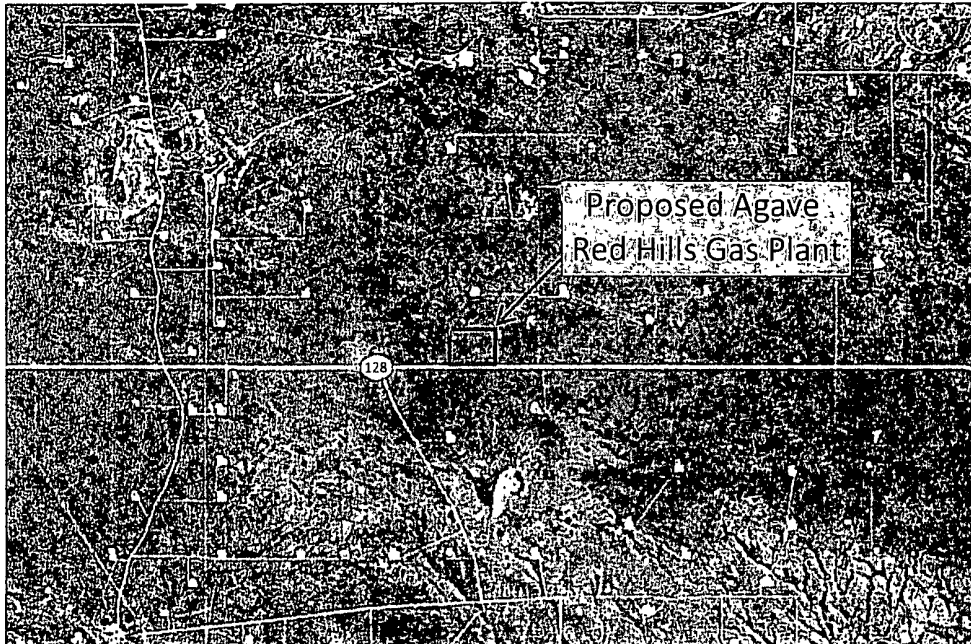


30-025-40448



**GEOLEX**  
INCORPORATED

**RED HILLS AGI#1 TWELVE POINT SURFACE USE  
PLAN OF OPERATION FOR BLM APD  
AGAVE ENERGY COMPANY PROPOSED NATURAL GAS PROCESSING PLANT  
(Unit I, Section 13, Township 24 S, Range 33 E)**



August 15, 2011

*Prepared For:*

**Agave Energy Company  
105 S. Fourth Street  
Artesia, NM 88210**

*Submitted To:*

**Bureau of Land Management, Carlsbad District  
620 East Greene Street  
Carlsbad NM 88220**

*Prepared By:*

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

FEB 20 2012

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**AGAVE RED HILLS AGI#1 TWELVE POINT SURFACE USE PLAN OF OPERATION  
PREPARED FOR U.S. BLM**

**EXECUTIVE SUMMARY**

On behalf of Agave Energy Company (Agave), Geolex<sup>®</sup>, Inc. (Geolex) has prepared and is hereby submitting a completed Application for Permit to Drill (APD) a combined acid gas injection and CO<sub>2</sub> sequestration well (Red Hills AGI #1) adjacent to the Agave Gas Plant which is located approximately 20 miles west-northwest of Jal in Lea County, New Mexico (Figure 1). This is the required 12-point Surface Use Plan of Operations (SUPO) supporting the APD.

**NAME OF WELL:** Agave Red Hills AGI #1

**LEGAL DESCRIPTION:** Unit I, Section 13, T24S, R33E, NMPM, at approximately 150' FEL, 1,600' FSL in Lea County, New Mexico (see well plat attached to APD form)

**I. EXISTING ROADS**

- A. Proposed Well Site Location  
See Figure 1
- B. Existing Roads  
From the intersection of State Highway #128 and County Road J21 (Delaware Basin) go west approximately 0.4 miles on State Highway #128. The location is approximately 1500 feet north. (See Figure 2).
- C. Existing Road Maintenance or Improvement Plan  
Agave intends convert its parcel of property to a gas processing facility with an AGI located in the northeast corner. Figure 3 shows the location of roads that will be built and maintained.

**II. NEW OR RECONSTRUCTED ACCESS ROADS**

- A. Route Location:  
Approximately 1,500 feet of new lease road will be built on Agave Energy Company property (See Figures 2 and 3)
- B. Width  
12 feet wide
- C. Maximum Grade  
Grade to match existing topography

- D. Turnout Ditches  
As required by Agave Energy Company
- E. Culverts, Cattle Guards and Surfacing Equipment  
Though none are anticipated, if required, culverts and cattle guards will be set per Agave Energy Company specifications.

### **III. LOCATION OF EXISTING WELLS**

Figure 4 shows existing wells in the within the one mile area of review (also see Attachment 1 of 9-Point Drilling Plan).

### **IV. LOCATION OF EXISTING AND/OR PROPOSED PRODUCTION FACILITIES**

- A. Existing production facilities – N/A, well is for Acid Gas Injection.
- B. New Facilities  
Compression facilities for the AGI will be built on Agave's proposed plant site (see Figure 3).
- C. Rehabilitation of Disturbed Areas  
Following the construction, those access areas required for AGI operations will be graded to provide drainage and minimize erosion. The areas unnecessary for use will be graded to blend in with the surrounding topography

### **V. LOCATION AND TYPES OF WATER SUPPLY**

- A. Location and Type of Water Supply  
Freshwater and brine water will be hauled from commercial facilities
- B. Water Transportation System  
Water hauling to the location will be over the existing and proposed roads.

### **VI. CONSTRUCTION MATERIALS**

- A. Materials  
On site caliche will be used. If this is not sufficient, caliche will be acquired from off site by Agave.
- B. Land Ownership  
Agave Energy Company owns the surface; BLM owns the minerals

- C. Materials Foreign to the Site  
No construction materials foreign to this area are anticipated for this drill site.
- D. Access Roads  
See Figures 1, 2 and 3.

## **VII. METHODS FOR HANDLING WASTE**

- A. Cuttings  
Cuttings will be contained in the roll off bins and disposed of at CRI or other off-site licensed facility (See Attachment 2 to 9-Point Drilling Plan).
- B. Drilling Fluids  
Drilling fluids will be contained in the steel pits, frac tanks and disposed of at licensed disposal sites.
- C. Produced Fluids  
Produced formation water will be contained in the steel pits.
- D. Sewage  
Portable facilities will contain sewage during drilling and waste will be disposed of in compliance with current laws and regulations pertaining to the disposal of human waste.
- E. Garbage  
Portable containers will be utilized for garbage disposal during the drilling of this well. Garbage will be hauled off-site for disposal at an approved facility.
- F. Cleanup of Well Site  
Upon release of the drilling rig, the surface of the drilling pad will be graded to accommodate the completion rig. Reasonable cleanup will be performed prior to the final restoration of the site.

## **VIII. ANCILLARY FACILITIES**

None required

## **IX. WELL SITE LAYOUT**

- A. Rig Orientation and Layout  
Figure 5 shows the dimensions of the well pad, closed loop system, and the location of major rig components. Minor leveling of the well site will be required. No significant cuts or fills will be necessary.

- B. Locations of Access Road  
See Figures 2 and 3.
- C. Lining of the Pits  
There will be no reserve pits. This will be a closed loop system (see Attachment 2 to 9-Point Drilling Plan).

## **X. PLANS FOR SURFACE RECLAMATION**

- A. Reserve Pit Cleanup  
Not applicable-- closed loop drilling fluid system will be used.
- B. Restoration Plans  
Those areas not required for AGI operations will be graded to blend with the surrounding topography. Topsoil, as available, will be placed upon those areas and seeded. The portion of the site required for AGI operations will be graded to minimize erosion and provide access during inclement conditions.
- C. Rehabilitation's Timetable  
Upon completion of drilling operations, the initial cleanup of the site will be performed as soon as weather and site conditions allow economic execution of the work.

## **XI. SURFACE OWNERSHIP**

Agave Energy Company

## **XII. OTHER INFORMATION**

- A. Terrain: Flat with some low dunes.
- B. Soil: Caliche and sand.
- C. Vegetation: Sparse, primarily mesquite with very little grass.
- D. Surface Use: Natural gas processing plant site.
- E. Surface Water: There are no ponds, lakes, streams or rivers within several miles of the well site.
- F. Residences and Buildings: The only nearby facilities are the Agave Energy Company Gas Processing Plant located immediately to the west and a Conoco warehouse on Conoco Rd.
- G. Historical Sites: None observed

H. Archeological Resources

The archeological survey for this site has not yet been completed.

I. Well signs will be posted at the drilling site.

J. Open Pits: No open pits will be used for drilling or production. Any open top tanks will be netted.

September 21, 2011

Alberto A. Gutiérrez, C.P.G.


US Bureau of Land Management  
Carlsbad District Office  
620 E. Gene  
Carlsbad, NM 88220

VIA FEDERAL EXPRESS

RE: APPLICATION FOR PERMIT TO DRILL – OPERATOR CERTIFICATION  
AGAVE RED HILLS AGI#1 – 1600' FSL, 150' FEL, SECTION 13, T24S, R33E, NMPM, LEA  
COUNTY, NEW MEXICO

In reference to the above –captioned well, I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions that currently exist; that I have full knowledge of state and federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with operations proposed herein will be performed by Agave Energy Company, Geolex, Inc., and their contractors and subcontractors in conformity with this APD package and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Executed this 21<sup>st</sup> day of September, 2011


  
\_\_\_\_\_  
Signature

Name: Alberto A. Gutiérrez  
Position Title: Consultant to Agave Energy Company  
Address: Geolex, Inc., 500 Marquette Avenue, NW, Suite 1350, Albuquerque, NM 87102  
Telephone: (505) 842-8000  
Email: aag@geolex.com

Company Field Representative: Ms. Jennifer Knowlton  
Address: 105 S Fourth Street, Artesia, NM 88210  
Telephone: 575-748-4471  
Email: jknowlton@yatespetroleum.com

Attached is a copy of a letter that authorizes me to submit information and execute submittals for this application on behalf of Agave Energy Company

Sincerely,  
Geolex, Inc.

  
Alberto A. Gutiérrez, R.G.  
Consultant to Agave Energy Company

AAG/jg

cc: Jennifer Knowlton, Agave Energy  
Ivan Boyd, Agave Energy

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# AGAVE ENERGY COMPANY

105 South Fourth Street

Artesia, New Mexico 88210

(575) 748-4555

Fax (575) 748-4275

August 29, 2011

Mr. Wesley Ingram  
Supervisory Petroleum Engineer  
US Department of Interior  
Bureau of Land Management  
620 E. Greene Street  
Carlsbad, NM 88220

RE: GEOLEX AUTHORITY TO SUBMIT DOCUMENTS ON BEHALF OF AGAVE ENERGY  
COMPANY ASSOCIATED WITH THE PROPOSED RED HILLS AGI#1


Dear Mr. Ingram:

This letter confirms to the BLM that Geolex, Inc. as consultant to Agave Energy Company is authorized to submit documents to BLM on our behalf in association with the permitting and assuring compliance with BLM requirements relative to the proposed Red Hills AGI #1 located in Section 13, T 24S and R 33 E NMPM, Lea County, NM. This authority continues to be in effect until rescinded in writing from Agave Energy Company.

Agave is anxious to begin this project as soon as practicable because of their ongoing commitment to environmental protection and enhancement through reduction of greenhouse gas emissions and overall improvement of air quality that this project is designed to accomplish. After our meeting, I trust that BLM will be supportive of the project which will not only have substantial environmental benefits but also yield additional royalties to the BLM and State of NM through the ability of producers to develop additional resources serviced by Agave's proposed Red Hills Plant.

We look forward to providing all of the information required by BLM to expedite the APD contemporaneously with NMOCC's consideration of the C-108.

Sincerely,  
Agave Energy Company

  
J.B. Smith  
President

cc: Ivan Villa, Agave Energy Company  
Alberto A. Gutiérrez, Geolex, Inc.

# **Attachment 1**

## **Active Oil and Gas Well Data**

## **Permanently Plugged Oil and Gas Well Data**

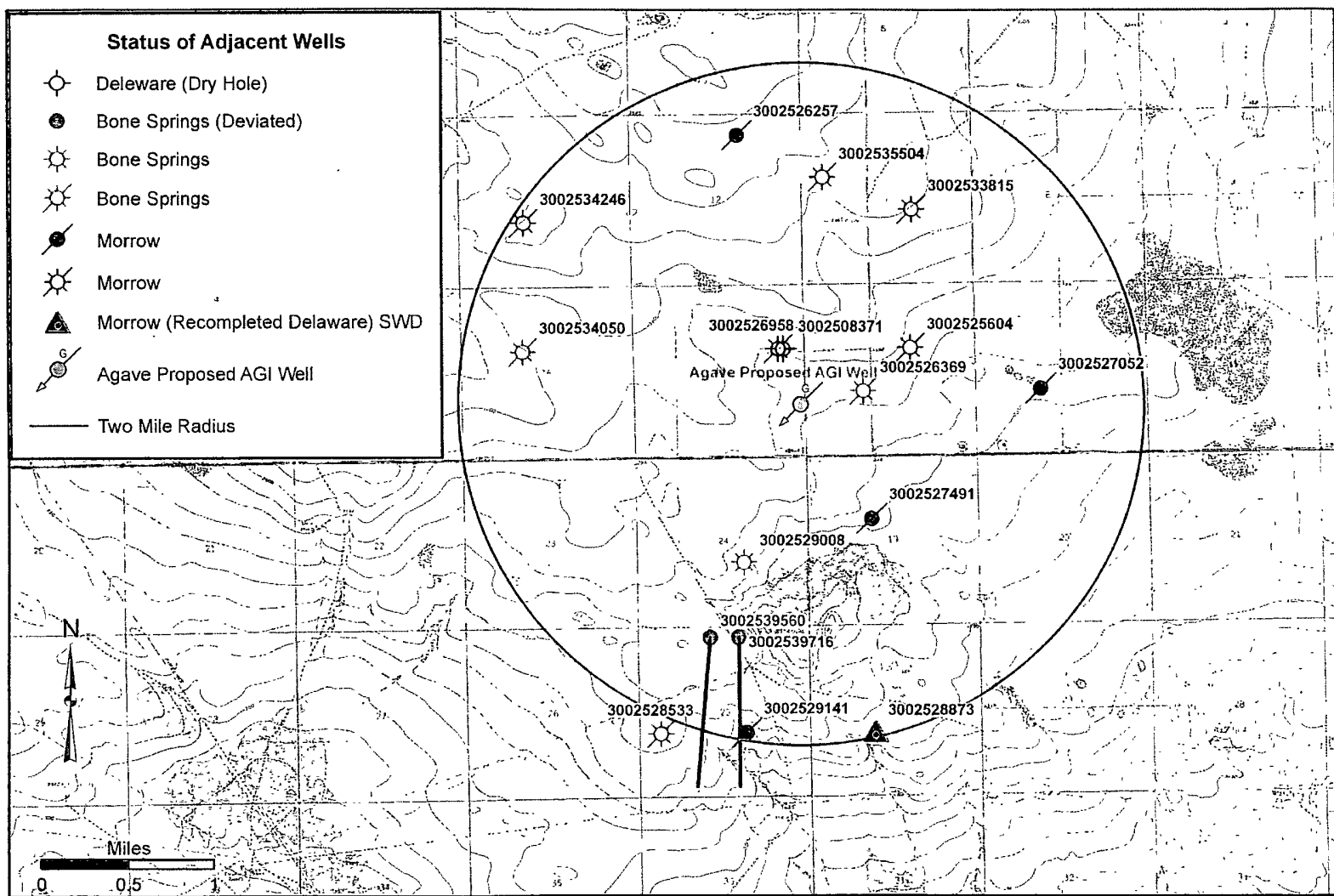


Figure 1-1 Wells Within Two-Mile Radius of Agave Proposed Red Hills AGI #1 Well

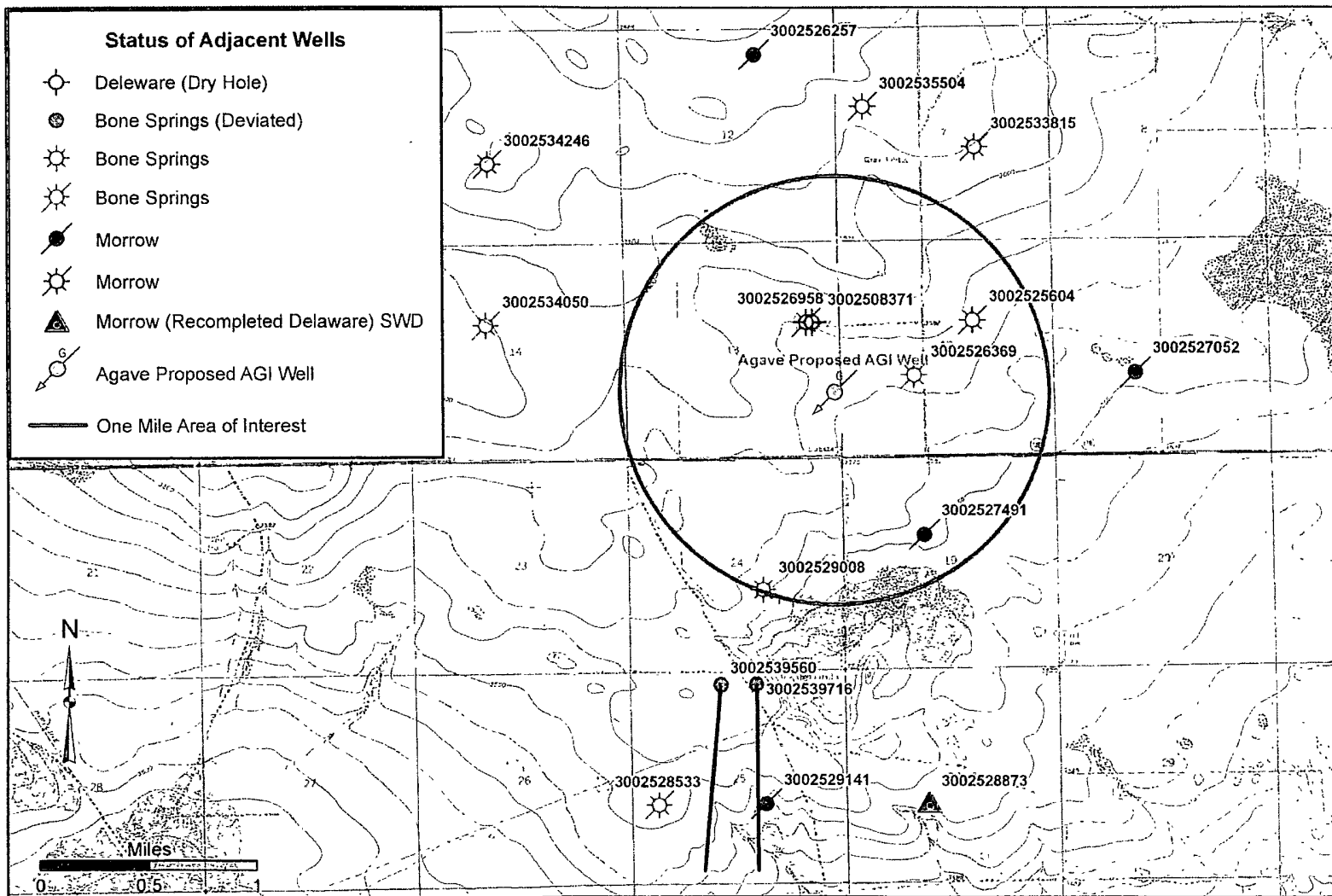
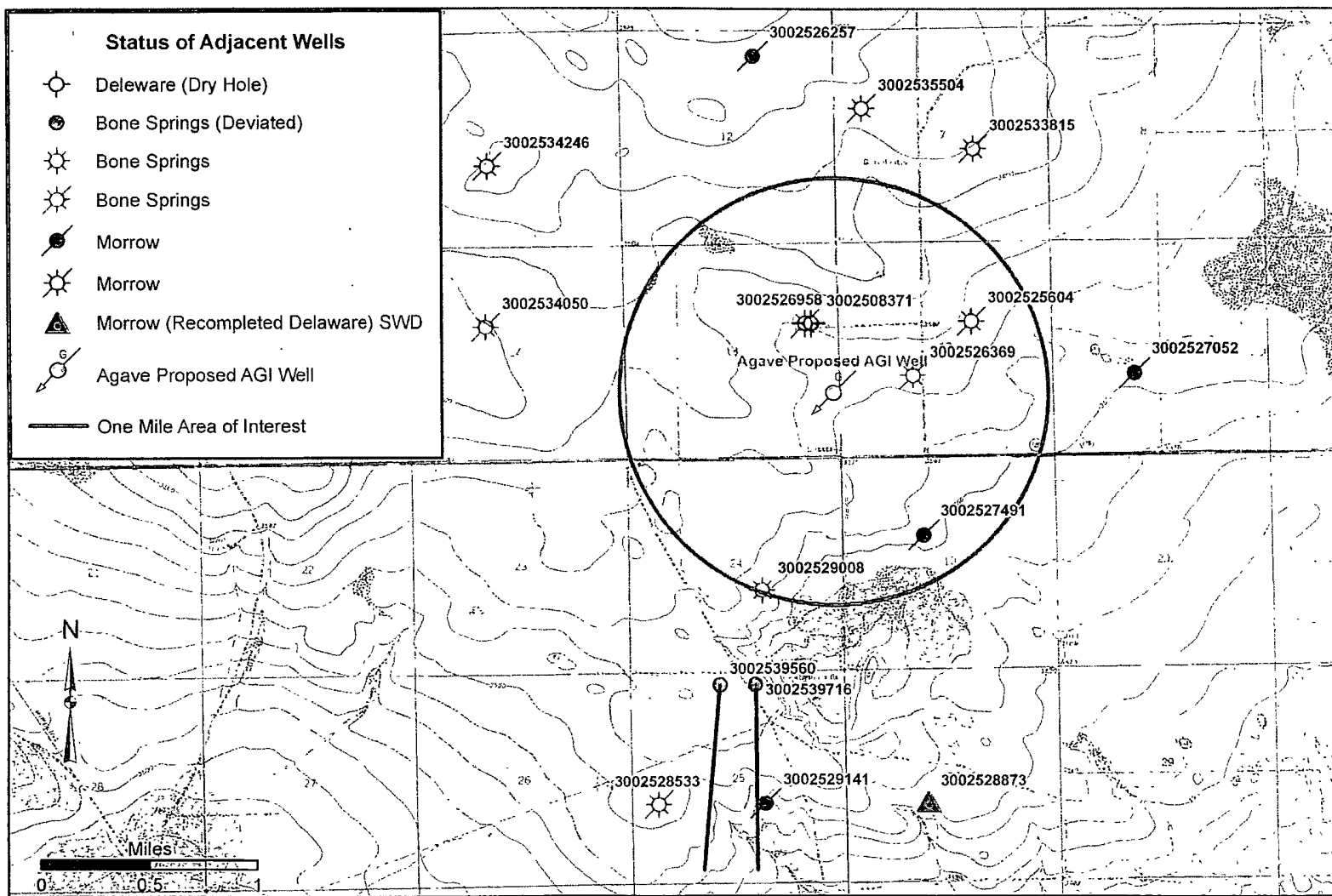


Figure 1-2 Wells Within One-Mile Area of Interest Around Agave Proposed Red Hills AGI #1 Well



**Figure 4 Wells Within One-Mile Area of Interest Around Agave Proposed Red Hills AGI #1 Well**

**Table B-1: Wells Within Two Miles of the Proposed Red Hills AGI #1**

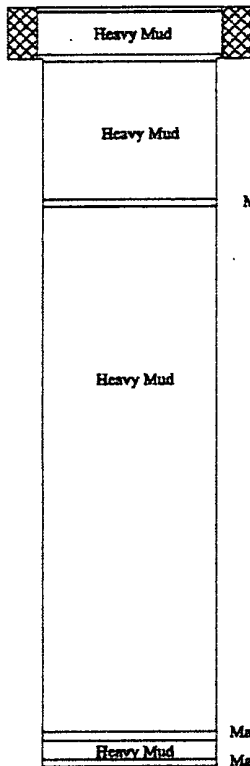
API	OPERATOR	PLUG	SPUD	PBTD	TD	WELL NAME	TYPE	STATUS	DIST	ZONE
Wells Inside of One Mile Area of Review										
3002508371	BYARD BENNETT	3/8/61	2/24/61		5425	J L HOLLAND ETAL 001	O	Plugged	0.34	DELAWARE SAND
3002526958	BOPCO, L.P.	12/26/07	4/13/81	14916	15007	SIMS 001	G	Plugged	0.35	MORROW
3002526369	EOG RESOURCES INC	10/8/90	9/15/79	13725	14698	GOVERNMENT L COM 002	G	Plugged	0.38	ATOKA
3002525604	EOG RESOURCES INC	12/30/04	10/3/77	14590	17625	GOVERNMENT L COM 001	G	Plugged	0.72	MORROW
3002527491	SOUTHLAND ROYALTY CO	8/10/86	10/19/81	15018	15120	SMITH FEDERAL 001	O	Plugged	0.79	MORROW
3002529008	EOG RESOURCES INC		11/7/84	12894	15600	MADERA RIDGE 24 001	G	Active	0.99	BONE SPRINGS
Wells Outside of One Mile Area of Review										
3002533815	EOG RESOURCES INC	9/10/97	6/12/97		16085	BELL LAKE 7 UNIT 001	G	Plugged	1.31	MORROW
3002535504	EOG RESOURCES INC	6/13/01	4/24/01		14500	BELL LAKE UNIT 008	G	Plugged	1.33	MORROW
3002527052	SUPERIOR OIL CO	11/8/82	12/14/80	14776	14905	GOVERNMENT M 001	O	Plugged	1.40	ATOKA
3002539716	YATES PETROLEUM CORP		4/1/10	13784	13879	RED RAIDER BKS STATE 002H	O	Active	1.42	BONE SPRINGS
3002539560	EOG RESOURCES INC		11/30/09		13685	FALCON 25 FEDERAL 001	O	Active	1.47	BONE SPRINGS
3002526257	KAISER-FRANCIS OIL CO		3/25/79	14717	14760	BELL LAKE UNIT 019	O	Zone Plug	1.61	MORROW
3002534050	EOG RESOURCES INC	3/13/02	10/23/97		13840	LELA MAE STEVENS FEDERAL COM 001	G	Plugged	1.65	BONE SPRINGS
3002524910	KAISER-FRANCIS OIL CO		1/31/75	8600	14140	BELL LAKE UNIT 016	G	Active	1.81	BRUSHY CANYON
3002527267	MOBIL PROD TX & NM	2/21/89	10/28/88	13642	14942	GOVERNMENT M 002	G	Plugged	1.92	ATOKA
3002534246	DEVON ENERGY PROD.	11/1/02	1/20/98	14150	15250	STEVENS 11 001	G	Plugged	1.93	MORROW
3002529141	ENRON OIL & GAS CO	5/19/88	3/29/85		15360	RATTLESNAKE GULCH 25 001	O	Plugged	1.96	WOLFCAMP
3002528873	EOG RESOURCES INC		9/12/84	6500	15505	VACA RIDGE 30 FEDERAL 001	S	Active	1.97	BELL/CHERRY CANYON

Note: Diagrams for all wells (active and plugged) within one mile area of review follow this table.

J. L. HOLLAND et al No. 1  
API # 3002508371  
1980' FNL 660' FEL, Sec. 13, T24S R33E

GL: 3572'

12.25" Bore to 367'  
8.625" Csg. to 365'  
200 St. Cmt. to Surface



March 1961: 5 in and P&A Marker

March 1961: 20 in 340' -390'

March 1961: 20 in 1375' -1425'

Spud Date: Feb. 24, 1961  
Operator: Byard Bennett  
P&A Mar. 12, 1961  
Last Operator: Byard Bennett

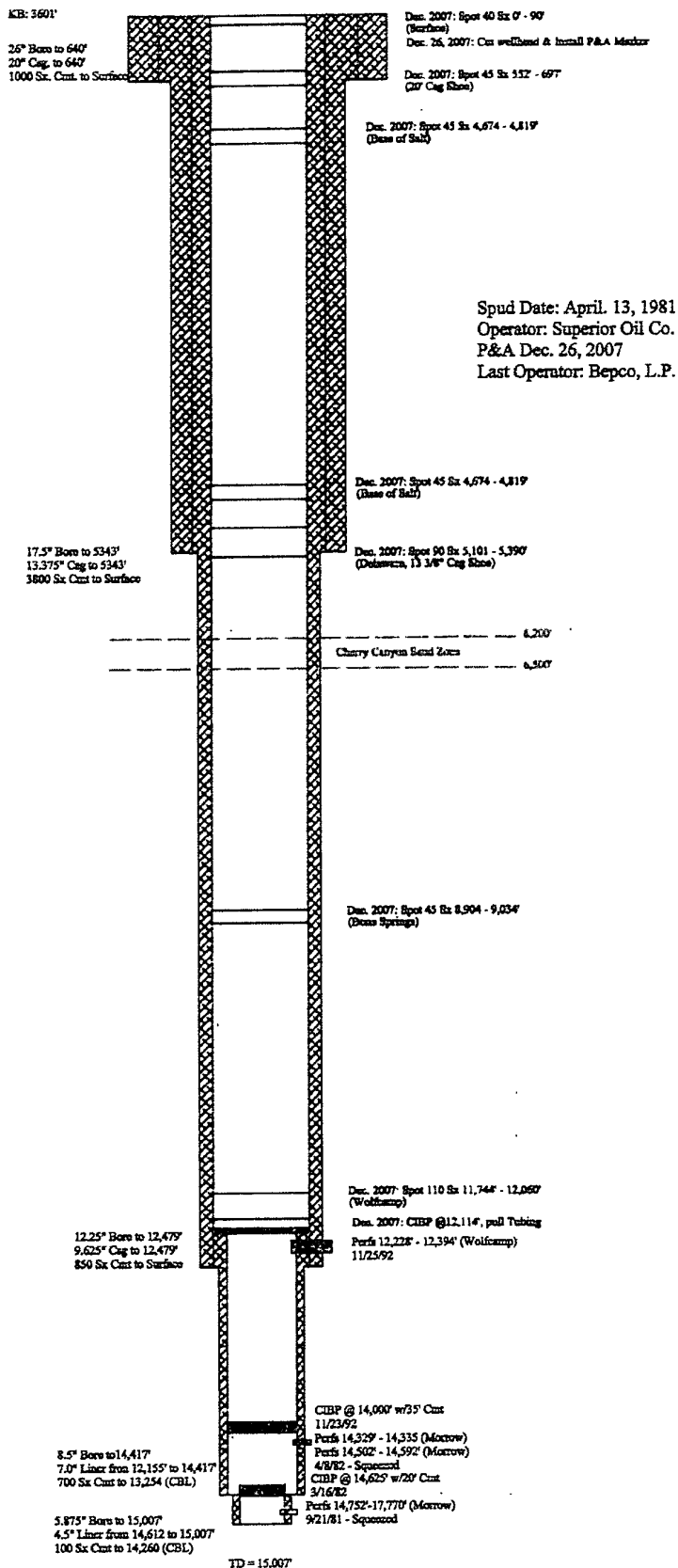
7.875" Bore to 5425'  
Dry Hole - No Casing

March 1961: 20 in 5175' -5240'

March 1961: 15 in 5375' -5425'

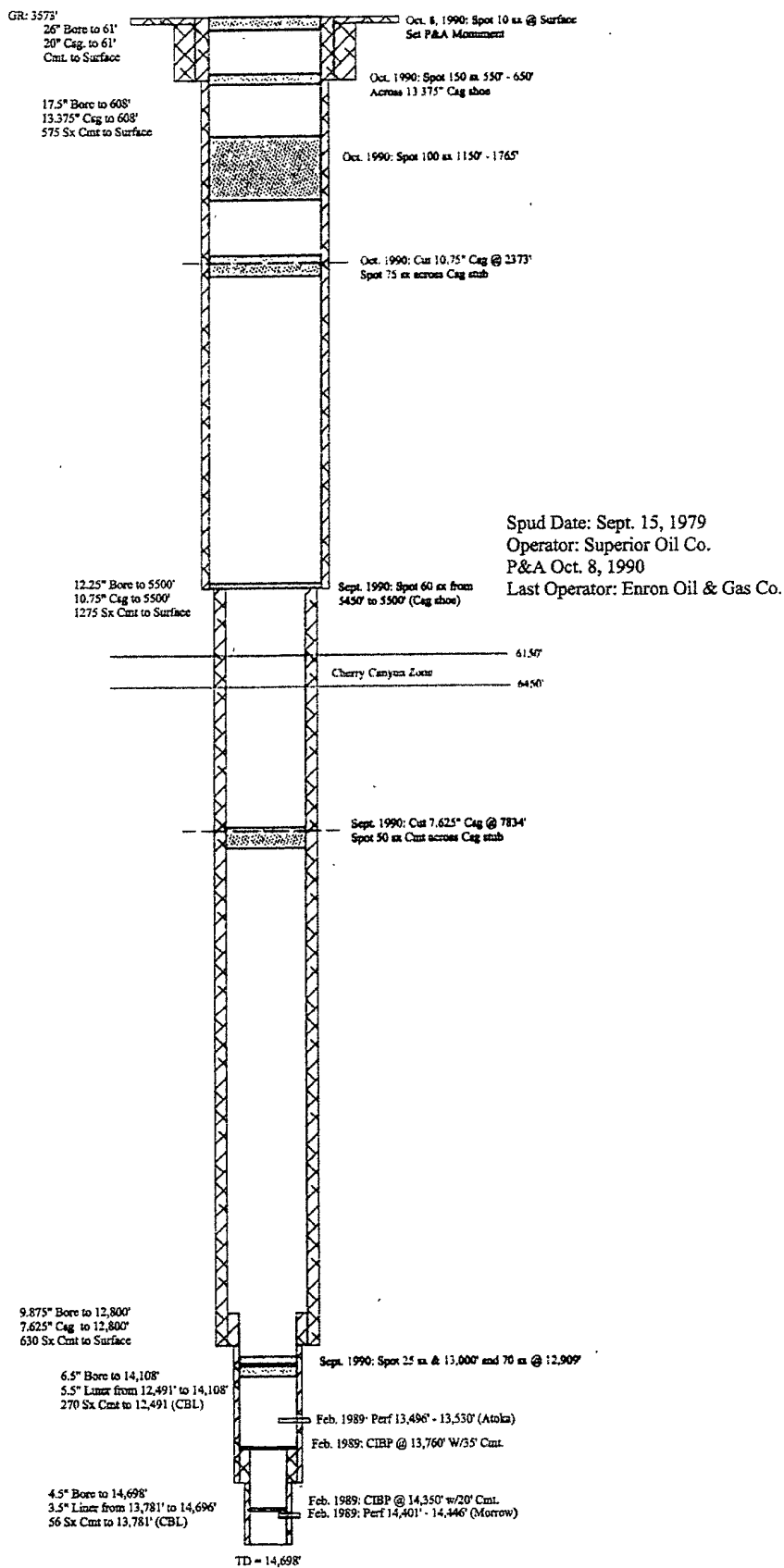
TD = 5425'

SIMS 001  
API # 3002526958  
1980' FNL 800' FEL, Sec. 13, T24 R33E





GOVERNMENT L COM 002  
API # 3002526369  
1980' FSL 1800' FWL, Sec. 18, T24 R34E



GOVERNMENT "L" COM #1  
API # 3002525604  
1980' FNL 1980' FEL, Sec. 18, T24 R34E

GR: 3576'

26" Bore to 600'  
20" Cag. to 600'  
960' ex. to Surface

Dec. 30, 2004 Spot 20 ex. Interface to 30'  
See P&A Measurement

Dec. 2004 Spot 150 ex 450' - 650' (Cag 2bow)  
Tag @ 423'

Dec. 2004 Spot 75 ex. (200' - 1300' (Salt))  
Tag @ 1143'

Spud Date: Oct. 3, 1977  
Operator: Superior Oil Co.  
P&A 12/30/2004  
Last Operator: EOG Resources, Inc.

17.5" Bore to 5400'  
13.375" Cag to 5400'  
3971' ex. Cmt to Surface

Dec. 2004 Cag 10.75" Cag @ 5450'  
Spot 150 ex. Tag @ 5338'

6150'

Cherry Canyon Zone 6450'

Dec. 2004 Perf 4 Holes @ 7000', Spot 75 ex  
Tag @ 6832'

Dec. 2004 Perf 4 Holes @ 9000', Spot 75 ex  
Tag @ 8938'

CALC TOC ~ 9,900'

Dec. 2004 Spot 50 ex 11,300' - 11,400'  
Tag @ 11,389'

12.25" Bore to 13,000'  
10.25" Cag to 13,000'  
500' ex. Cmt (TOC not Rec.)  
CALC TOC ~ 9,900'

9.5" Bore to 15,501'  
7.625" Liner 12,800' - 15,501'  
825' ex. Cmt (TOC not Rec.)  
CALC. TOC ~ 8,200' (Above Top of Liner)

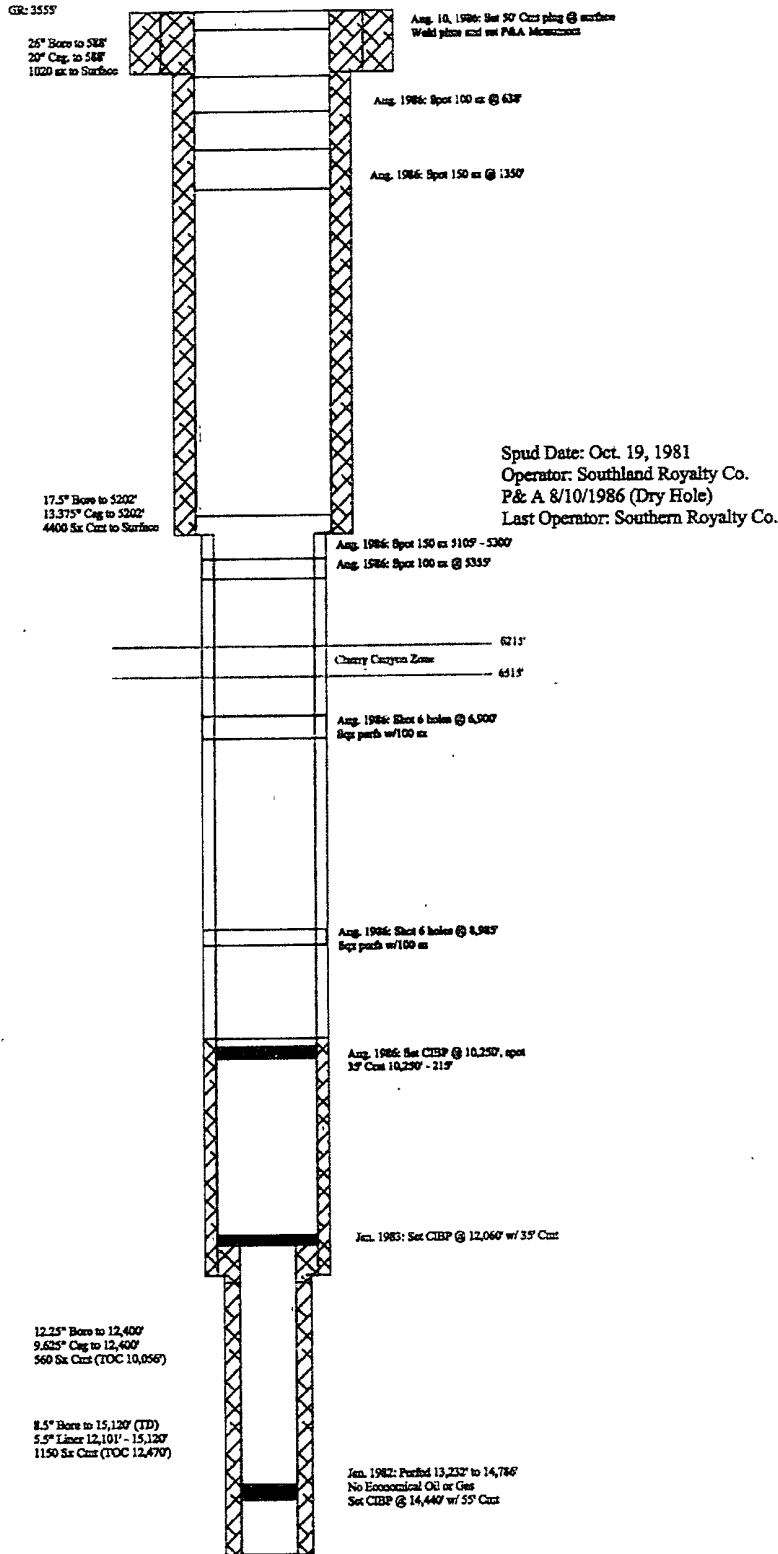
May 1978: Perf 14,268' to 14,284' (Mowru)

May 1978: Plugged Back to 14,590'

6.5" Bore to 17,625' (TD)  
5.0" Liner 15,892' - 17,624'  
825' ex. Cmt (TOC not Rec.)  
CALC. TOC ~ 14,600' (Above Top of Liner)

Mar. 5, 1978 TD @ 17,625'

SMITH FEDERAL 001  
API # 3002527491  
1980' FNL 1968' FWL, Sec. 19, T24 R34E



Feb. 14, 1985: TD = 15,120' PB to 15,015'

MADERA RIDGE 24 001  
API # 3002529008  
1980' FSL 1980' FEL, Sec. 24, T24 R33E

GR: 3565'

26" Bore to 600'  
20" Csg. to 600'  
1000 Sx Cmt to Surface

17.5" Bore to 5112'  
13.375" Csg to 5112'  
4300 Sx Cmt to Surface

12.25" Bore to 13,250'  
9.625" Csg to 13,250'  
3100 Sx Cmt to 5400' (TS)

8.5" Bore to 15,600' (TD)  
7.625" Liner 12,954' - 14,659'  
300 Sx Cmt TOC not Rec.

Feb. 14, 1985: TD = 15,600'

Cherry Canyon Zone

Spud Date: Nov. 7, 1984  
Operator: Meridian Oil, Inc.  
Active Oil Well: Init. Prod. 33 BOPD and 108 MCFGD  
Current Operator: EOG Resources, Inc.  
Produced Atoka 1984-95; 704 BBO, 107,782 MCFG  
Produced Bone Springs 1996-Present; 54,484 BBO, 107,443 MCFG (to 2010)

Jan. 1996: Re-Completed w/ Packer @ 12,090' in Bone Springs  
Jan. 1996: Perfs 12,154' - 12,244' (Wolfcamp)

Jan. 1996: CIBP @ 12,930' (Plug Back)

Feb. 1985: Packer @ 14,174' - 14,175' Tubing, Comp in Atoka

Feb. 1985: Perfs 14,282' - 14,294' (Atoka)

Feb. 22, 1985: P.B. to 14,600'