertical continuity in parts of the Fusselman section that could lead to enhanced vertical and horizontal permeability.

The Silurian Fusselman and Wristen, and Devonian Thirty-one Formations overlie the Montoya, and are comprised of interbedded dolomites and dolomitic limestones that are capped by the Woodford Shale. The Woodford shale is overlain by several hundred feet of Osagean limestone, which is overlain by several hundred feet of shales and basinal limestones of the Upper Mississippian Chester Formation. The proposed Silurian-Devonian injection zone does not produce economic hydrocarbons for more than 15 miles away from the well site.

There have been no commercially significant deposits of oil or gas found in the Devonian or Silurian rocks (the proposed injection zone), in the vicinity of the well. Adjacent wells have shown that these formations are "wet," and there is no current or foreseeable production at these depths within the one-mile radius (Figure 12) of review. In fact, these zones are routinely approved as produced-water disposal zones in this area.

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

The proposed injection interval includes the Devonian Thirty-one, and Silurian Wristen and Fusselman Formations, collectively referred to as the Siluro-Devonian. Based on the geologic analyses of the subsurface and previous experience at the Targa Gas Plant, we recommend acid gas injection and $CO_2$ sequestration in the Siluro-Devonian Formations. The proposed injection interval includes a number of intervals of dolomites and dolomitic limestones with moderate to high primary porosity, and secondary, solution-enlarged porosity that is related to karst events that periodically occurred throughout the section, most notably in the Fusselman Formation. These karst events produced solution cavities and enlarged fractures throughout the section, which can be substantial enough to provide additional permeability that is not readily apparent on well logs. The porous zones are separated by tight limestones and dolomites.

The Siluro-Devonian interval has excellent cap rocks above, below and between the individual porous carbonate units. There are no producing zones within or below the Siluro-Devonian in the area of the proposed well, and the injection interval is separated from the nearest producing zone (Morrow) by 20 feet of Woodford shale, 550 feet of tight Osagean limestones, and nearly 350 feet of tight Chesterian shales and deep water limestones. It lays a minimum of 1,200 feet above the Precambrian basement. Faults that have been identified in the area only penetrate to the lower part of the Woodford Shale, and would not serve as potential vertical conduits because of the thick, tight cap rock above, and tight rocks below. The high net porosity of the proposed injection zone indicates that the injected $H_2S$ and $CO_2$ will be easily contained close to the injection well.

Geolex's geological analyses confirm that the Siluro-Devonian interval is the most promising deep injection zone (beneath existing production) in the vicinity of the Targa Plant. This preliminary analysis is confirmed by Geolex's detailed geological analysis, including the analysis of the geophysical logs collected from nearby wells. The zone has the requisite high porosity and permeability and is bounded by tight limestones and shales above and below. These are ideal $H_2S$ and $CO_2$ sequestration conditions.

The overlying Chester, Osage and Woodford Formations provide over 1,000 feet of shale and intervening tight limestones, providing an effective seal on the top of the injection zone. The proposed injection interval is located more than 1,000 feet below the Morrow Formation, which is the deepest potential pay zone in the area. There are no pay zones below the injection zone in the area.

## 4.4 INJECTIVITY OF THE SILURO-DEVONIAN INTERVAL

No direct measurements have been made of the injection zone porosity or permeability. However, satisfactory injectivity of the injection zone can be inferred from the performance of the former Targa Monument AGI #1. The zone will be logged in the replacement AGI well to obtain site-specific data for the new well.

## 4.5 FORMATION FLUID CHEMISTRY

A review of formation waters from the U.S. Geological Survey National Produced Waters Geochemical Database v2.1 (10/16/2014) identified 10 wells with analyses from drill stem test fluids collected from the Devonian, Silurian-Devonian or Fusselman Formations, in wells within approximately 12 miles of the proposed Targa Monument AGI #2D (Townships 18 to 20 South and Ranges 30 to 33 East).

These analyses showed Total Dissolved Solids ranging from 20,669 to 40,731 milligrams per liter (mg/l) with an average of 28,942 mg/l. The primary anion is chloride, and the concentrations range from 11,176

to 23,530 mg/l with an average of 16,170 mg/l. No collection of formation fluids will be attempted due to the proximity of the original AGI #1 well.

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

Based on the New Mexico Water Rights Database from the New Mexico Office of the State Engineer, there are 31 water wells within one mile of the proposed Targa Monument AGI #2 . These wells are summarized in Table 1 below and their locations are showed in Figure 4.

.

The area surrounding the proposed injection wells is arid and there are no bodies of surface water within a five mile radius. There are no changes here from the original application.

**Table 1: Water Wells Identified by the New Mexico State Engineer's Files within One Mile of the Proposed Targa Monument AGI #2 Well**

| OWNER | POD Number | Well Depth (ft) | Water Depth (ft) | Distance (Miles) |
|---|---|---|---|---|
| VERSADO GAS PROCESSORS LLC | 13817 | | | 0.08 |
| INTERA INCORPORATED | 12993 | | | 0.28 |
| NM ENERGY, MIN & NAT RES OIL CONSERVATION DIVISION | 12993 | | | 0.30 |
| NEW MEXICO OIL CONSERVATION | 12432 | 45 | 35 | 0.33 |
| NEW MEXICO OIL CONSERVATION | 12433 | 43 | 38 | 0.33 |
| NM ENERGY, MIN & NAT RES OIL CONSERVATION DIVISION | 12993 | | | 0.33 |
| NEW MEXICO OIL CONSERVATION | 12434 | 43 | 38 | 0.34 |
| CLIMAX CHEMICAL COMPANY | 4716 | | | 0.36 |
| GULF OIL CORPORATION | 1269 | 65 | 50 | 0.38 |
| GULF OIL CORPORATION | 1270 | 56 | 48 | 0.40 |
| W C BYRD | 3815 | 60 | 40 | 0.40 |
| W C BYRD | 3814 | 60 | 40 | 0.40 |
| INTERA INCORPORATED | 12993 | | | 0.40 |
| NEW MEXICO OIL CONSERVATION | 12431 | 44 | 38 | 0.41 |
| INTERA INCORPORATED | 12993 | | | 0.43 |
| NATURAL GASOLINE CORPORATION | 47 | | | 0.43 |
| NEW MEXICO OIL CONSERVATION | 12430 | 42 | 37 | 0.45 |
| NEW MEXICO OIL CONSERVATION | 12435 | 43 | 37 | 0.48 |
| INTERA INCORPORATED | 12993 | | | 0.49 |
| NM ENERGY, MIN & NAT RES OIL CONSERVATION DIVISION | 12993 | | | 0.49 |
| NM ENERGY, MIN & NAT RES OIL CONSERVATION DIVISION | 12993 | | | 0.50 |
| MORNA OIL PROD & DRILLING CORP | 6748 | 80 | 44 | 0.63 |
| THOMAS F. WELCH & ASSOCIATES | 5766 | | | 0.64 |
| THOMAS F. WELCH & ASSOCIATES | 5766 | | | 0.64 |
| AMERADA PETROLEUM CORPORATION | 3188 | | | 0.64 |
| CLIMAX CHEMICAL COMPANY | 4755 | | | 0.69 |
| INTERA INCORPORATED | 12993 | | | 0.70 |
| THOMAS F. WELCH & ASSOCIATES | 5766 | | | 0.73 |
| GEOMONITORING SERVICES | 13523 | 46 | 35 | 0.82 |
| THOMAS F. WELCH & ASSOCIATES | 5766 | | | 0.89 |
| CLIMAX CHEMICAL COMPAN7Y | 4715 | | | 0.94 |

Our analysis confirms that the proposed well poses no risk of contaminating groundwater in the area. There are no potential conduits that would allow migration of injected fluids to fresh-water zones.

## 5.0 OIL AND GAS WELLS IN THE TARGA MONUMENT AGI #2 AREA OF REVIEW

Geolex's review of wells penetrating the approved injection zone within one mile and all operators with in one half mile of the proposed replacement well has not revealed any changes from the original application and these operators were re-noticed with this application.

Within two miles of the proposed Targa Monument AGI #2 there are 458 recorded oil and/or gas wells. Of these, 127 lie within one mile of the proposed well. Of these wells, 94 are active, 27 are plugged and abandoned, 4 are temporarily plugged, and 2 are new proposed wells (not drilled). A complete list (Table A1) and maps (Figures A1 and A2) showing the locations of these wells are included in Appendix A.

Including the former Targa Monument AGI #1, there are 10 wells within one mile penetrating the injection zone (Figure A2). Table 2 below summarizes the status of these wells. Review of the NMOCD files for these wells indicates that their completions and/or plugging methods protect upper and lower zoned from migration of the injection fluids.

**TABLE 2: Wells Penetrating Injection Zone Within One Mile of the Proposed Targa Monument AGI #2**

| API | OPERATOR | DEPTH | WELLNAME | STATUS | Notes |
|---|---|---|---|---|---|
| 3002540002 | TARGA RESOURCES | 9200 | MONUMENT AGI #1 | Plugged | Pumped cmt 3,500' to surface. |
| 3002512473 | APACHE CORP | 10255 | STATE F GAS COM 005 | Active | Plugged back to Eumont/Seven Rivers at 3,400' (in 5 1/2" casing) 9/11/96. CIBP's w/cmt @ 7,800', 6,850', 5,640', 3,420'. |
| 3002512478 | APACHE CORP | 9822 | NORTH MONUMENT G/SA UNIT 032 | Plugged | CIBP w/cmt @ 9,475'; squeezed cmt plugs @ 7,590', 7,160', 5,710" CIBP w/cmt @ 4,500'; Spot cmt @ 2,900', 2,345', 1,330', 367 to surface. |
| 3002512481 | APACHE CORP | 10100 | NORTH MONUMENT G/SA UNIT 285 | Active | Plugged & abandoned 3/5/59. Spot cmt @ 9,900', 9,755', 6,305', 5,655' 3,780'. Re-entered and recompleted 3,930' in Eunice Monument 2/14/96; Re-entered and attempted to re-plugged deeper zones per NMOCD Order R-13052 2/2011. Unsuccessful, released rig May 2011. Well returned to production 7/15/11. Requirment to re-plug well rescinded per Order R-13052 (Reopened) 11/17/2011. |
| 3002520517 | APACHE CORP | 9900 | NORTH MONUMENT G/SA UNIT 286 | TA | Dry hole; P&A w/spot plugs @ 10,080', 9,790', 9068', 8,180', 7,865', 6,770', 6,205', 5,642', 5,075', 3/750', 1,450' to surface, 12/28/62. Re-entered 6/7/95 cleaned to 3,760' (Eunice Monument). Not perforated. Status Temporary Abandoned. |
| 3002505780 | ATLANTIC RICHFIELD | 9900 | J R PHILLIPS A 008 | Plugged | CIBP w/cmt @ 9,475'; squeezed cmt plugs @ 7,652', 5,742', 4,897, 3,442', 2,097', 880', 81' to surface. |
| 3002523632 | ARCO PERMIAN | 9650 | J R PHILLIPS A 009 | Plugged | CIBP's w/cmt @ 9435', 6,620', 6,186', 5,655', 5,255',5,069'; Cmt plugs @ 3,645', 1,1125', 610', Surface. |
| 3002504134 | APACHE CORP | 9953 | J R PHILLIPS 005 | Active | Recompleted 7/12/98; CIBP at 7,785', perforated 6,965' to 7,685'. |
| 3002504136 | APACHE CORP | 10214 | J R PHILLIPS 007 | Active | Temp. abandoned 8/6/92, CIBP's w/cmt @ 9,700', 6,700', 6,275', 5,590'. Recompleted in Paddock 5,264' to 5,530' 3/2010 |
| 3002505964 | CHEVRON U S A INC | 9814 | J R PHILLIPS 011 | Active | Producing in McKee-Ellenburger 9,490' to 9,800'. |

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

Geolex has reviewed all of the operators within one half mile of the proposed replacement well and the three operators identified in the original order (Apache Corporation, XTO Energy and Chevron) remain the only operators within one half mile. There are only two operators with wells penetrating the injection zone within one mile (Apache Corporation and Chevron) and these are the same operators identified in this area in the original application (see Part XIX of the original C-108, included as Appendix B).

Appendix C contains copies of registered mail receipts, individual notice letters and the newspaper affidavit of publication.

## 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 Targa Monument AGI #2D 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 fluids between the proposed injection zone with any known sources of drinking water or oil or gas production in the vicinity as described above in Sections 4 and 5 of this application.

## 8.0 REFERENCES

Madalyn S. Blondes, Kathleen D. Gans, James J. Thordsen, Mark E. Reidy, Burt Thomas, Mark A. Engle, Yousif K. Kharaka, and Elizabeth L. Rowan, 2014. U.S. Geological Survey National Produced Waters Geochemical Database v2.1, *http://energy.usgs.gov/EnvironmentalAspects/EnvironmentalAspectsofEnergyProductionandUse/ProducedWaters.aspx*

Nicholson, A., Jr., Clebsch, A., Jr., 1961. *Geology and ground-water conditions in southern Lea County, New Mexico.* New Mexico Bureau of Mines and Mineral Resources, Ground-Water Report 6, 123 pp., 2 Plates.

Powers, D.W., Lambert, S. J., Shafer, S., Hill, L. R. and Weart, W. D., 1978., *Geological Characteristic Report, Waste Isolation Pilot Plant (WIPP) Site, Southeastern New Mexico (SAND78-1596)*, Department 4510, Waste Management Technology, Sandia Laboratories, Albuquerque, New Mexico

Silver, B.A., Todd, R.G., 1969. Permian cyclic strata, northern Midland and Delaware Basins, west Texas and southeastern New Mexico, *The American Association of Petroleum Geologists Bulletin* 53: 2223-2251.

Ward, R.F., Kendall, C.G.St.C., Harris, P.M., 1986. Upper Permian (Guadalupian) facies and their association with hydrocarbons – Permian Basin, west Texas and New Mexico. *The American Association of Petroleum Geologists Bulletin* 70: 239-262

# Figures

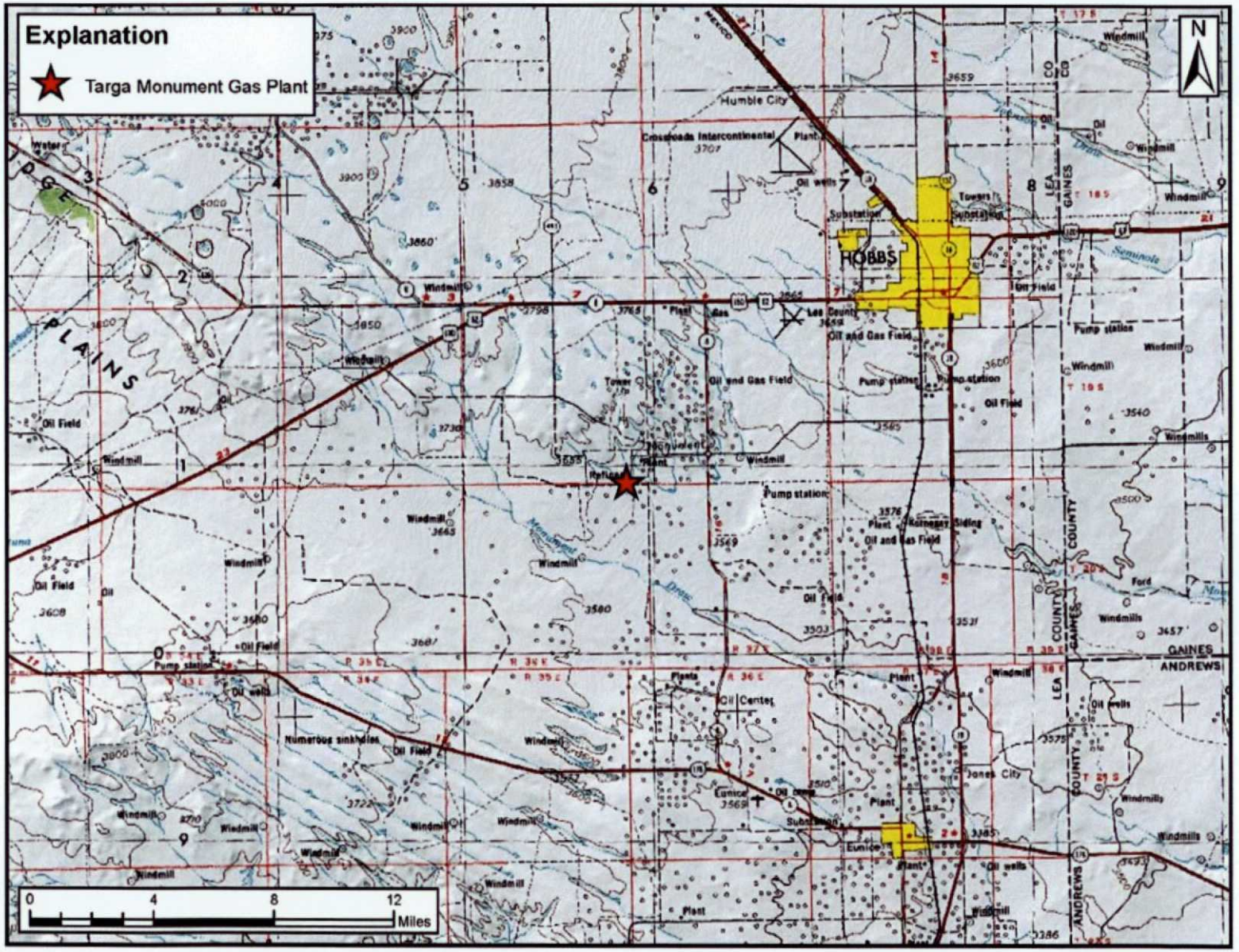



**Figure 1:** Targa Monument Gas Plant Location

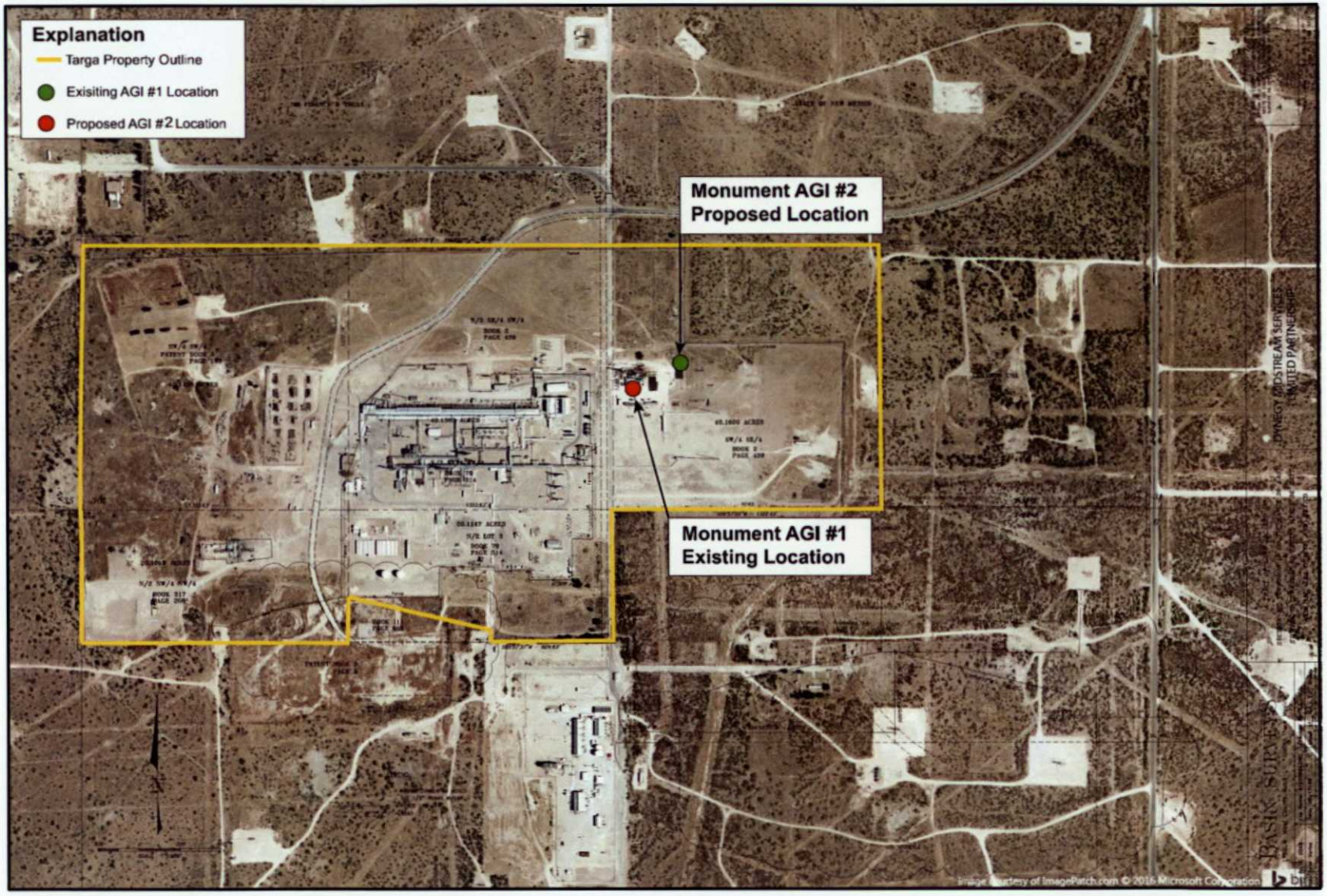
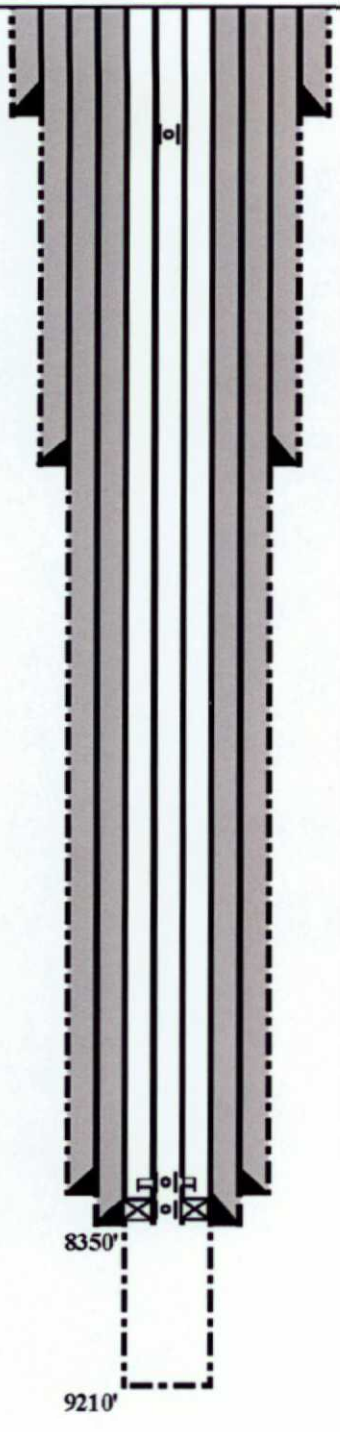



**Figure 2:** Location of Proposed Targa Monument AGI #2 and Gas Plant Layout

| | | | |
|---|---|---|---|
| Location: | Targa Monument Gas Plant | API: | 30-025-40002 |
| STR: | Sec. 36, T19S, R36E | Field: | Devonian - Fusselman |
| County, St.: | Lea, New Mexico | Date: | 9/27/2016 |




**CONDUCTOR CASING:** OH = 26"
20" 94# J55 STC @ 80 ft.
Cemented to Surface

**SURFACE CASING:** OH = 17-1/2"
13-3/8" 48# J55 STC @ 1040 ft.
Cemented to Surface

**INTERMEDIATE CASING:** OH = 12-1/4"
9-5/8" 40# J55 STC 0 - 7900 ft.
X-OVER 9-5/8" 40# STC Box by 9-5/8" 40# Vam Top Pin
9-5/8" 40# SM2535 VAM TOP 7900 - 8200 ft.
Cemented to Surface

**PRODUCTION CASING:** OH = 8-3/4"
7" 29# HCP 110 LTC 0 - 8050 ft.
X-OVER 7" 29# LTC Box by 7" 32# Vam Top Pin
7" 32# SM2535 VAM TOP 8050 - 8350 ft.
Cemented to Surface

**OPEN HOLE:** OH = 5-7/8"
From 8350' - 9210'

**TUBING:**
3-1/2" 9.3# HL80 VAM TOP 0 - 250 ft.
X-OVER 3-1/2" 9.2# VAMP TOP box by 12.7 SSSV pin
SSSV ~250 - 280 ft.
X-OVER 3-1/2" 9.2# VAMP TOP pin by 12.7 SSSV box
3-1/2" 9.3# HL80 VAM TOP 280 - 8000 ft.
3-1/2" 9.2# G3-125 ksi min yeild VAM TOP 8000 - 8300 ft.
BHPT Sub 3-1/2" 9.2# INCONEL VAM TOP 8300 - 8303 ft.
(may need x-overs depending on manufacturer of PT sub.)

**PACKER:**
7" 26-32# BWD Permanent Packer 4.00" bore set at 8303'
Incoloy 925 (101303583) (SN ########) With Seal Assembly
and Seal Bore Extension (to be specified by Halliburton)

**ANNULAR FLUID:**
Diesel fuel from top of packer to surface

**Figure 3:** Schematic of Proposed Targa Monument AGI #2 Well Design

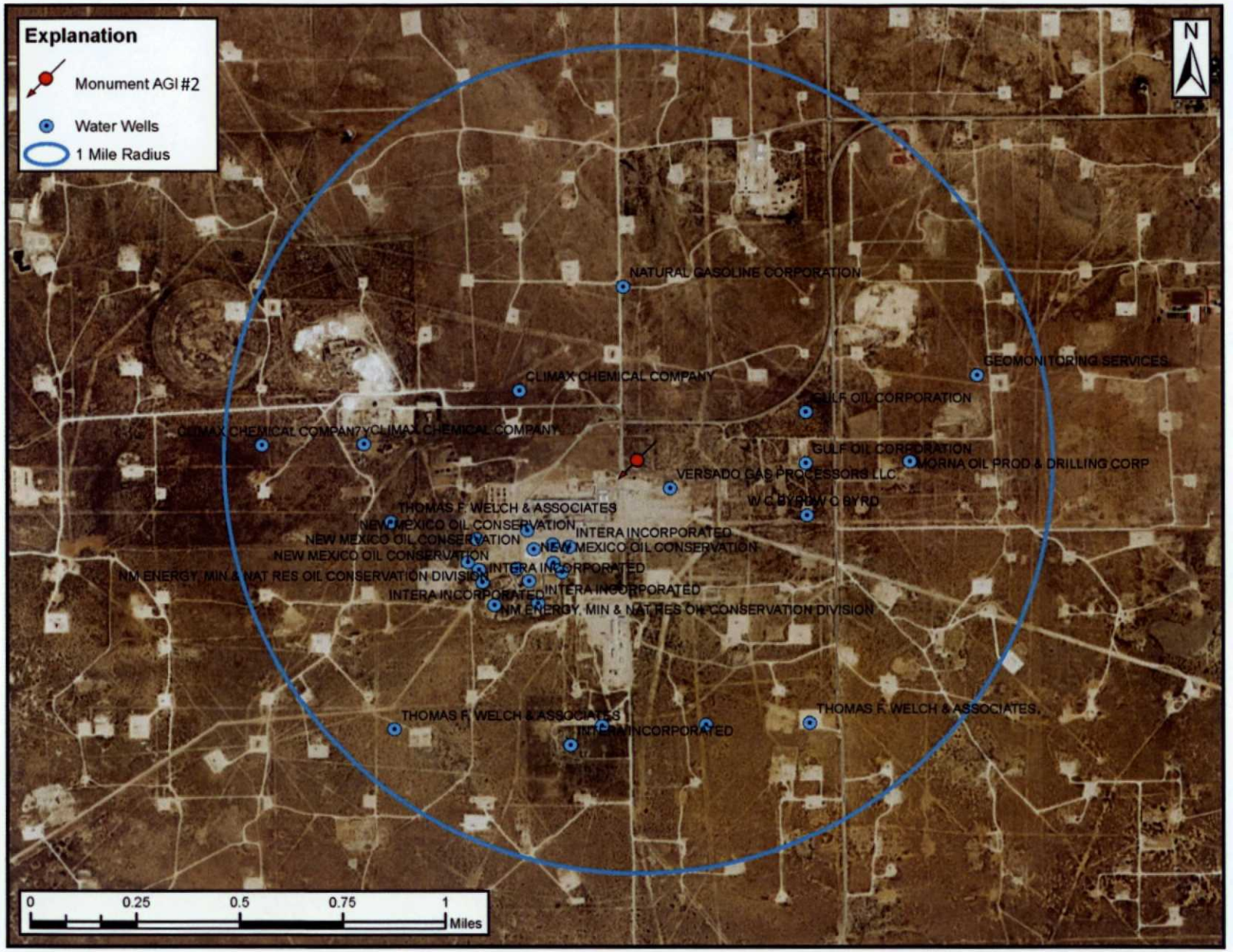



**Figure 4:** Water Wells within One Mile of Proposed AGI #2

# APPENDICES

# APPENDIX A

## Information on Oil and Gas Wells within Two Miles of Proposed Targa AGI #1R

| Table A1: Wells Within Two Miles of Proposed Targa AGI #1R | | | | | | |
|---|---|---|---|---|---|---|
| API | OPERATOR | TVD_DEPTH | WELL_NAME | WELL_TYPE | COMPL_STAT | Miles |
| **3002540002** | **TARGA MIDSTREAM SERVICES LLC** | **9208** | **MONUMENT AGI 001** | **I** | **Active** | **0.00** |
| 3002512477 | XTO ENERGY, INC | 3915 | GRAHAM STATE NCT F 004 | G | Active | 0.11 |
| 3002512472 | APACHE CORP | 3905 | NORTH MONUMENT G/SA UNIT 014 | O | Active | 0.14 |
| **3002512473** | **APACHE CORP** | **10255** | **STATE F GAS COM 005** | **G** | **Active** | **0.14** |
| 3002512482 | TARGA MIDSTREAM SERVICES LLC | 7700 | GRAHAM STATE NCT-F 007 | S | Active | 0.18 |
| 3002540615 | APACHE CORP | 7724 | J R PHILLIPS 012 | O | Active | 0.24 |
| 3002504133 | APACHE CORP | 3900 | J R PHILLIPS 004 | O | Active | 0.26 |
| 3002504142 | APACHE CORP | 3900 | NORTH MONUMENT G/SA UNIT 003 | O | Active | 0.28 |
| 3002512476 | XTO ENERGY, INC | 3921 | GRAHAM STATE NCT F 003 | G | Active | 0.28 |
| 3002504135 | APACHE CORP | 5207 | J R PHILLIPS 006 | O | Active | 0.28 |
| 3002512471 | APACHE CORP | 3905 | NORTH MONUMENT G/SA UNIT 011 | I | Active | 0.29 |
| 3002513229 | TARGA MIDSTREAM SERVICES LLC | 1799 | LPG STORAGE WELL 002 | M | Active | 0.30 |
| 3002537985 | APACHE CORP | 4082 | NORTH MONUMENT G/SA UNIT 343 | O | Active | 0.31 |
| 3002504143 | APACHE CORP | 5220 | STATE D 005 | O | Active | 0.31 |
| 3002524166 | APACHE CORP | 3950 | NORTH MONUMENT G/SA UNIT 010 | O | Plugged | 0.33 |
| **3002512478** | **APACHE CORP** | **9822** | **NORTH MONUMENT G/SA UNIT 032** | **O** | **Plugged** | **0.36** |
| 3002512479 | CHEVRON U S A INC | 5725 | GRAHAM STATE NCT F 006 | O | Plugged | 0.36 |
| 3002512469 | APACHE CORP | 3903 | STATE F GAS COM 001 | G | Active | 0.39 |
| 3002537984 | APACHE CORP | 4035 | NORTH MONUMENT G/SA UNIT 342 | O | TA | 0.40 |
| 3002524422 | APACHE CORP | 4050 | NORTH MONUMENT G/SA UNIT 013 | I | Active | 0.41 |
| 3002539148 | APACHE CORP | 7700 | J R PHILLIPS 010 | O | Active | 0.41 |
| 3002512474 | APACHE CORP | 4024 | NORTH MONUMENT G/SA UNIT 016 | O | Active | 0.42 |
| **3002504134** | **APACHE CORP** | **9953** | **J R PHILLIPS 005** | **O** | **Active** | **0.43** |
| 3002504130 | APACHE CORP | 3900 | J R PHILLIPS GAS COM 001 | G | Plugged | 0.46 |
| 3002504139 | APACHE CORP | 3954 | NORTH MONUMENT G/SA UNIT 004 | O | Active | 0.46 |
| 3002512470 | APACHE CORP | 3939 | NORTH MONUMENT G/SA UNIT 012 | O | Active | 0.47 |
| 3002504138 | APACHE CORP | 5720 | J R PHILLIPS 009 | O | TA | 0.48 |
| 3002541722 | APACHE CORP | 3957 | NORTH MONUMENT G/SA UNIT 395 | O | Active | 0.49 |
| 3002541723 | APACHE CORP | 0 | NORTH MONUMENT G/SA UNIT 396C | O | New (Not drilled or compl) | 0.49 |
| 3002504144 | APACHE CORP | 7877 | STATE D 006 | O | Active | 0.49 |
| 3002504132 | APACHE CORP | 3892 | J R PHILLIPS GAS COM 003 | G | Plugged | 0.50 |
| 3002504141 | APACHE CORP | 3910 | NORTH MONUMENT G/SA UNIT 006 | O | Active | 0.51 |
| 3002513228 | TARGA MIDSTREAM SERVICES LLC | 1906 | LPG STORAGE WELL 001 | M | Active | 0.52 |
| 3002504137 | APACHE CORP | 5760 | J R PHILLIPS 008 | O | Active | 0.52 |
| 3002512468 | APACHE CORP | 3908 | NORTH MONUMENT G/SA UNIT 007 | I | Active | 0.52 |
| 3002512475 | APACHE CORP | 3908 | NORTH MONUMENT G/SA UNIT 009 | O | Active | 0.53 |
| **3002520517** | **APACHE CORP** | **9900** | **NORTH MONUMENT G/SA UNIT 286** | **O** | **TA** | **0.53** |
| 3002512480 | APACHE CORP | 3939 | NORTH MONUMENT G/SA UNIT 006 | O | Active | 0.53 |
| 3002539891 | APACHE CORP | 5816 | J R PHILLIPS 011 | O | Active | 0.53 |
| 3002536674 | APACHE CORP | 3960 | NORTH MONUMENT G/SA UNIT 334 | O | Active | 0.54 |
| 3002505768 | HESS CORPORATION | 3899 | NORTH MONUMENT G/SA UNIT 029 | O | Plugged | 0.55 |
| **3002512481** | **APACHE CORP** | **10100** | **NORTH MONUMENT G/SA UNIT 285** | **O** | **Active** | **0.56** |
| 3002532361 | APACHE CORP | 3426 | STATE F GAS COM 002 | G | Active | 0.56 |
| 3002505954 | TEXACO EXPLORATION & PRODUCTION INC | 0 | J R PHILLIPS 001 | O | Plugged | 0.57 |
| **3002504136** | **APACHE CORP** | **10214** | **J R PHILLIPS 007** | **O** | **TA** | **0.60** |
| 3002504131 | APACHE CORP | 3890 | J R PHILLIPS 002 | O | Active | 0.61 |
| 3002505772 | APACHE CORP | 5709 | NORTH MONUMENT G/SA UNIT 013 | O | Plugged | 0.61 |
| **3002523632** | **ARCO PERMIAN** | **9650** | **J R PHILLIPS A 009** | **G** | **Plugged** | **0.61** |
| 3002512467 | APACHE CORP | 3915 | STATE V 003 | G | Active | 0.62 |
| 3002536913 | APACHE CORP | 3960 | NORTH MONUMENT G/SA UNIT 337 | O | Active | 0.62 |
| 3002504140 | APACHE CORP | 3915 | NORTH MONUMENT G/SA UNIT 005 | I | Active | 0.63 |
| 3002505771 | APACHE CORP | 3915 | NORTH MONUMENT G/SA UNIT 012 | O | Active | 0.63 |
| 3002535177 | APACHE CORP | 3986 | NORTH MONUMENT G/SA UNIT 297 | O | Active | 0.64 |
| 3002512483 | APACHE CORP | 3928 | NORTH MONUMENT G/SA UNIT 005 | I | Active | 0.64 |
| 3002504127 | APACHE CORP | 3929 | NORTH MONUMENT G/SA UNIT 016 | O | Active | 0.64 |
| 3002524094 | APACHE CORP | 4030 | NORTH MONUMENT G/SA UNIT 008 | O | Active | 0.65 |
| 3002505958 | CHEVRON U S A INC | 7750 | J R PHILLIPS 005 | O | Plugged | 0.65 |
| 3002533359 | XTO ENERGY, INC | 3480 | J R PHILLIPS 014 | G | Active | 0.66 |
| 3002505778 | APACHE CORP | 5792 | J R PHILLIPS A 006 | G | Active | 0.66 |
| **3002505780** | **ATLANTIC RICHFIELD** | **9900** | **J R PHILLIPS A 008** | **G** | **Plugged** | **0.66** |
| **3002505964** | **CHEVRON U S A INC** | **9814** | **J R PHILLIPS 011** | **G** | **Active** | **0.67** |
| 3002504165 | APACHE CORP | 3945 | NORTH MONUMENT G/SA UNIT 001 | I | Active | 0.69 |
| 3002512486 | APACHE CORP | 3935 | NORTH MONUMENT G/SA UNIT 009 | I | Active | 0.69 |
| 3002535197 | APACHE CORP | 4009 | NORTH MONUMENT G/SA UNIT 298 | I | Active | 0.70 |
| 3002540603 | APACHE CORP | 7802 | J R PHILLIPS 018 | O | Active | 0.70 |
| 3002531593 | JACK HUFF | 3730 | SHELL B STATE 001 | O | Active | 0.71 |
| 3002504147 | APACHE CORP | 5727 | STATE H 003 | O | Active | 0.72 |
| 3002532299 | CIMAREX ENERGY CO. OF COLORADO | 3700 | MAVEETY STATE GAS COM 009 | G | Active | 0.72 |
| 3002504146 | APACHE CORP | 3879 | STATE H 002 | O | Plugged | 0.75 |
| 3002512722 | CHEVRON U S A INC | 7648 | NEW MEXICO E STATE NCT-1 005 | G | Active | 0.75 |
| 3002504154 | APACHE CORP | 3890 | NORTH MONUMENT G/SA UNIT 011 | O | Active | 0.76 |
| 3002504150 | RICE OPERATING COMPANY | 7625 | E M E SWD 001 | S | Active | 0.77 |
| 3002537918 | MONUMENT DISPOSAL, INC. | 5000 | MONUMENT 001 | S | Plugged | 0.77 |
| 3002512466 | APACHE CORP | 3930 | NORTH MONUMENT G/SA UNIT 002B | I | Active | 0.77 |
| 3002505959 | CHEVRON U S A INC | 7532 | J R PHILLIPS 006 | G | Active | 0.77 |
| 3002504169 | CIMAREX ENERGY CO. OF COLORADO | 4000 | STATE A 006 | G | Active | 0.77 |
| 3002533568 | APACHE CORP | 3535 | STATE V 007 | G | Active | 0.77 |
| 3002505104 | APACHE CORP | 3947 | NORTH MONUMENT G/SA UNIT 003 | I | Active | 0.77 |
| 3002541798 | APACHE CORP | 0 | NORTH MONUMENT G/SA UNIT 397C | O | New (Not drilled or compl) | 0.78 |
| 3002505956 | APACHE CORP | 3896 | NORTH MONUMENT G/SA UNIT 005 | O | Active | 0.78 |
| 3002533306 | CHEVRON U S A INC | 6000 | J R PHILLIPS 013 | O | Plugged | 0.79 |
| 3002505776 | APACHE CORP | 3920 | NORTH MONUMENT G/SA UNIT 005 | I | Active | 0.79 |
| 3002505960 | CHEVRON U S A INC | 5725 | J R PHILLIPS 007 | O | Plugged | 0.79 |
| 3002538316 | APACHE CORP | 4020 | NORTH MONUMENT G/SA UNIT 362 | O | Plugged | 0.80 |
| 3002505779 | HESS CORPORATION | 5714 | ARCO PHILLIPS A 007 | O | Plugged | 0.80 |
| 3002530248 | MOMENTUM OPERATING CO INC | 7725 | SKELLY D STATE 004 | G | Active | 0.80 |
| 3002504167 | APACHE CORP | 3837 | NORTH MONUMENT G/SA UNIT 008 | O | Active | 0.81 |
| 3002512461 | APACHE CORP | 3945 | NORTH MONUMENT G/SA UNIT 008 | O | Active | 0.82 |
| 3002504149 | MOMENTUM OPERATING CO INC | 3886 | SKELLY D STATE 002 | O | Active | 0.82 |
| 3002532899 | CHEVRON U S A INC | 3530 | NEW MEXICO E STATE NCT-1 006 | G | Active | 0.83 |
| 3002504153 | APACHE CORP | 3910 | NORTH MONUMENT G/SA UNIT 012 | O | Active | 0.84 |
| 3002533838 | JACK HUFF | 3800 | SHELL B STATE 002 | G | Active | 0.84 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3002505777 | APACHE CORP | 3550 | J R PHILLIPS B 005 | G | Active | 0.84 |
| 3002538310 | APACHE CORP | 4040 | NORTH MONUMENT G/SA UNIT 351 | O | Active | 0.84 |
| 3002512484 | APACHE CORP | 3953 | NORTH MONUMENT G/SA UNIT 004 | O | Active | 0.86 |
| 3002533251 | APACHE CORP | 3600 | J R PHILLIPS A 010 | G | Active | 0.86 |
| 3002535119 | CHEVRON U S A INC | 7750 | J R PHILLIPS 015 | O | Active | 0.87 |
| 3002533297 | MOMENTUM OPERATING CO INC | 6000 | SKELLY D STATE 005 | O | Active | 0.88 |
| 3002534188 | APACHE CORP | 7700 | APACHE STATE A 007 | O | Plugged | 0.89 |
| 3002504126 | APACHE CORP | 3936 | NORTH MONUMENT G/SA UNIT 015 | I | Active | 0.90 |
| 3002505963 | TEXACO EXPLORATION & PRODUCTION INC | 0 | J R PHILLIPS 010 | G | Plugged | 0.90 |
| 3002535127 | CHEVRON U S A INC | 7700 | NEW MEXICO E STATE NCT-1 008 | O | Active | 0.90 |
| 3002531587 | APACHE CORP | 5150 | NORTH MONUMENT G/SA UNIT 019 | I | Active | 0.90 |
| 3002505962 | CHEVRON U S A INC | 5696 | J R PHILLIPS 009H | O | Active | 0.90 |
| 3002526152 | CIMAREX ENERGY CO. OF COLORADO | 3800 | MAVEETY STATE GAS COM 008 | G | Plugged | 0.91 |
| 3002538313 | APACHE CORP | 4060 | NORTH MONUMENT G/SA UNIT 357 | O | Active | 0.91 |
| 3002505939 | ENERVEST OPERATING L.L.C. | 5770 | BRITT A 6 003 | O | Plugged | 0.91 |
| 3002505940 | CONOCO INC | 0 | BRITT A 6 004 | G | Plugged | 0.92 |
| 3002505769 | APACHE CORP | 3890 | NORTH MONUMENT G/SA UNIT 014 | G | Active | 0.92 |
| 3002527303 | APACHE CORP | 3975 | NORTH MONUMENT G/SA UNIT 001 | I | Plugged | 0.93 |
| 3002512465 | APACHE CORP | 3940 | NORTH MONUMENT G/SA UNIT 001 | I | Active | 0.93 |
| 3002504166 | APACHE CORP | 3940 | NORTH MONUMENT G/SA UNIT 002 | O | Active | 0.93 |
| 3002535181 | APACHE CORP | 4024 | NORTH MONUMENT G/SA UNIT 930 | O | Active | 0.93 |
| 3002512462 | APACHE CORP | 3938 | NORTH MONUMENT G/SA UNIT 010 | O | Active | 0.93 |
| 3002505955 | APACHE CORP | 3529 | NORTH MONUMENT G/SA UNIT 003 | G | Active | 0.94 |
| 3002532358 | APACHE CORP | 3450 | J R PHILLIPS GAS COM 004 | G | Active | 0.94 |
| 3002521886 | ORYX ENERGY CO | 4100 | W B MAVEETY 007 | I | Plugged | 0.94 |
| 3002533774 | CHEVRON U S A INC | 7500 | NEW MEXICO E STATE NCT-1 007 | O | Plugged | 0.95 |
| 3002505938 | ENERVEST OPERATING L.L.C. | 3895 | BRITT A 6 002 | G | Active | 0.97 |
| 3002531611 | CIMAREX ENERGY CO. OF COLORADO | 3600 | STATE A 007 | G | Active | 0.97 |
| 3002505770 | APACHE CORP | 3900 | NORTH MONUMENT G/SA UNIT 011 | I | Active | 0.98 |
| 3002504164 | APACHE CORP | 3915 | NORTH MONUMENT G/SA UNIT 009 | I | Active | 0.98 |
| 3002539092 | APACHE CORP | 0 | W B MAVEETY 013 | O | New (Not drilled or compl) | 0.99 |
| 3002505957 | TEXACO EXPLORATION & PRODUCTION INC | 0 | J R PHILLIPS 004 | O | Plugged | 0.99 |
| 3002505774 | APACHE CORP | 3935 | NORTH MONUMENT G/SA UNIT 004 | O | Active | 0.99 |
| 3002532393 | APACHE CORP | 4080 | NORTH MONUMENT G/SA UNIT 028 | O | Active | 0.99 |
| 3002532778 | CHEVRON U S A INC | 3700 | W B MAVEETY 010 | G | Active | 0.99 |
| 3002504123 | HESS CORPORATION | 3978 | W A WEIR NCT A 001 | O | Plugged | 0.99 |
| 3002504145 | APACHE CORP | 3877 | STATE H 001 | O | Active | 1.00 |
| 3002533754 | APACHE CORP | 3650 | J R PHILLIPS B 007 | G | Active | 1.00 |
| 3002504152 | CHEVRON U S A INC | 3892 | NEW MEXICO E STATE NCT-1 002 | G | Active | 1.00 |
| 3002535501 | CHEVRON U S A INC | 7850 | J R PHILLIPS 016 | O | Plugged | 1.01 |
| 3002504059 | APACHE CORP | 3998 | NORTH MONUMENT G/SA UNIT 015 | I | Active | 1.02 |
| 3002504053 | APACHE CORP | 3939 | NORTH MONUMENT G/SA UNIT 014 | I | Active | 1.02 |
| 3002504168 | APACHE CORP | 3912 | NORTH MONUMENT G/SA UNIT 007 | I | Active | 1.02 |
| 3002505775 | APACHE CORP | 3930 | NORTH MONUMENT G/SA UNIT 006 | O | Active | 1.03 |
| 3002512464 | CHESAPEAKE OPERATING, INC. | 3940 | W B MAVEETY 005 | G | Plugged | 1.03 |
| 3002505758 | APACHE CORP | 3890 | NORTH MONUMENT G/SA UNIT 015 | G | Active | 1.04 |
| 3002504063 | APACHE CORP | 3955 | NORTH MONUMENT G/SA UNIT 016 | O | Active | 1.04 |
| 3002538406 | APACHE CORP | 7593 | W B MAVEETY 012 | O | Active | 1.05 |
| 3002505925 | APACHE CORP | 3890 | L M LAMBERT 001 | G | Active | 1.05 |
| 3002504148 | MOMENTUM OPERATING CO INC | 3890 | SKELLY D STATE 001 | O | Active | 1.05 |
| 3002524799 | APACHE CORP | 4000 | J R PHILLIPS B 006 | G | Active | 1.06 |
| 3002505965 | TEXACO EXPLORATION & PRODUCTION INC | 5250 | J R PHILLIPS 012 | O | Plugged | 1.06 |
| 3002505961 | APACHE CORP | 5730 | NORTH MONUMENT G/SA UNIT 283 | G | Plugged | 1.07 |
| 3002504151 | APACHE CORP | 3890 | NORTH MONUMENT G/SA UNIT 013 | O | Active | 1.07 |
| 3002532341 | APACHE CORP | 3530 | STATE J GAS COM 005 | G | Plugged | 1.07 |
| 3002505968 | HESS CORPORATION | 5730 | BRITT A 003 | O | Plugged | 1.07 |
| 3002505935 | APACHE CORP | 3500 | NORTH MONUMENT G/SA UNIT 002 | G | Active | 1.08 |
| **3002505936** | **UNION TEXAS PETROLEUM CORP** | **10091** | **BRITT A COM 007** | **G** | **Plugged** | **1.08** |
| 3002504129 | ATLANTIC RICHFIELD | 0 | SELBY MAVEETY 001Y | O | Plugged | 1.08 |
| 3002504128 | SINCLAIR OIL & GAS COMPANY | 2310 | SELBY & MAVEETY A 001 | O | Plugged | 1.08 |
| 3002504064 | APACHE CORP | 3942 | NORTH MONUMENT G/SA UNIT 013 | I | Active | 1.08 |
| 3002505762 | XTO ENERGY, INC | 3895 | B V CULP NCT B 001 | G | Active | 1.08 |
| 3002505752 | APACHE CORP | 3940 | NORTH MONUMENT G/SA UNIT 013 | I | Active | 1.10 |
| 3002505941 | ENERVEST OPERATING L.L.C. | 5730 | BRITT A 6 005 | O | Active | 1.11 |
| 3002531506 | APACHE CORP | 4352 | NORTH MONUMENT G/SA UNIT 010 | O | Active | 1.12 |
| 3002505759 | APACHE CORP | 3900 | J R PHILLIPS A COM 001 | G | Plugged | 1.13 |
| 3002505967 | HESS CORPORATION | 3905 | BRITT A 002 | O | Plugged | 1.14 |
| 3002505932 | APACHE CORP | 5715 | L M LAMBERT 008 | O | Active | 1.14 |
| 3002505970 | HESS CORPORATION | 0 | BRITT A 005 | O | Plugged | 1.14 |
| 3002504124 | APACHE CORP | 3940 | NORTH MONUMENT G/SA UNIT 014 | O | Active | 1.14 |
| 3002531345 | XTO ENERGY, INC | 3650 | GRAHAM STATE NCT C COM 011 | G | Active | 1.14 |
| 3002539069 | APACHE CORP | 4070 | NORTH MONUMENT G/SA UNIT 376 | O | Active | 1.16 |
| 3002505937 | ENERVEST OPERATING L.L.C. | 3895 | BRITT A 6 001 | O | Plugged | 1.16 |
| 3002504157 | APACHE CORP | 3900 | NORTH MONUMENT G/SA UNIT 010 | O | Active | 1.16 |
| 3002541727 | APACHE CORP | 3975 | NORTH MONUMENT G/SA UNIT 438 | O | Active | 1.17 |
| 3002504155 | APACHE CORP | 3970 | NORTH MONUMENT G/SA UNIT 003 | I | Active | 1.17 |
| 3002512463 | APACHE CORP | 3972 | NORTH MONUMENT G/SA UNIT 002 | O | Active | 1.17 |
| 3002504125 | BP AMERICA PRODUCTION COMPANY | 3992 | SELBY MAVEETY 002 | G | Plugged | 1.17 |
| 3002505929 | APACHE CORP | 5710 | NORTH MONUMENT G/SA UNIT 007G | O | Plugged | 1.17 |
| 3002504163 | APACHE CORP | 3903 | NORTH MONUMENT G/SA UNIT 016 | O | Plugged | 1.18 |
| 3002538453 | APACHE CORP | 4060 | NORTH MONUMENT G/SA UNIT 355 | O | TA | 1.19 |
| 3002504076 | GULF OIL CORP | 3973 | C T BATES 001 | O | Plugged | 1.20 |
| 3002524423 | APACHE CORP | 4100 | STATE T 008 | G | Plugged | 1.20 |
| **3002505926** | **APACHE CORP** | **9870** | **L M LAMBERT 002** | **O** | **Active** | **1.20** |
| 3002534056 | APACHE CORP | 7550 | SELBY MAVEETY 004 | O | TA | 1.21 |
| 3002505761 | APACHE CORP | 3964 | NORTH MONUMENT G/SA UNIT 007 | I | Active | 1.21 |
| 3002538457 | APACHE CORP | 4030 | NORTH MONUMENT G/SA UNIT 366 | O | Active | 1.21 |
| 3002526886 | APACHE CORP | 7979 | MONUMENT ABO 001 | O | TA | 1.22 |
| 3002538456 | APACHE CORP | 4060 | NORTH MONUMENT G/SA UNIT 361 | O | Active | 1.22 |
| 3002541047 | APACHE CORP | 4000 | NORTH MONUMENT G/SA UNIT 394 | O | Active | 1.23 |
| 3002505934 | APACHE CORP | 5225 | L M LAMBERT 010 | O | Active | 1.23 |
| 3002541112 | APACHE CORP | 4223 | NORTH MONUMENT G/SA UNIT 002H | O | TA | 1.23 |
| 3002505773 | APACHE CORP | 3925 | NORTH MONUMENT G/SA UNIT 003 | I | Active | 1.24 |
| 3002533877 | APACHE CORP | 7610 | W B MAVEETY 011 | O | Plugged | 1.24 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3002505946 | CHEVRON U S A INC | 7400 | G C MATTHEWS 005 | O | Plugged | 1.24 |
| 3002504159 | APACHE CORP | 3920 | NORTH MONUMENT G/SA UNIT 006 | O | Active | 1.25 |
| 3002504232 | APACHE CORP | 3885 | W P BYRD 001 | O | Active | 1.25 |
| 3002533944 | APACHE CORP | 7550 | SELBY MAVEETY 003 | O | Active | 1.25 |
| 3002504235 | APACHE CORP | 3885 | W P BYRD BATTERY 2 004 | O | Active | 1.25 |
| 3002504119 | APACHE CORP | 3945 | W A WEIR GAS COM 004 | G | Active | 1.25 |
| 3002533720 | APACHE CORP | 3505 | W P BYRD GAS COM 003 | G | Active | 1.25 |
| 3002532391 | APACHE CORP | 4142 | NORTH MONUMENT G/SA UNIT 010 | O | Active | 1.26 |
| 3002535740 | APACHE CORP | 3910 | NORTH MONUMENT G/SA UNIT 331 | O | Active | 1.27 |
| 3002504061 | XTO ENERGY, INC | 3975 | GRAHAM STATE NCT C COM 008 | G | Active | 1.27 |
| **3002504245** | **SUNRAY OIL CO DX DIVISION** | **10625** | **COOPER A 009** | **O** | **Plugged** | **1.27** |
| 3002504054 | APACHE CORP | 4045 | NORTH MONUMENT G/SA UNIT 011 | I | Active | 1.27 |
| 3002505765 | XTO ENERGY, INC | 5765 | B V CULP NCT B 004 | G | Active | 1.29 |
| **3002504231** | **APACHE CORP** | **10827** | **H W ANDREWS 008** | **O** | **Active** | **1.29** |
| 3002504241 | GRAHAM ROYALTY LTD | 3890 | ALASKA COOPER 001 | O | Plugged | 1.29 |
| 3002536687 | APACHE CORP | 3900 | NORTH MONUMENT G/SA UNIT 335 | O | Active | 1.30 |
| 3002505989 | MORGAN OPERATING, INC. | 3775 | COOPER B 012 | G | Active | 1.30 |
| 3002504227 | APACHE CORP | 3901 | H W ANDREWS 001 | G | Plugged | 1.30 |
| 3002505969 | HESS CORPORATION | 5727 | BRITT A 004 | O | Plugged | 1.30 |
| 3002504062 | APACHE CORP | 3965 | NORTH MONUMENT G/SA UNIT 009 | I | Active | 1.31 |
| 3002505966 | CIMAREX ENERGY CO. OF COLORADO | 3906 | BRITT A 001 | O | Plugged | 1.31 |
| 3002505951 | CHEVRON U S A INC | 5250 | G C MATTHEWS 010 | O | Plugged | 1.31 |
| 3002504057 | APACHE CORP | 4001 | NORTH MONUMENT G/SA UNIT 012 | G | Plugged | 1.32 |
| 3002532960 | BURGUNDY OIL & GAS OF N M INC | 3560 | STATE J GAS COM 008 | G | Plugged | 1.32 |
| 3002505766 | APACHE CORP | 3915 | NORTH MONUMENT G/SA UNIT 002 | O | Active | 1.32 |
| 3002505750 | APACHE CORP | 3933 | NORTH MONUMENT G/SA UNIT 014 | O | Active | 1.32 |
| 3002539055 | APACHE CORP | 4040 | NORTH MONUMENT G/SA UNIT 377 | O | Active | 1.32 |
| 3002505971 | CIMAREX ENERGY CO. OF COLORADO | 5215 | BRITT A 006 | G | Plugged | 1.33 |
| 3002505743 | OXY USA WTP LIMITED PARTNERSHIP | 3554 | STATE E 005 | G | Active | 1.33 |
| 3002512721 | XTO ENERGY, INC | 3885 | G C MATTHEWS 002 | G | Active | 1.33 |
| 3002541603 | APACHE CORP | 0 | MONUMENT ABO 003 | O | Active | 1.33 |
| 3002532531 | APACHE CORP | 3580 | J R PHILLIPS A COM 002 | G | Active | 1.33 |
| 3002533759 | APACHE CORP | 7505 | W A WEIR 014 | O | Active | 1.34 |
| 3002504156 | APACHE CORP | 3921 | NORTH MONUMENT G/SA UNIT 015 | I | Active | 1.34 |
| 3002504069 | APACHE CORP | 3993 | W A WEIR GAS COM 007 | G | Active | 1.35 |
| 3002525216 | APACHE CORP | 3500 | STATE J GAS COM 004 | G | Plugged | 1.35 |
| 3002505764 | APACHE CORP | 3895 | NORTH MONUMENT G/SA UNIT 016 | I | Active | 1.35 |
| 3002505988 | MORGAN OPERATING, INC. | 5717 | COOPER B 010 | O | Active | 1.35 |
| 3002504158 | APACHE CORP | 3930 | NORTH MONUMENT G/SA UNIT 011 | I | Active | 1.36 |
| 3002505927 | APACHE CORP | 3700 | NORTH MONUMENT G/SA UNIT 001 | I | Active | 1.37 |
| 3002504121 | APACHE CORP | 3954 | NORTH MONUMENT G/SA UNIT 003 | O | Plugged | 1.37 |
| 3002505763 | APACHE CORP | 3907 | NORTH MONUMENT G/SA UNIT 009 | I | Active | 1.37 |
| 3002505931 | APACHE CORP | 5730 | L M LAMBERT 007 | O | Plugged | 1.38 |
| 3002505985 | THREE RIVERS OPERATING COMPANY LLC | 3895 | ALASKA COOPER 003 | G | Plugged | 1.38 |
| 3002538315 | APACHE CORP | 4090 | NORTH MONUMENT G/SA UNIT 360 | O | Active | 1.39 |
| 3002505933 | APACHE CORP | 5235 | L M LAMBERT 009 | O | Active | 1.39 |
| 3002533982 | APACHE CORP | 4025 | NORTH MONUMENT G/SA UNIT 291 | O | Active | 1.39 |
| 3002504117 | APACHE CORP | 3836 | NORTH MONUMENT G/SA UNIT 013 | O | Plugged | 1.39 |
| 3002504210 | APACHE CORP | 3895 | H W ANDREWS 002 | O | Active | 1.40 |
| 3002505751 | APACHE CORP | 3965 | NORTH MONUMENT G/SA UNIT 012 | O | Active | 1.40 |
| 3002532742 | APACHE CORP | 3600 | STATE J GAS COM 007 | G | Active | 1.40 |
| 3002505755 | APACHE CORP | 3935 | NORTH MONUMENT G/SA UNIT 015 | I | Active | 1.40 |
| 3002536860 | LEGACY RESERVES OPERATING, LP | 6600 | COOPER 7 001 | G | TA | 1.40 |
| 3002533006 | APACHE CORP | 3685 | W A WEIR GAS COM 009 | G | Active | 1.41 |
| 3002535692 | CHEVRON U S A INC | 7420 | BAXTER CULP 31 005 | O | Plugged | 1.41 |
| 3002504162 | APACHE CORP | 3930 | NORTH MONUMENT G/SA UNIT 004 | O | Plugged | 1.42 |
| 3002532722 | OXY USA WTP LIMITED PARTNERSHIP | 3750 | STATE E 006 | G | Plugged | 1.42 |
| 3002504118 | APACHE CORP | 3945 | NORTH MONUMENT G/SA UNIT 012 | G | Active | 1.42 |
| 3002541611 | APACHE CORP | 7800 | MONUMENT ABO 004 | O | New (Not drilled or compl) | 1.43 |
| 3002505928 | APACHE CORP | 3880 | L M LAMBERT 004 | O | Plugged | 1.44 |
| 3002534005 | APACHE CORP | 7550 | W A WEIR 015 | O | Active | 1.44 |
| 3002505760 | APACHE CORP | 3905 | NORTH MONUMENT G/SA UNIT 008 | I | Active | 1.44 |
| 3002537935 | APACHE CORP | 4168 | NORTH MONUMENT G/SA UNIT 341 | O | Active | 1.44 |
| 3002505930 | APACHE CORP | 5650 | NORTH MONUMENT G/SA UNIT 008 | G | Plugged | 1.44 |
| 3002533670 | APACHE CORP | 7600 | W A WEIR 012 | O | Active | 1.44 |
| 3002520193 | APACHE CORP | 4050 | NORTH MONUMENT G/SA UNIT 005 | I | Active | 1.44 |
| 3002504218 | XTO ENERGY, INC | 3894 | EUNICE MONUMENT SOUTH UNIT B 850 | O | Active | 1.45 |
| 3002505952 | CHEVRON U S A INC | 5750 | G C MATTHEWS 011 | O | Plugged | 1.46 |
| 3002533045 | APACHE CORP | 8092 | MONUMENT ABO 35 002 | O | Active | 1.46 |
| 3002533696 | APACHE CORP | 7660 | W A WEIR 013 | O | Active | 1.46 |
| 3002504171 | UNION TEXAS PETROLEUM CORP | 3910 | STATE A 001 | O | Plugged | 1.48 |
| 3002505942 | CHEVRON U S A INC | 3884 | G C MATTHEWS 001 | O | Plugged | 1.48 |
| 3002504120 | APACHE CORP | 3885 | NORTH MONUMENT G/SA UNIT 005 | G | Plugged | 1.49 |
| 3002505949 | GULF OIL CORP | 0 | G C MATHEWS 008 | O | Plugged | 1.49 |
| 3002532708 | APACHE CORP | 3760 | ELLIOTT STATE 007 | G | Active | 1.49 |
| 3002505999 | ENERVEST OPERATING L.L.C. | 5713 | BRITT 012 | G | Active | 1.49 |
| 3002504170 | APACHE CORP | 3847 | NORTH MONUMENT G/SA UNIT 012 | O | Active | 1.50 |
| 3002504233 | APACHE CORP | 3880 | W P BYRD 002 | O | Active | 1.50 |
| 3002504236 | APACHE CORP | 3875 | W P BYRD BATTERY 2 005 | O | Active | 1.50 |
| 3002505990 | ENERVEST OPERATING L.L.C. | 3847 | BRITT 002 | O | Plugged | 1.51 |
| 3002541045 | APACHE CORP | 4022 | NORTH MONUMENT G/SA UNIT 392 | O | Active | 1.51 |
| 3002504160 | APACHE CORP | 3915 | NORTH MONUMENT G/SA UNIT 014 | O | Active | 1.52 |
| 3002535621 | APACHE CORP | 3900 | NORTH MONUMENT G/SA UNIT 327 | O | Active | 1.52 |
| **3002505947** | **CHEVRON U S A INC** | **9920** | **G C MATTHEWS 006** | **G** | **TA** | **1.52** |
| 3002504060 | APACHE CORP | 3975 | NORTH MONUMENT G/SA UNIT 007 | I | TA | 1.52 |
| 3002533567 | APACHE CORP | 7525 | W A WEIR 011 | O | Active | 1.52 |
| 3002504246 | MORGAN OPERATING, INC. | 3770 | COOPER B 011 | O | Plugged | 1.52 |
| 3002504055 | APACHE CORP | 4030 | STATE T 003 | G | Active | 1.52 |
| 3002538150 | APACHE CORP | 3984 | NORTH MONUMENT G/SA UNIT 349 | O | Active | 1.52 |
| 3002504078 | MARATHON OIL CO | 3990 | MCGRAIL STATE 001 | G | Plugged | 1.53 |
| 3002505749 | APACHE CORP | 3970 | NORTH MONUMENT G/SA UNIT 011 | O | Active | 1.53 |
| 3002505950 | CHEVRON U S A INC | 5250 | G C MATTHEWS 009 | O | Plugged | 1.53 |
| 3002505945 | CHEVRON U S A INC | 3897 | G C MATTHEWS 004 | O | Plugged | 1.54 |
| 3002533687 | APACHE CORP | 8015 | MCGRAIL STATE 010 | O | Active | 1.54 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3002541799 | APACHE CORP | 3953 | NORTH MONUMENT G/SA UNIT 437 | O | Active | 1.54 |
| 3002504242 | LEGACY RESERVES OPERATING, LP | 3890 | ALASKA COOPER 004 | G | Plugged | 1.54 |
| 3002504077 | APACHE CORP | 3995 | NORTH MONUMENT G/SA UNIT 810 | O | TA | 1.54 |
| 3002504229 | APACHE CORP | 3890 | H W ANDREWS 005 | O | Active | 1.54 |
| 3002535606 | APACHE CORP | 3916 | NORTH MONUMENT G/SA UNIT 326 | O | Active | 1.55 |
| 3002505767 | APACHE CORP | 3923 | NORTH MONUMENT G/SA UNIT 001 | I | Active | 1.55 |
| 3002504066 | APACHE CORP | 3970 | NORTH MONUMENT G/SA UNIT 008 | O | Active | 1.56 |
| 3002504240 | APACHE CORP | 3370 | W P BYRD GAS COM 001 | G | Active | 1.56 |
| 3002504067 | XTO ENERGY, INC | 3990 | WILLIAM WEIR 001 | G | Active | 1.56 |
| 3002505916 | APACHE CORP | 5755 | BERTHA BARBER 011 | G | Active | 1.57 |
| 3002533820 | CHEVRON U S A INC | 7532 | WEIR B 002 | O | Plugged | 1.58 |
| 3002531982 | DAVID H ARRINGTON OIL & GAS INC | 8050 | FOSTER 003 | O | Active | 1.58 |
| 3002531589 | APACHE CORP | 4500 | NORTH MONUMENT G/SA UNIT 022 | O | Active | 1.58 |
| 3002536183 | CLIMAX CHEMICAL CO | 2449 | FOSTER SALINE WATER 002 | M | Plugged | 1.59 |
| 3002504122 | APACHE CORP | 3845 | NORTH MONUMENT G/SA UNIT 004 | O | Plugged | 1.59 |
| 3002525655 | CLIMAX CHEMICAL CO | 2420 | SALINE WATER WELL 004 | M | Plugged | 1.59 |
| 3002533300 | APACHE CORP | 7661 | REED A-3 FEDERAL 016 | O | Plugged | 1.59 |
| 3002505793 | APACHE CORP | 3897 | NORTH MONUMENT G/SA UNIT 013 | I | Active | 1.60 |
| 3002504221 | XTO ENERGY, INC | 3905 | EUNICE MONUMENT SOUTH UNIT B 851 | I | Active | 1.60 |
| 3002505984 | GRAHAM ROYALTY LTD | 0 | ALASKA COOPER 002 | O | Plugged | 1.61 |
| 3002532659 | DAVID H ARRINGTON OIL & GAS INC | 3882 | FOSTER 004 | G | Active | 1.61 |
| 3002532385 | APACHE CORP | 3650 | BERTHA BARBER 014 | G | Active | 1.61 |
| 3002505910 | APACHE CORP | 3954 | NORTH MONUMENT G/SA UNIT 004 | I | Active | 1.62 |
| 3002533997 | APACHE CORP | 3930 | NORTH MONUMENT G/SA UNIT 293 | O | Active | 1.62 |
| 3002533551 | APACHE CORP | 7550 | W A WEIR 010 | O | Active | 1.62 |
| 3002505796 | APACHE CORP | 3906 | NORTH MONUMENT G/SA UNIT 012 | I | Active | 1.62 |
| 3002539582 | APACHE CORP | 5888 | BERTHA BARBER 024 | O | Active | 1.62 |
| 3002532533 | APACHE CORP | 3596 | STATE J GAS COM 006 | G | Plugged | 1.63 |
| 3002504211 | APACHE CORP | 3890 | H W ANDREWS 003 | G | Active | 1.63 |
| 3002505747 | APACHE CORP | 3971 | NORTH MONUMENT G/SA UNIT 005 | I | Active | 1.63 |
| 3002532381 | APACHE CORP | 3700 | ELLIOTT STATE 006 | G | Active | 1.64 |
| 3002530932 | XTO ENERGY, INC | 3600 | STATE H 003 | G | Active | 1.64 |
| 3002504080 | HESS CORPORATION | 4004 | NORTH MONUMENT G/SA UNIT 008 | O | Plugged | 1.65 |
| 3002504112 | APACHE CORP | 3957 | NORTH MONUMENT G/SA UNIT 018 | O | Active | 1.65 |
| 3002531586 | APACHE CORP | 4500 | NORTH MONUMENT G/SA UNIT 019 | O | TA | 1.65 |
| 3002532698 | CONOCOPHILLIPS COMPANY | 3730 | STATE AC 007 | G | Active | 1.65 |
| 3002541046 | APACHE CORP | 4030 | NORTH MONUMENT G/SA UNIT 393 | O | Active | 1.65 |
| 3002505757 | APACHE CORP | 3850 | NORTH MONUMENT G/SA UNIT 016 | O | Active | 1.65 |
| 3002505914 | MARATHON OIL CO | 99 | BERTHA BARBER 009 | O | Plugged | 1.66 |
| 3002505997 | ENERVEST OPERATING L.L.C. | 5720 | BRITT 010 | O | Plugged | 1.66 |
| 3002504219 | ATLANTIC RICHFIELD | 3896 | MARY J BYRD 002 | O | Plugged | 1.66 |
| 3002533190 | APACHE CORP | 8100 | M E GAITHER 005 | O | Active | 1.66 |
| 3002539067 | APACHE CORP | 4080 | NORTH MONUMENT G/SA UNIT 374 | O | Active | 1.66 |
| 3002505992 | ENERVEST OPERATING L.L.C. | 3877 | BRITT 004 | G | Active | 1.66 |
| 3002504174 | APACHE CORP | 3906 | NORTH MONUMENT G/SA UNIT 017 | O | Plugged | 1.66 |
| 3002505953 | CHEVRON U S A INC | 6550 | G C MATTHEWS 012 | G | Plugged | 1.66 |
| 3002535945 | CIMAREX ENERGY CO. OF COLORADO | 99 | BERTHA BARBER 020 | O | Plugged | 1.67 |
| 3002504101 | APACHE CORP | 3950 | M E GAITHER 001 | G | Active | 1.67 |
| 3002533199 | DAVID H ARRINGTON OIL & GAS INC | 8090 | E H CADDIS 001 | O | Plugged | 1.67 |
| 3002505753 | APACHE CORP | 3945 | NORTH MONUMENT G/SA UNIT 010 | O | Active | 1.67 |
| 3002505913 | APACHE CORP | 3900 | BERTHA BARBER 008 | G | Active | 1.67 |
| 3002505944 | GULF OIL CORP | 0 | G C MATHEWS 003 | O | Plugged | 1.68 |
| 3002505786 | APACHE CORP | 3910 | NORTH MONUMENT G/SA UNIT 005 | I | Active | 1.68 |
| 3002535130 | APACHE CORP | 3974 | NORTH MONUMENT G/SA UNIT 296 | O | Active | 1.68 |
| 3002505756 | MARATHON OIL CO | 3933 | ELLIOTT STATE 004 | G | Plugged | 1.68 |
| 3002532579 | APACHE CORP | 3850 | MCGRAIL STATE 003 | G | Active | 1.69 |
| 3002541043 | APACHE CORP | 4037 | NORTH MONUMENT G/SA UNIT 390 | O | Active | 1.69 |
| 3002505948 | CHEVRON U S A INC | 3736 | G C MATTHEWS 007 | O | Plugged | 1.69 |
| 3002504079 | APACHE CORP | 4005 | NORTH MONUMENT G/SA UNIT 011 | O | Plugged | 1.70 |
| 3002527082 | XTO ENERGY, INC | 3725 | GRAHAM STATE NCT C COM 009 | G | Active | 1.71 |
| 3002504161 | APACHE CORP | 3920 | NORTH MONUMENT G/SA UNIT 013 | I | Active | 1.71 |
| 3002504173 | BURGUNDY OIL & GAS OF N M INC | 3930 | REED A 3 002 | G | Active | 1.72 |
| 3002505972 | ENERVEST OPERATING L.L.C. | 3881 | BRITT 001 | G | Active | 1.72 |
| 3002504072 | BRECK OPERATING CORP | 3985 | STATE A 26 001 | O | Active | 1.72 |
| 3002504104 | APACHE CORP | 3800 | NORTH MONUMENT G/SA UNIT 017 | O | Plugged | 1.72 |
| 3002532835 | APACHE CORP | 3700 | BYRD GAS COM 009 | G | Active | 1.72 |
| 3002534024 | APACHE CORP | 7550 | W A WEIR B 006 | O | Active | 1.72 |
| 3002530923 | XTO ENERGY, INC | 3950 | J W SMITH 007 | G | Active | 1.73 |
| 3002535607 | APACHE CORP | 3909 | NORTH MONUMENT G/SA UNIT 328 | O | Active | 1.73 |
| 3002505917 | MARATHON OIL CO | 0 | BERTHA BARBER (DO NOT USE) 012 | G | Plugged | 1.74 |
| 3002504226 | ARCO PERMIAN | 3650 | BYRD GAS COM 007 | G | Plugged | 1.74 |
| 3002539068 | APACHE CORP | 4050 | NORTH MONUMENT G/SA UNIT 375 | O | Active | 1.74 |
| 3002535741 | APACHE CORP | 3897 | NORTH MONUMENT G/SA UNIT 332 | O | Active | 1.74 |
| 3002505746 | APACHE CORP | 3959 | NORTH MONUMENT G/SA UNIT 006 | O | Active | 1.74 |
| 3002536182 | CLIMAX CHEMICAL CO | 2482 | FOSTER SALINE WATER 001 | M | Plugged | 1.74 |
| 3002533035 | APACHE CORP | 3498 | H W ANDREWS 015 | G | Active | 1.74 |
| 3002533607 | APACHE CORP | 7588 | MCGRAIL STATE 009 | O | Active | 1.74 |
| 3002505974 | APACHE CORP | 3894 | BERTHA J BARBER 002 | O | Plugged | 1.75 |
| 3002533598 | CHEVRON U S A INC | 7550 | STATE A 26 006 | O | Plugged | 1.75 |
| 3002505915 | MARATHON OIL CO | 5742 | BERTHA BARBER 010 | O | Plugged | 1.75 |
| 3002538455 | APACHE CORP | 4088 | NORTH MONUMENT G/SA UNIT 359 | O | Active | 1.75 |
| 3002504234 | APACHE CORP | 3875 | W P BYRD BATTERY 3 003 | O | Active | 1.75 |
| 3002504238 | APACHE CORP | 3880 | W P BYRD A 001 | O | Active | 1.75 |
| 3002504070 | APACHE CORP | 4062 | NORTH MONUMENT G/SA UNIT 007 | O | Active | 1.76 |
| 3002533436 | APACHE CORP | 7525 | SMITH 008 | O | Active | 1.76 |
| 3002538149 | APACHE CORP | 3990 | NORTH MONUMENT G/SA UNIT 346 | O | TA | 1.76 |
| 3002505911 | MARATHON OIL CO | 3890 | BERTHA BARBER 006 | O | Plugged | 1.76 |
| 3002505977 | CHEVRON U S A INC | 5700 | BERTHA J BARBER 009 | O | Active | 1.77 |
| 3002504058 | APACHE CORP | 4028 | NORTH MONUMENT G/SA UNIT 002 | O | Active | 1.77 |
| 3002505787 | APACHE CORP | 3920 | NORTH MONUMENT G/SA UNIT 004 | I | Active | 1.77 |
| 3002504056 | APACHE CORP | 4055 | NORTH MONUMENT G/SA UNIT 003 | O | Plugged | 1.77 |
| 3002504243 | MORGAN OPERATING, INC. | 3890 | COOPER B 005 | O | Active | 1.78 |
| 3002504222 | XTO ENERGY, INC | 4000 | EUNICE MONUMENT SOUTH UNIT B 852 | O | Active | 1.78 |
| 3002534327 | APACHE CORP | 7800 | BERTHA BARBER 018Y | O | Plugged | 1.78 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3002534205 | MARATHON OIL CO | 7800 | BERTHA BARBER 018 | O | Plugged | 1.79 |
| 3002504228 | APACHE CORP | 3885 | H W ANDREWS 004 | O | Active | 1.79 |
| 3002505978 | CHESAPEAKE OPERATING, INC. | 5250 | BERTHA J BARBER 012 | O | Plugged | 1.79 |
| 3002504224 | XTO ENERGY, INC | 3901 | EUNICE MONUMENT SOUTH UNIT B 856 | O | Active | 1.79 |
| 3002535605 | APACHE CORP | 3918 | NORTH MONUMENT G/SA UNIT 325 | O | Active | 1.80 |
| 3002505902 | RICE OPERATING COMPANY | 5712 | E M E SWD 005 | S | Active | 1.80 |
| 3002539565 | APACHE CORP | 7703 | BERTHA BARBER 023 | O | Active | 1.80 |
| 3002504065 | APACHE CORP | 3988 | NORTH MONUMENT G/SA UNIT 001 | I | Active | 1.80 |
| 3002504175 | BURGUNDY OIL & GAS OF N M INC | 3930 | REED A 3 003 | G | Active | 1.81 |
| 3002504068 | APACHE CORP | 3980 | NORTH MONUMENT G/SA UNIT 004 | G | Plugged | 1.81 |
| 3002536267 | MATADOR OPERATING CO | 99 | BERTHA BARBER 022 | O | Plugged | 1.81 |
| 3002504105 | RHOMBUS OPERATING CO LTD | 3975 | NORTHWEST EUMONT UNIT 153 | I | Plugged | 1.81 |
| 3002533013 | APACHE CORP | 3631 | STATE U 003 | O | Active | 1.82 |
| 3002533996 | APACHE CORP | 3933 | NORTH MONUMENT G/SA UNIT 292 | O | Active | 1.83 |
| 3002504220 | XTO ENERGY, INC | 4000 | EUNICE MONUMENT SOUTH UNIT B 857 | O | Active | 1.83 |
| 3002504113 | DAVID H ARRINGTON OIL & GAS INC | 3953 | FOSTER 002 | G | Active | 1.83 |
| 3002533105 | DAVID H ARRINGTON OIL & GAS INC | 8047 | FOSTER 005 | O | Plugged | 1.84 |
| 3002533512 | APACHE CORP | 7493 | SMITH 009 | O | Active | 1.84 |
| 3002505998 | ENERVEST OPERATING L.L.C. | 5700 | BRITT 011 | G | Plugged | 1.84 |
| 3002505754 | APACHE CORP | 3940 | NORTH MONUMENT G/SA UNIT 009 | I | Active | 1.84 |
| 3002532897 | XTO ENERGY, INC | 3650 | STATE H 004 | G | Active | 1.84 |
| 3002533514 | DAVID H ARRINGTON OIL & GAS INC | 8020 | ROYAL WULFF 001 | O | Active | 1.85 |
| 3002505987 | MORGAN OPERATING, INC. | 3885 | COOPER B 007 | O | Active | 1.85 |
| 3002505794 | APACHE CORP | 3897 | NORTH MONUMENT G/SA UNIT 014 | I | Active | 1.85 |
| 3002532384 | APACHE CORP | 3727 | BERTHA BARBER 013 | G | Active | 1.85 |
| 3002504187 | J R OIL, LTD. CO. | 3905 | REED SANDERSON UNIT 004 | O | Active | 1.86 |
| 3002504212 | XTO ENERGY, INC | 3890 | EUNICE MONUMENT SOUTH UNIT B 858 | O | Active | 1.86 |
| **3002533191** | **APACHE CORP** | **8400** | **M E GAITHER 006** | **O** | **Active** | **1.86** |
| 3002505903 | HESS CORPORATION | 0 | E S ADKINS 003 | O | Plugged | 1.87 |
| 3002505745 | APACHE CORP | 3975 | NORTH MONUMENT G/SA UNIT 004 | O | Active | 1.87 |
| 3002505908 | APACHE CORP | 3894 | NORTH MONUMENT G/SA UNIT 003 | I | Active | 1.87 |
| 3002505740 | APACHE CORP | 3964 | NORTH MONUMENT G/SA UNIT 007 | I | Active | 1.87 |
| 3002505797 | APACHE CORP | 3901 | NORTH MONUMENT G/SA UNIT 011 | I | Active | 1.87 |
| 3002533126 | LEGACY RESERVES OPERATING, LP | 3650 | ALASKA COOPER 008 | G | Active | 1.87 |
| 3002541724 | APACHE CORP | 4019 | NORTH MONUMENT G/SA UNIT 398 | O | Active | 1.87 |
| 3002532532 | APACHE CORP | 3760 | BERTHA BARBER 015 | G | Active | 1.88 |
| 3002505748 | CONOCOPHILLIPS COMPANY | 3700 | STATE AC COM 004 | G | Plugged | 1.88 |
| **3002533761** | **CONOCO INC** | **9195** | **KLEIN FEDERAL 001** | **O** | **Plugged** | **1.88** |
| 3002504073 | BRECK OPERATING CORP | 3993 | STATE A 26 002 | O | Active | 1.88 |
| 3002541267 | APACHE CORP | 3956 | BERTHA J BARBER 018 | O | New (Not drilled or compl) | 1.88 |
| 3002505901 | HESS CORPORATION | 0 | E S ADKINS 001 | O | Plugged | 1.88 |
| 3002541726 | APACHE CORP | 3952 | NORTH MONUMENT G/SA UNIT 436 | O | Active | 1.89 |
| 3002533671 | APACHE CORP | 7650 | W A WEIR B 004 | O | Active | 1.89 |
| 3002505724 | APACHE CORP | 3935 | NORTH MONUMENT G/SA UNIT 013 | I | Active | 1.89 |
| 3002541282 | APACHE CORP | 3954 | BERTHA J BARBER 016 | O | New (Not drilled or compl) | 1.90 |
| 3002504071 | APACHE CORP | 4033 | NORTH MONUMENT G/SA UNIT 006 | O | Active | 1.90 |
| 3002541281 | APACHE CORP | 3950 | BERTHA J BARBER 015 | O | New (Not drilled or compl) | 1.90 |
| 3002533545 | CHEVRON U S A INC | 7690 | J W SMITH 010 | O | Plugged | 1.90 |
| 3002534204 | APACHE CORP | 7800 | BERTHA BARBER 017 | O | Active | 1.90 |
| 3002504213 | XTO ENERGY, INC | 3875 | EUNICE MONUMENT SOUTH UNIT B 859 | O | Active | 1.91 |
| 3002505912 | APACHE CORP | 3895 | NORTH MONUMENT G/SA UNIT 006 | O | Plugged | 1.92 |
| 3002504177 | CONTINENTAL OIL | 3925 | REED A 3 005 | O | Plugged | 1.92 |
| 3002505781 | APACHE CORP | 3915 | NORTH MONUMENT G/SA UNIT 006 | I | Active | 1.92 |
| 3002541042 | APACHE CORP | 4056 | NORTH MONUMENT G/SA UNIT 389 | O | Active | 1.92 |
| 3002504176 | BURGUNDY OIL & GAS OF N M INC | 3889 | REED A 3 004 | O | Active | 1.92 |
| 3002533919 | APACHE CORP | 7800 | BERTHA BARBER 016 | O | Plugged | 1.93 |
| 3002533524 | CHEVRON U S A INC | 7700 | STATE A 26 005 | O | Plugged | 1.93 |
| 3002504082 | RHOMBUS OPERATING CO LTD | 4002 | NORTHWEST EUMONT UNIT 145 | O | Active | 1.93 |
| 3002532346 | APACHE CORP | 3415 | W P BYRD GAS COM 002 | G | Active | 1.94 |
| 3002536134 | CIMAREX ENERGY CO. OF COLORADO | 6700 | BERTHA BARBER 021 | O | Active | 1.94 |
| 3002506023 | CHESAPEAKE OPERATING, INC. | 5700 | BERTHA J BARBER 008 | O | Plugged | 1.94 |
| 3002505991 | ENERVEST OPERATING L.L.C. | 3885 | BRITT 003 | G | Plugged | 1.94 |
| 3002505993 | ENERVEST OPERATING L.L.C. | 3857 | BRITT 005 | G | Active | 1.94 |
| 3002535129 | APACHE CORP | 3933 | NORTH MONUMENT G/SA UNIT 295 | O | Active | 1.95 |
| 3002531080 | XTO ENERGY, INC | 4050 | EUNICE MONUMENT SOUTH UNIT B 855 | I | Active | 1.95 |
| 3002541613 | APACHE CORP | 7800 | W A WEIR B 007 | O | Active | 1.95 |
| 3002532574 | CONOCOPHILLIPS COMPANY | 3650 | SANDERSON A 018 | G | Active | 1.96 |
| 3002504116 | RHOMBUS OPERATING CO LTD | 3961 | NORTHWEST EUMONT UNIT 161 | I | Active | 1.96 |
| 3002505744 | APACHE CORP | 3970 | NORTH MONUMENT G/SA UNIT 003 | I | Active | 1.96 |
| 3002539564 | APACHE CORP | 7700 | BERTHA BARBER 022 | O | Active | 1.96 |
| 3002505979 | CHESAPEAKE OPERATING, INC. | 0 | BERTHA J BARBER 014 | O | Plugged | 1.97 |
| 3002531503 | APACHE CORP | 4300 | NORTH MONUMENT G/SA UNIT 003 | I | Active | 1.97 |
| 3002504103 | RHOMBUS OPERATING CO LTD | 3940 | NORTHWEST EUMONT UNIT 160 | O | Active | 1.98 |
| 3002526168 | APACHE CORP | 3774 | W A WEIR B 003 | G | Active | 1.98 |
| 3002506028 | ATLANTIC RICHFIELD | 0 | BERTHA J BARBER 015 | O | Plugged | 1.98 |
| 3002533571 | CHEVRON U S A INC | 7900 | J W SMITH 011 | O | Plugged | 1.98 |
| 3002526170 | APACHE CORP | 3570 | APACHE STATE O 005 | G | Active | 1.98 |
| 3002533736 | BURGUNDY OIL & GAS OF N M INC | 5705 | BARBER FEDERAL 001 | O | Active | 1.98 |
| 3002535620 | APACHE CORP | 3905 | NORTH MONUMENT G/SA UNIT 324 | O | Active | 1.99 |
| 3002541283 | APACHE CORP | 0 | BERTHA J BARBER 017C | O | New (Not drilled or compl) | 1.99 |
| 3002505909 | APACHE CORP | 3895 | BERTHA BARBER 004 | O | Active | 2.00 |
| 3002529735 | APACHE CORP | 3960 | NORTH MONUMENT G/SA UNIT 032 | O | Active | 2.00 |
| 3002504237 | APACHE CORP | 3870 | W P BYRD BATTERY 3 006 | O | Active | 2.00 |
| 3002535608 | APACHE CORP | 3896 | NORTH MONUMENT G/SA UNIT 329 | O | Active | 2.00 |

| Table A2: Wells Penetrating the Injection Zone within One Mile of Proposed Targa Monument AGI #1R | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| API | OPERATOR | PLUG_DATE | SPUD_DATE | TVD_DEPTH | WELL_NAME | WELL_TYPE | COMPL_STAT | COUNTY | LATITUDE | LONGITUDE |
| 3002540002 | TARGA MIDSTREAM SERVICES LLC | 9/13/2016 | 21-Mar-11 | 9208 | MONUMENT AGI 001 | I | Plugged | Lea | 32.61123145 | -103.3075149 |
| 3002512473 | APACHE CORP | | 2-May-48 | 10255 | STATE F GAS COM 005 | G | Active | Lea | 32.61170528 | -103.3099364 |
| 3002512478 | APACHE CORP | 5-Jul-12 | 2/22/1948 | 9822 | NORTH MONUMENT G/SA UNIT 032 | O | Plugged | Lea | 32.6113661 | -103.3013947 |
| 3002512481 | APACHE CORP | | 7-Jan-59 | 10100 | NORTH MONUMENT G/SA UNIT 285 | O | Active | Lea | 32.61906674 | -103.3098964 |
| 3002520517 | APACHE CORP | | 28-Dec-62 | 9900 | NORTH MONUMENT G/SA UNIT 286 | O | TA | Lea | 32.61865867 | -103.3052063 |
| 3002505780 | ATLANTIC RICHFIELD | 2-Jan-00 | 2-Jan-00 | 9900 | J R PHILLIPS A 008 | G | Plugged | Lea | 32.61136443 | -103.2961668 |
| 3002523632 | ARCO PERMIAN | 27-Jan-99 | 11-Jan-71 | 9650 | J R PHILLIPS A 009 | G | Plugged | Lea | 32.61196999 | -103.2970866 |
| 3002504134 | APACHE CORP | | 8-May-47 | 9953 | J R PHILLIPS 005 | O | Active | Lea | 32.60773782 | -103.3014047 |
| 3002504136 | APACHE CORP | | 12/22/1977 | 10214 | J R PHILLIPS 007 | O | TA | Lea | 32.60410936 | -103.3017491 |
| 3002505964 | CHEVRON U S A INC | | 2/20/1958 | 9814 | J R PHILLIPS 011 | G | Active | Lea | 32.60752788 | -103.2968443 |

**Table A3: Operators within One Mile of Proposed Targa Monument AGI #1R**

| OPERATOR | ADDRESS | | | | | OGRID |
|---|---|---|---|---|---|---|
| Apache Corporation | 303 VETERANS AIRPARK LANE | SUITE 3000 | MIDLAND | TX | 79705 | 873 |
| Chevron USA, Inc. | CHEVRON U S A INC | 1400 SMITH | HOUSTON | TX | 77002 | 4323 |
| Targa Midstream Services, LP | TARGA MIDSTREAM SERVICES LLC | 1000 LOUISIANA, STE 4300 | HOUSTON | TX | 77002 | 24650 |
| XTO Energy, Inc. | XTO ENERGY, INC | PO BOX 6501 | ENGLEWOOD | CO | 80155 | 5380 |

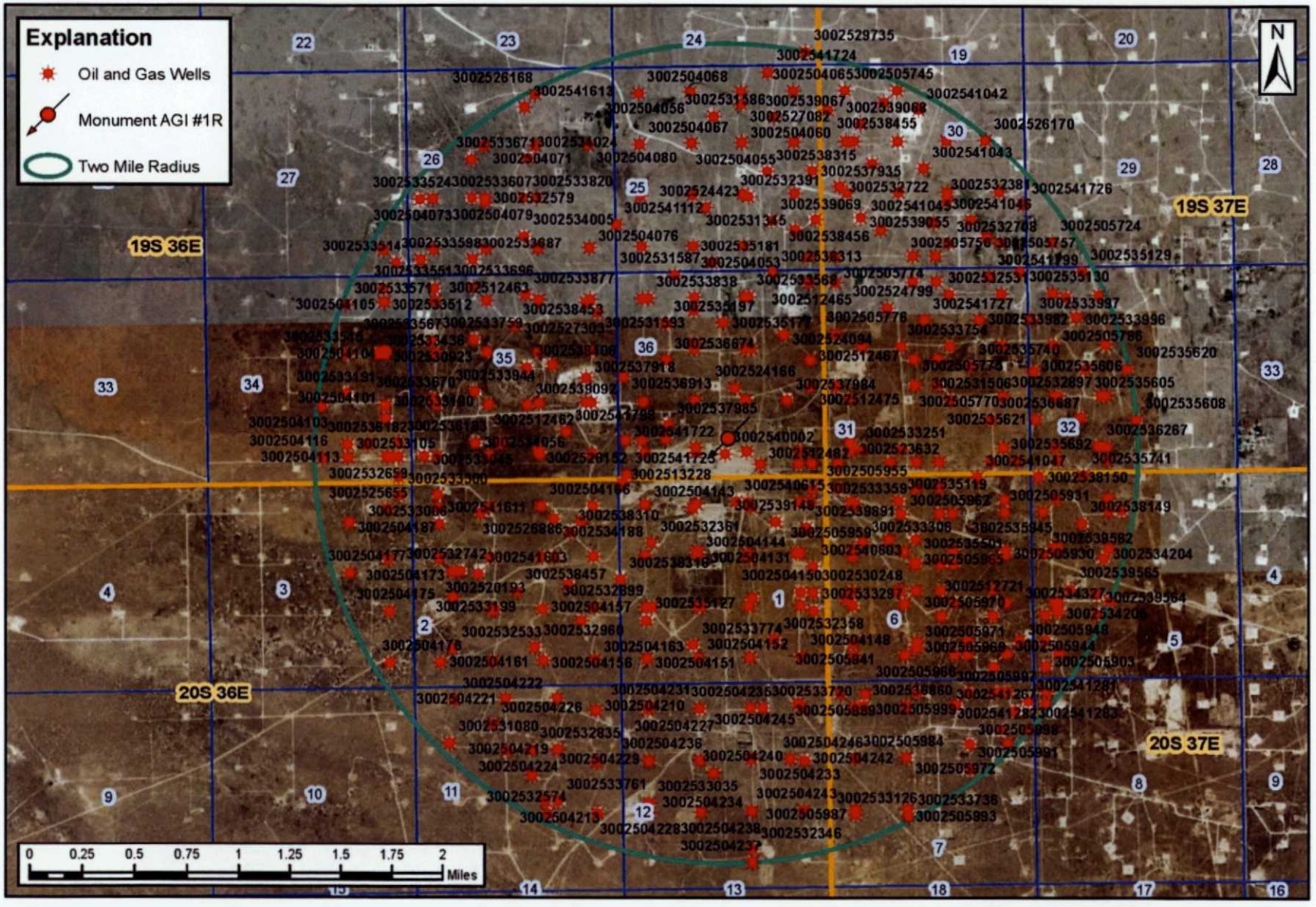



**Figure A1:** Oil and Gas Wells within Two Miles of Proposed AGI #1R

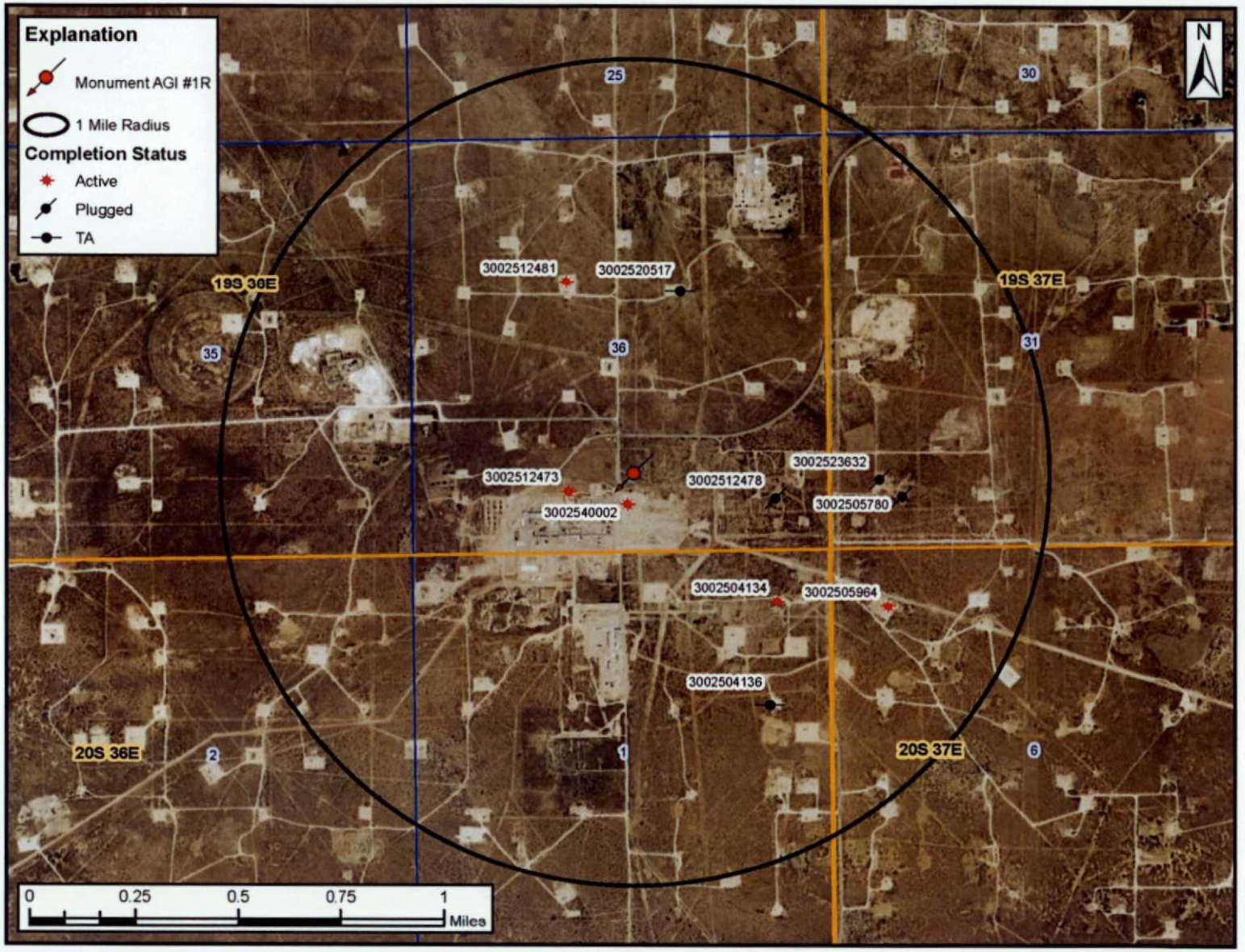



**Figure A2:** Oil and Gas Wells Penetrating the Injection Zone within One Mile of Proposed AGI #1R

# APPENDIX B

## Original C-108 Application
## Targa Midstream Monument Gas Plant
## and
## NMOCD Order R-13052
## and
## Administrative Order IPI-416

## C-108

**Tab**

| | |
|---|---|
| A | Wellbore schematic Monument AGI |
| B | AOR 2 mi., ½ mi., 1 mi. |
| C | C-108 Parts III through XIV |
| D | Legal Notice; Proof of Notification |
| E | List of Wells, 1 mi. AOR |
| F | Wellbore schematics, AOR wells |
| G | Pore Volume calculations |
| H | C-102 and area locator maps |

**NMOCD Case No. 14161**
**August 7, 2008**
**Ex. No. 1**

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL
RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

**APPLICATION FOR AUTHORIZATION TO INJECT**

I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance __X__ Disposal _____ Storage
Application qualifies for administrative approval? _____ Yes _____ No

II. OPERATOR: TARGA Resources LLC

ADDRESS: 6201 South Hwy 322 Monument, New Mexico 88265

CONTACT PARTY: Michael Pierce PHONE: 575 392 1915 505 948 0545

III. WELL DATA: **Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.**

IV. Is this an expansion of an existing project? _____ Yes __X__ No
If yes, give the Division order number authorizing the project: _____

V. **Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.**

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.**

VII. **Attach data on the proposed operation, including:**

1. **Proposed average and maximum daily rate and volume of fluids to be injected;**
2. **Whether the system is open or closed;**
3. **Proposed average and maximum injection pressure;**
4. **Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,**
5. **If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).**

*VIII. **Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.**

IX. **Describe the proposed stimulation program, if any.**

*X. **Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).**

*XI. **Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.**

XII. **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.**

XIII. **Applicants must complete the "Proof of Notice" section on the reverse side of this form.**

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: Michael A. Pierce TITLE: Consultant

SIGNATURE: _____ DATE: 6-2-2008

E-MAIL ADDRESS: MPGeol@AOL.Com

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

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.

(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.

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

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

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.

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

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(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.

(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.

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.

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:

(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.

Side 1

## INJECTION WELL DATA SHEET

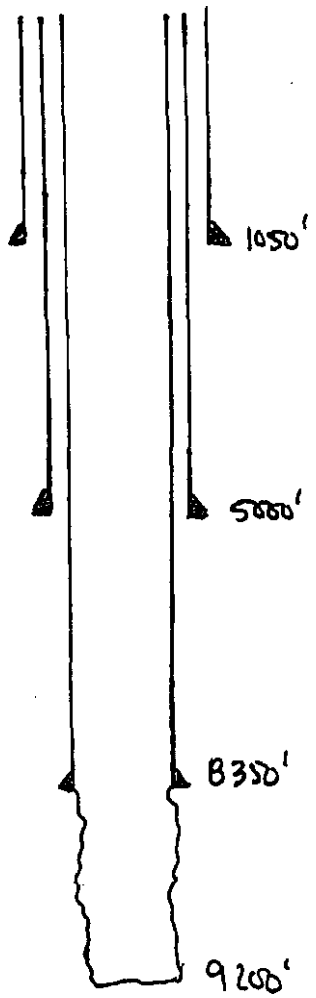
OPERATOR: Targa Resources LLC

WELL NAME & NUMBER: Monument AGI No. 1

WELL LOCATION: 662' FSL & 2513' FEL | O | 36 | 19S | 36E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

***WELLBORE SCHEMATIC***




***WELL CONSTRUCTION DATA***

Surface Casing

Hole Size: _____ Casing Size: 13 3/8"

Cemented with: _____ sx. or _____ ft³

Top of Cement: Surface Method Determined: _____

Intermediate Casing

Hole Size: 12 1/4" Casing Size: 9 5/8"

Cemented with: _____ sx. or _____ ft³

Top of Cement: Surface Method Determined: _____

Production Casing

Hole Size: 8 5/8 Casing Size: 7"

Cemented with: _____ sx. or _____ ft³

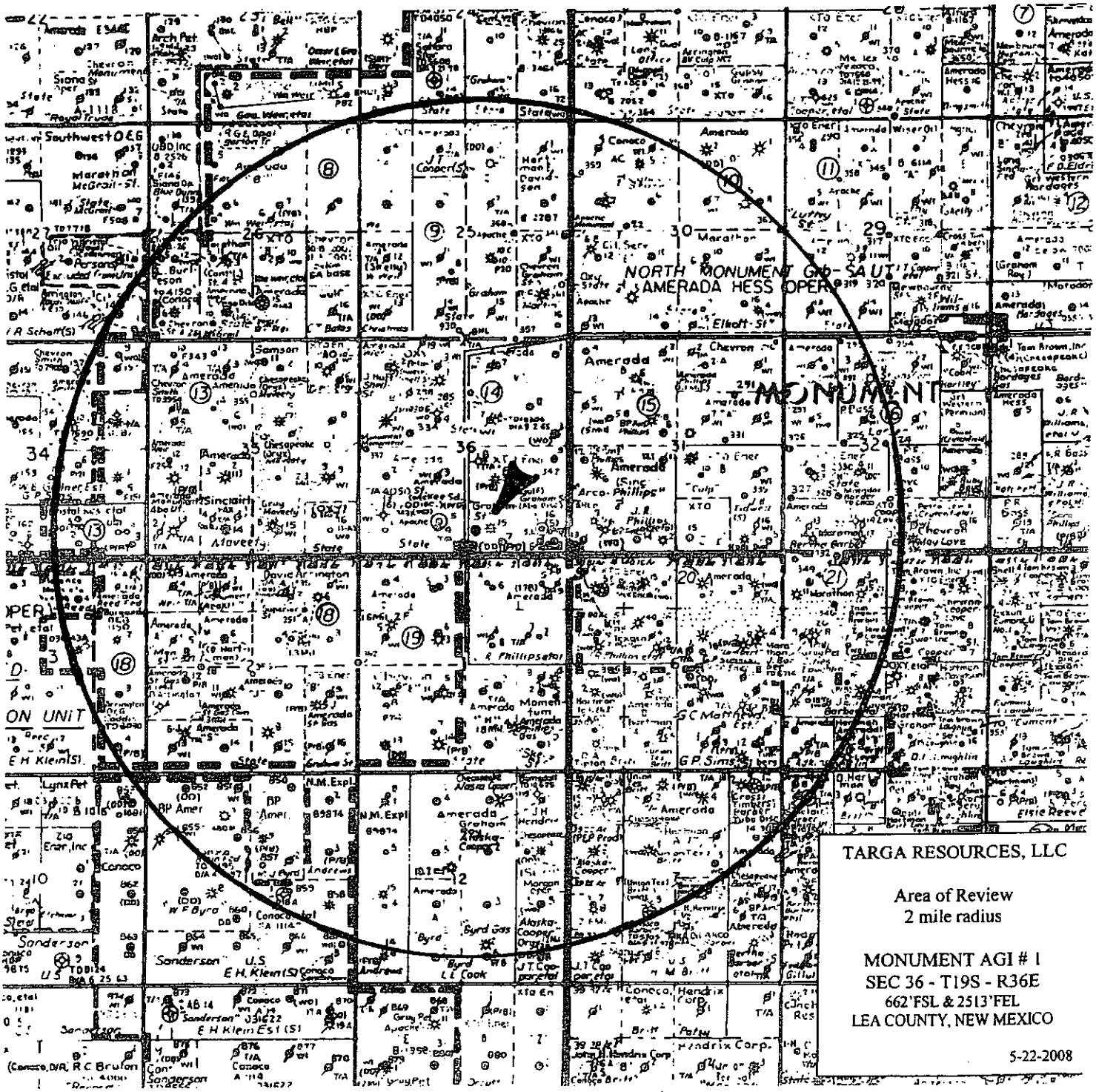
Top of Cement: Surface Method Determined: _____

Total Depth: 8350'

*Injection Interval*

8350 - 9200 feet to OPEN-HOLE

(Perforated or Open Hole; indicate which)

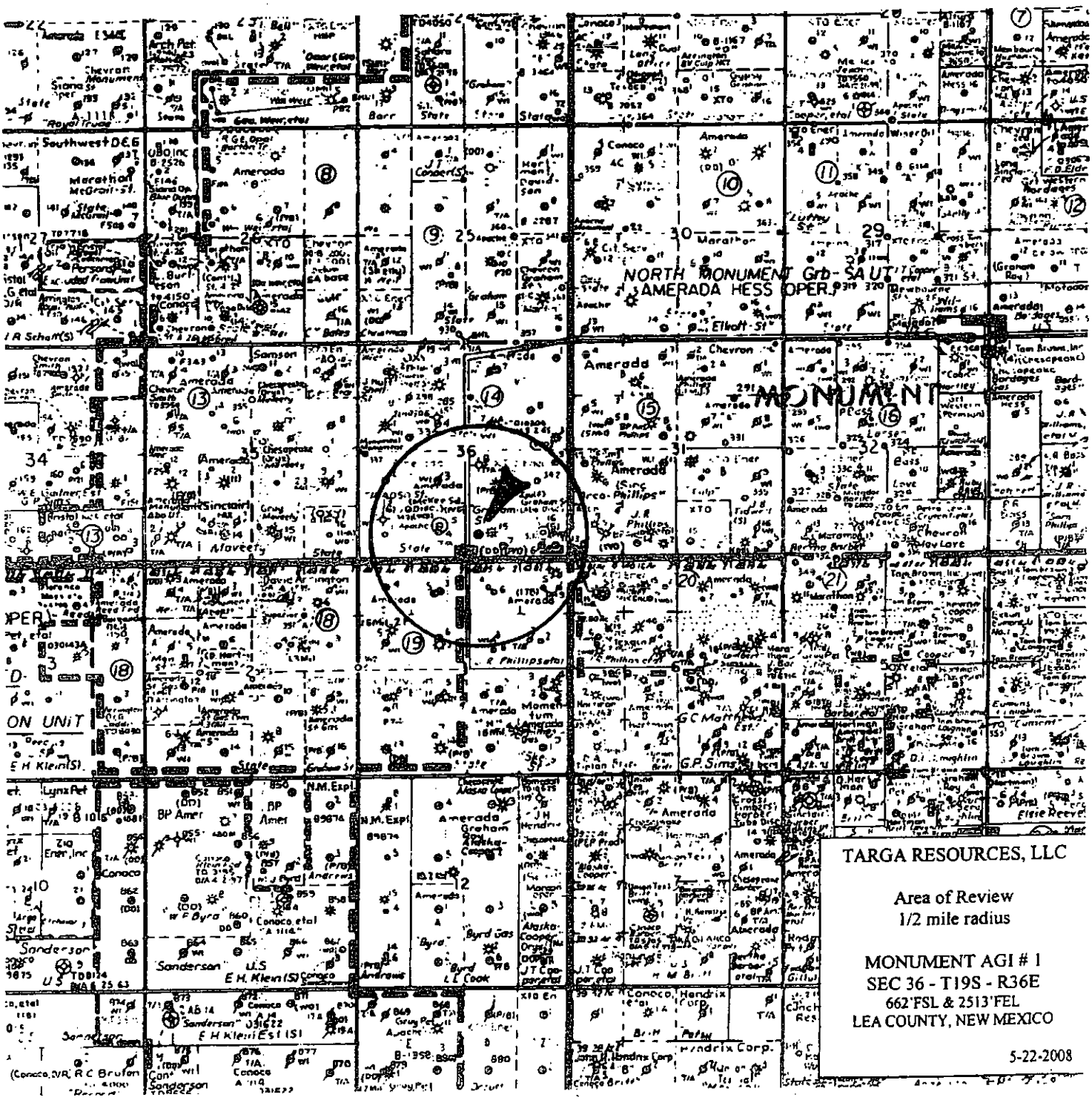


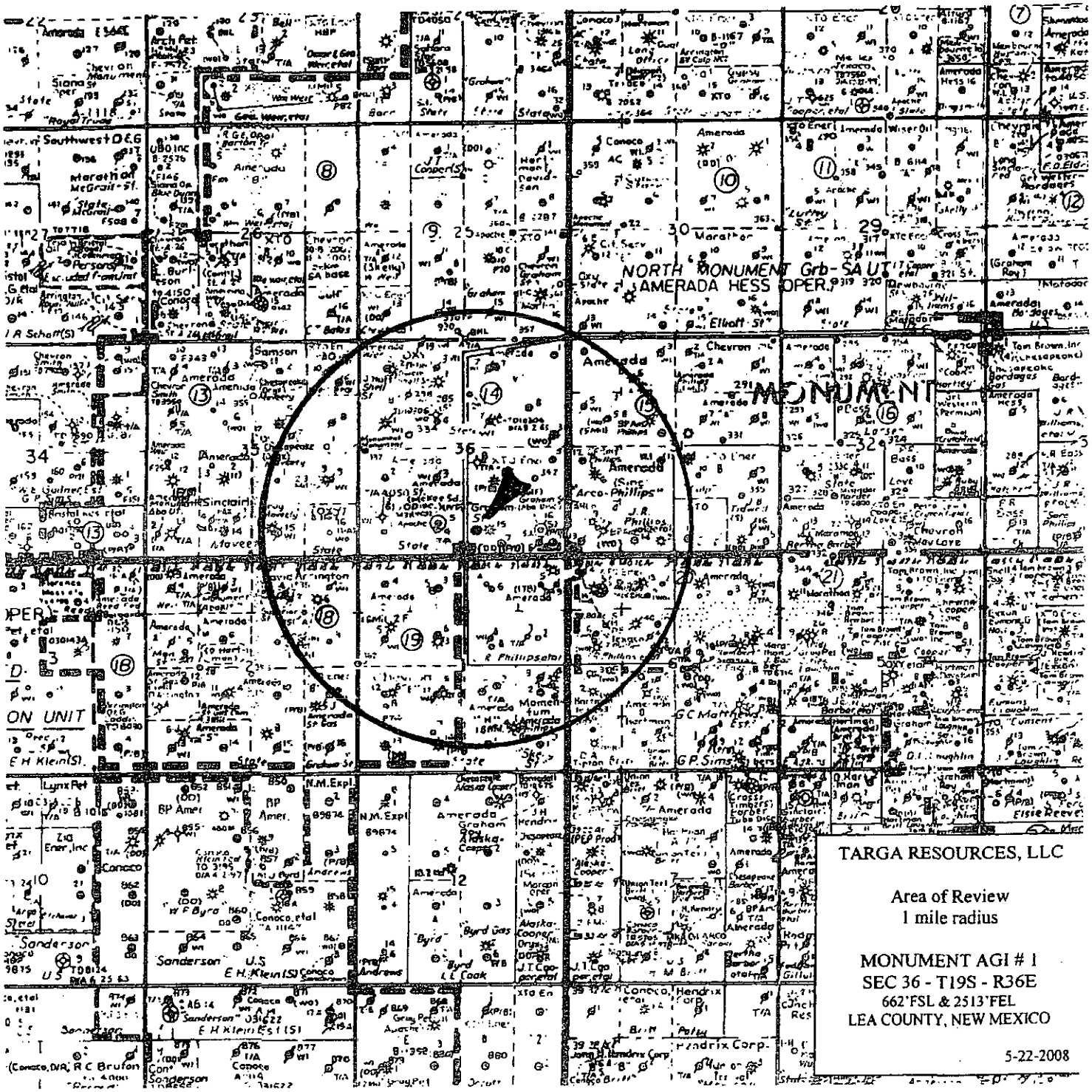

TARGA RESOURCES, LLC

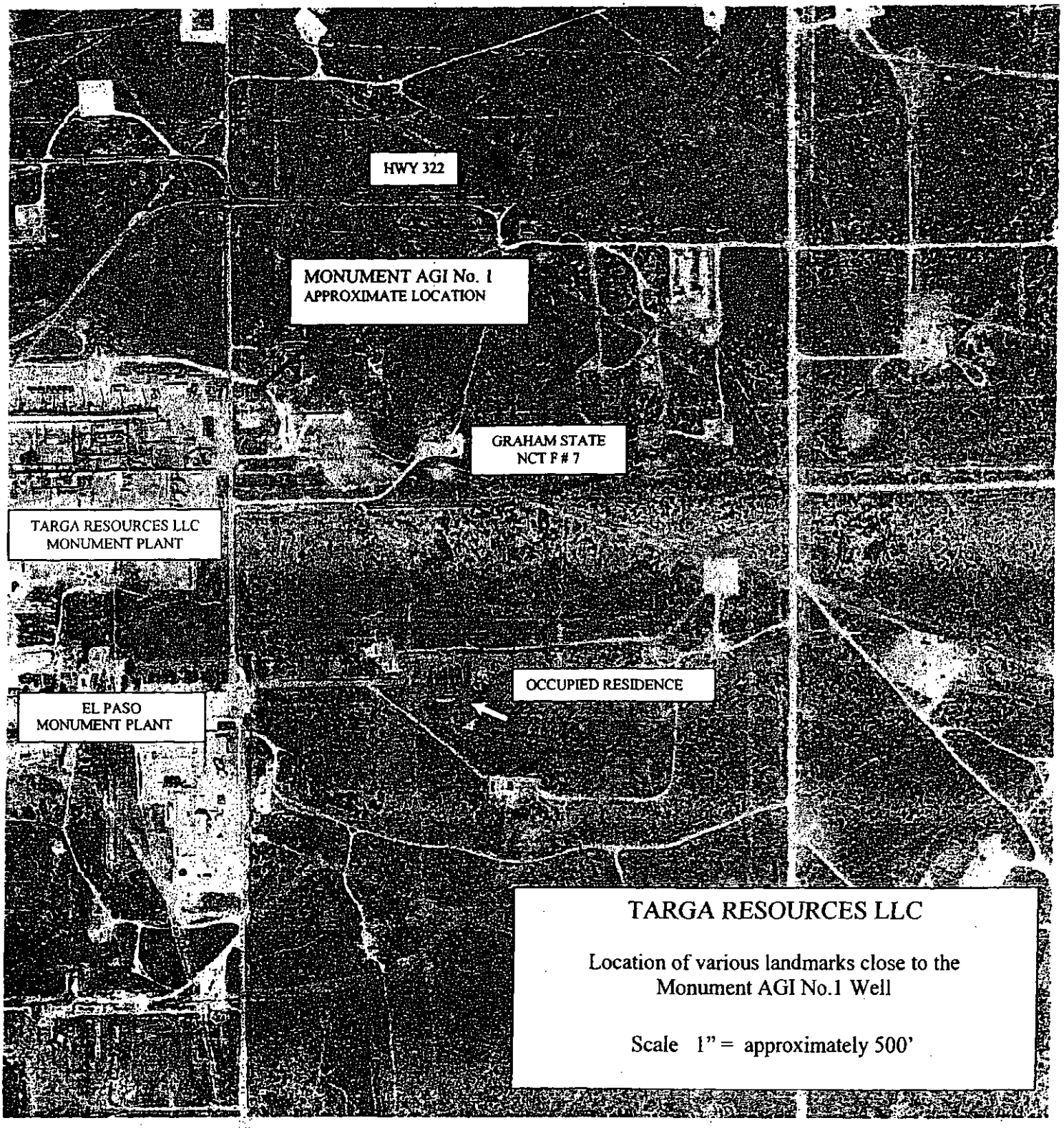
Area of Review
2 mile radius

MONUMENT AGI # 1
SEC 36 - T19S - R36E
662'FSL & 2513'FEL
LEA COUNTY, NEW MEXICO

5-22-2008


NORTH MONUMENT Grb-SA UT
AMERADA HESS OPER.
MONUMENT
TARGA RESOURCES, LLC
Area of Review
1/2 mile radius
MONUMENT AGI # 1
SEC 36 - T19S - R36E
662'FSL & 2513'FEL
LEA COUNTY, NEW MEXICO
5-22-2008


NORTH MONUMENT Grb-SA UT
AMERADA HESS COPER.
MONUMENT
TARGA RESOURCES, LLC
Area of Review
1 mile radius
MONUMENT AGI # 1
SEC 36 - T19S - R36E
662'FSL & 2513'FEL
LEA COUNTY, NEW MEXICO
5-22-2008


HWY 322
MONUMENT AGI No. 1
APPROXIMATE LOCATION
GRAHAM STATE
NCT F # 7
TARGA RESOURCES LLC
MONUMENT PLANT
OCCUPIED RESIDENCE
EL PASO
MONUMENT PLANT
TARGA RESOURCES LLC
Location of various landmarks close to the
Monument AGI No.1 Well
Scale 1" = approximately 500'

## Form C-108

PART III. WELL DATA

A.

1. Monument AGI No.1
   662' FSL & 2513' FWL
   Section 36 – T19S – R36E
   Unit O
   Lea County, New Mexico

2. See attached wellbore schematic

3. We propose to run approximately 8400' feet of 2 7/8" plastic coated tubing.

4 We will use an appropriate packer as a seal and will set it at approximately 50' above the open-hole interval. The casing annulus will be loaded with appropriate packer fluid.

PART III

B.

1. Targa Resources LLC proposes to drill the Monument AGI No.1 well at a non-standard location of 662'FSL & 2531'FEL in section 36 – T19S – R36E to a depth of approximately 9200'. The injection interval in the Monument AGI No.1 will be approximately 8350'-9200' in the Devonian and Fusselman formations to take advantage of the porosity development. The Devonian and Fusselman are not productive in the Area of Review.

2. The injection interval will be an open-hole completion at approximately 8350'– 9200'.

3. This well will be drilled by Targa Resources LLC, as an acid gas injection well.

4. There will be no perforations in this well.

5. There is production in the AOR from both above and below the injection interval;

Eumont Yates-SR Queen at approximately 2700-3500'

Eunice Monument Grayburg San Andres at approximately 3500-3900'

Monument Paddock at approximately 5100'

Monument Blinebry at approximately 5600'

Monument Tubb at approximately 6700'

Monument Abo at approximately 7100'

Monument McKee – Ellenburger at approximately 9500'

PART VII.

1. The proposed average daily injection rate will be 3500 bbl/day +2.66 mmscfd, and the maximum rate will be 5000 bbls + 3.38 mmscfd.

2. The system will be closed.

3. The anticipated injection pressure is 0 PSI. The maximum injection pressure will not exceed the limits set forth by the NMOCD.

4. The source of the water will be from TARGA RESOURCES LLC Monument Gas Plant, located just west of the Monument AGI No.1 well.

The analysis for the gas is as follows;

Design basis:

For minimum volume

Low Case

Acid Gas:

H2S, mol % 21.27

CO2, mol % 68.54

Volume, mmscfd 2.66

For maximum volume

High Case

Acid Gas:

H2S, mol % 28.14

CO2, mol % 61.82

Volume, mmscfd 3.38

Sp.gravity = approx 1.4.

5. The Devonian/Fusselman formations are not productive within one mile of the Monument AGI No.1 well location.

## PART VIII

The injection interval is Siluro-Devonian aged Devonian/Fusselman formations. It is primarily composed of porous Dolomite, Limestone, and minor chert. The Devonian/Fusselman is approximately 850' thick at the proposed location.

The top of the Devonian is at approximately 8350', with the base of the Fusselman at about 9200'.

The entire area is overlain by Quaternary alluvium. This alluvium is the major source of fresh water in the immediate area, at a depth of approximately 20 to 50' from surface. The Ogalalla is not present at this location.

There are no known sources of drinking water below the injection interval.

PART IX

The injection interval will be treated with acid if necessary.

PART X

The well will be logged with standard open-hole logs, including GR – Neutron, Density with caliper, and resistivity.

PART XI

Analyses for fresh water wells in the area were previously submitted for the Graham State NCT-F No. 7 well, located 330'FSL &1650'FEL section 36 – T19S – R36E, unit O, Lea County New Mexico. This well is currently an active SWD well operated by Targa Resources, LLC for its' Monument gas plant. This well was permitted in June 1994, OCD permit SWD-561. The proposed Monument AGI No.1 and the Graham State NCT– # 7 well are both located in unit O, section 36 – T19S – R36E.

PART XII

We have examined all available geologic and engineering data, and find no evidence of open faults or any other hydrologic connection between the proposed disposal zone and any underground sources of drinking water.

PART XIV

Targa Resources LLC is the surface owner of the land where the Monument AGI No.1 well will be drilled. Please see attached C-102. There is one residence within the one mile radius of review. It is located approximately 1100 feet southeast of the Monument AGI No.1 location (see Landmark map).

LIST OF OFFSET OPERATORS WITHIN ½ MILE RADIUS

| | |
|---|---|
| Apache Corporation | 6120 S Yale Ave Suite 1500<br>Tulsa, OK 74136-4224 |
| XTO Energy | 200 N Loraine Ste 800<br>Midland, Texas 79701 |
| Chevron USA Inc. | 15 Smith Road<br>Midland, Texas 79705 |

PART XIV cont.

LIST OF OFFSET OPERATORS WITHIN A ONE MILE RADIUS THAT PENTRATE THE INJECTION INTERVAL.

| | |
|---|---|
| Apache Corporation | 6120 S Yale Ave Suite 1500<br>Tulsa, OK 74136-4224 |
| Chevron USA Inc | 15 Smith Road<br>Midland, Texas 79705 |

Copy of newspaper advertisement.

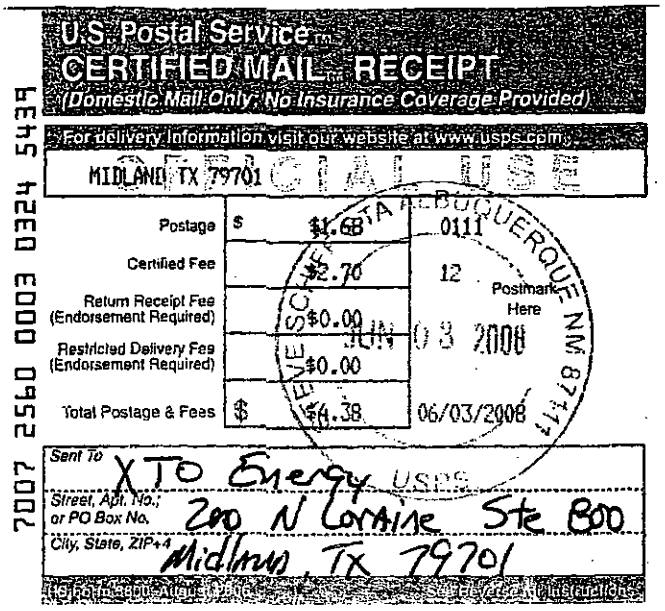
LEGAL NOTICE
TARGA RESOURCES LLC, whose address is 8201 South Hwy 322 Monument, New Mexico 88265, proposes to drill a new well the purpose of disposing produced water and acid gas from its' gas plant operations in Monument, New Mexico. The well is the Monument AGI No.1 located 662'FSL & 2513'FEL, Section 36 – T19S – R36E, unit O, Lea County New Mexico. The injection interval will be in the Devonian/Fusselman formations at a depth of approximately 8350'-9200'. The average daily injection will be 3500 bbls/day, with a maximum rate at 5000 bbls/day, with 0 pressure.
Interested parties must file objections or request for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

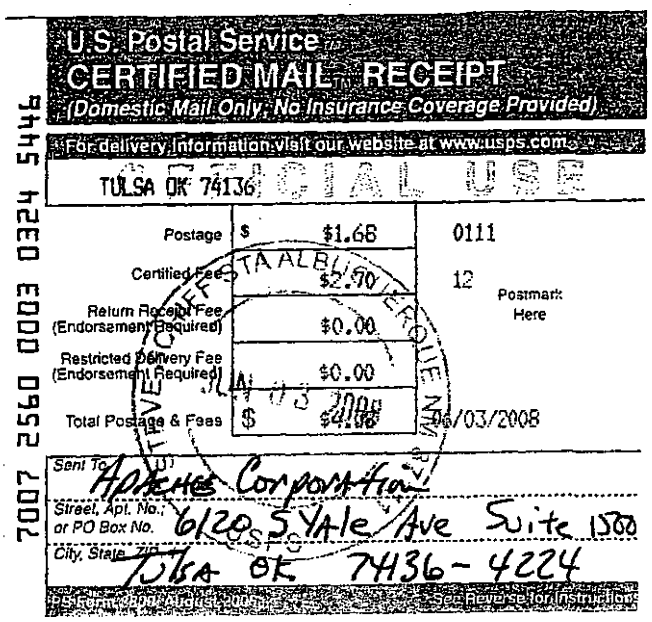
Inquires regarding this application should be directed to Mr. Michael Pierce, PO Box 16555, Albuquerque New Mexico 87191-6555, (575) 392-1915 or (505) 948-0545.

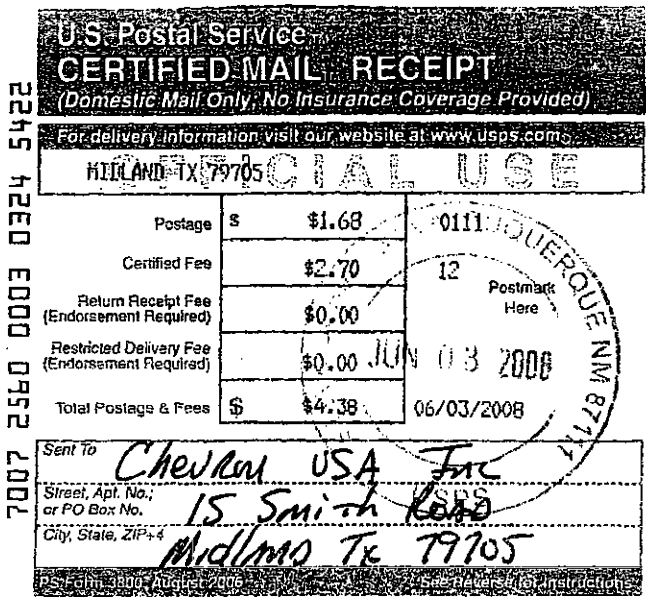
FORM C-108
Monument AGI No.1

TARGA RESOURCES LLC
Acid Gas Injection (AGI) Application

## PROOF OF NOTIFICATION


U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
For delivery information visit our website at www.usps.com
MIDLAND TX 79701
OFFICIAL USE
Postage $1.68
Certified Fee $2.70
Return Receipt Fee (Endorsement Required) $0.00
Restricted Delivery Fee (Endorsement Required) $0.00
Total Postage & Fees $4.38
0111
12
Postmark Here
JUN 03 2008
06/03/2008
7007 2560 0003 0324 5439
Sent To XTO Energy
Street, Apt. No., or PO Box No. 200 N Loraine Ste 800
City, State, ZIP+4 Midlnd, Tx 79701
PS Form 3800, August 2006 See Reverse for Instructions


U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
For delivery information visit our website at www.usps.com
TULSA OK 74136
OFFICIAL USE
Postage $1.68
Certified Fee $2.70
Return Receipt Fee (Endorsement Required) $0.00
Restricted Delivery Fee (Endorsement Required) $0.00
Total Postage & Fees $4.38
0111
12
Postmark Here
JUN 03 2008
06/03/2008
7007 2560 0003 0324 5446
Sent To Apache Corporation
Street, Apt. No., or PO Box No. 6120 S Yale Ave Suite 1500
City, State, ZIP+4 Tulsa OK 74136-4224
PS Form 3800, August 2006 See Reverse for Instructions


U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
For delivery information visit our website at www.usps.com
MIDLAND TX 79705
OFFICIAL USE
Postage $1.68
Certified Fee $2.70
Return Receipt Fee (Endorsement Required) $0.00
Restricted Delivery Fee (Endorsement Required) $0.00
Total Postage & Fees $4.38
0111
12
Postmark Here
JUN 03 2008
06/03/2008
7007 2560 0003 0324 5422
Sent To Chevron USA Inc
Street, Apt. No., or PO Box No. 15 Smith Road
City, State, ZIP+4 Midlnd Tx 79705
PS Form 3800, August 2006 See Reverse for Instructions

TARGA RESOURCES LLC

LIST OF WELLS IN AREA OF REVIEW

1 MILE AREA OF REVIEW

WELLS THAT PENETRATE THE INJECTION INTERVAL

| API NUMBER | WELL NAME | OPERATOR | SEC - T - RANGE | UNIT | FOOTAGE | TD | PERFORATIONS | POOL NAME |
|---|---|---|---|---|---|---|---|---|
| 30-025-12481 | NMGSAU # 285 | Apache Corp | 36-19-36 | F | 1830FNL & 1980FWL | 10305 | 3736-3930 | Eunice Monument GB/SA |
| 30-025-20517 | NMGSAU # 286 | Apache Corp | 36-19-36 | G | 1980FNL & 1830FEL | 10306 | NO PERFS | Eunice Monument GB/SA |
| 30-025-12473 | St. F Gas Com # 5 | Apache Corp | 36-19-36 | N | 785FSL & 1980FWL | 10225 | 3146-3330 | Eumont-Yates SR-Queen |
| 30-025-12478 | NMGSAU # 32 | Apache Corp | 36-19-36 | P | 660FSL & 660FEL | 9822 | 3721-3885 | TA'D Eun-Mon GB/SA |
| 30-025-05780 | JR Phillips A # 8 | Hess | 31-19-37 | M | 660FSL & 942FWL | 9899 | | P&A 4-1998 |
| 30-025-23632 | JR Phillips # 9 | Arco Permian | 31-19-37 | M | 800FSL & 660FWL | 9650 | | P&A 1-2000 |
| 30-025-04134 | JR Phillips # 5 | Apache Corp | 1-20-36 | A | 660FNL & 660FEL | 9941 | 6966-7685 | Monument Abo |
| 30-025-04136 | JR Phillips # 7 | Apache Corp | 1-20-36 | H | 1980FNL & 760FEL | 10214 | 5606-5760 | TA'D Monument Blinebry |
| 30-025-05964 | JR Phillips # 11 | Chevron USA | 6-20-37 | D | 736FNL & 738FWL | 9814 | 9490-9800 | McKee-Ellenberger |
| 30-025-05926 | L M Lambert # 2 | Apache Corp | 6-20-37 | G | 1980FNL & 1980FEL | 9870 | 9832-9850 | McKee-Ellenberger |
| 30-025-05936 | Britt A # 7 | Union Texas | 6-20-37 | K | 2310FSL & 1880FWL | 10095 | | P&A 8-1978 |

Side 1

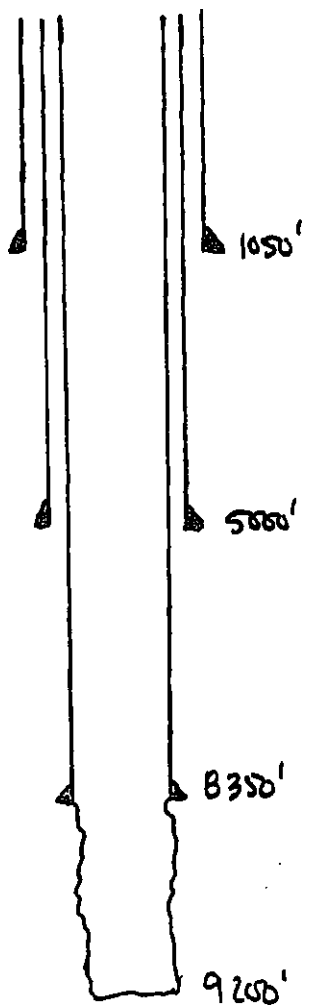
# INJECTION WELL DATA SHEET

OPERATOR: TALGA Resources LLC

WELL NAME & NUMBER: Monument AGI No. 1

| WELL LOCATION: | 662' FSL & 2513' FEL | O | 36 | 19S | 36E |
|---|---|---|---|---|---|
| | FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE |

***WELLBORE SCHEMATIC***




***WELL CONSTRUCTION DATA***

**Surface Casing**

Hole Size: _____ Casing Size: 13 3/8 "

Cemented with: _____ sx. or _____ ft³

Top of Cement: Surface Method Determined: _____

**Intermediate Casing**

Hole Size: 12 1/4" Casing Size: 9 5/8 "

Cemented with: _____ sx. or _____ ft³

Top of Cement: Surface Method Determined: _____

**Production Casing**

Hole Size: 8 5/8 Casing Size: 7 "

Cemented with: _____ sx. or _____ ft³

Top of Cement: Surface Method Determined: _____

Total Depth: 8350'

**Injection Interval**

8350 - 9200 feet to OPEN-HOLE

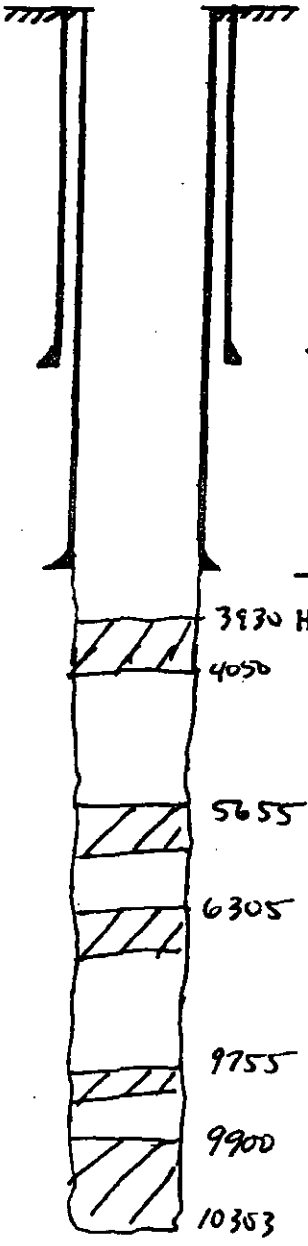
(Perforated or Open Hole; indicate which)

30-025-12481

| OPERATOR | | DATE |
|---|---|---|
| Apache Corp | | 3-2-2008 |
| **LEASE** | **WELL NO.** / **LOCATION** | |
| NMGSAU | 285 / F 1830N + 1980W | |

Section 36-19-36
Lea Co New Mexico

Eunice Monument GB/SA




13 3/8" casing set at 1121' with 1125 sx of _____ ce
Hole size _____" Circ

perf 3736 – 3749
OH 3749 – 3930

9 5/8" casing set at 3749' with 600 sx of _____ ceme
Hole size 12 1/4" TOC @ 2580 w/ 50% efficiency

Drill out to 3930 PBTD

175 sx plug @ 3700 – 4050

20 sx plug @ 5655 – 5700

20 sx plug @ 6305 – 6350

20 sx plug @ 9755 – 9800

180 sx plug @ 9900 – 10303

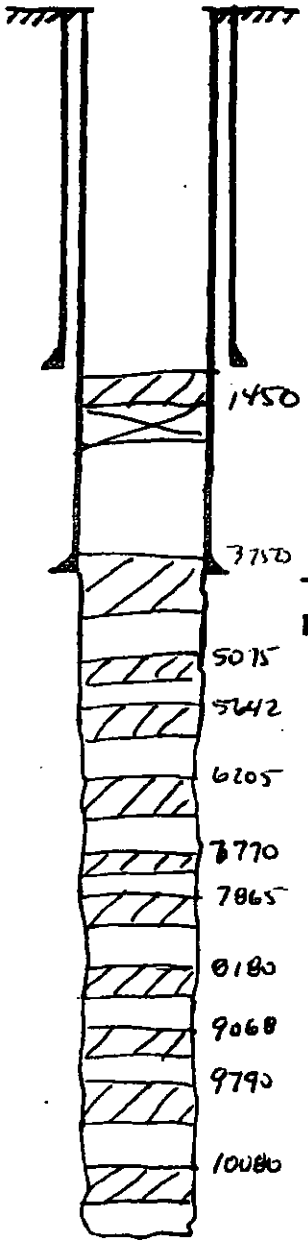
Total Depth 10305' Hole size _____"

PBTD 3930'

30-025-20517

| OPERATOR | | | DATE |
|---|---|---|---|
| Apache Corp | | | 3-1-2008 |
| LEASE | WELL NO. | LOCATION | |
| NM6SAU | 286 | G 1980N & 1830E | |

Sect 36 - 19 - 36
Lea County New Mexico




TA'd NM6SAU well
NO perforations

10 3/4" casing set at 1096' with 1050 sx of _____ ce
Hole size _____" Circ
Cmt Ret @ 1450' + 4 Sx cmt
perf 1510' pump 400 SXS Circ to Surface

7 5/8" casing set at 3750' with 600 sx of _____ ceme
Hole size _____" TOC By Bond Log @ 1750'

35 sx plug @ 3750 - 3840'
25 Sx plug @ 5075 - 5185
25 " " " 5642 - 5752
25 " " " 6205 - 6315
25 " " " 6770 - 6880
25 " " " 7865 - 7975
25 " " " 8180 - 8290
25 " " " 9068 - 9170
25 " " " 9790 - 9950
25 " " " 10080 - 10190

Total Depth 10306' Hole size _____"

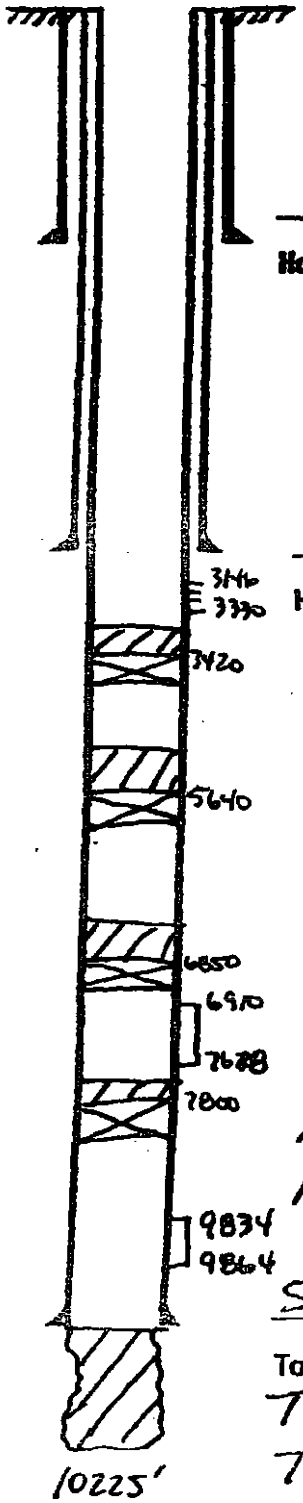
PBTD 1450'

30-025-12473

| OPERATOR | | | DATE |
|---|---|---|---|
| Apache Corporation | | | 2-14-2008 |
| LEASE | WELL No. | LOCATION | |
| State F Gas Com | 5 | Unit N 785 FSL + 1980 FWL | |

Sec 36-T19S-R36E
Lea County NM

Active Eumont-Yates-SR-Queen




13 3/8" casing set at 187' with 200 sx of _____ cem
Hole size 17 1/2" Circulated

Perf 3146-3330

CIBP @ 3420 + 25 sx cmt PBTD 3400'

8 5/8" casing set at 2480' with 1300 sx of _____ cem
Hole size 11" TOC by TS @ 1226'

perf 3579-3756 SQZ w/ 100 sx

SQZ CSL Leak @ 4447-4478 w/ 100 sx

CIBP @ 5640 + 25 sx cmt

Perf 5691-5711 SQZ w/ 125 sx

Perf 5620-5712 SQZ w/ 150 sx

CIBP @ 6850 + 25 sx cmt

Perf 6910-7201, 7562-7678

CIBP @ 7800' + 15x cmt

cmt 9834-9864

Perf 9834-9920 SQZD w/ 100 sx

5 1/2" casing set at 9918' with 800 sx of _____ cem
Total Depth 10225' Hole size 7 3/4" TOC by TS @ 4480. Perf 4460 SQZ w/ 700 sx TOC by TS 2544'

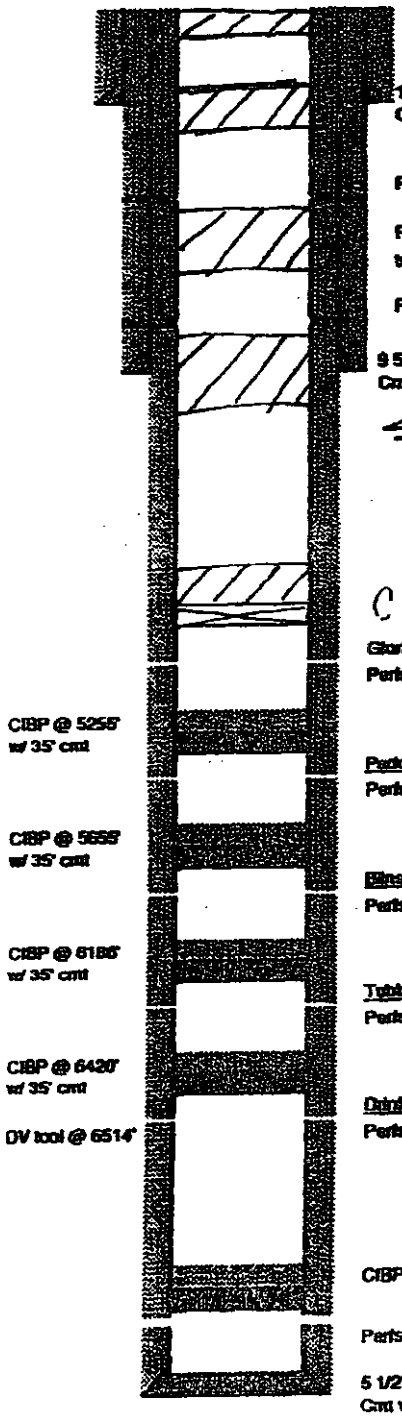
PBTD 3400'

30-025-23632

| OPERATOR | | | DATE |
|---|---|---|---|
| Arco Permian | | | 1-1999 |
| LEASE JR Phillips A | WELL No. 9 | LOCATION M T + M | 800 FSL + 660 FWL |

Sec 31-T19S-R37E
Lea Co NM

P+A 1-2000



13 3/8", 48#, H-40, ST&C @ 569'
Cmt w/ 550 sx. Circ cmt

Perfs @ 2416'-2437' Sqzd w/ 115 sx

Perf 5 1/2" @ 2710' & cmt
to surface w/ 600 sx cmt

Perfs @ 2946'-3445' Sqzd w/ 322 sx

9 5/8", 32.3/36#, H-40/J-55 @ 3645'
Cmt w/ 1500 sx. Circ cmt

Spot 15 sxs @ Surface
Spot 25 sxs 610-510
Spot 25 sxs 1125-1025
Spot 25 sx 3645-3545

CIBP @ 5069 + 25 sx cmt

Glorieta
Perfs 5105'-5123' & 5135'-5138' 22 shots

CIBP @ 5255'
w/ 35' cmt

Paddock
Perfs 5238'-5283' 17 shots

CIBP @ 5555'
w/ 35' cmt

Blinebury
Perfs 5686'-5894' 40 shots

CIBP @ 6186'
w/ 35' cmt

Tubb
Perfs 6202'-6291' 23 shots

CIBP @ 6420'
w/ 35' cmt

Drinkard
Perfs 6426'-6589' 41 shots

DV tool @ 6514'

CIBP @ 9435' w/ 35' cmt on top

Perfs 9442'-9603'

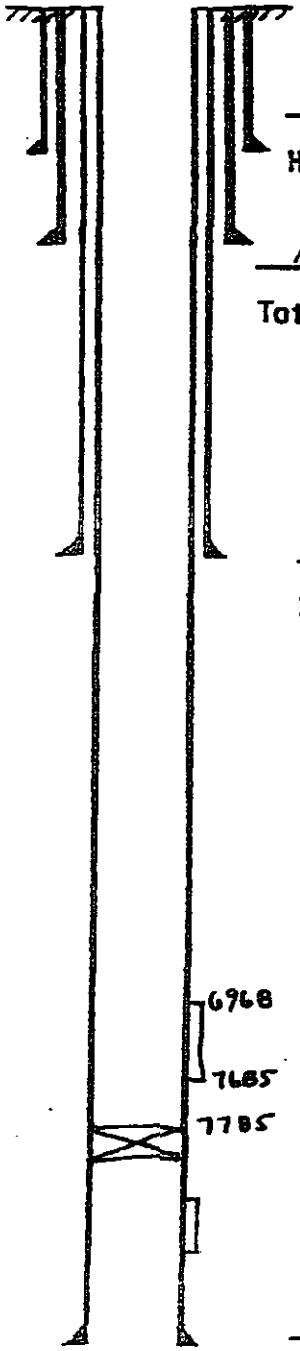
5 1/2", 15.5/17#, J-55/N-80, LT&C @ 9,650'
Cmt w/ 1440 sx to 2720'

30-025-04134

| OPERATOR | | DATE |
|---|---|---|
| APACHE CORPORATION | | 2-14-2008 |
| LEASE J. R. Phillips | WELL NO. 5 | LOCATION Unit A 660' FNL & 660' FEL |

Sec 1-T20S-R36E
Lea Co NM

Active Monument ABO




16 " casing set at 169 ' with 300 sx of _____ cem
Hole size 24 " Circulated

11 3/4" casing set at 2419 ' with 2050 sx of _____ cem
Total Depth 2419 ' Hole size 15 " Circulated

SQZ CSG Leak @ 5159-5191 w/ 100 SX 7/98

8 5/8 " casing set at 5121 ' with 1250 sx of _____ cem
Hole size 10 5/8 " TOC by TS @ 2048'

perf 5180-5200
perf 5215-5218 } sqz w/ 150 sx
perf 5595-5600 } sqz w/ 50 sx
perf 5600-5610
perf 5215-5280 sqz w/ 50 sx
perf 5660-5715 sqz w/ 75 sx
perf 7070-7110 sqz w/ 98 sx
perf 7110-7164 } sqz w/ 125 sx
perf 7190-7230
perf 7645-7665 } sqz w/ 135 sx
perf 7665-7690
Part 6968-7685
CIBP @ 7785
perf 9610-9870

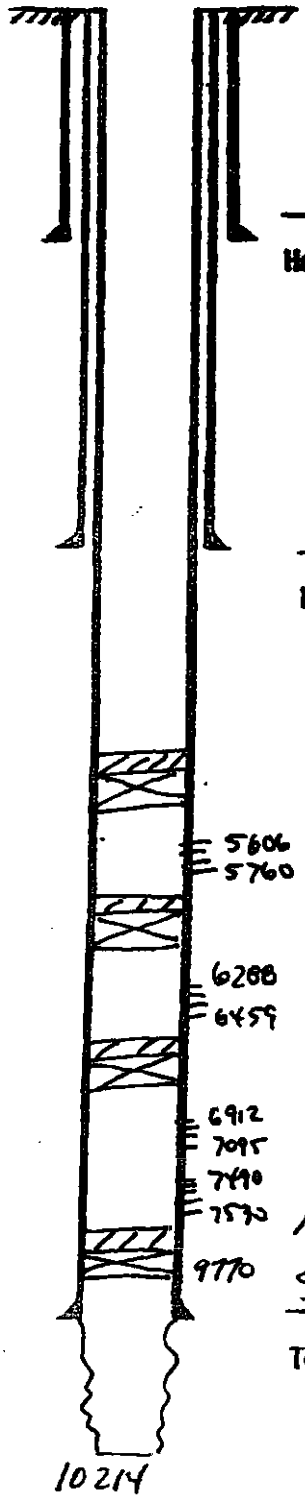
5 1/2 " casing set at 9941 ' with 1500 sx of _____ cem
Total Depth 9941 ' Hole size 7 3/4 " TOC by Calc
@ 4313 w/ 50% Effici

PBTD 7785

30-025-04136

| OPERATOR | | DATE |
|---|---|---|
| Apache Corporation | | 3-8-2008 |
| **LEASE** JR Phillips | **WELL NO.** 7 | **LOCATION** unit H 1980N & 760E |

Section 1-20-36
Lea Co New Mexico
TVD Monument Blinebry
5-2107




13 3/8 " casing set at 997 ' with 750 sx of _____ ce
Hole size _____ " Circ

CSG leak @ 5147-5266 Sqz w/ 50 SXS

8 5/8 " casing set at 5234 ' with 1500 sx of _____ ce
Hole size 11 " TOC By TS @ 1940'

perf 5178 - 5193 Sqz w 100 SX
perf 5165 - 5210 Sqz w 50 SX
perf 5160 - 5210 Sqz w 50 SX

CIBP @ 5590 + 25XS Cmt

perf 5606 - 5760

CIBP @ 6275 + 25X Cmt

perf 6288 - 6459

CIBP @ 6700 + 25X Cmt

perf 6912 - 7095

perf 7490 - 7530

CIBP @ 9770 + 25XS Cmt

5 1/2 " casing set at 10004 ' with 1200 sx of _____
Total Depth 10214 ' Hole size 7 3/4 "
TOC @ 5502 w/ 50% efficiency

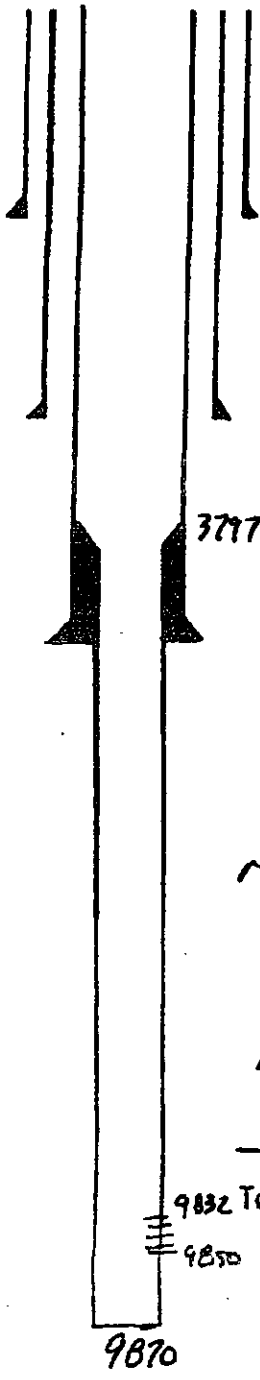
PBTD 5590

30-025-05926

| OPERATOR | | | | DATE |
|---|---|---|---|---|
| Apache Corp | | | | 3-1-2008 |
| LEASE | | WELL No. | LOCATION | |
| CM Lambert | | 2 | Unit G | 1980 N & 1980 E |

Section 6-20-37
Lea Co New Mexico

Active Monument McKee Ellenberger



12½" casing set at 202' with 145 sx of _____ ceme
Hole size _____" Circ.

8⅝" casing set at 2402' with 750 sx of _____ ceme
Hole size 10¾" TOC @ 50% - 490'

3797 TOL
6⅝" casing set at 3816' with 125 sx of _____ ceme
Hole size 7⅞" TOC @ 50% - 3045'

perf 3703 - 3713 Grayburg SQZ w/ 150 SX 11-1980

re perf 9832 - 9850
perf 9568 - 9786 SQZ w/ 150 SX 11-1980
CIBP @ 9812 DO 11-1980
perf 9832 - 9850

4½" Liner ~~casing~~ set at 9861 - 3797 sx of 330 cement

9832 9850 Total Depth 9870' Hole size _____"

TOC by TS @ 5150' SQZ TOL w/ 350 SXS

9870

30-025-05936

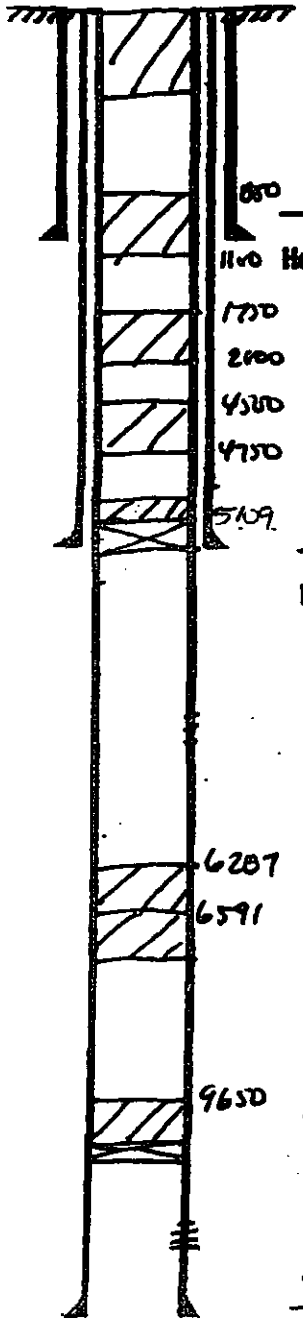
| OPERATOR | | DATE |
|---|---|---|
| Union Texas | | 3-7-2008 |
| LEASE | WELL NO. | LOCATION |
| Britt A | 7 | E 2310 S & 1080 W |

Section 6-20-37
Lea Co New Mexico

P+A 8-1978

10 sxs @ 0-100'

25 sxs @ 1100-850




850 13 3/8" casing set at 997' with 800 sx of _____ cem
1100 Hole size _____" Circ

25 sx plug @ 2000-1750
25 sx plug @ 4750-4500
Sqz 4870-4970 w/ 90 sx
perf 4970 sqz w/ 1020 sx to surface 5½-9⅝ annulus

5109 9 5/8" casing set at 5266' with 2550 sx of _____ cem
Hole size 12½" TOC @ 782 w/ 50% efficien

Cmt ret @ 5109 + 50' on top of ret
perf 5167-5244 sqz w/ 50 sx

35 sx plug @ 6591 Tag @ 6287
50 sx plug 6340-6640 Tag @ 6591
6287
6591
CSG leak 6030-60 Sqz w/ 100 sx
CSG leak @ 8176 Sqz w/ 100 sx

9650 PBTD 9650
Spot 100' plug on Model D Packer @ 9750
perf 9793-9826

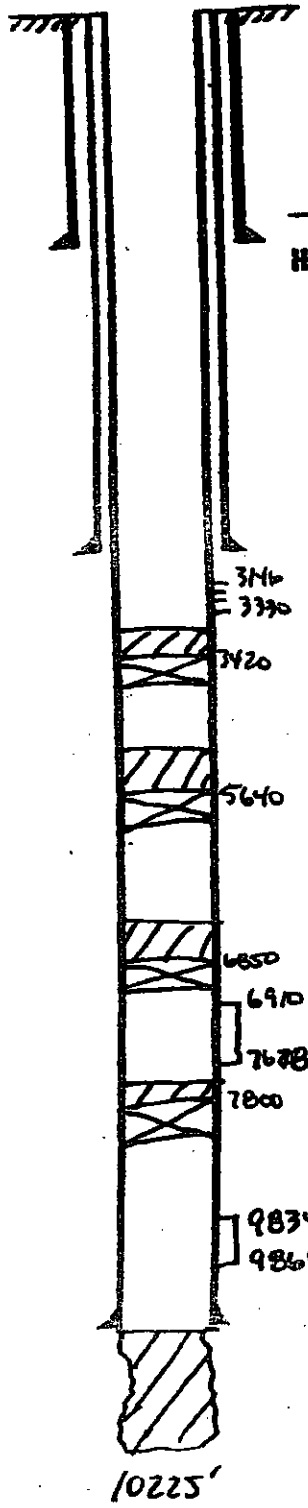
5½" casing set at 10091' with 625 sx of _____ ce
Total Depth 10095' Hole size 7⅞"
TOC @ 7891 w/ 50% efficiency

30-025-12473

| | | | |
|---|---|---|---|
| OPERATOR Apache Corporation | | | DATE 2-14-2008 |
| LEASE State F Gas Com | WELL NO. 5 | LOCATION Unit N | 785 FSL + 1980 FWL |

Sec 36-T19S-R36E
Lea County NM

Active Eumont-Yates-SR-Queen




13 3/8" casing set at 187' with 200 sx of _____ cem
Hole size 17 1/2" Circulated

Perf 3146-3330
CIBP @ 3420 + 25 sx cmt PBTD 3400'
8 5/8" casing set at 2450' with 1300 sx of _____ cem
Hole size 11" TOC by TS @ 1226'
perf 3579-3756 SQZ w/ 100 sx
SQZ CSL Leak @ 4447-4478 w/ 100 sx
CIBP @ 5640 + 25 sx cmt
perf 5691-5711 SQZ w/ 125 sx
perf 5620-5712 SQZ w/ 150 sx
CIBP @ 6850 + 25 sx cmt
perf 6910-7201, 7562-7678
CIBP @ 7800' + 1 sx cmt
cmt 9834-9864
perf 9834-9920 SQZ0 w/ 100 sx

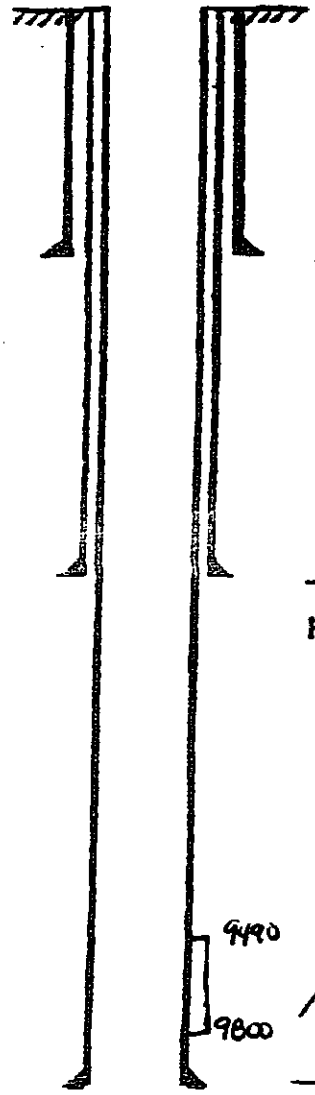
5 1/2" casing set at 9978' with 800 sx of _____ cem
Total Depth 10225' Hole size 7 3/4" TOC by
TS @ 4480. Perf 4460 SQZ w/ 700 sx
TOC by TS 2544'
PBTD 3400'

30-025-05964

| OPERATOR | | | | DATE |
|---|---|---|---|---|
| Chevron USA Inc | | | | 2-14-2008 |
| LEASE | | WELL NO. | LOCATION | |
| J. R. Phillips | | 11 | unit A | 736' FNL & 739' FW |

Sec 6-T20S-R37E
Lea CO NM

Active Monument McKee Ellenburg.



13 3/8" casing set at 1050' with 1040 sx of _____
Total Depth 1050' Hole size 17 1/2" Circulated

9 5/8" casing set at 5064' with 4000 sx of _____ CE
Hole size 12 1/4" DV @ 3640' 1st stage w/ 500sx
2nd stage w/ 3500 sx
cmt Circulated

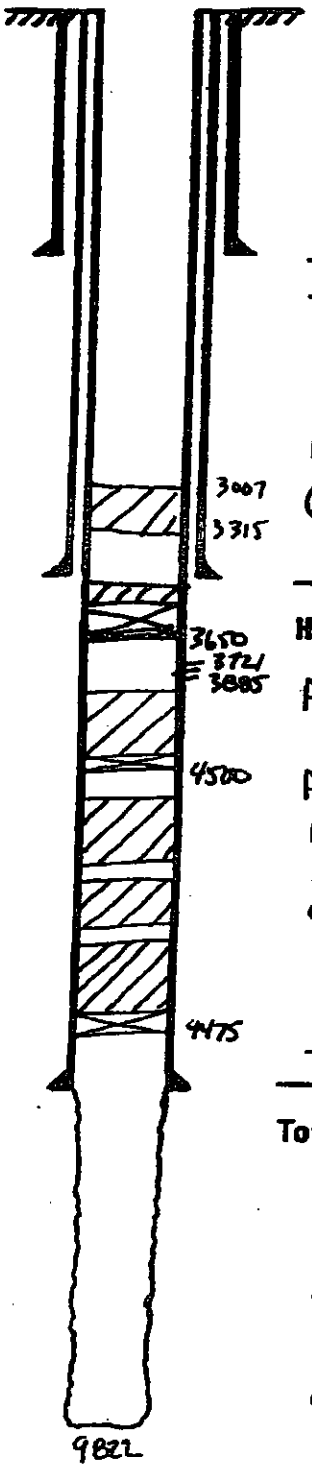
9490 perf 9490 – 9800
perf 9532 – 9738
9800

5 1/2" casing set at 9814' with 1400 sx of _____ CE
Total Depth 9814' Hole size 7 7/8" DV @ 7440
1st Stage 750 sx circ
2nd Stage 650 sx TOC
TS @ 4590

30-025-12478

| OPERATOR | | | DATE |
|---|---|---|---|
| Apache Corporation | | | 2-14-2008 |
| LEASE | WELL NO. | LOCATION | |
| NMGSAU BIK 14 | 32 | Unit A 660' FSL + 660' FE | |

Sec 36 - T19S - R36E




TA'D well 4-2001
Monument GB/SA

Spot 50 sx 3315 - 3007

13 3/8" casing set at 302' with 300 sx of _____

Total Depth 302' Hole size 17½" circulated

4-2001 set CIBP @ 3650' + 14' cmt sqz CSG
Leak @ 3488 - 3519 w/ 50 sx

Perfs 3721 - 3885

CIBP @ 4500' + 35 sx cmt.

9 5/8" casing set at 2787' with 1300 sx of _____ c

Hole size 12¼" Toc by TS @ 1205'

perf 7" @ 4574 w/ 4 shots, cmt w/ 365 sxs. Toc by TS @ 2980'

perf 5710 - 5745 sqzd w/ 50 sx
perf 7160 - 7277 sqzd w/ 100 sx
perf 7590 - 7670 sqzd w/ 200 sx
CSG Leak @ 6308 - 6868 sqzd w/ 186 sx
100' plug @ 6801 - 6901
100' plug @ 5065 - 5165

7" casing set at 9785' with 500 sx of _____ c

Total Depth 9822' Hole size 8 5/8" Toc by TS 4630'

CIBP @ 9475 + 35 sx cmt.

perf 9501 - 31
perf 9752 - 54

OH 9785 - 9822'

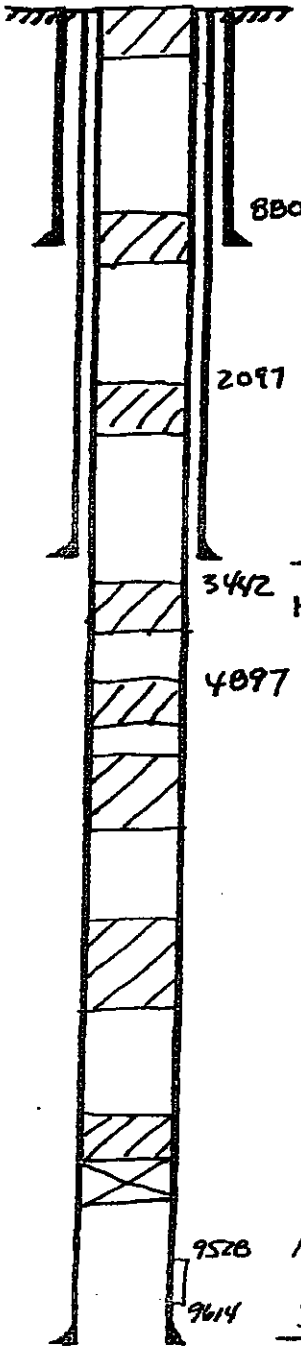
PBTD 3007

30-025-05780

| OPERATOR | | | DATE |
|---|---|---|---|
| Hess (Arco) | | | 2-14-2008 |
| LEASE | WELL No. | LOCATION | |
| J. L. Phillips | 8 | Unit M | 660' FSL & 942' FWL |

Sec 31-T19S-R37E
Lea Co NM

AHA 4-98




Spot 10 sx @ 81'-0

880 13 3/8 set @ 981' w/ 900 sx
17 1/2" hole size Circulated

Spot 25 sx @ 1083 - 880
2097 Spot 25 sxs @ 2310 - 2097
Spot 25 sxs @ 3645 - 3442
SPOT 25 sxs @ 5100 - 4897

9 5/8" casing set at 2950' with 1500 sx of _____ cem
3442 Hole size 12 1/4" Circulated

4897

CSG Leak @ 5778 - 6111 Sqz w/
750 sx
resqz w/ 50 sx

35 sx plug @ 5742 - 6110

35 sx plug @ 7652 - 8020

CIBP @ 9475' + 25' cmt

9528 perf 9528 - 9614

9614 5 1/2" casing set at 9899' with 972 sx of _____ cem

Total Depth 9899' Hole size 8 3/4" DV @ 5808

DV tool failed perf 5 1/2 @
9818-20 Sqz w/ 500 sx
TOC 6280' By TS

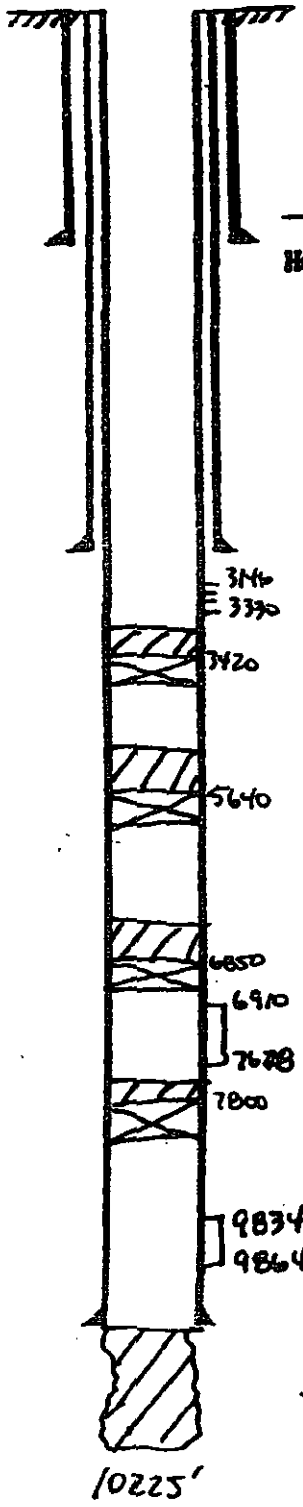
1st 500 sx TOC 6280'
2nd 472 sx TOC 300'
By TS

30-025-12473

| OPERATOR | | DATE |
|---|---|---|
| Apache Corporation | | 2-14-2008 |
| LEASE | WELL No. / LOCATION | |
| State F Gas Com | 5 / Unit N | 785 FSL + 1980 FWL |

Sec 36-T19S-R36E
Lea County NM

Active Eumont-Yates-SR-Queen




13 3/8" casing set at 187' with 200 sx of _____ cem
Hole size 17 1/2" Circulated

Perf 3146-3330

CIBP @ 3420 + 25 sx cmt PBTD 3400'

8 5/8" casing set at 2480' with 1300 sx of _____ cem
Hole size 11" TOC by TS @ 1226'

perf 3579-3756 SQZ w/ 100 sx
SQZ CSL Leak @ 4447-4478 w/ 100 sx
CIBP @ 5640 + 25 sx cmt
perf 5691-5711 SQZ w/ 125 sx
perf 5620-5712 SQZ w/ 150 sx

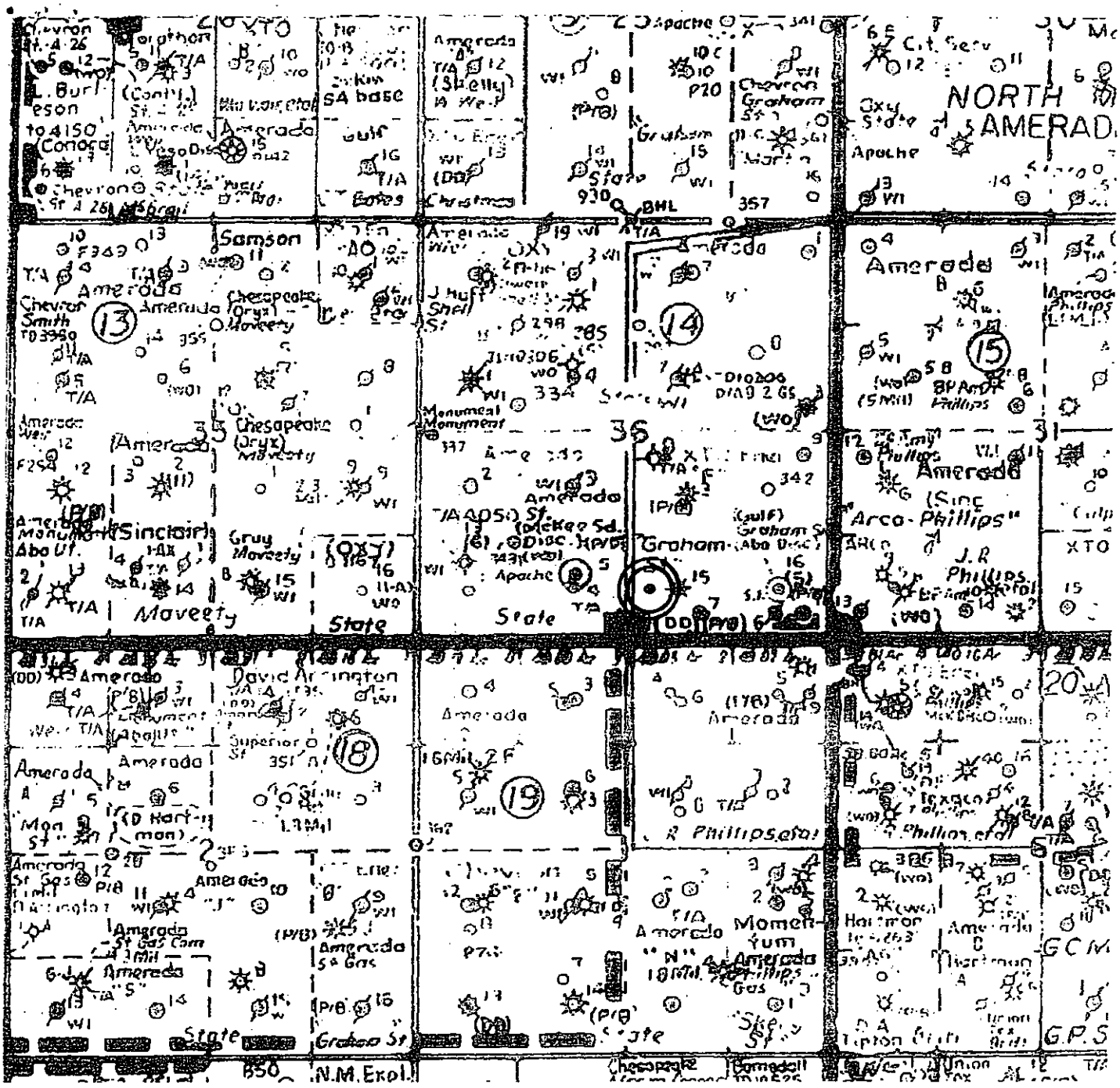
CIBP @ 6850 + 25 sx cmt
perf 6910-7201, 7562-7678
CIBP @ 7800' + 15x cmt
perf 9834-9864
perf 9834-9920 SQZD w/ 100 sx

5 1/2" casing set at 9978' with 800 sx of _____ cem
Total Depth 10225' Hole size 7 3/4" TOC by TS @ 4480. Perf 4460 SQZ w/ 700 sx
TOC by TS 2544'

PBTD 3400'

Supplemental Information for Section VIII: Porosity and Volume Calculations

| | |
|---|---|
| Gallons per Barrel | 42.00 |
| Gallons per Cubic Feet | 7.48 |
| Cubic Feet per Barrel | 5.61 |
| | |
| Low Barrels per Day | 3500 |
| High Barrels per Day | 5000 |
| | |
| Low Cubic Feet per Day | 623.886 |
| High Cubic Feet per Day | 891.266 |
| | |
| Acre-Foot (sq.ft.) | 43560.00 |
| Net Porosity Feet | 18 |
| Available Volume per Acre | 784080 |
| | |
| Low Rate Days per Acre | 1256.77 |
| High Rate Days per Acre | 879.74 |
| | |
| Low Rate Years per Acre | 3.44 |
| High Rate Years per Acre | 2.41 |
| | |
| Low Rate Acres per Year | 0.291 |
| High Rate Acres per Year | 0.415 |
| | |
| Low Rate – Acres for 30 Years | 8.73 |
| High Rate - Acres for 30 Years | 12.45 |
| | |
| Low Rate – Acres at 100% Safety Factor | 17.46 |
| High Rate – Acres at 100% Safety Factor | 24.90 |
| | |
| Radius (feet) at Low Rate | 347.92 |
| Radius (feet) at High Rate | 415.48 |
| | |
| 100% Safety factor – Radius (feet) at Low Rate | 492.03 |
| 100% Safety factor – Radius (feet) at High Rate | 587.58 |




**TARGA RESOURCES LLC**

Calculated Area of Injection for the Monument AGI No. 1 Well

| | |
|---|---|
| 30 Year Low rate (3500 barrels per day) Injection Radius | 347.92' |
| 30 Year High rate (5000 barrels per day) Injection Radius | 415.48' |
| 30 Year Low rate (3500 barrels per day) Injection Radius 100% Safety Factor | 492.03' |
| 30 Year High rate (5000 barrels per day) Injection Radius 100% Safety Factor | 587.58' |

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

# OIL CONSERVATION DIVISION

*1220 South St. Francis Dr.*
*Santa Fe, New Mexico 87505*

Form C-102
Revised October 12, 2005

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

| API Number | Pool Code | Pool Name |
|---|---|---|
| | | |

| Property Code | Property Name | Well Number |
|---|---|---|
| | DISPOSAL WELL | |

| OGRID No. | Operator Name | Elevation |
|---|---|---|
| | TARGA RESOURCES | 3571' |

### Surface Location

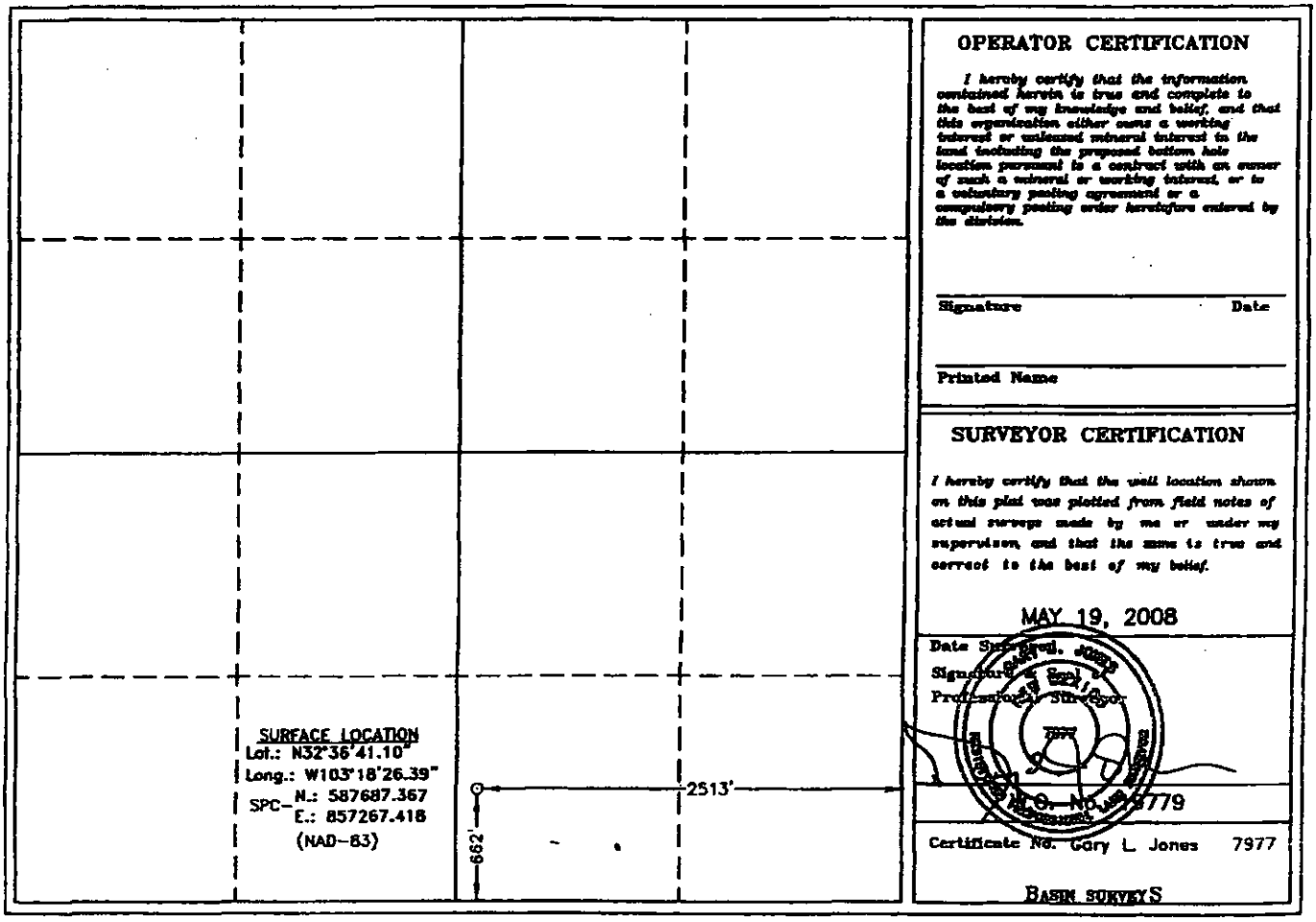
| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| O | 36 | 19 S | 36 E | | 662 | SOUTH | 2513 | EAST | LEA |

### Bottom Hole Location If Different From Surface

| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

| Dedicated Acres | Joint or Infill | Consolidation Code | Order No. |
|---|---|---|---|
| | | | |

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION




### OPERATOR CERTIFICATION

*I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.*

Signature Date

Printed Name

### SURVEYOR CERTIFICATION

*I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.*

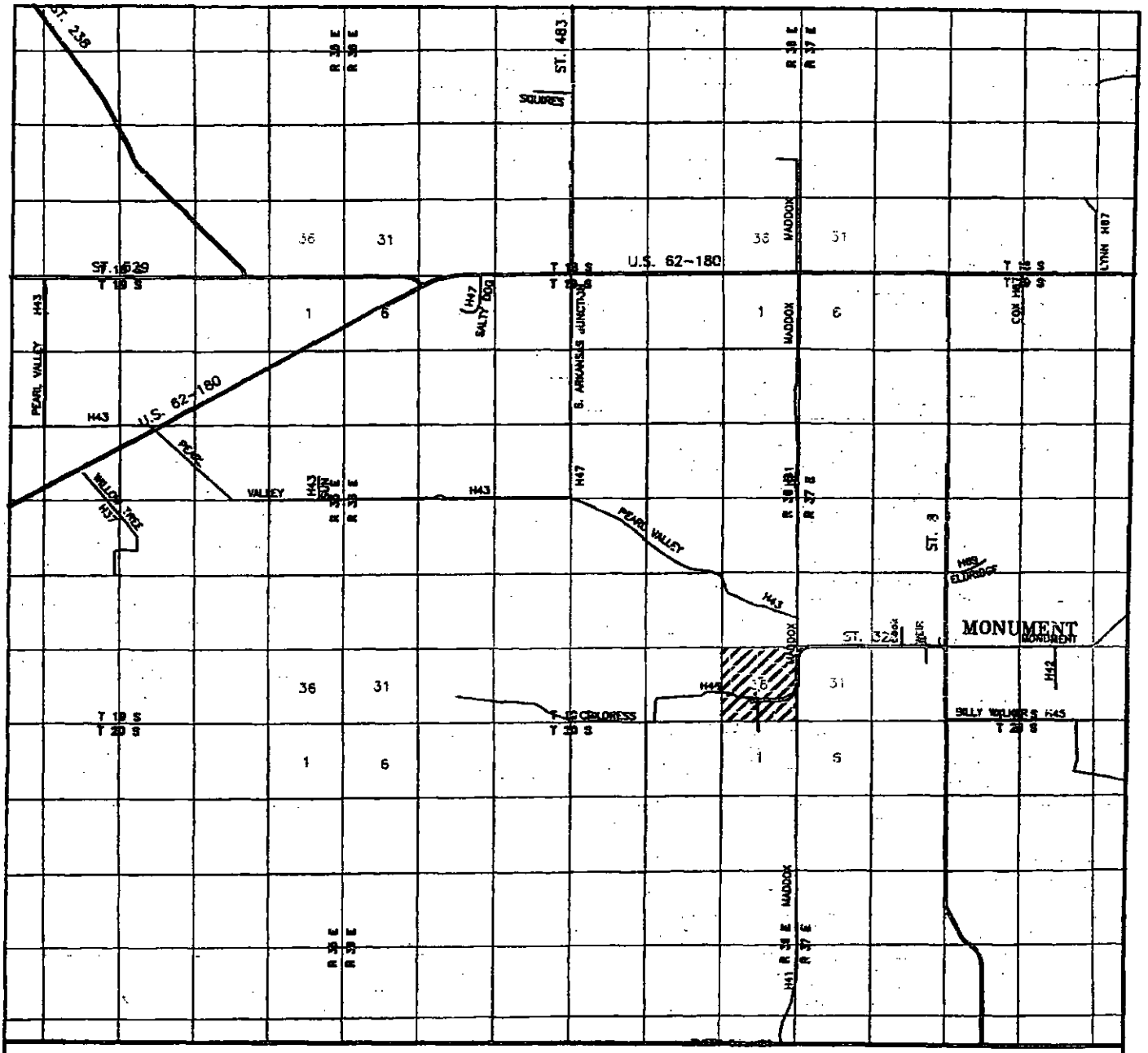
MAY 19, 2008

Date Surveyed
Signature & Seal of Professional Surveyor

NEW MEXICO
7977
REGISTERED PROFESSIONAL SURVEYOR

Certificate No. Gary L. Jones 7977

BASIN SURVEYS



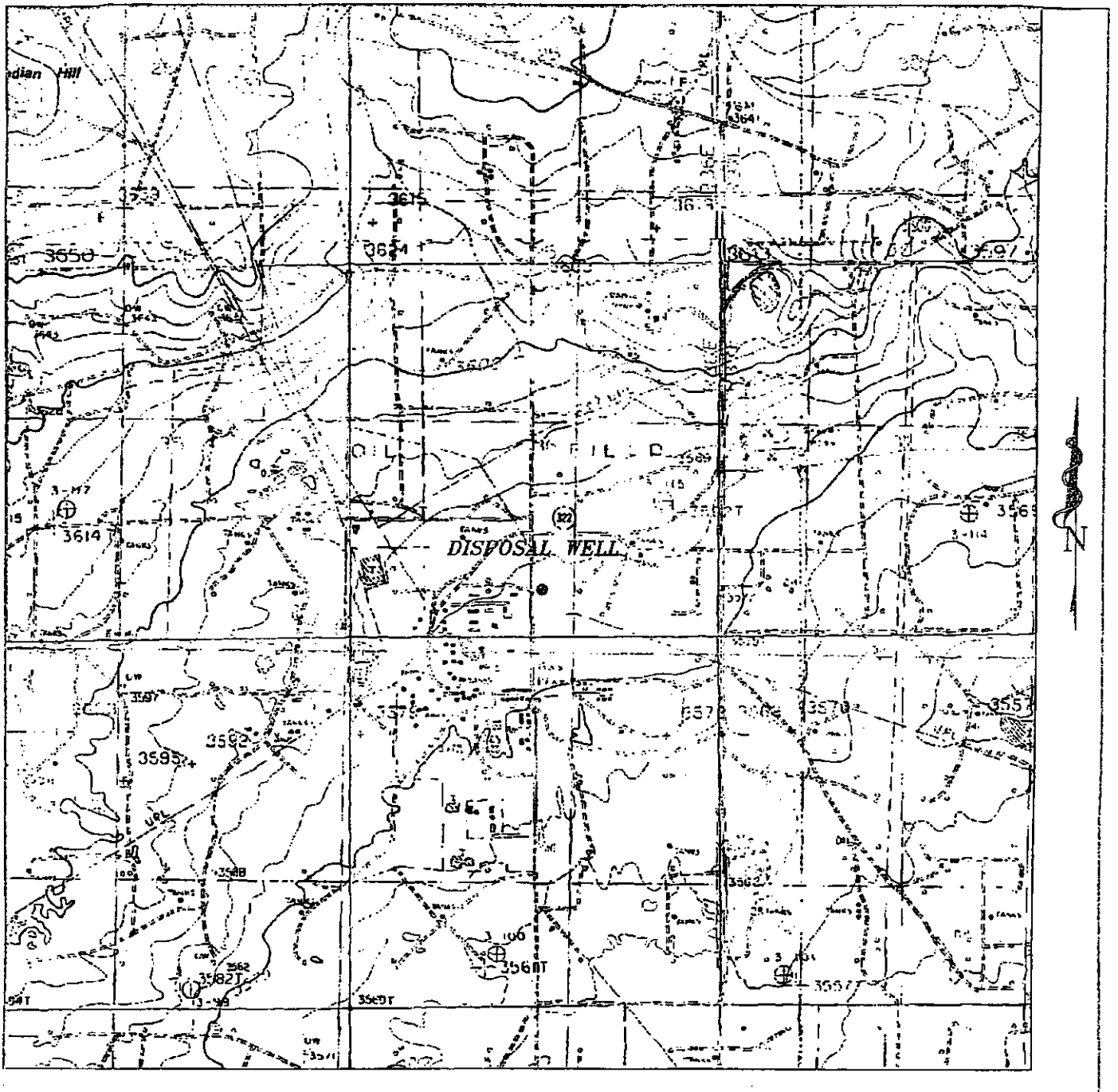

DISPOSAL WELL
Located at 662' FSL & 2513' FEL
Section 36, Township 19 South, Range 36 East,
N.M.P.M., Lea County, New Mexico.


basin surveys
focused on excellence in the oilfield

P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(505) 393-7316 - Office
(505) 392-3074 - Fax
basinsurveys.com


| | |
|---|---|
| W.O. Number: | JMS 19779 |
| Survey Date: | 05-19-2008 |
| Scale: | 1" = 2 MILES |
| Date: | 05-21-2008 |

*TARGA RESOURCES*

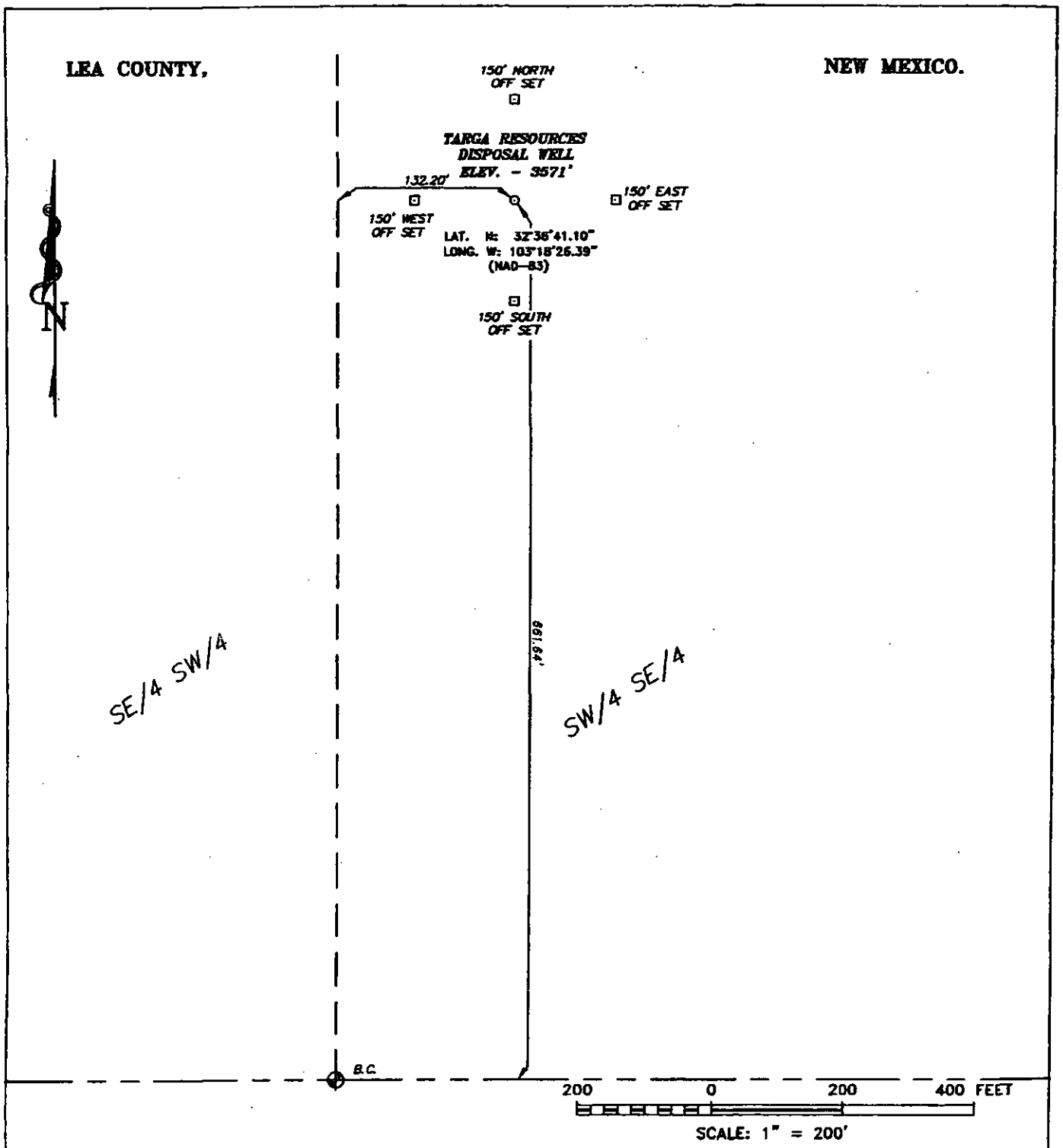



DISPOSAL WELL
Located at 662' FSL & 2513' FEL
Section 36, Township 19 South, Range 36 East,
N.M.P.M.,

BASIN SURVEYS
focused on excellence in the oilfield
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(505) 393-7316 - Office
(505) 392-3074 - Fax
basinsurveys.com

W.O. Number: 19779
Survey Date: 05-19-2008
Scale: 1" = 2000'
Date: 05-21-2008

**TARGA RESOURCES**




# TARGA RESOURCES

REF: DISPOSAL WELL / Well Pad Topo

DISPOSAL WELL LOCATED 662' FROM THE SOUTH LINE AND 2513' FROM THE EAST LINE OF SECTION 36, TOWNSHIP 19 SOUTH, RANGE 36 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO.

**BASIN SURVEYS** P.O. BOX 1786 – HOBBS, NEW MEXICO

| | | | |
|---|---|---|---|
| W.O. Number: 19779 | Drawn By: J. M. SMALL | | |
| Date: 05-21-2008 | Disk: JMS 19779W | Survey Date: 05-19-2008 | Sheet 1 of 1 Sheets |

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

**IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:**

**CASE NO. 14161**
**ORDER NO. R-13052**

**APPLICATION OF TARGA MIDSTREAM SERVICES, LIMITED PARTNERSHIP, FOR APPROVAL OF AN ACID GAS INJECTION WELL, LEA COUNTY, NEW MEXICO**

## ORDER OF THE DIVISION

**BY THE DIVISION:**

This case came on for hearing at 8:15 a.m. on August 7, 2008, at Santa Fe, New Mexico, before Examiner William V. Jones, and again on September 18, 2008, before Examiners Richard Ezeanyim and David K. Brooks.

NOW, on this 18th day of November, 2008, the Division Director, having considered the testimony, the record, and the recommendations of the Examiners,

**FINDS THAT:**

(1) Due public notice has been given, and the Division has jurisdiction of this case and its subject matter.

(2) The applicant, Targa Midstream Services Limited Partnership ("Targa"), seeks authority to inject waste water and acid gas (hydrogen sulfide and carbon dioxide) into the Devonian and Fusselman formations through an open hole from approximately 8350 feet to 9200 feet below the surface, through its proposed Monument AGI Well No. 1 which it proposes to drill at a location 662 feet from the South line and 2513 feet from the East line (Unit O) of Section 36, Township 19 South, Range 36 East, NMPM, Lea County, New Mexico.

(3) The proposed Acid Gas injection well will replace the Graham State NCT-F Well No. 7 (API No. 30-025-12482) for disposal of plant waste waters. The Graham State NCT-F Well No. 7 is located 330 feet from the South line and 1650 feet from the East line of Section 36 and was approved June 3, 1994, as a saltwater disposal well into the San Andres formation under administrative orders SWD-561 and SWD-561-A.

(4) Targa Resources LLC filed its application (Division Form C-108) on June 6, 2008. No protests were received from the noticed parties, but the application was reviewed and comments from the engineering bureau were supplied to the applicant. At the direction of the Director of the Division, the application was set for hearing before a Division Examiner pursuant to the provisions of Division Rule 701.D. The case presented to the examiner is identical to that reviewed earlier in that the proposed well location and injection depths are the same.

(5) This case was heard on August 7, 2008, then continued and re-advertised. On September 18, 2008, the case was again presented to the Division, at which time the applicant included proof of notice and additional exhibits.

(6) Momentum Operating Co. Inc. appeared at the August 7 hearing through counsel and questioned witnesses from Targa. Momentum's counsel indicated that Momentum was not supporting or objecting to Targa's application.

(7) No other parties entered appearances in this case or otherwise opposed this application.

(8) Targa presented the following testimony from a geologist and plant engineer:

(a) The CO2 and H2S concentration in Targa's inlet gas stream has been increasing in recent years. The Sulfur Recovery Unit is now operating at capacity, and the proposed injection well is needed in order to largely replace operation from the SRU and to enable the plant to handle additional gas volumes.

(b) The proposed well would be located on plant property, on the east side between the plant and the existing Flare. The surface owner of the well site is Versado Gas Processors LLC.

(c) Notice of this application and of this hearing was presented by the applicant to all affected parties as per Division Rule 701.B(2) with the modification that notice was expanded and provided to parties within a 1 mile radius and all surface owners and residences within 1 mile. Only one notice was returned un-opened. The applicant also posted notice in the Hobbs newspaper.

(d) The purpose of the injection is to dispose of all gas processing wastes from Targa Resources LLP's Monument Gas Plant, including waste water, CO2, and H2S. The CO2 and H2S will be compressed and then mixed with waste water prior to injection into the proposed well. The total gas volumes are expected to range from 2.7 MMscfpd (21 percent H2S, 69 percent CO2) to 3.4 MMscfpd (28 percent H2S, 62 percent CO2).

(e) There will be safety back flow valves placed in the flowline after the compressor and in the injection tubing below the wellhead. All casing strings

will be circulated with cement. The 3-1/2 inch injection tubing will be plastic coated, and the tubing-casing annulus will be kept loaded with diesel and monitored. The compressed gas and water mixture is expected to stay in liquid phase if it remains over 1150 psi, and therefore be less corrosive. Targa is asking for 1,660 psi maximum surface injection pressure.

(f) There is no production from the Devonian formation within 2 miles of the proposed well. The proposed well is on the southwest flank of an enclosed Devonian structure trending from northwest to southeast. The Devonian has been drill stem tested many times in this structure and never considered to be productive. The Devonian formation is expected to have adequate porosity and very good permeability and should take injected fluids for many years without the need for additional wellhead pressure.

(g) There are shallower Permian aged productive oil bearing horizons in this area and deeper Ordovician aged reservoirs that have also been productive. The Monument; McKee-Ellenburger (Prorated Gas) Pool (81400) covers all of Section 36 and Section 1 directly to the south and also all of Sections 5 and 6 to the southeast. However, there are at this time only two wells with active McKee and/or Ellenburger completions, and these are located in Section 6 to the southeast. The McKee formation is about 1200 feet deeper than the Devonian formation and is above the Ellenburger formation.

(h) There are three (3) plugged wells and eight (8) active wells that penetrate the proposed injection interval in the 1 mile area of review ("AOR"). Wellbore diagrams of all 11 wells were presented as part of the form C-108 with this case.

(9) There are no water wells which yield drinkable water in this vicinity, and the submitted water analysis indicates that shallow ground waters have total dissolved solids above the protectable limit. Nonetheless, the construction and operation of this well will prevent exposure of any existing shallow groundwater to these injection fluids.

(10) Prior to injection, the applicant should supply the Division with a more detailed "full-suite" analysis (methods 8260, 8270, 6010, 6020, and GenChem) of the liquid plant wastes being currently injected into the Graham State NCT-F Well No. 7 (API No. 30-025-12482).

(11) The applicant prepared and submitted an adequate form C-108 and included wellbore diagrams on all wells within the AOR. There are no apparent faults which penetrate the Devonian formation in the AOR and could possibly transport injected waters out of the injection interval. However, there is one well with inadequate existing cement plugs to ensure injected fluids are confined to the injection interval. The NMGSAU Well No. 285 (API No. 30-025-12481) operated by Apache Corporation has been plugged back from the original 10,303 feet total depth and is currently producing from the Eunice Monument; Grayburg-San Andres Pool. Prior to commencement of the

proposed acid gas injection, this well should be re-entered to 9,755 feet and re-plugged back to the base of the San Andres by placing additional cement plugs below and above the equivalent Devonian/Fusselman injection interval.

(12) The proposed well should have gauges installed to record pressures on the tubing and on the annulus. A continuous record should be maintained by the operator of these wellhead pressures and of injection rates and volumes of all components entering the well. With open hole injection beginning at 8,350 feet, the requested 1,660 psi injection pressure should not fracture the Devonian formation. Mechanical Integrity Testing of this well should be required every two years.

(13) The Division should allow the operator to apply administratively, after proper notice, for amendments to this order; except for amendments changing the depth of the injection interval or the injection formation.

(14) The Division concludes that Targa's proposed injection well should be approved, and the proposed injection operation can be conducted in a safe and responsible manner, without causing waste, impairing correlative rights or endangering fresh water, public health or the environment.

(15) The proposed operation is an environmentally superior means of disposing of wastes generated at the Monument Gas Plant because it will provide for the sequestration of the greenhouse gases: hydrogen sulfide and carbon dioxide.

**IT IS THEREFORE ORDERED THAT:**

(1) Targa Midstream Services Limited Partnership ("Targa" or "operator") is hereby authorized to inject for disposal purposes, gas processing wastes sourced only from its Monument Gas Plant, including waste water, hydrogen sulfide, and carbon dioxide, into its proposed Monument AGI Well No. 1 which will be drilled 662 feet from the South line and 2513 feet from the East line (Unit O) of Section 36, Township 19 South, Range 36 East, NMPM, in Lea County, New Mexico. Injection is permitted into the Devonian and Fusselman formations through an open hole interval from approximately 8350 feet to 9200 feet below the surface, through 3-1/2 inch plastic coated tubing set in a packer located within 100 feet of the top injection perforation.

(2) Prior to any injection, the NMGSAU Well No. 285 (API No. 30-025-12481) operated by Apache Corporation, shall be re-entered to 9755 feet and re-plugged back to the Grayburg-San Andres producing interval with placement of new cement plugs above and below the equivalent Devonian/Fusselman injection interval. Operations on this well shall be supervised by the Division's Hobbs district office and exact placement of the new cement plugs shall be determined after consultation with the Hobbs district geologist. Targa shall notify the engineering bureau of the Division in Santa Fe of completion of this work and receive written confirmation from the bureau prior to commencing injection into the Monument AGI Well No. 1.

(3) The applicant shall supply the Division with a detailed "full-suite" analysis of the liquid plant wastes being currently injected into the Graham State NCT-F Well No. 7 (API No. 30-025-12482).

(4) Targa shall obtain a permit to drill the Monument AGI Well No. 1 from the Hobbs district office. During drilling operations of the Monument AGI Well No. 1, Targa shall monitor the well for hydrocarbon shows, lost circulation zones, and water flows, and shall report any of these events to the Hobbs district office on (C-103) sundry forms.

(5) The well shall be drilled, cased, and cemented using information gathered during drilling and according to the requirements of the Hobbs district office. The design shall effectively isolate the injection fluid into the intended injection formation, isolate the Permian aged oil and gas producing intervals and the Salado salt with casing and cement, and cover all potential shallow ground water sands with two casing strings and at least one cement sheath. A cement bond log shall be run from total depth to the surface on any casing which did not circulate cement and also after cementing the final casing, even if cement did visually circulate.

(6) The tubing and packer shall be coated with material such as fiberglass or nickel, rated to protect against corrosion due to a mixture of water, carbon dioxide, and hydrogen sulfide or as required by the Hobbs district office. The tubing shall be equipped with a one-way, subsurface automatic safety valve placed 200 to 300 feet below the surface to prevent the injected acid gas from migrating to the surface in the event of an upset or emergency. A back pressure choke or other approved device shall be used to maintain pressure on the injection mixture and keep the mixture in a liquid phase. The well shall have gauges and valves installed to continuously record and control pressures on the tubing and on the tubing-casing annulus.

(7) The casing-tubing annulus shall be loaded with an inert, corrosion resistant fluid such as diesel or inhibited water [or as specified by the Hobbs district office] and equipped with a gauge and a leak detection device capable of determining any leakage in the casing, tubing, or packer.

(8) The operator shall notify the Hobbs district office of the time of the setting of the tubing and packer and of any mechanical integrity test so such operations can be witnessed or inspected.

(9) Mechanical integrity testing is required after installation of the injection tubing and prior to commencing injection operations, and at least once every two years thereafter.

(10) The surface injection pressure shall be limited to no more than 1,660 psi. The Director may administratively authorize an increase in this maximum surface injection pressure if the operator shows that a higher pressure will not result in formation fracturing or migration of injected fluids from the permitted injection formation. As

justification, the operator must submit results of an injection test such as a Step-Rate-Test to the Division and must provide notice thereof to affected persons, including offset operators in the overlying Permian aged formations.

(11) The operator of the well shall take all steps necessary to insure that injected fluids enter the proposed injection interval and do not escape to other formations or onto the surface.

(12) Without limitation on the duties of the operator as provided in Division Rules 19 and 116, or otherwise; the operator shall immediately notify the Hobbs district office of any failure of the tubing, casing or packer in the well, or of any leakage or release of water, oil or gas from around any produced or plugged and abandoned well in the area, and shall take such measures as may be timely and necessary to correct such failure or leakage.

(13) Prior to commencing injection of acid gas, the operator shall prepare and secure approval by the Division's Environmental Bureau in the Santa Fe office of a hydrogen sulfide contingency plan that complies with Division Rule 118.

(14) The operator may commence injection of produced water prior to injection of acid gas and may inject either or both fluids pursuant to the limitations of this order, depending on operational considerations. The operator shall submit monthly reports of injection volumes of waste water and acid gas on Form C-115, in accordance with Division Rules 706 and 1115.

(15) The injection authority herein granted shall terminate one year after the effective date of this order if the operator has not commenced injection operations pursuant hereto; provided however, the Division Director, upon written request of the operator received by the Division prior to the end of the one year period of non-injection, may extend this time for good cause.

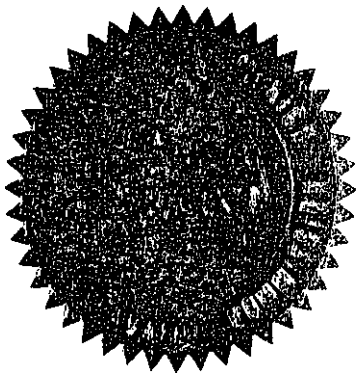
(16) Compliance with this order does not relieve the operator of the obligation to comply with other applicable federal, state or local laws or rules, or to exercise due care for the protection of fresh water, public health and safety and the environment.

(17) At the discretion of the Division Director and after proper notice is provided, any proposed amendments or changes to this order may be granted administratively; provided however, proposed amendments to raise the depth of the injection interval or change the target injection formation may be granted only after notice and hearing.

(18) Jurisdiction is retained by the Division for the entry of further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (i) to protect fresh water or (ii) consistent with the requirements in this order, whereupon the Division may, after notice

and hearing (or without notice and hearing in event of an emergency, subject to NMSA 1978, Section 70-2-23), terminate the injection authority granted herein.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.



SEAL

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MARK E. FESMIRE, P.E.
DIRECTOR

State of New Mexico
Energy, Minerals and Natural Resources Department



Administrative Order IPI-416
June 14, 2012

Alberto Gutierrez, RG (Agent)
Targa Midstream Services, LP
1000 Louisiana, Suite 4300
Houston, TX 77002

**RE:** **Injection Pressure Increase**
Monument AGI Well No. 1, API 30-025-40002
Unit Letter O, Section 36, T19 South, R36 East, NMPM
Lea County, New Mexico

Dear Mr. Gutierrez:

Reference is made to your request on behalf of Targa Midstream Services, LP (OGRID 24650) received by the Division on June 14, 2012 to increase the maximum allowed surface tubing pressure on the above named well.

This well was permitted by the Division for Acid Gas disposal (Water, CO2, and/or H2S) by Division Order No. R-13052 approved 18 November 2008 and last reviewed by the Commission Order No. R-13052-A on 17 November 2011. Disposal is into an open-hole interval of the Devonian and Fusselman formations from 8350 feet to 9200 feet and limited to a maximum surface pressure (for any permitted fluid) of 1660 psi.

It is our understanding that this well will not take a sufficient volume of fluid at this pressure limit and a higher pressure limit is needed. It is also understood that an increase will not result in the fracturing of the formation and confining strata.

Based on a step rate test for this well run on 8 June 2012, we feel it does support the requested new maximum tubing pressure limit. Any future requested pressure increase will require resubmission of additional data and a new step-rate test.

You are hereby authorized a maximum surface tubing pressure of 3,000 psi while disposing of any fluid or fluid combination permitted by the applicable Division and Commission Orders.

This approval is based on a provision that the tubing size, packer setting depth and completion interval do not change. The Division Director retains the right to require at any time verification of completion and packer setting depths in this well. You are prohibited from disposing into this well at pressures that would induce fracturing.

This approval is subject to your being in compliance with all other Division rules, including but not limited to Division Rule 19.15.5.9 NMAC.

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected fluid is not being confined to the permitted disposal interval or is endangering any fresh water aquifers.

Sincerely,

JAMI BAILEY
Director

JB/wvjj

cc: Oil Conservation Division – Hobbs
File: Case No. 14161

# APPENDIX C

## Copies of Notice Letters, Documentation, and Affidavit of Publication of Newspaper Notice

GEOLEX®
INCORPORATED

Alberto A. Gutiérrez, C.P.G.

October 19, 2016

Apache Corporation
303 Veterans Airpark Lane, Ste. 3000
Houston, TX 79705

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

RE: Targa Midstream Services LLC Application for Administrative Approval to Replace Targa Monument AGI #1

TARGA MIDSTREAM SERVICES LLC, whose address is 1000 Louisiana, Suite 4300, Houston, TX 77022-5036, proposes to drill a replacement well to replace the previously permitted well (Monument AGI #1, API # 30032540002) used to dispose acid gases from its natural gas plant operations in Monument, New Mexico. This replacement well will be the Monument AGI #1R, located approximately 770 FSL and 2268 FEL of Section 36, T19S, R36E in Lea County, New Mexico. While the design of the proposed replacement well is upgraded from the previously-approved well, all other parameters such as the injection zone, depths, pressure and rates remain the same for this proposed well as are currently approved under NMOCD Order R-13052. The injection interval will be in the Devonian/Fusselman formations at a depth of approximately 8,350 to 9,200 feet. The average injection rate will be approximately 2.5 million standard cubic feet per day of acid gases, at a maximum surface pressure of 3,000 psig. Interested parties must file objections with the New Mexico Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

Inquiries regarding this application should be directed to Mr. Alberto A. Gutierrez or Mr. James C. Hunter at Geolex Inc, 500 Marquette Ave. NW, Albuquerque New Mexico 87102, (505)-842-8000.

Sincerely,
Geolex, Inc.

Alberto A. Gutiérrez, C.P.G.
President
Consultant to Targa Midstream Services LLC

Enclosure: Application for Administrative Approval to Replace Targa Monument AGI #1

G:\16-011\Notices\Apache Notice Letter.docx

phone: 505-842-8000
fax: 505-842-7380
500 Marquette Avenue NW, Suite 1350
Albuquerque, New Mexico 87102
email: aag@geolex.com
web: www.geolex.com

GEOLEX®
INCORPORATED

Alberto A. Gutiérrez, C.P.G.

October 19, 2016

Chevron USA, Inc.
1400 Smith St.
Houston, Texas 77022

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

RE: Targa Midstream Services LLC Application for Administrative Approval to Replace Targa Monument AGI #1

TARGA MIDSTREAM SERVICES LLC, whose address is 1000 Louisiana, Suite 4300, Houston, TX 77022-5036, proposes to drill a replacement well to replace the previously permitted well (Monument AGI #1, API # 30032540002) used to dispose acid gases from its natural gas plant operations in Monument, New Mexico. This replacement well will be the Monument AGI #1R, located approximately 770 FSL and 2268 FEL of Section 36, T19S, R36E in Lea County, New Mexico. While the design of the proposed replacement well is upgraded from the previously-approved well, all other parameters such as the injection zone, depths, pressure and rates remain the same for this proposed well as are currently approved under NMOCD Order R-13052. The injection interval will be in the Devonian/Fusselman formations at a depth of approximately 8,350 to 9,200 feet. The average injection rate will be approximately 2.5 million standard cubic feet per day of acid gases, at a maximum surface pressure of 3,000 psig. Interested parties must file objections with the New Mexico Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

Inquiries regarding this application should be directed to Mr. Alberto A. Gutierrez or Mr. James C. Hunter at Geolex Inc, 500 Marquette Ave. NW, Albuquerque New Mexico 87102, (505)-842-8000.

Sincerely,
Geolex, Inc.

Alberto A. Gutiérrez, C.P.G.
**President**
Consultant to Targa Midstream Services LLC

Enclosure: Application for Administrative Approval to Replace Targa Monument AGI #1

G:\16-011\Notices\Apache Notice Letter.docx

phone: 505-842-8000
fax: 505-842-7380
500 Marquette Avenue NW, Suite 1350
Albuquerque, New Mexico 87102
email: aag@geolex.com
web: www.geolex.com

GEOLEX®
INCORPORATED

Alberto A. Gutiérrez, C.P.G.

October 19, 2016

XTO Energy, Inc.
P.O. Box 6501
Englewood, Colorado 80155

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

RE: Targa Midstream Services LLC Application for Administrative Approval to Replace Targa Monument AGI #1

TARGA MIDSTREAM SERVICES LLC, whose address is 1000 Louisiana, Suite 4300, Houston, TX 77022-5036, proposes to drill a replacement well to replace the previously permitted well (Monument AGI #1, API # 30032540002) used to dispose acid gases from its natural gas plant operations in Monument, New Mexico. This replacement well will be the Monument AGI #1R, located approximately 770 FSL and 2268 FEL of Section 36, T19S, R36E in Lea County, New Mexico. While the design of the proposed replacement well is upgraded from the previously-approved well, all other parameters such as the injection zone, depths, pressure and rates remain the same for this proposed well as are currently approved under NMOCD Order R-13052. The injection interval will be in the Devonian/Fusselman formations at a depth of approximately 8,350 to 9,200 feet. The average injection rate will be approximately 2.5 million standard cubic feet per day of acid gases, at a maximum surface pressure of 3,000 psig. Interested parties must file objections with the New Mexico Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

Inquiries regarding this application should be directed to Mr. Alberto A. Gutierrez or Mr. James C. Hunter at Geolex Inc, 500 Marquette Ave. NW, Albuquerque New Mexico 87102, (505)-842-8000.

Sincerely,
Geolex, Inc.

Alberto A. Gutierrez, C.P.G.
President
Consultant to Targa Midstream Services LLC

Enclosure: Application for Administrative Approval to Replace Targa Monument AGI #1

G:\16-011\Notices\Apache Notice Letter.docx

phone: 505-842-8000
fax: 505-842-7380
500 Marquette Avenue NW, Suite 1350
Albuquerque, New Mexico 87102
email: aag@geolex.com
web: www.geolex.com

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com®

MIDLAND, TX 79705 OFFICIAL USE

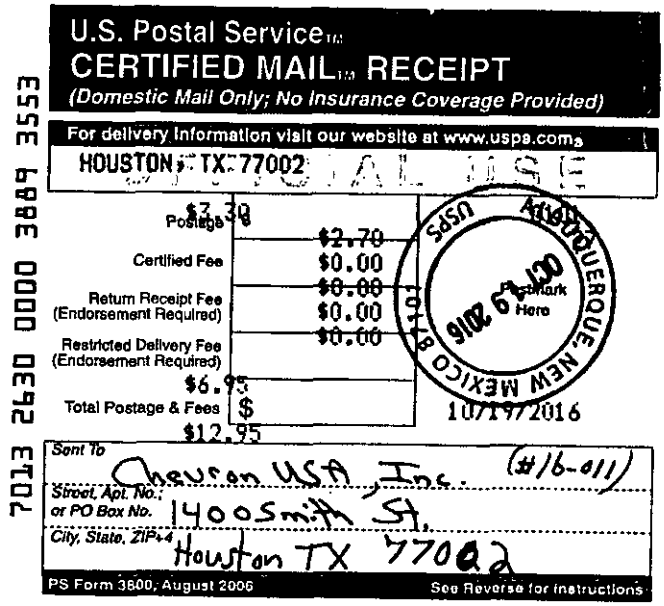
| | |
|---|---|
| Postage | $2.70 |
| Certified Fee | $0.00 |
| Return Receipt Fee (Endorsement Required) | $0.00 |
| Restricted Delivery Fee (Endorsement Required) | $0.00 |
| Total Postage & Fees | $6.85 |
| | $12.85 |

Postmark Here: OCT 19 2016 ALBUQUERQUE NEW MEXICO 87101

Sent To: Apache Corp. (#16-011)
Street, Apt. No., or PO Box No.: 303 Veterans Airpark Lane #3000
City, State, ZIP+4: Houston TX 79705

PS Form 3800, August 2006 — See Reverse for Instructions

7013 2630 0000 3889 0798



U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com®

HOUSTON, TX 77002 OFFICIAL USE

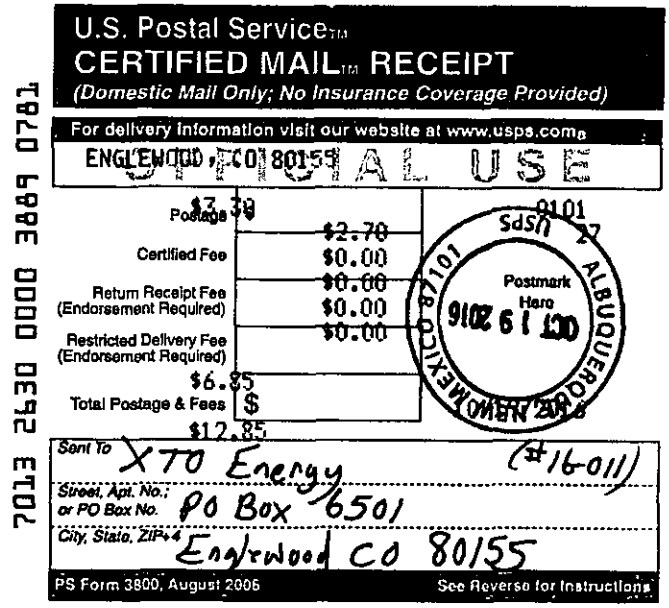
| | |
|---|---|
| Postage | $2.70 |
| Certified Fee | $0.00 |
| Return Receipt Fee (Endorsement Required) | $0.00 |
| Restricted Delivery Fee (Endorsement Required) | $0.00 |
| Total Postage & Fees | $6.85 |
| | $12.95 |

Postmark Here: OCT 19 2016 ALBUQUERQUE NEW MEXICO 87101
10/19/2016

Sent To: Chevron USA, Inc. (#16-011)
Street, Apt. No., or PO Box No.: 1400 Smith St.
City, State, ZIP+4: Houston TX 77002

PS Form 3800, August 2006 — See Reverse for Instructions

7013 2630 0000 3889 3553



U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com®

ENGLEWOOD, CO 80155 OFFICIAL USE

| | |
|---|---|
| Postage | $2.70 |
| Certified Fee | $0.00 |
| Return Receipt Fee (Endorsement Required) | $0.00 |
| Restricted Delivery Fee (Endorsement Required) | $0.00 |
| Total Postage & Fees | $6.85 |
| | $12.85 |

Postmark Here: OCT 19 2016 ALBUQUERQUE NEW MEXICO 87101

Sent To: XTO Energy (#16-011)
Street, Apt. No., or PO Box No.: PO Box 6501
City, State, ZIP+4: Englewood CO 80155

PS Form 3800, August 2006 — See Reverse for Instructions

7013 2630 0000 3889 0781

ALBUQUERQUE
1135 BROADWAY BLVD NE
ALBUQUERQUE
NM
87101-0001
3401270101
10/19/2016 (800)275-8777 2:00 PM

| Product Description | Sale Qty | Final Price |
|---|---|---|
| PM 2-Day (Domestic) (HOUSTON, TX 77002) (Weight:0 Lb 15.40 Oz) (Expected Delivery Day) (Friday 10/21/2016) | 1 | $6.95 |
| Certified (@@USPS Certified Mail #) (70132630000038890538) | 1 | $3.30 |
| Return Receipt (@@USPS Return Receipt #) (9590952106150312995511) | 1 | $2.70 |
| PM 2 Day (Domestic) (ENGLEWOOD, CO 80155) (Weight:0 Lb 15.30 Oz) (Expected Delivery Day) (Friday 10/21/2016) | 1 | $6.85 |
| Certified (@@USPS Certified Mail #) (70132630000038890781) | 1 | $3.30 |
| Return Receipt (@@USPS Return Receipt #) (9590952106150312995535) | 1 | $2.70 |
| PM 3-Day (Domestic) (MIDLAND, TX 79705) (Weight:0 Lb 15.40 Oz) (Expected Delivery Day) (Saturday 10/22/2016) | 1 | $6.85 |
| Certified (@@USPS Certified Mail #) (70132630000038890745) | 1 | $3.30 |
| Return Receipt (@@USPS Return Receipt #) (9590952106150312995528) | 1 | $2.70 |
| Total | | $38.65 |
| Personl/Bus Check | | $38.65 |

Includes up to $50 insurance

**********
BRIGHTEN SOMEONE'S MAILBOX. Greeting cards available for purchase at select Post Offices.
**********

# Affidavit of Publication

STATE OF NEW MEXICO
COUNTY OF LEA

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

Beginning with the issue dated
October 19, 2016
and ending with the issue dated
October 19, 2016.

Daniel Russell
Publisher

Sworn and subscribed to before me this
19th day of October 2016.

Gussie Black
Business Manager

My commission expires
January 29, 2019
(Seal)

OFFICIAL SEAL
GUSSIE BLACK
Notary Public
State of New Mexico
My Commission Expires 1-29-19

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

**LEGAL NOTICE**
**October 19, 2016**

TARGA MIDSTREAM SERVICES LLC, whose address is 1000 Louisiana, Suite 4300, Houston, TX 77022-5036, proposes to drill a replacement well to replace the previously permitted well (Monument AGI #1, API # 30032540002) used to dispose acid gases from its natural gas plant operations in Monument, New Mexico. This replacement well will be the Monument AGI #1R, located approximately 1,000' FSL and 2,500' FEL of Section 36, T19S, R36E in Lea County, New Mexico. While the design of the proposed replacement well is upgraded from the previously-approved well, all other parameters such as the injection zone, depths, pressure and rates remain the same for this proposed well as are currently approved under NMOCD Order R-13052. The injection interval will be in the Devonian/Fusselman formations at a depth of approximately 8,350 to 9,200 feet. The average injection rate will be approximately 2.5 million standard cubic feet per day of acid gases, at a maximum surface pressure of 3,000 psig. Interested parties must file objections with the New Mexico Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

Inquiries regarding this application should be directed to Mr. Alberto A. Gutierrez or Mr. James C. Hunter at Geolex Inc, 500 Marquette Ave. NW, Albuquerque New Mexico 87102, (505)-842-8000.
**#31295**

770' FSL & 2268' FEL

67101169 00182880

ALBERTO A. GUTIERREZ
GEOLEX, INC.
500 MARQUETTE AVE. NW, SUITE 1350
ALBUQUERQUE, NM 87102