

| | | | | | |
|------------------|----------|-------------|----------------------|------|-----------------|
| DATE IN 10/23/13 | SUSPENSE | ENGINEER FG | LOGGED IN 10/24/2013 | TYPE | PPRG 1329747830 |
|------------------|----------|-------------|----------------------|------|-----------------|

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

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

Apache Corp
 Empire Abo Unit 23 C -
 30-015-02625

[D] Other: Specify _____

[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

2013 OCT 23 P 12:22
 RECEIVED OCD

[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.

Brian Wood

Brian Wood
 Signature

Consultant

10-23-13

Print or Type Name

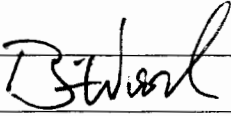
Title

Date

brian@permitswest.com

e-mail Address

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: _____ Secondary Recovery _____ XXX Pressure Maintenance _____ Disposal _____ Storage
Application qualifies for administrative approval? _____ Yes _____ No
- II. OPERATOR: APACHE CORPORATION
ADDRESS: 303 VETERANS AIR PARK LANE, SUITE 3000, MIDLAND, TX 79705
CONTACT PARTY: BRIAN WOOD (PERMITS WEST, INC.) PHONE: 505 466-8120
- 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? XXX Yes _____ No
If yes, give the Division order number authorizing the project: R-4549 et al
- 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: Empire Abo Unit 23 C
30-015-02625
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: BRIAN WOOD TITLE: CONSULTANT
SIGNATURE:  DATE: OCT. 17, 2013
E-MAIL ADDRESS: brian@permitswest.com
- * If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: _____

III. WELL DATA

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

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

INJECTION WELL DATA SHEET

OPERATOR: APACHE CORPORATIONWELL NAME & NUMBER: EMPIRE ABO UNIT 23 C

| | | | | |
|--|-------------|----------|-------------|-------------|
| WELL LOCATION: <u>470 FNL & 2170 FEL</u> | <u>B</u> | <u>6</u> | <u>18 S</u> | <u>28 E</u> |
| FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE |

WELLBORE SCHEMATICWELL CONSTRUCTION DATASurface Casing

Hole Size: 10-1/4" Casing Size: 8-5/8"
 Cemented with: 450 sx. *or* _____ ft³
 Top of Cement: SURFACE Method Determined: CIRC.

Intermediate Casing

Hole Size: _____ Casing Size: _____
 Cemented with: _____ sx. *or* _____ ft³
 Top of Cement: _____ Method Determined: _____

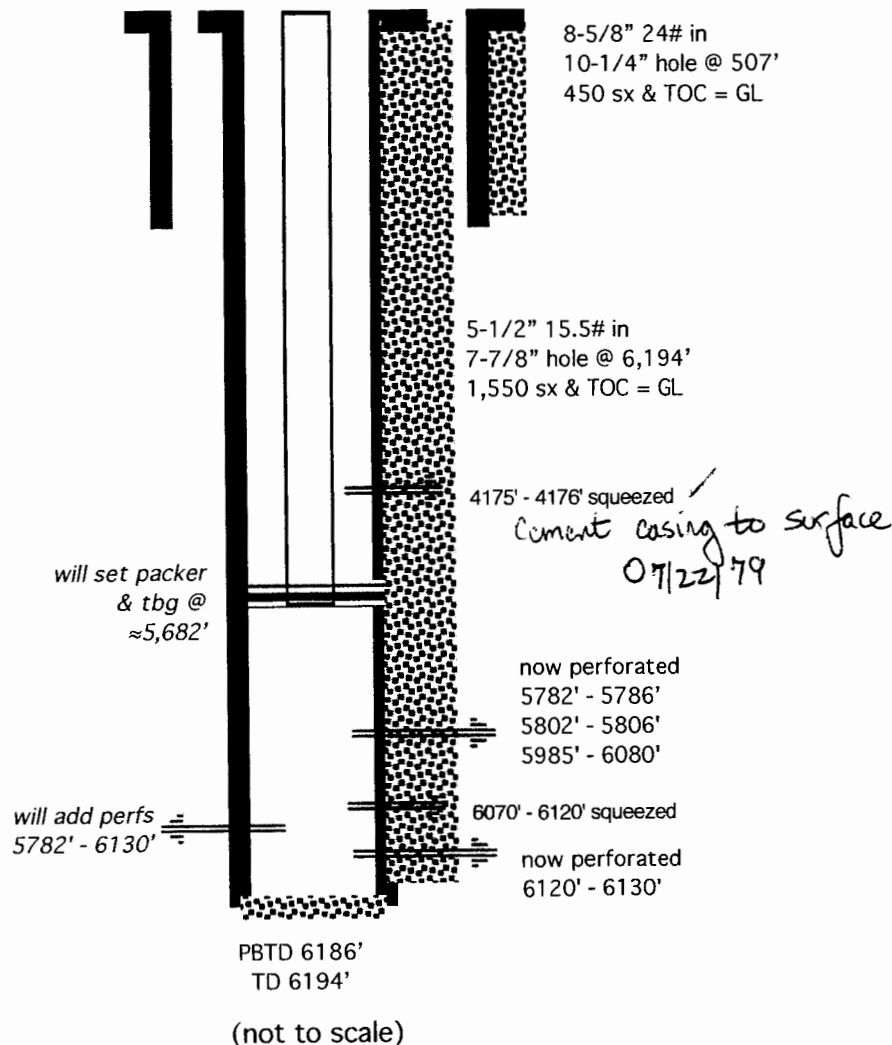
Production Casing

Hole Size: 7-7/8" Casing Size: 5-1/2"
 Cemented with: 1,550 sx. *or* _____ ft³
 Top of Cement: SURFACE Method Determined: CIRC. 182 SX
 Total Depth: 6,194' TO PIT

Injection Interval

5,782' feet to 6,130'

(Perforated or Open Hole; indicate which)



INJECTION WELL DATA SHEETTubing Size: 3-1/2" Lining Material: TUBOSCOPE TK FIBERType of Packer: ARROW AS-1XPacker Setting Depth: ≈5,682'

Other Type of Tubing/Casing Seal (if applicable): _____

Additional Data

1. Is this a new well drilled for injection? _____ Yes XXX No

If no, for what purpose was the well originally drilled? OIL WELL

2. Name of the Injection Formation: ABO

3. Name of Field or Pool (if applicable): EMPIRE; ABO (22040)

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. ONLY PERFORATED IN ABO

PERF (now open): 5782' - 5786', 5802' - 5806', 5985' - 6080', & 6120' - 6130'

PERF (squeezed): 4175' - 4176' (1200 sx) & 6070' - 6120' (200 sx)

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: _____

OVER: GLORIETA YESO (3625'), SAN ANDRES (1957'),

GRAYBURG (1700'), QUEEN (1175'), SEVEN RIVERS (620')

UNDER: NONE IN THE AREA OF REVIEW

APACHE CORPORATION
EMPIRE ABO UNIT 23 C
470' FNL & 2170' FEL SEC. 6, T. 18 S., R. 28 E.
EDDY COUNTY, NEW MEXICO

PAGE 1

30-015-02625

I. Purpose is to convert a 6194' deep Empire; Abo oil well to a gas injection well. Gas was previously injected ($\geq 1,564,647$ Mcf) in the well in 1994-95. ✓ Injection may occur in the entire Abo shale - reef interval from 5782' to 6130'. This is the Empire; Abo Pool (NMOCD pool code 22040). It would be at least the 22nd injection well in the unit. Previous injection well rules or orders are R-4549 and PMX-55, PMX-58, PMX-61, PMX-62, PMX-65, PMX-116, and PMX-188.

Also well no. in sundry is I-23

II. Operator: Apache Corporation (OGRID #873)
Operator phone number: (432) 818-1926
Operator address: 303 Veterans Air Park Lane, Suite 3000
Midland, TX 79705
Contact for Application: Brian Wood (Permits West, Inc.)
Phone: (505) 466-8120

III. A. (1) Lease: New Mexico State Land Office lease E0-4201-0000
Lease Size: 40.13 acres (see Exhibit A for C-102 and maps)
Unit Size: 11,339.15 acres
Unit Number: 300117
Closest Lease Line: 470'
Closest Unit Line: 3,077'
Lease: Lot 2 (\approx NWNE) Sec. 6, T. 18 S., R. 28 E.

A. (2) Surface casing (8-5/8", 24#) was set in 1959 at 507' in a 10-1/4" hole. Casing was cemented to the surface with 450 sacks. Circulated to the top of the hole.

Production casing (5-1/2", 15.5#, J-55) was set at 6194' (TD) in a 7-7/8" hole. Casing was cemented in 1959 to 4262' (CBL) with 350 sacks neat. PBTD = 6160'. Casing was subsequently perforated from 4175' to 4176' in 1979 and squeezed with 1,200 sacks. ARCO circulated 182 sacks to the pit.

- A. (3) Tubing will be 3-1/2", J-55, 9.3#, 8 rd EUE with turned down couplings coated with Tuboscope® TK fiber line. Setting depth will be $\geq 5682'$. (Highest perforation will be at 5782'.)
- A. (4) An Arrow AS-1X nickel plated packer will be set at $\geq 5682'$ ($\leq 100'$ above the highest perforation of 5782').
- B. (1) Injection zone will be the Abo, which is part of the Empire; Abo Pool (NMOCD pool code number 22040).
- B. (2) Injection interval will be 5782' to 6130'. The entire well bore is cased.
- B. (3) Well was drilled in 1959 as an Empire; Abo oil well. Production in the first seven months of 2013 averaged 18 Mcfd. (The well last produced oil in 2003.) The well has cumulatively produced at least 101 barrels of oil and 138,272 Mcf of gas. Five Abo intervals have been perforated. One (6070' - 6120') of the five Abo intervals has been squeezed. The Abo shale is currently perforated in four intervals (5782' - 5786', 5802' - 5806', 5985' - 6080', 6120' - 6130').
- B. (4) Injection interval (5782' to 6130') will be perforated with 4 shots per foot. Shot diameter = 0.42". Existing open perforations are 5782' - 5786', 5802' - 5806', 5985' - 6080', 6120' - 6130'. Perforation history is:
 - 1959: perforated 6070' - 6120'
 - 1977: squeezed 6070' - 6120' with 200 sx
 - 1977: perforated 6120' - 6130'
 - 1979: perforated 4175' - 4176 & then squeezed with 1200 sx
 - 1994: perforated 5985' - 6080'
 - 2001: perforated 5782' - 5786' & 5802' - 5806'

B. (5) Higher and lower potential oil or gas zones and the number of wells in the area of review that have produced from that zone are:

Yates & Seven Rivers (2 attempts, but no production)

Queen-Grayburg-Premier-San Andres (7 wells)

Yeso (1 well, but no spud yet)

Abo (29 wells)

Wolfcamp (1 attempt, but no production)

Morrow (1 attempt, but no production)

IV. This is an expansion of an existing injection project. There are 3 other active Abo injection wells in the unit. Converting this oil well to an injection well will improve unit economics and positively affect existing production within the Empire Abo Unit.

V. Exhibit B shows 38 existing wells (27 producing oil or gas + 11 plugged & abandoned) + 3 proposed wells within a half-mile radius. Exhibit C shows 684 existing wells (423 producing oil or gas + 229 plugged & abandoned + 29 injectors or disposals + 3 water wells) within a two-mile radius.

Exhibit D shows all leases and lessors (only State) within a half-mile, all of which are in the unit. Exhibit E shows all leases and lessors within a two-mile radius. Most of the land is State, some is BLM, and less is fee. Details on the leases within a half-mile are:

| <u>T. 17 S., R. 28 E.</u> | <u>Lessor</u> | <u>Lease Number</u> | <u>Lessee</u> |
|---------------------------|---------------|---------------------|---------------------|
| E2SE4 Sec. 31 | NMSLO | XO-0647-0405 | Khody |
| W2SE4 Sec. 31 | NMSLO | BO-2071-0032 | Chisos & Burlington |
| NESW Sec. 31 | NMSLO | BO-7966-0025 | BP |
| W2SW4 Sec. 31 | NMSLO | XO-0647-0322 | Cockburn |
| SESW Sec. 31 | NMSLO | BO-7966-0024 | Occidental |
| SWSW Sec. 32 | NMSLO | XO-0647-0405 | Khody |

APACHE CORPORATION
 EMPIRE ABO UNIT 23 C
 470' FNL & 2170' FEL SEC. 6, T. 18 S., R. 28 E.
 EDDY COUNTY, NEW MEXICO

PAGE 4

30-015-02625

| <u>T. 18 S., R. 28 E.</u> | <u>Lessor</u> | <u>Lease Number</u> | <u>Lessee</u> |
|----------------------------|---------------|---------------------|---------------------|
| NWNW Sec. 5 | NMSLO | B1-1594-0004 | BP & Burlington |
| SWNW Sec. 5 | NMSLO | EO-7179-0001 | ConocoPhillips |
| NENE, S2NE4, & NESE Sec. 6 | NMSLO | XO-0647-0405 | Khody |
| NWNE Sec. 6 | NMSLO | B1-1594-0001 | Vilas Sheldon Trust |
| E2NW4, SWNW, & NESW Sec. 6 | NMSLO | B1-1594-0004 | BP & Burlington |
| NWNW Sec. 6 | NMSLO | OG-4307-0002 | Occidental Permian |
| NWSE Sec. 6 | NMSLO | OG-0103-0001 | Kerr-McGee |

VI. Twenty-seven of the 38 existing wells that are within a half-mile penetrated the Abo. Twenty-six of the 27 penetrators are Abo wells and 1 penetrator is a deeper gas well. Fifteen penetrators are plugged and abandoned. Closest Abo well (408) is an active oil well that is 721' north. A table abstracting construction details and history of all 27 penetrators and diagrams of the 15 plugged penetrators are in Exhibit F.

The 38 existing wells and 3 proposed wells that are within a half-mile (regardless of depth) are:

| API | Operator | Section | Township | Range | TVD | Well | Status | Zone(s) | Distance (feet) |
|------------|-----------------|---------|----------|-------|------|------------------|--------|--------------------|-----------------|
| 3001539020 | Apache | 31 | 18.0S | 28E | 6318 | EAU 408 | Oil | Abo | 721 |
| 3001521626 | Apache | 6 | 18.0S | 28E | 6390 | EAU 231A | Oil | Abo | 973 |
| 3001521542 | Apache | 6 | 18.0S | 28E | 6261 | EAU 231 | Oil | Abo | 976 |
| 3001539004 | Apache | 31 | 17.0S | 28E | 6400 | EAU 401 | Oil | Abo | 1080 |
| 3001502621 | Apache | 6 | 18.0S | 28E | 6033 | EAU 022E | Oil | Abo | 1175 |
| 3001522913 | Apache | 6 | 18.0S | 28E | 6300 | EAU 235 | P & A | Abo | 1392 |
| 3001522593 | BP | 6 | 18.0S | 28E | 6260 | EAU 234 | P & A | Abo | 1464 |
| 3001502615 | Apache | 6 | 18.0S | 28E | 6241 | EAU 024B | Oil | Abo | 1520 |
| 3001502614 | Apache | 6 | 18.0S | 28E | 6242 | EAU 023B | Oil | Abo | 1521 |
| 3001501646 | BP | 31 | 17.0S | 28E | 6050 | EAU 022A | Oil | Abo | 1533 |
| 3001510118 | Alamo Permian | 31 | 17.0S | 28E | 1957 | State FV 001 | Oil | Premier | 1548 |
| 3001501653 | Otis A. Roberts | 31 | 17.0S | 28E | 742 | Parker State 001 | P & A | Yates-Seven Rivers | 1559 |

APACHE CORPORATION
EMPIRE ABO UNIT 23 C
470' FNL & 2170' FEL SEC. 6, T. 18 S., R. 28 E.
EDDY COUNTY, NEW MEXICO

PAGE 5

30-015-02625

| | | | | | | | | | |
|------------|--------------------|----|-------|-----|--------------|----------------------------------|-------------------|-----------------------------------|------|
| 3001502616 | Apache | 6 | 18.0S | 28E | 6253 | EAU 024C | Oil | Abo | 1653 |
| 3001522012 | Apache | 6 | 18.0S | 28E | 6303 | EAU 222 | Oil | Abo | 1810 |
| 3001530785 | LRE Operating | 6 | 18.0S | 28E | 3225 | NW State 015 | Oil | San Andres | 1844 |
| 3001520019 | LRE Operating | 6 | 18.0S | 28E | 3273 | Northwest Artesia Unit 016 | Oil | Grayburg | 1851 |
| 3001539008 | Apache | 6 | 18.0S | 28E | plan 6400 | EAU 410 | no spud yet | Abo | 1858 |
| 3001502620 | Apache | 6 | 18.0S | 28E | 6206 | EAU 022D | Oil | Abo | 1869 |
| 3001521737 | BP | 6 | 18.0S | 28E | 6345 | EAU 232 | P & A | Abo | 1870 |
| 3001539011 | Apache | 31 | 17.0S | 28E | 6310 | EAU 419 | Oil | Abo | 1878 |
| 3001501641 | Apache | 31 | 17.0S | 28E | 6122 | EAU 024 | Oil | Abo | 1903 |
| 3001510107 | Alamo Permian | 6 | 18.0S | 28E | 1985 | State FX 001 | Oil | Queen- Grayburg- San Andres | 1908 |
| 3001502626 | Saikin & Oliver | 6 | 18.0S | 28E | 705 | Shuffeburger | P & A | Yates- Seven Rivers | 1918 |
| 3001534028 | BP | 6 | 18.0S | 28E | 10374 | Slider 6 State 1 | P & A | Morrow & Wolfcamp | 1974 |
| 3001522490 | BP | 6 | 18.0S | 28E | 6300 | EAU 233 | P & A | Abo | 2086 |
| 3001523547 | BP | 6 | 18.0S | 28E | 6386 | EAU 241 | Oil | Abo | 2094 |
| 3001520042 | LRE | 31 | 17.0S | 28E | 2012 | Northwest Artesia Unit 011 | Oil | Grayburg | 2117 |
| 3001501642 | Alamo Permian | 31 | 17.0S | 28E | 1937 | State FW 001 | Oil | Premier | 2129 |
| 3001501650 | BP | 31 | 17.0S | 28E | 6094 | EAU 023A | Oil | Abo | 2139 |
| 3001521746 | Apache | 6 | 18.0S | 28E | 6305 | EAU 221 | Oil | Abo | 2193 |
| 3001530760 | LRE | 31 | 17.0S | 28E | 3210 | NW State 010 | Oil | San Andres | 2216 |
| 3001501651 | BP | 31 | 17.0S | 28E | 6046 | EAU 022B | Oil | Abo | 2243 |
| 3001522750 | Apache | 5 | 18.0S | 28E | 6250 | EAU 251 | Oil | Abo | 2329 |
| 3001539007 | Apache | 32 | 17.0S | 28E | plan 6400 | EAU 409 | no spud yet | Abo | 2349 |
| 3001501648 | BP | 31 | 17.0S | 28E | 5971 | EAU 021A | P & A | Abo | 2397 |

| | | | | | | | | | |
|------------|----------|----|-------|-----|-----------|------------------|--------------------------|---------------------------|------|
| 3001502611 | Cockburn | 6 | 18.0S | 28E | 2090 | Capitol State | P & A | Queen-Grayburg-San Andres | 2474 |
| 3001522527 | Apache | 6 | 18.0S | 28E | 6250 | EAU 223 | Oil | Abo | 2498 |
| 3001502628 | BP | 6 | 18.0S | 28E | 6310 | EAU 023D | P & A | Abo | 2523 |
| 3001502613 | Apache | 6 | 18.0S | 28E | 6119 | EAU 021B | Oil | Abo | 2542 |
| 3001522528 | BP | 6 | 18.0S | 28E | 6350 | EAU 232A | P & A | Abo | 2550 |
| 3001541497 | Apache | 32 | 17.0S | 28E | plan 5100 | AB State 647 013 | no E spud yet | Yeso | 2630 |
| 3001537058 | LRE | 32 | 17.0S | 28E | 3425 | NW State 032 | Oil | San Andres | 2643 |

- VII. 1. Average injection rate will be $\approx 1,500$ Mcfd.
Maximum injection rate will be $\approx 2,000$ Mcfd.
2. System will be closed.
3. Average injection pressure will be $\approx 1,000$ psi
Maximum injection pressure will be 1,156 psi (= 0.2 psi/foot x 5,782' (highest perforation)).
4. Injection source will be produced gas only from Apache wells in the Empire Abo Unit. Apache has >200 wells in the unit. A gas analysis report is in Exhibit G. No compatibility problems were reported during the 2 years (1995-96) in which 1,564,647 Mcf was injected in this well.
5. Abo is productive within one mile. The #23 C well has produced 101 barrels of oil and 138,272 Mcf of gas from the Abo since 1994.

VIII. The Abo ($\geq 660'$ thick in this well) reef extends east to west and is composed of fractured and vugular dolomitized limestone. Closest possible source of drinking water above the proposed injection interval is the Triassic at $\approx 305'$. Surface casing was set at 507' and cement circulated to the surface in this well.

State Engineer records (Exhibit H) show the closest point of diversion is 7,445' (2,270 meters) south. The records only indicate a "Shallow" diversion from groundwater. No water well was found during a September 9-10, 2012 field inspection. Closest water well is a windmill (not in State Engineer records) that is >9,000' south in Section 7. No underground source of drinking water is below the proposed injection interval. Formation tops are:

APACHE CORPORATION
EMPIRE ABO UNIT 23 C
470' FNL & 2170' FEL SEC. 6, T. 18 S., R. 28 E.
EDDY COUNTY, NEW MEXICO

PAGE 7

30-015-02625

Quaternary = 0'
Triassic = 305'
Yates = 320'
Seven Rivers = 620'
Queen = 1,175'
Grayburg: 1,700'
San Andres = 1,957'
Glorieta = 3,510'
Yeso = 3,625'
Tubb = 4,835'
Abo pay = 5,470'
Abo reef = 5,674'
Total Depth: 6,197'

There will be more than 5,000' of vertical separation and six anhydrite layers between the bottom of the only possible underground water source (Triassic) and the top of the Abo. Produced water has been injected or disposed into zones above (Queen, Grayburg, San Andres, Glorieta), opposite (Abo), and below (Permo-Penn, Wolfcamp, Cisco, Canyon) the proposed injection interval in 32 wells within Section 6 and the 8 bordering sections.

IX. The well will be stimulated with acid to clean out scale or fill.

X. GR-N and CBL logs were run in 1977 and GR-CBL-CCL logs were run in 1979 according to Sundry Notices. Those logs were mailed to the Artesia NMOCD office on September 30, 2013.

XI. According to a field inspection and the State Engineer's records, there are no water wells within a one-mile radius.

APACHE CORPORATION
EMPIRE ABO UNIT 23 C
470' FNL & 2170' FEL SEC. 6, T. 18 S., R. 28 E.
EDDY COUNTY, NEW MEXICO

PAGE 8

30-015-02625

XII. Apache is not aware of any geologic or engineering data that may indicate that the Abo is in hydrologic connection with any underground sources of water. Closest Quaternary fault is 57 miles west-southwest (Exhibit I). At least 127 injection and 14 saltwater disposal wells have been drilled into the Abo.

XIII. Notice (this application) has been sent (Exhibit J) to the surface owner (Bogle Ltd. Company), all oil and gas lessees (see below) or Abo operating right holders (only Apache), and all oil and gas lessors (only New Mexico State Land Office) within a half-mile:

Barney Cockburn
Bogle Ltd. Company
BP America Production Company
Burlington Resources
Chisos Ltd.
ConocoPhillips Company
Kerr-McGee
Khody Land & Minerals Co.
NM State Land Office
Occidental Permian Ltd.
Vilas P. Sheldon Trust

A legal ad (Exhibit K) was published on October 10, 2013.

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

FORM C-128
Revised 5/1/57

SEE INSTRUCTIONS FOR COMPLETING THIS FORM ON THE REVERSE SIDE

SECTION A

| | | | | | |
|---|--|------------------------|------------------------|---------------------------------------|--|
| Operator Resler and Sheldon | | Lease State | | Well No. 1 | |
| Unit Letter B | Section 6 | Township 18S | Range 28E | County Eddy | |
| Actual Footage Location of Well: 470 feet from the north line and 2170 feet from the east line | | | | | |
| Ground Level Elev. | Producing Formation Grayburg | | Pool Artesia | Dedicated Acreage: 40 Acres | |

1. Is the Operator the only owner in the dedicated acreage outlined on the plat below? YES ☒ NO ☐ ("Owner" means the person who has the right to drill into and to produce from any pool and to appropriate the production either for himself or for himself and another. (65-3-29 (e) NMSA 1935 Comp.)
2. If the answer to question one is "no," have the interests of all the owners been consolidated by communitization agreement or otherwise? YES ☐ NO ☐ If answer is "yes," Type of Consolidation _____
3. If the answer to question two is "no," list all the owners and their respective interests below:

| | |
|-------|------------------|
| Owner | Land Description |
| | |

SECTION B

CERTIFICATION

I hereby certify that the information in SECTION A above is true and complete to the best of my knowledge and belief.

Name
Partner

Position
Resler and Sheldon

Company
October 5, 1959

Date

I hereby certify that the well location shown on the plat in SECTION B 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 knowledge and belief.

EXHIBIT A

Date Surveyed
October 5, 1959

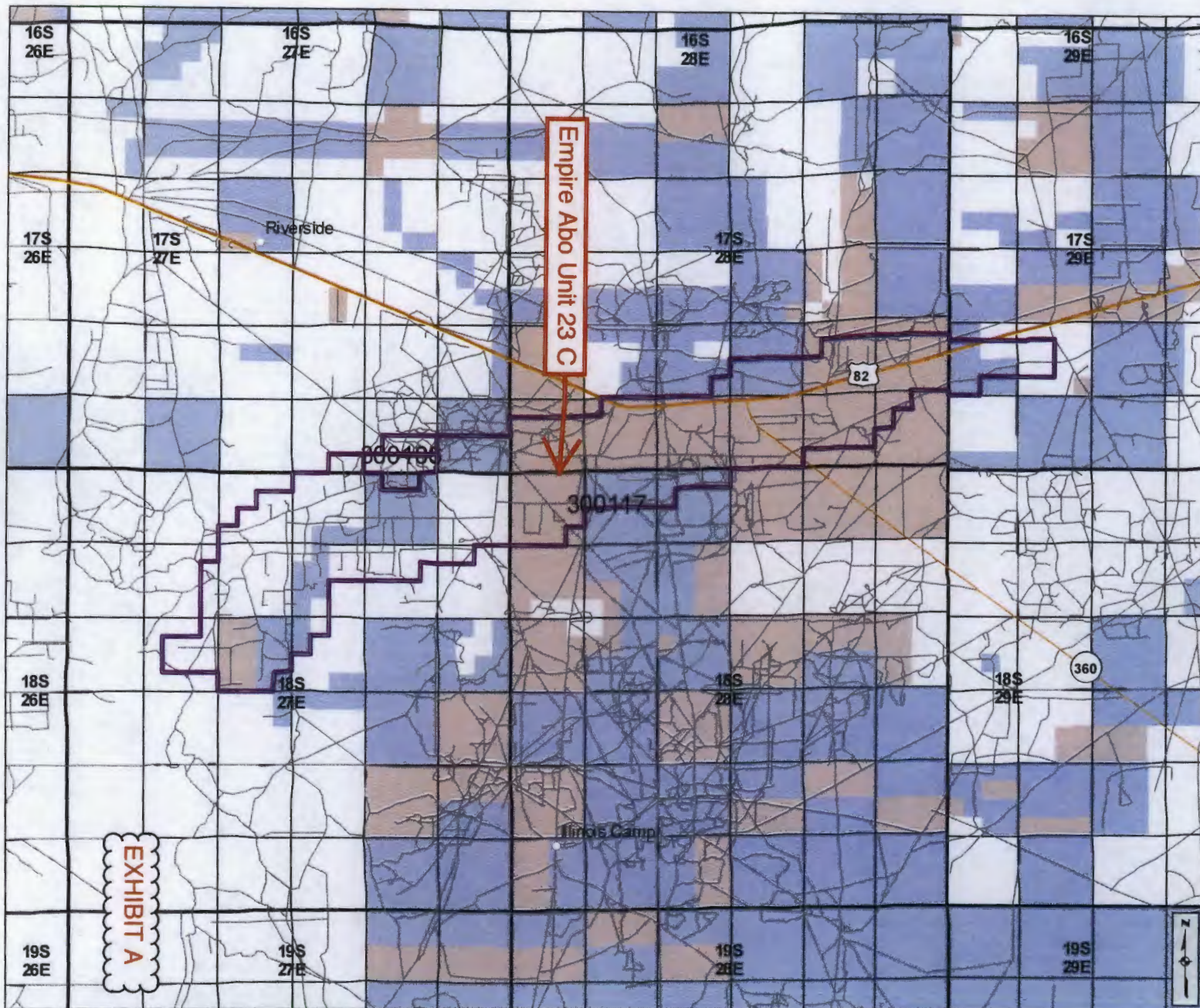
Registered Professional Engineer
and/or Land Surveyor

Certificate No. **963**

572000m E. 573000m E. 574000m E. WGS84 Zone 13S 575000m E.



TN * MN
7.5°
09/21/13



Point Locations

- County Seat
- ▲ SLO District Offices
- City, Town or Village
- ★ Volcanic Vents
- Highway Mileposts

NMOCD Oil and Gas Wells

- Oil
- Injection
- ⊙ Carbon Dioxide
- Miscellaneous
- ⊙ Gas
- ⊙ Water
- ◇ DA or PA
- △ Salt Water Disposal

Federal Minerals

- All Minerals
- Coal Only
- Oil and Gas Only
- Oil, Gas and Coal Only
- Other Minerals

State Trust Lands

- Surface Estate
- Subsurface Estate
- Both Estates

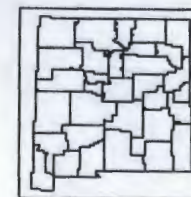
NMSLO Leasing

- Option Agreement
- Commercial Lease
- Minerals Lease
- Oil and Gas Lease
- Agricultural Lease
- Not Available for Oil and Gas Leasing
- Restriction Influences Oil and Gas Leasing

Other Boundaries

- Continental Divide
- State Boundary
- County Boundaries
- Oil and Gas Unit Boundary
- Participating Areas in Units
- Geologic Regions
- Potash Enclave (NMOCD R-111-P)

For detailed legend of the Geologic Map of New Mexico, please see <http://geoinfo.nmt.edu>



New Mexico State Land Office Oil, Gas, and Minerals

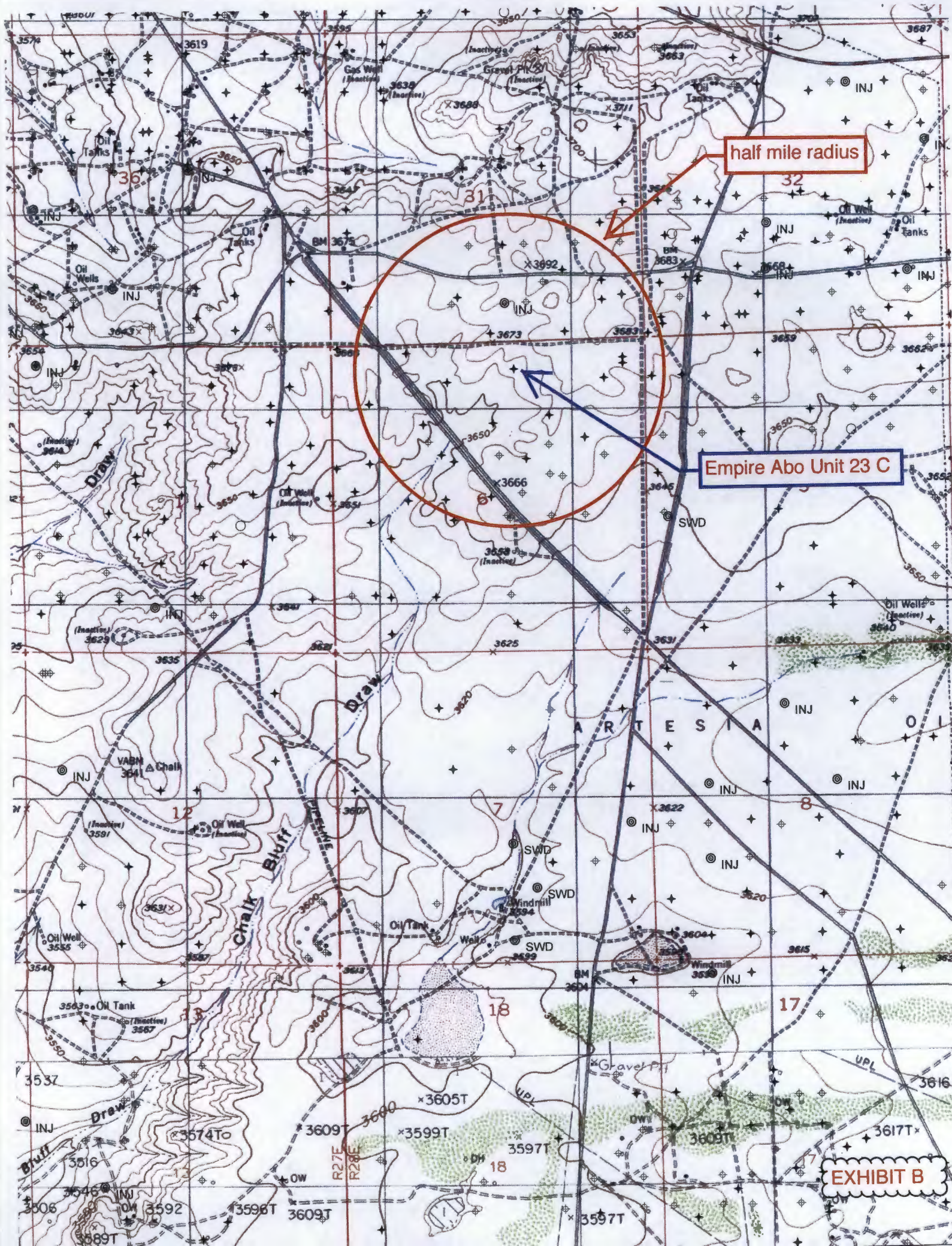
0 0.45 0.9 1.8 2.7 3.6
Miles
Universal Transverse Mercator Projection, Zone 13
1983 North American Datum

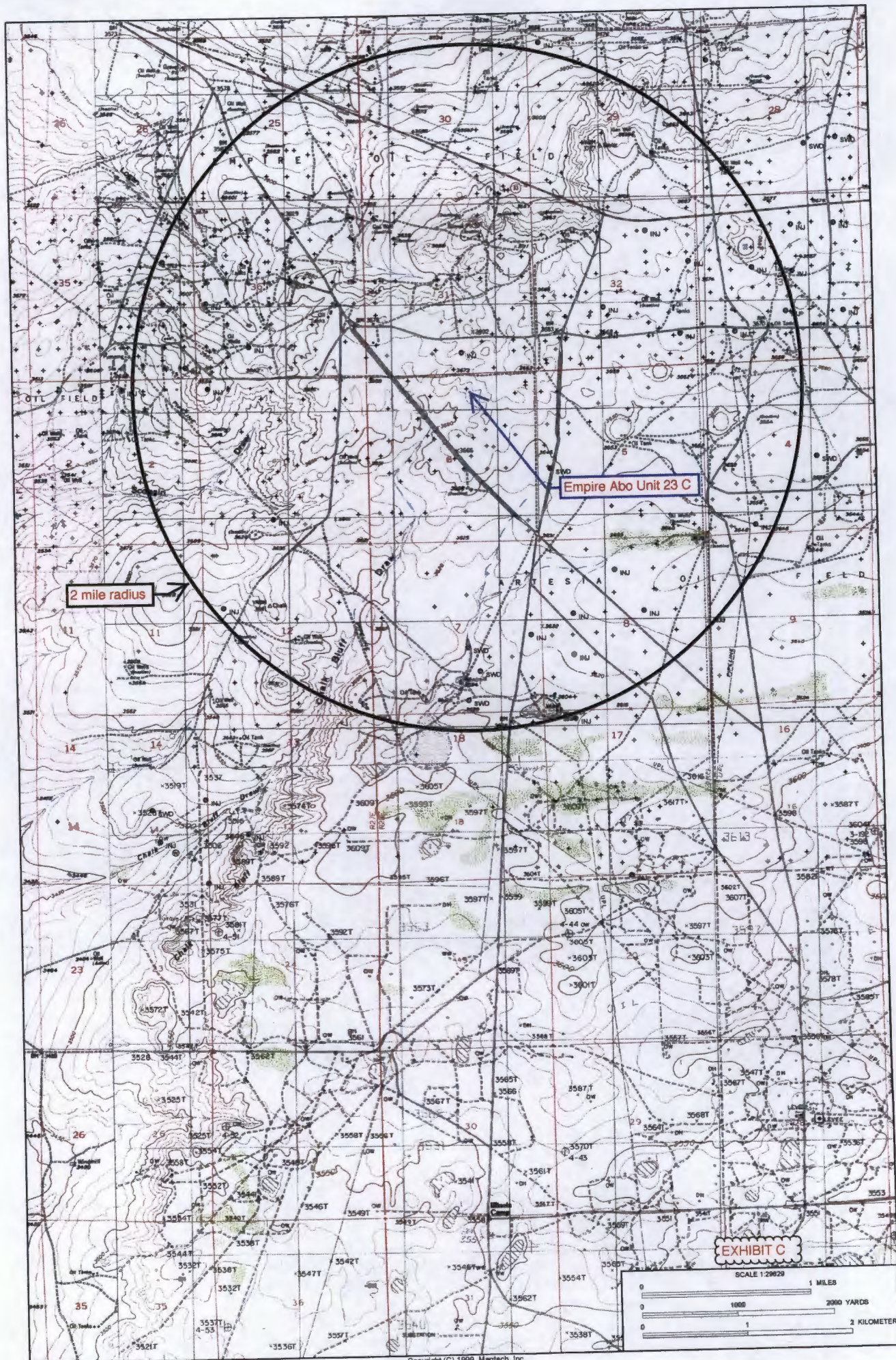
The New Mexico State Land Office assumes no responsibility or liability for, or in connection with, the accuracy, reliability or use of the information provided here, in State Land Office data layers or any other data layer.

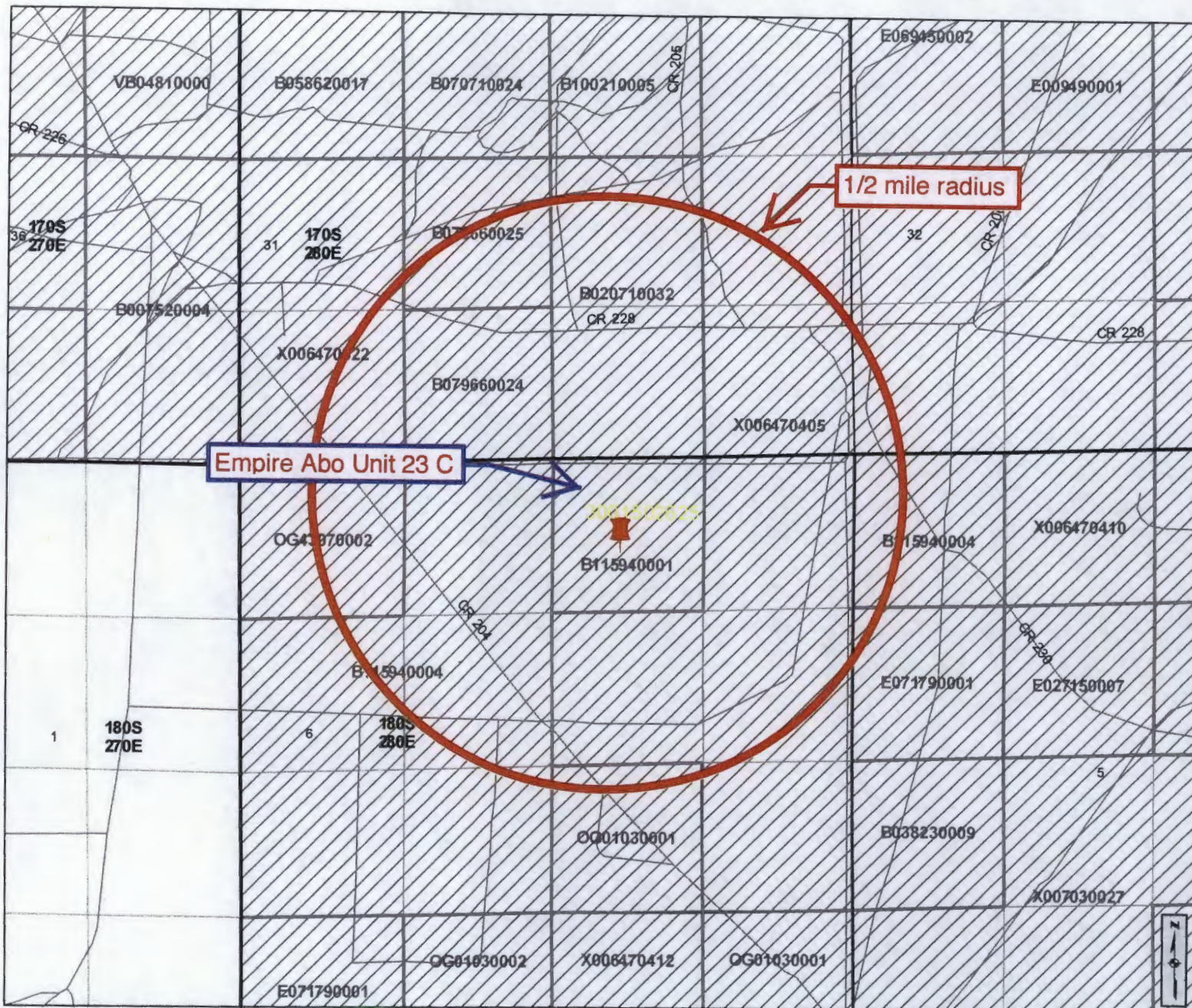
Land Office Geographic Information Center
logis@slo.state.nm.us

Created On: 3/30/2012 3:34:20 PM

www.nmstatelands.org







Cartographic Features

- County Boundaries
- County Seats
- City, Town or Village
- SLO District Offices
- SLO District Boundary
- Hwy Mileposts
- Interstate
- NM Hwy
- US Hwy
- Local Road
- Continental Divide

Federal Minerals Ownership

- All Minerals
- Coal Only
- Oil and Gas Only
- Oil, Gas and Coal Only
- Other Minerals

State Trust Lands

- Surface Estate
- Subsurface Estate
- Surface and Subsurface Estate

State Leases

- Oil and Gas Leases
- Agricultural Leases
- Commercial Leases
- Minerals Leases
- Not Available for Oil and Gas Leasing
- Oil and Gas Leasing Influenced by Restriction

Oil and Gas Related Features

- Oil and Gas Unit Boundary
- Participating Areas in Units
- Geologic Regions
- Volcanic Vents
- NMOC Order R-111-P
- Potash Enclave Outline

NMOC Oil and Gas Wells

- CO₂
- Gas
- Injection
- Miscellaneous
- Oil
- Salt Water Disposal
- Water
- DA or PA

New Mexico State Land Office Oil, Gas and Minerals

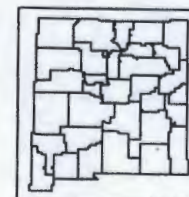
0 0.05 0.1 0.2 0.3 0.4 Miles
Universal Transverse Mercator Projection, Zone 13
1983 North American Datum

EXHIBIT D

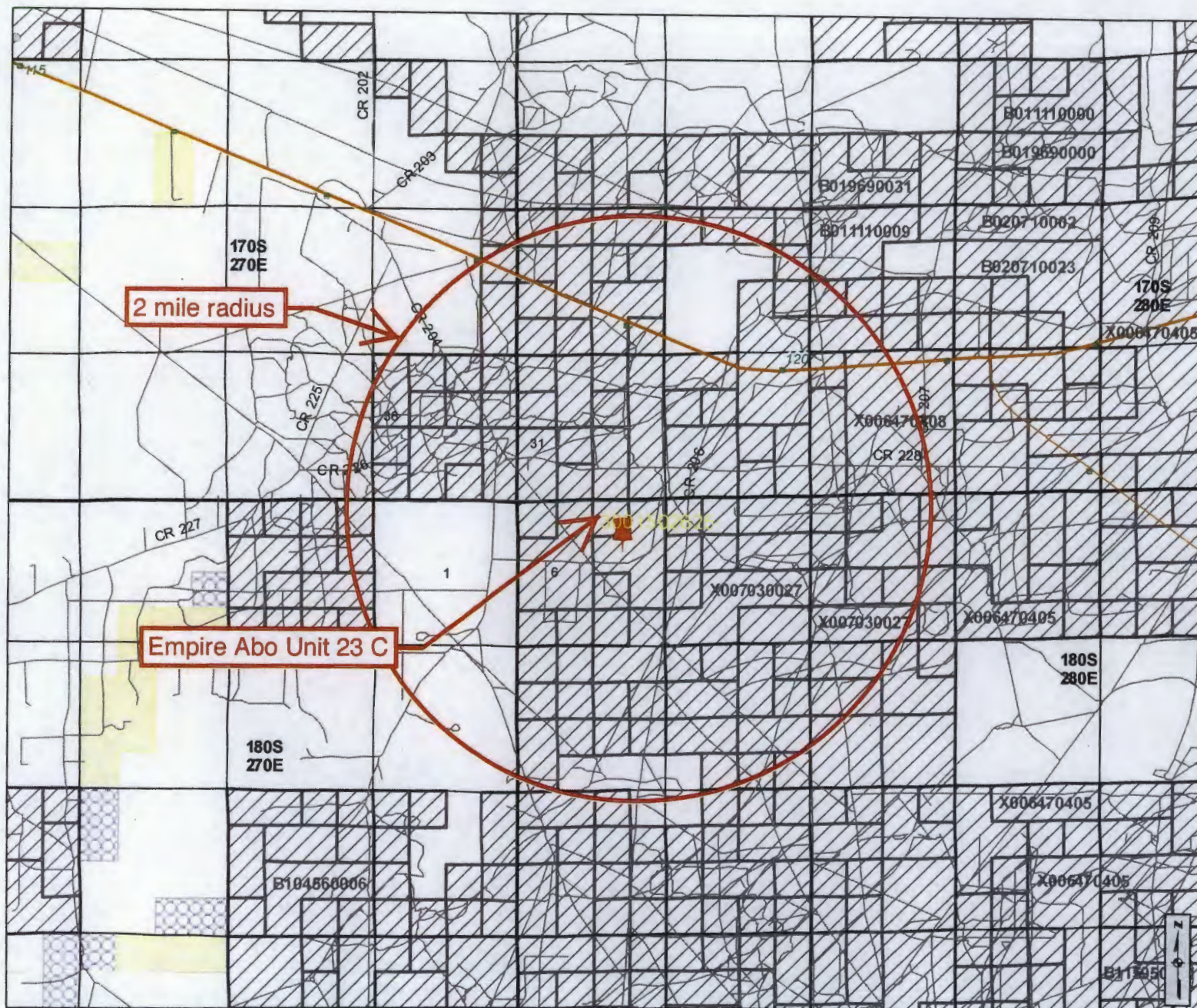
The New Mexico State Land Office assumes no responsibility or liability for, or in connection with, the accuracy, reliability or use of the information provided here, in State Land Office data layers or any other data layer.

Land Office Geographic Information Center
logic@slo.state.nm.us

Created On: 9/22/2013 11:39:29 AM



www.nmstatelands.org



Cartographic Features

- County Boundaries
- County Seats
- City, Town or Village
- SLO District Offices
- SLO District Boundary
- Hwy Mileposts
- Interstate
- NM Hwy
- Continental Divide
- US Hwy
- Local Road

Federal Minerals Ownership

- All Minerals
- Coal Only
- Oil and Gas Only
- Oil, Gas and Coal Only
- Other Minerals

State Trust Lands

- Surface Estate
- Subsurface Estate
- Surface and Subsurface Estate

State Leases

- Oil and Gas Leases
- Agricultural Leases
- Commercial Leases
- Minerals Leases
- Not Available for Oil and Gas Leasing
- Oil and Gas Leasing Influenced by Restriction

Oil and Gas Related Features

- Oil and Gas Unit Boundary
- Participating Areas in Units
- Geologic Regions
- Volcanic Vents
- NMOC'D Order R-111-P Potash Enclave Outline

NMOC'D Oil and Gas Wells

- CO₂
- Injection
- Oil
- Water
- Gas
- Miscellaneous
- Salt Water Disposal
- DA or PA

New Mexico State Land Office Oil, Gas and Minerals

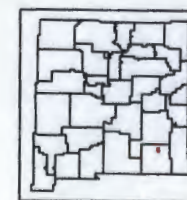
0 0.2 0.4 0.8 1.2 1.6
Miles
Universal Transverse Mercator Projection, Zone 13
1983 North American Datum

EXHIBIT E

The New Mexico State Land Office assumes no responsibility or liability for, or in connection with, the accuracy, reliability or use of the information provided here, in State Land Office data layers or any other data layer.

Land Office Geographic Information Center
logic@slo.state.nm.us

Created On: 9/22/2013 11:42:45 AM



www.nmstatelands.org

Abo penetrators sorted by distance from Empire Abo Unit 23 C

| WELL | SPUD | TD | POOL | WELL TYPE | HOLE O.D. | CASING O.D. | SET @ | CEMENT | TOC | HOW DETERMINED |
|--------------|-------------|--------------|------------|-----------|-----------|-------------|-------|---------|-----------|-------------------------|
| EAU 408 | 10/18/11 | 6318 | Empire-Abo | Oil | 12.25 | 8.625 | 512 | 560 sx | GL | circulated 12 sx |
| 30-015-39020 | | | | | 7.875 | 5.5 | 6318 | 1290 sx | GL | circulated 264 sx |
| O-31-17s-28e | | | | | | | | | | |
| EAU 231A | 9/24/75 | 6390 | Empire-Abo | Oil | 11 | 8.625 | 1001 | 600 sx | GL | top off |
| 30-015-21626 | | | | | 7.875 | 5.5 | 6390 | 1200 sx | GL | circulated 125 sx |
| G-6-18s-28e | | | | | | | | | | |
| EAU 231 | 9/1/75 | 6261 | Empire-Abo | P & A | 11 | 8.625 | 1002 | 550 sx | GL | top off |
| 30-015-21542 | | | | | 7.875 | 5.5 | 6261 | 1175 sx | GL | circulated 115 sx |
| B-6-18s-28e | | | | | | | | | | |
| EAU 401 | no spud yet | planned 6400 | Empire-Abo | Oil | 12.25 | 8.625 | 500 | 360 sx | no report | no report |
| 30-015-39004 | | | | | 7.875 | 5.5 | 6400 | 1080 sx | no report | no report |
| P-31-17s-28e | | | | | | | | | | |
| EAU 022E | 11/29/59 | 6033 | Empire-Abo | Oil | 11 | 8.625 | 996 | 600 sx | GL | circulated |
| 30-015-02621 | | | | | 7.875 | 5.5 | 6008 | 850 sx | 1062 | no report |
| C-6-18s-28e | | | | | | | | | | |
| EAU 235 | 5/31/79 | 6300 | Empire-Abo | P & A | 11 | 8.625 | 750 | 800 sx | GL | top off |
| 30-015-22913 | | | | | 7.785 | 5.5 | 6300 | 1580 sx | GL | circulated 200 sx |
| G-6-18s-28e | | | | | | | | | | |
| EAU 234 | 8/4/78 | 6260 | Empire-Abo | P & A | 11 | 8.625 | 556 | 425 sx | GL | top off |
| 30-015-22593 | | | | | 7.875 | 5.5 | 6260 | 860 sx | GL | circulated 140 sx |
| G-6-18s-28e | | | | | | | | | | |
| EAU 024B | 1/28/60 | 6241 | Empire-Abo | Oil | 11 | 8.625 | 638 | 250 sx | no report | no report |
| 30-015-02615 | | | | | 7.875 | 5.5 | 6241 | 1280 sx | GL | circulated |
| A-6-18s-28e | | | | | | | | | | |
| EAU 023B | 12/28/59 | 6242 | Empire-Abo | Oil | 11 | 8.625 | 544 | 250 sx | GL | circulated |
| 30-015-02614 | | | | | 7.875 | 5.5 | 6241 | 850 sx | 4950 | CBL |
| G-6-18s-28e | | | | | | | | | | |
| EAU 022A | 12/31/59 | 6050 | Empire-Abo | P & A | 11 | 8.625 | 1000 | 500 sx | GL | circulated |
| 30-015-01646 | | | | | 7.875 | 5.5 | 6050 | 850 sx | 600 | no report |
| N-31-17s-28e | | | | | | | | | | |
| EAU 024C | 3/7/60 | 6253 | Empire-Abo | P & A | 11 | 8.625 | 731 | 250 sx | GL | circulated |
| 30-015-02616 | | | | | 7.875 | 5.5 | 6253 | 1155 sx | GL | circulated 12 sx to pit |
| H-6-18s-28e | | | | | | | | | | |

Abo penetrators sorted by distance from Empire Abo Unit 23 C

| WELL | SPUD | TD | POOL | WELL TYPE | HOLE O.D. | CASING O.D. | SET @ | CEMENT | TOC | HOW DETERMINED |
|------------------|-------------|--------------|----------------------------|-----------|-----------|-------------|-------|---------|-----------|-------------------------|
| EAU 222 | 2/17/77 | 6303 | Empire-Abo | Oil | 11 | 8.625 | 555 | 275 sx | GL | top off |
| 30-015-22012 | | | | | 7.875 | 5.5 | 6293 | 1600 sx | GL | circulated 60 sx |
| F-6-18s-28e | | | | | | | | | | |
| EAU 410 | no spud yet | planned 6400 | Empire-Abo | Oil | 12.25 | 8.625 | 500 | 360 | no report | no report |
| 30-015-39008 | | | | | 7.875 | 5.5 | 6400 | 1080 | no report | no report |
| D-6-18s-28e | | | | | | | | | | |
| EAU 022D | 11/3/59 | 6206 | Empire-Abo | Oil | 11 | 8.625 | 1498 | 850 sx | GL | circulated |
| 30-015-02620 | | | | | 7.875 | 5.5 | 6202 | 850 sx | 250 | no report |
| F-6-18s-28e | | | | | | | | | | |
| EAU 232 | 3/5/76 | 6345 | Empire-Abo | P & A | 11 | 8.625 | 560 | 200 sx | GL | top off |
| 30-015-21737 | | | | | 7.875 | 5.5 | 6345 | 2005 sx | GL | circulated 75 sx |
| G-6-18s-28e | | | | | | | | | | |
| EAU 419 | 10/11/11 | 6310 | Empire-Abo | Oil | 12.25 | 8.625 | 496 | 470 sx | GL | circulated 13 sx |
| 30-015-39011 | | | | | 7.875 | 5.5 | 6310 | 1180 sx | GL | circulated 124 sx |
| O-31-17s-28e | | | | | | | | | | |
| EAU 024 | 2/26/60 | 6122 | Empire-Abo | Oil | 11 | 8.625 | 778 | 250 sx | GL | circulated |
| 30-015-01641 | | | | | 7.875 | 5.5 | 6122 | 1200 sx | GL | circulated 50 sx to pit |
| P-31-17s-28e | | | | | | | | | | |
| SLIDER 6 STATE 1 | 6/19/05 | 10374 | North Illinois Camp Morrow | P & A | 17.5 | 13.375 | 470 | 600 sx | GL | circulated |
| 30-015-34028 | | | | | 11 | 8.625 | 3132 | 900 sx | GL | circulated |
| G-6-18s-28e | | | | | 7.875 | 5.5 | 10433 | 1200 sx | 7950 | CBL |
| EAU 233 | 5/10/78 | 6300 | Empire-Abo | P & A | 11 | 8.625 | 590 | 125 sx | GL | circulated 95 sx |
| 30-015-22490 | | | | | 7.875 | 5.5 | 6300 | 1525 sx | GL | circulated 2 sx |
| G-6-18s-28e | | | | | | | | | | |
| EAU 241 | 1/3/81 | 6386 | Empire-Abo | P & A | 12.25 | 9.625 | 980 | 400 sx | GL | circulated 50 sx |
| 30-015-23547 | | | | | 8.75 | 7 | 6228 | 1475 sx | GL | circulated 180 sx |
| H-6-18s-28e | | | | | | | | | | |
| EAU 023A | 2/24/60 | 6094 | Empire-Abo | P & A | 11 | 8.625 | 1238 | 750 sx | GL | circulated |
| 30-015-01650 | | | | | 7.875 | 5.5 | 6094 | 1400 sx | GL | circulated |
| J-31-17s-28e | | | | | | | | | | |

Abo penetrators sorted by distance from Empire Abo Unit 23 C

| WELL | SPUD | TD | POOL | WELL TYPE | HOLE O.D. | CASING O.D. | SET @ | CEMENT | TOC | HOW DETERMINED |
|--------------|-------------|--------------|------------|-----------|-----------|-------------|-------|---------|-----------|-------------------|
| EAU 221 | 3/29/76 | 6305 | Empire-Abo | Oil | 11 | 8.625 | 553 | 400 sx | GL | circulated 50 sx |
| 30-015-21746 | | | | | 7.875 | 5.5 | 6300 | 1650 sx | GL | circulated 165 sx |
| F-6-18s-28e | | | | | | | | | | |
| EAU 022B | 3/19/60 | 6046 | Empire-Abo | P & A | 11 | 8.625 | 1275 | 750 sx | GL | circulated |
| 30-015-01651 | | | | | 7.875 | 4.5 | 6046 | 850 sx | 1345 | CBL |
| K-31-17s-28e | | | | | | | | | | |
| EAU 251 | 12/22/78 | 6250 | Empire-Abo | P & A | 11 | 8.625 | 745 | 400 sx | GL | circulated 85 sx |
| 30-015-22750 | | | | | 7.875 | 5.5 | 6245 | 1550 sx | GL | circulated 220 sx |
| D-5-18s-28e | | | | | | | | | | |
| EAU 409 | no spud yet | planned 6400 | Empire-Abo | Oil | 12.25 | 8.625 | 500 | 360 sx | no report | no report |
| 30-015-39007 | | | | | 7.875 | 5.5 | 6400 | 1080 sx | no report | no report |
| M-32-17s-28e | | | | | | | | | | |
| EAU 021A | 4/15/60 | 5971 | Empire-Abo | P & A | 11 | 8.625 | 1274 | 550 sx | GL | circulated |
| 30-015-01648 | | | | | 7.875 | 4.5 | 5971 | 850 sx | GL | circulated |
| L-31-17s-28e | | | | | | | | | | |
| EAU 223 | 4/22/78 | 6250 | Empire-Abo | Oil | 11 | 8.625 | 585 | 300 sx | GL | circulated 63 sx |
| 30-015-22527 | | | | | 7.875 | 5.5 | 6250 | 1140 sx | GL | circulated 55 sx |
| F-6-18s-28e | | | | | | | | | | |
| EAU 023D | 4/3/60 | 6310 | Empire-Abo | P & A | 12.25 | 8.625 | 1031 | 900 sx | GL | cemented |
| 30-015-02628 | | | | | 7.875 | 5.5 | 6195 | 150 sx | 5180 | CBL |
| J-6-18s-28e | | | | | | | | | | |
| EAU 021B | 12/8/59 | 6119 | Empire-Abo | Oil | 11 | 8.625 | 971 | 350 sx | GL | circulated |
| 30-015-02613 | | | | | 7.875 | 5.5 | 6119 | 850 sx | 1548 | calculated |
| D-6-18s-28e | | | | | | | | | | |
| EAU 232A | 6/27/78 | 6350 | Empire-Abo | P & A | 11 | 8.625 | 558 | 400 sx | GL | cemented 120 sx |
| 30-015-22528 | | | | | 7.875 | 5.5 | 6350 | 1730 sx | GL | circulated 132 sx |
| J-6-18s-28e | | | | | | | | | | |



WELL BORE INFO.

aka, Empire Abo Unit 231

LEASE NAME

Empire Abo Unit "I"

WELL #

231

API #

30-015-21542

COUNTY

Eddy

1260 FNL & 1580 FEL

6-18s-28e

P & A: 6-12-13

0

GL - 300'
30 sx

626

11" Hole
8 5/8" 24# @ 1002'
w/550 sx (TOC @ 15', topped off w/ 4 yds Redimix)

1252

980' - 1260'
25 sx

1878

2504

1745' - 2050'
25 sx

3131

25 sx @ 3310'

3757

DV tool @ 4242'

4383

4037' - 4292'
25 sx

5009

5635

CIBP & 25 sx
@ 5800'

Abo perms @ 5850'-5996'

Abo perms @ 6190'-6200'

6261

7 7/8" Hole
5 1/2" 15.5# @ 6261'
w/ 1175 sx CIRC

PBTD @ 6222'
TD @ 6261'

EXHIBIT F

Empire Abo Unit "J" #235

Empire Abo Field

API No. 30-015-22913

State Lease Nos. 647-320, 647-363, 647-368

1750' FNL & 1600' FEL
Section 6 - T18S - R28E
Eddy County, New Mexico

aka, Empire Abo Unit 235

Final P&A Status

4/26/10

GL 3672.9'

RKB 13'

EAU
"J"
235

Yates 340'

11" drilled hole

| Spud | Event Date |
|--------------|-------------|
| TD | 5/31/79 |
| RR | 6/20/79 |
| P&A | 6/21/79 |
| Life of Well | 4/26/10 |
| | 11,288 days |

Queen - Yates -
Surface Csg Shoe & Top Plug
150 sx "C"
0' - 1350'
Plug set 4/26/10

8 5/8" 24# K55 STC @ 750'
Cmt'd w/ 650 sx Thik-Set & 100 sx "C" w/
2% CaCl₂ & 150 sx "C" w/ 2% CaCl₂.
TOC by TS = 230', cmt'd to surface w/ 6 1/2 yds
redi-mix.

6/1/79

Queen 1210'

7 7/8" drilled hole

Glorieta & DV Plug
125 sx "C"
2849' - 3700'
Plug set 4/22/10
Tagged on 4/26/10

DV Tool @ 3023'
Stage 2: 1100 sx Thik-Set w/ 2% CaCl₂
Circ'd 200 sx to surface

6/21/79

Glorieta 3600'

Abo Plug
CIBP set @ 5700'
& capped w/ 25 sx "C"
to 5450'
Plugs in place 4/22/10

CIBP @ 5700'

5755' - 6161' overall 2 SPF 105' / 210 holes

10/15/01

CIBP @ 6176' set on tbg, no cmt cap

4/1/09

6190' - 6207' w/ 2 SPF, OPT: 146 BO, 0 BW &
102 MCF w/ 70 psi FTP On 3/4" choke.

7/6/79

6264' - 6284' w/ 2 SPF, last swab rate 3 BO +
3 BWPH, "swabbed dry". Sq w/

6/24/79

5 1/2" 15.5# K-55 STC @ 6300'

6/20/79

Stage 1: Cmt'd w/ 650 sx HLW w/ 6 pps salt, 1/4#
flocele & 2% CaCl₂ followed by 200 sx Thik-Set w/
2% CaCl₂. Circ'd 70 sx from above DV tool.

6316' PBD

6352' TD

DCD 4/28/10

EXHIBIT F

Empire Abo Unit 234
 (fka, Empire Abo Unit J 234)
 1900 FNL & 2441 FEL
 6-18s-28e
 30-015-22593
 P & A: 11-21-08

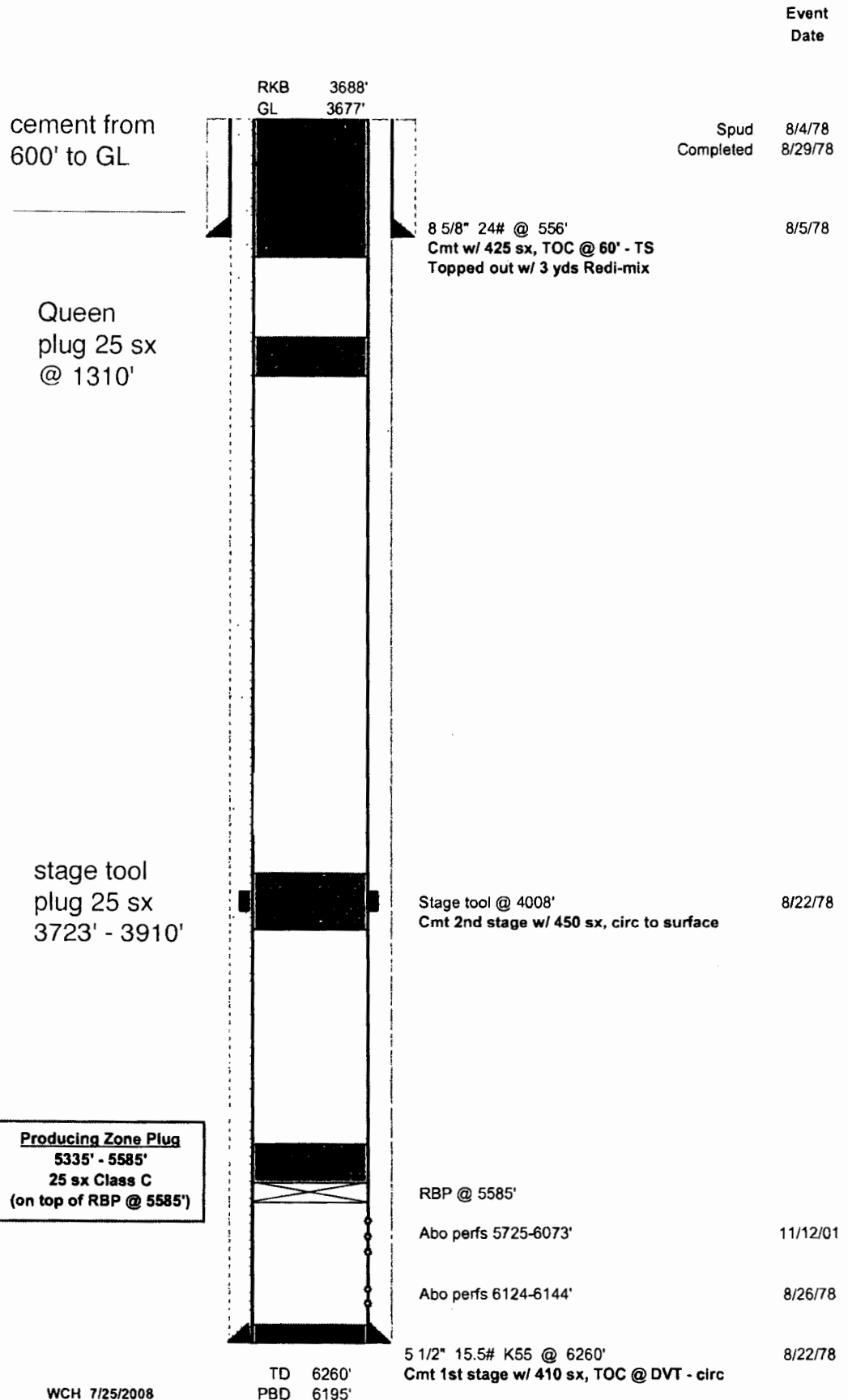
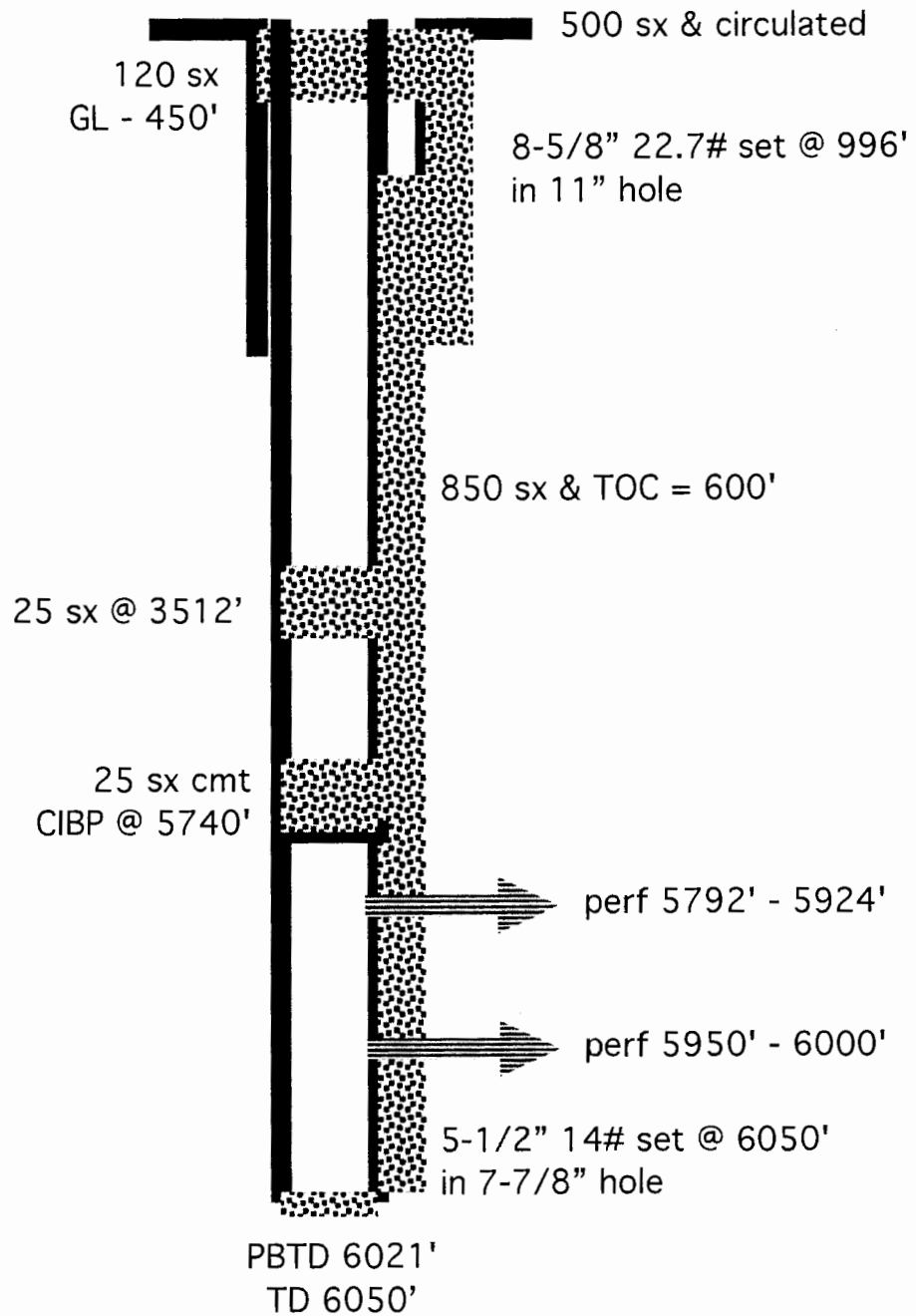


EXHIBIT F

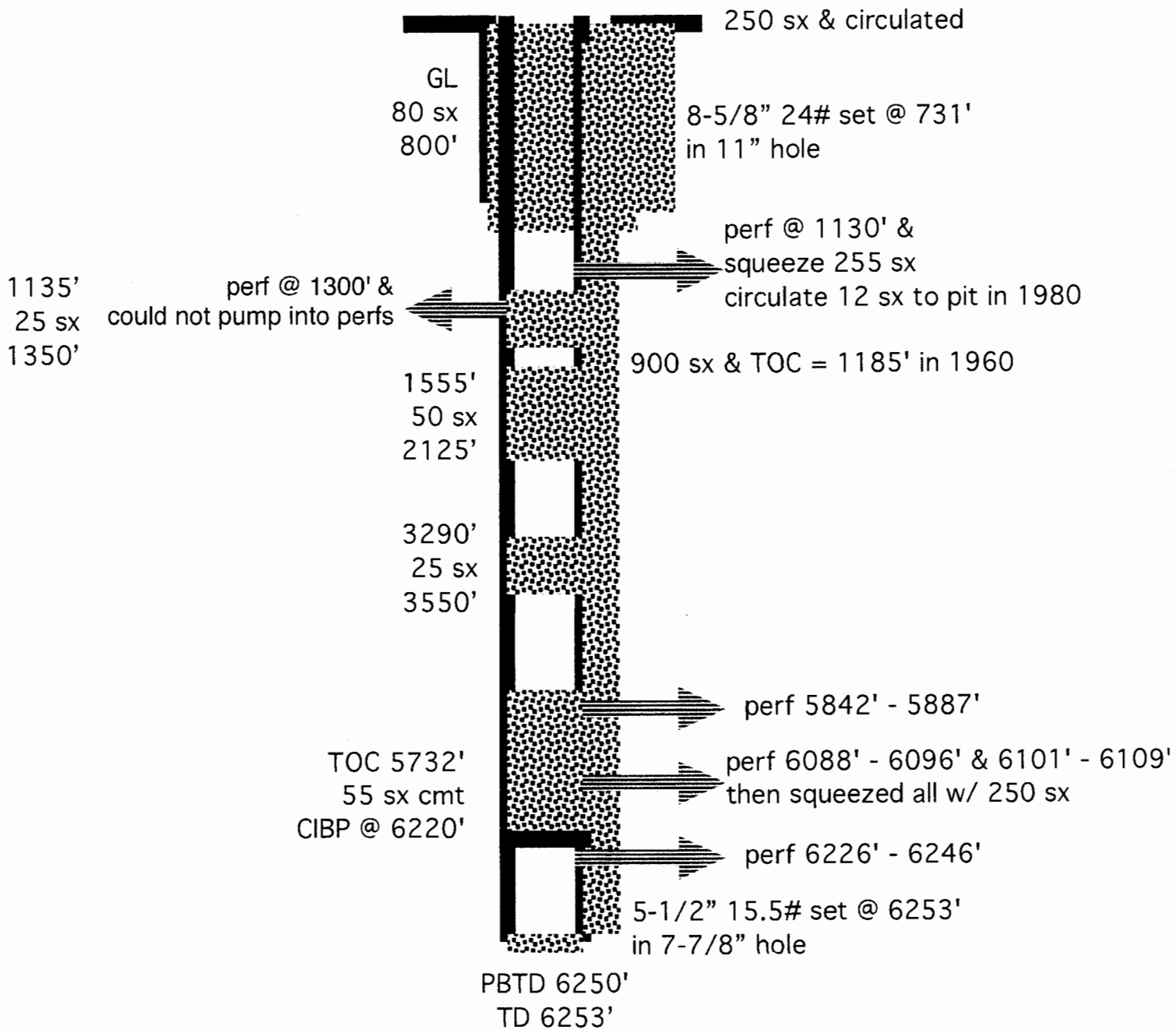
BP's
Empire Abo Unit 22A, aka, H-22
API 30-015-01646
660 FSL & 2082 FWL 31-17s-28e
Spud: 12-31-59
P & A: 8-19-09



(not to scale)

EXHIBIT F

Apache's
Empire Abo Unit 24C, aka, J-24
API 30-015-02616
1650 FNL & 990 FEL 6-18s-28e
Spud: 3-7-60
P & A: 6-7-13



(not to scale)

EXHIBIT F

Empire Abo Unit "J" #232
 Empire Abo Field
 API No. 30-015-21737
 2253' FNL & 1576' FEL
 Section 6 - T18S - R28E
 Eddy County, New Mexico

aka, Empire Abo Unit 232

Final P&A Status
 May 1, 2009

RKB 10'
 GL 3666'

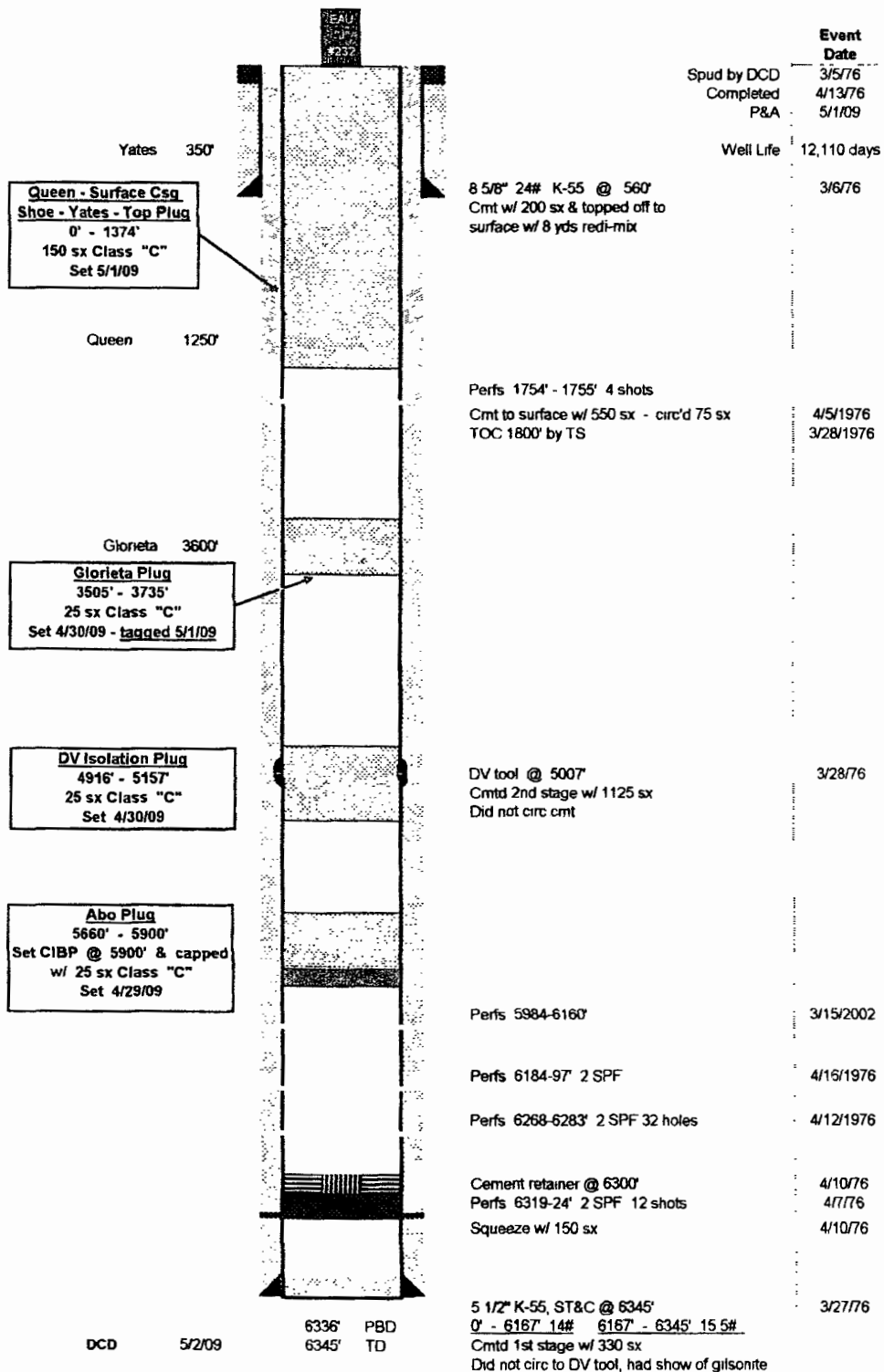
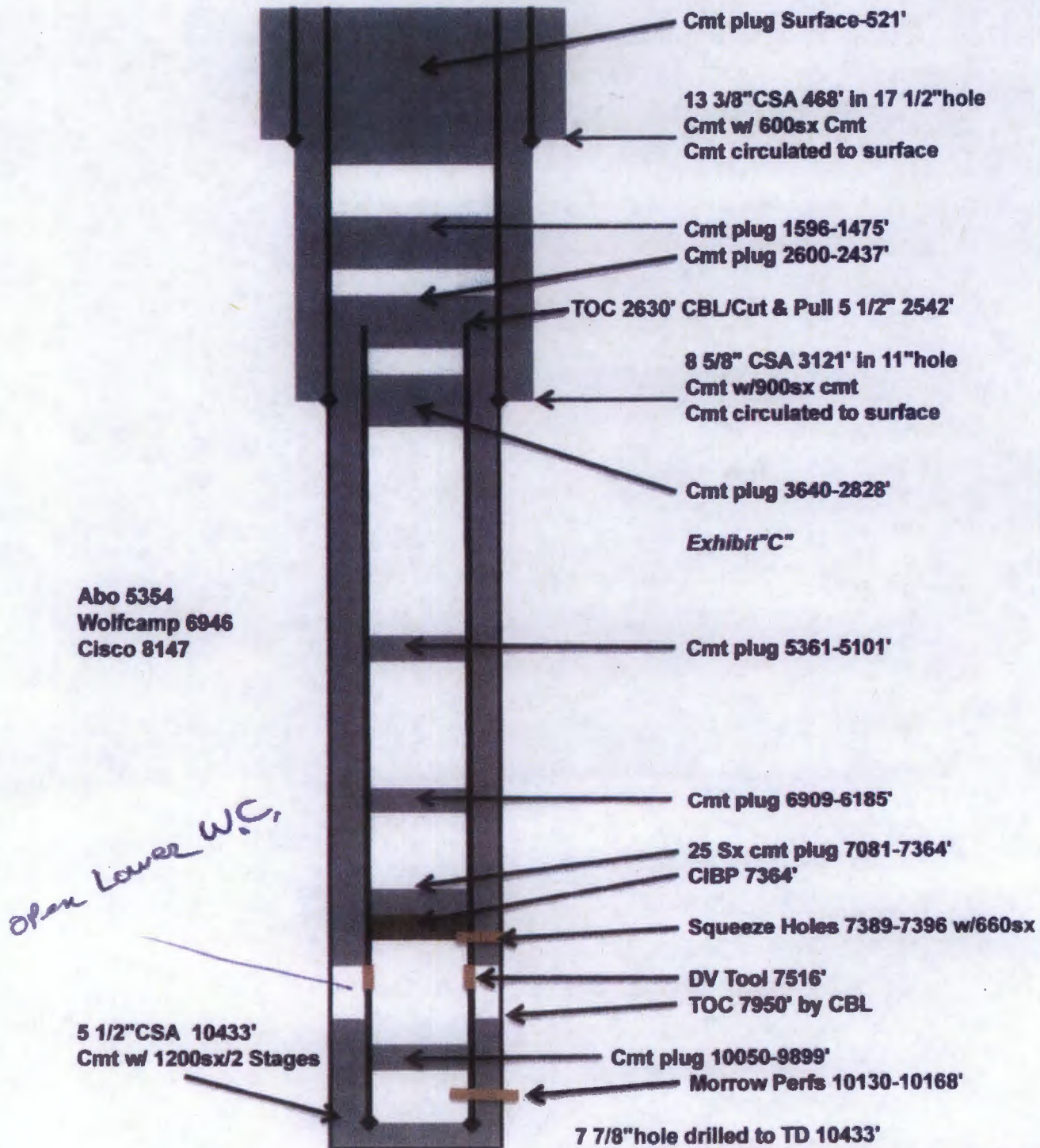


EXHIBIT F

Apache Corporation
 Slider 6 State # 1
 API # 30-015-34028
 Unit Letter "G", Sec 6, T18S, R28E
 Eddy County, NM
 SL 2285 x1366 FEL BHL 1686 FNL x 1533 FEL

from SWD-318-A



Abo 5354
 Wolfcamp 6946
 Cisco 8147

Open Lower W.C.

BEP

Drawing not to Scale

www.pwllc.net

EXHIBIT F

BP America Production Company

Empire Abo Unit "J" #241

Empire Abo Field

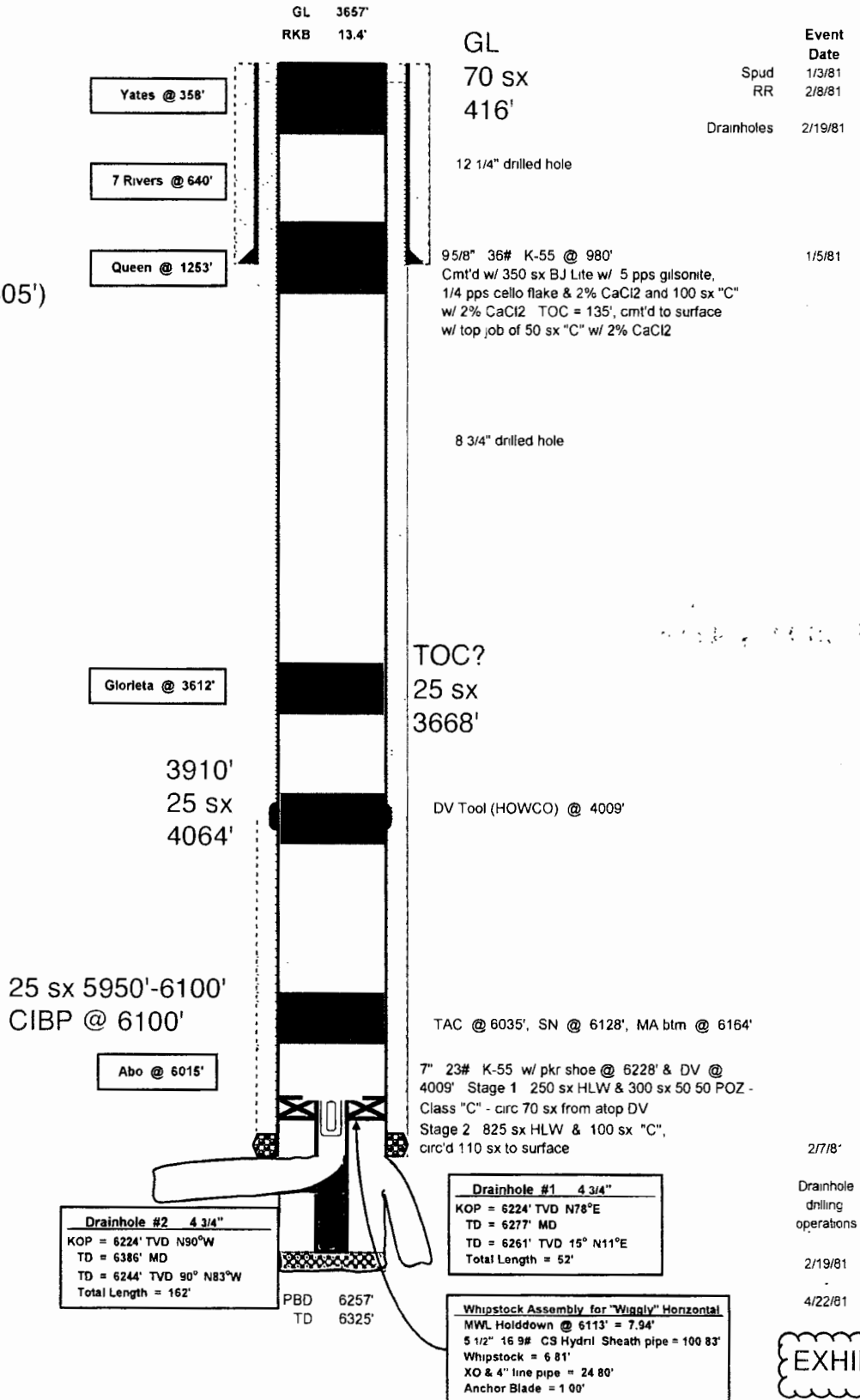
API No. 30-015-23547

1950' FNL & 660' FEL
Section 6 - T18S - R28E
Eddy County, New Mexico

spud: 1-31-81

P&A: 9-12-08

tag @ 850'
sx ? (plan 70)
bottom ? (plan 1305')



BP America Production Company

Empire Abo Unit "J" #241
Empire Abo Field

API No. 30-015-23547

1950' FNL & 660' FEL
Section 6 - T18S - R28E
Eddy County, New Mexico

spud: 1-31-81
P&A: 9-12-08

GL 3657'
RKB 13.4'

GL
70 sx
416'

Event
Date

Spud 1/3/81
RR 2/8/81

Drainholes 2/19/81

tag @ 850'
sx ? (plan 70)
bottom ? (plan 1305')

Yates @ 358'

7 Rivers @ 640'

Queen @ 1253'

12 1/4" drilled hole

9 5/8" 36# K-55 @ 980'
Cmt'd w/ 350 sx BJ Lte w/ 5 pps gilsonite,
1/4 pps cello flake & 2% CaCl₂ and 100 sx "C"
w/ 2% CaCl₂ TOC = 135', cmt'd to surface
w/ top job of 50 sx "C" w/ 2% CaCl₂

1/5/81

8 3/4" drilled hole

Glorieta @ 3612'

TOC?
25 sx
3668'

3910'
25 sx
4064'

DV Tool (HOWCO) @ 4009'

25 sx 5950'-6100'
CIBP @ 6100'

Abo @ 6015'

TAC @ 6035', SN @ 6128', MA btm @ 6164'

7" 23# K-55 w/ pkr shoe @ 6228' & DV @
4009' Stage 1 250 sx HLW & 300 sx 50 50 POZ -
Class "C" - circ 70 sx from atop DV
Stage 2 825 sx HLW & 100 sx "C",
circ'd 110 sx to surface

2/7/81

Drainhole
drilling
operations

2/19/81

4/22/81

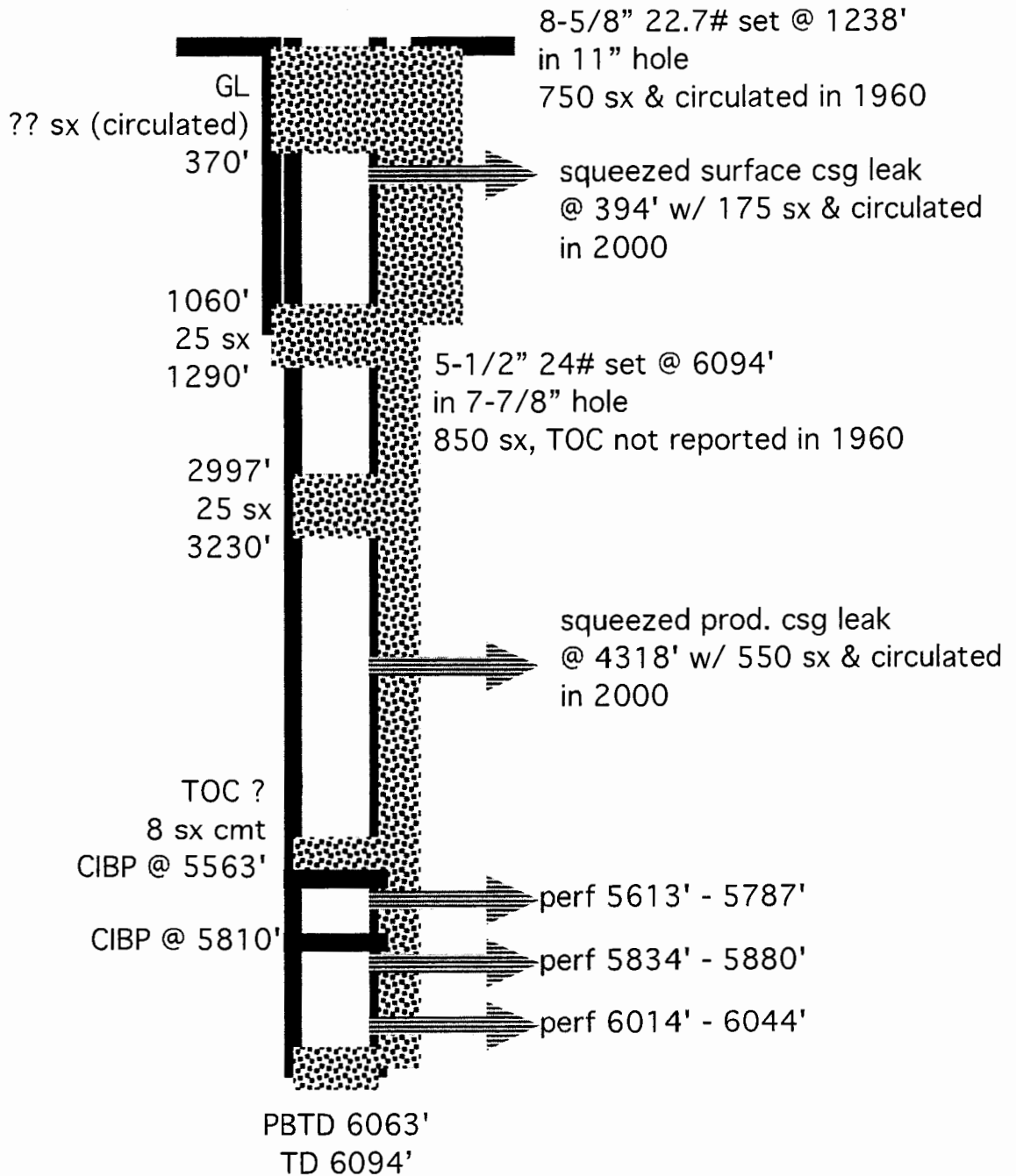
Drainhole #2 4 3/4"
KOP = 6224' TVD N90°W
TD = 6386' MD
TD = 6244' TVD 90° N83°W
Total Length = 162'

PBD 6257'
TD 6325'

Drainhole #1 4 3/4"
KOP = 6224' TVD N78°E
TD = 6277' MD
TD = 6261' TVD 15° N11°E
Total Length = 52'

Whipstock Assembly for "Wiggly" Horizontal
MWL Holddown @ 6113' = 7.94'
5 1/2" 16 9# CS Hydr. Sheath pipe = 100 83'
Whipstock = 6 81'
XO & 4" line pipe = 24 80'
Anchor Blade = 1 00'

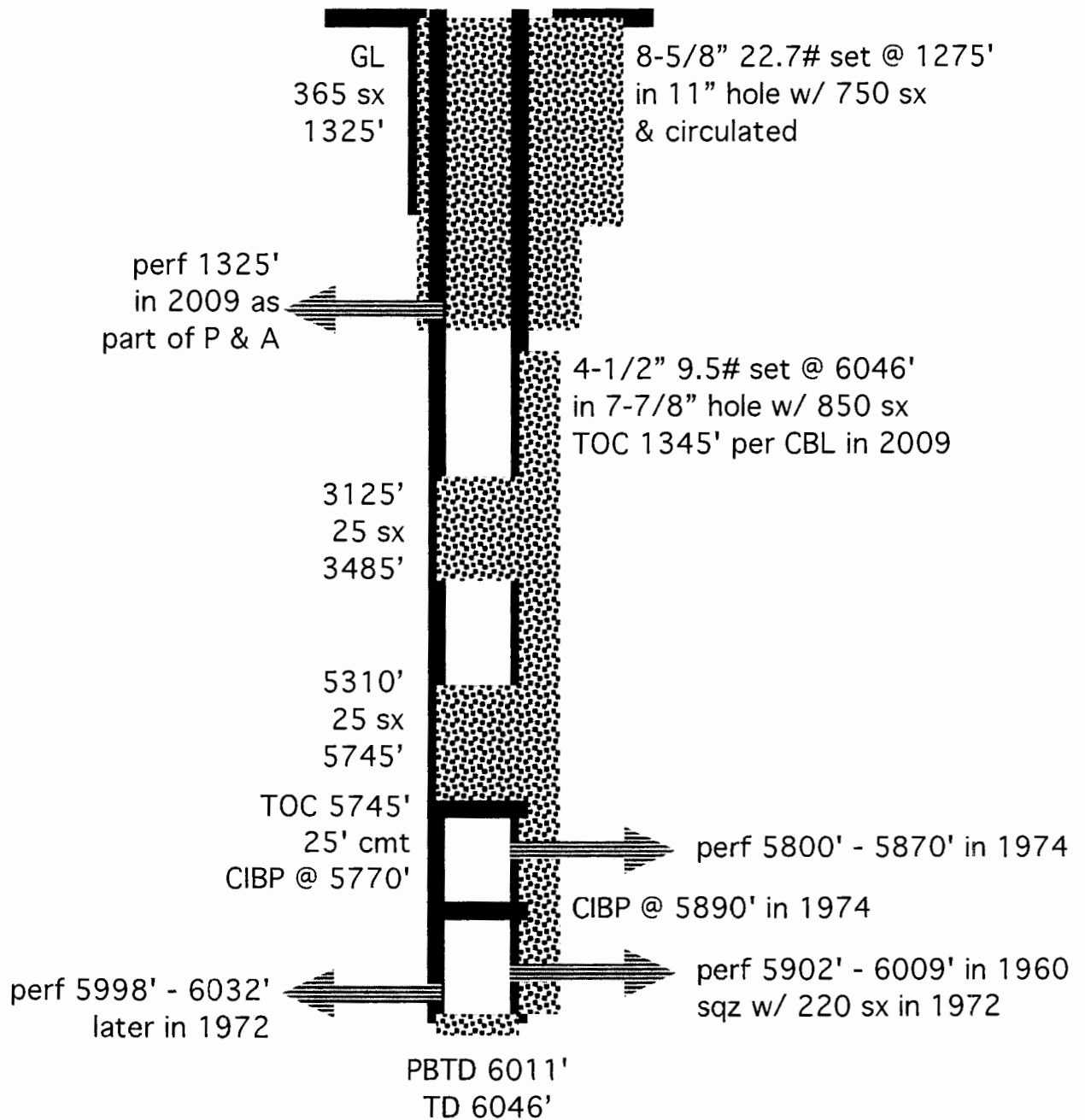
BP's
Empire Abo Unit 23 A, aka, G-23
API 30-015-01650
1650 FSL & 1958 FEL 31-17s-28e
Spud 2-24-60 and 9-17-03



(not to scale)

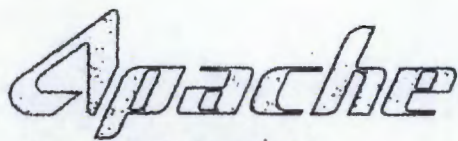
EXHIBIT F

BP's
Empire Abo Unit 22 B, aka, G-22
API 30-015-01651
1650 FSL & 2387 FWL 31-17s-28e
Spud: 3-22-60
P & A: 10-23-09



(not to scale)

EXHIBIT F



WELL BORE INFO.

spud: 12-28-78

P&A: 6-19-13

LEASE NAME

Empire Abo Unit

WELL #

251

API #

30-015-22750

COUNTY

Eddy

660 FNL & 150 FWL

5-18s-28e



GL

25 sx
250'

691'
60 sx
1210'

(perf @ 800'
could not pump into perf)

25 sx (TOC = ?)
2045'

2960'
40 sx
3310'

25 sx (TOC = ?)
CIBP @ 5600'

Abo perfs @ 5664'-5740'

Abo perfs @ 5970'-6152'

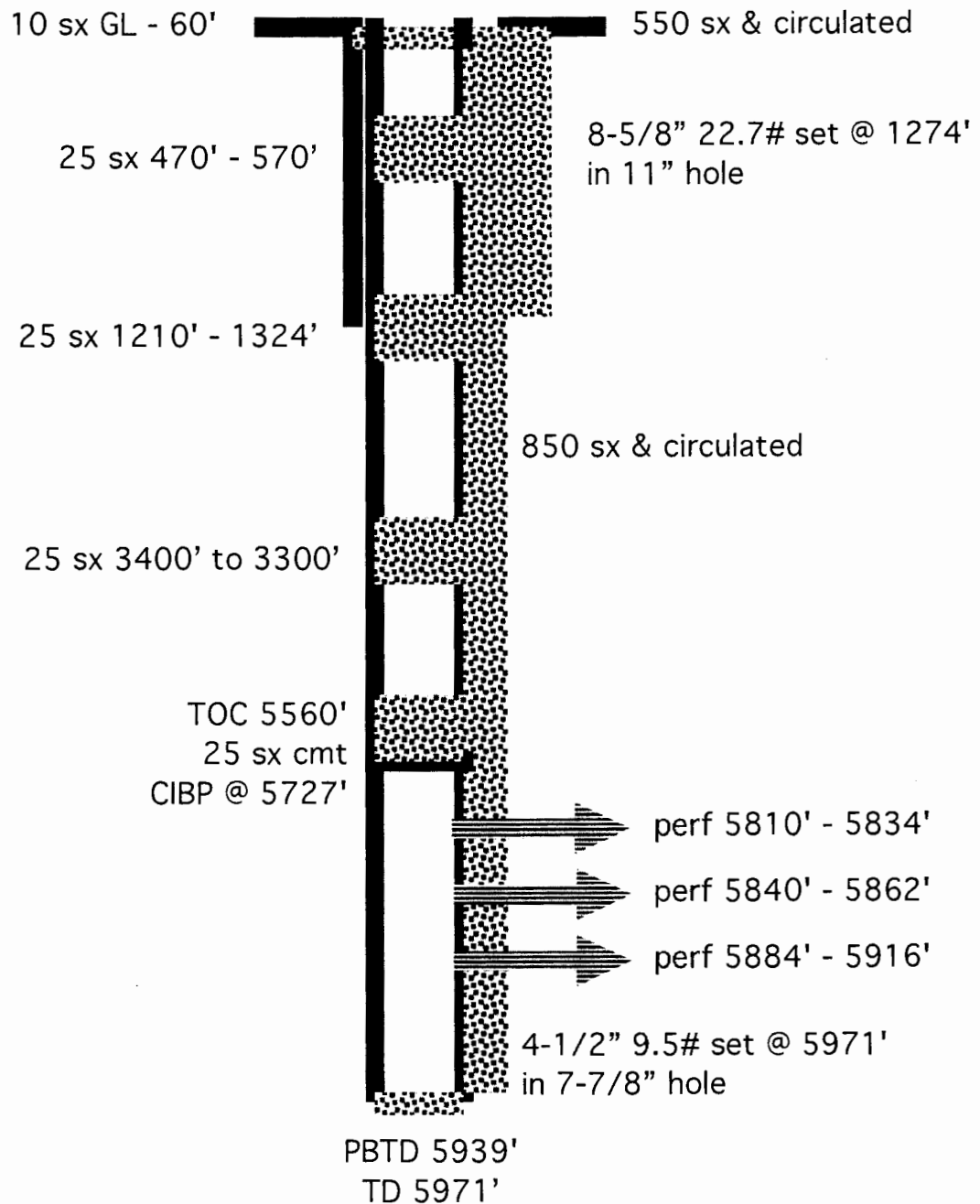
PBTD @ 6186'
TD @ 6250'

2 3/8" tbg @ 6126'

7 7/8" Hole
5 1/2" 15.5# @ 6245'
w/ 1550 sx cmt to surf

EXHIBIT F

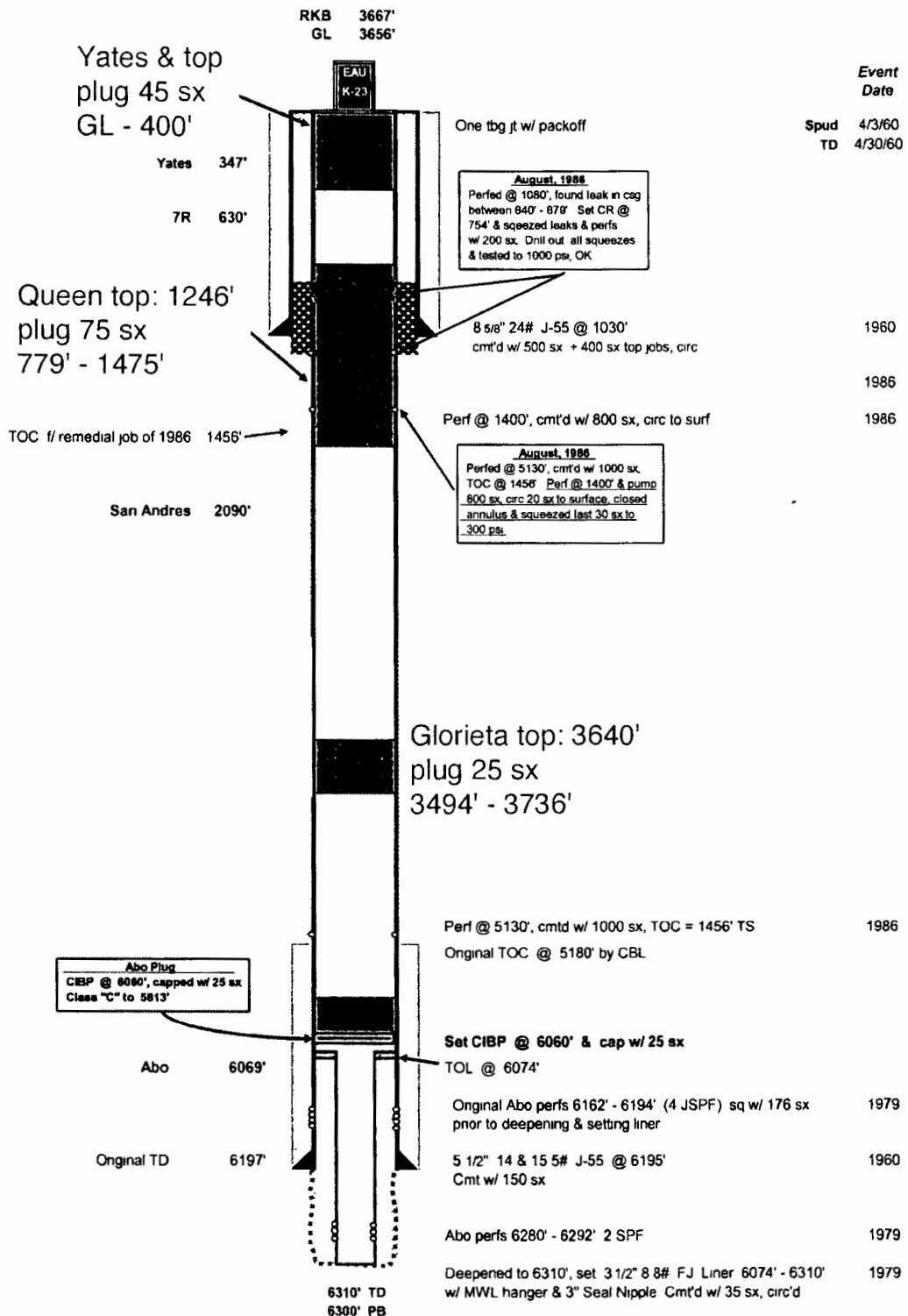
BP's
Empire Abo Unit 21 A, aka, G-21
API 30-015-01648
1651 FSL & 1089 FEL 31-17s-28e
Spud: 4-15-60
P & A: 8-23-02



(not to scale)

EXHIBIT F

Empire Abo Unit 23 D
 (fka, Empire Abo Unit K 23)
 2260 FSL & 2269 FEL
 6-18s-28e
 30-015-02628
 P & A: 12-10-08



Empire Abo Unit K-232

Empire Abo Field

API No. 30-015-22528

2300' FSL & 1570' FEL

Sec 6- T18S - R28E

Eddy County, New Mexico

aka, Empire Abo Unit 232A

FINAL P&A Status

April 6, 2009

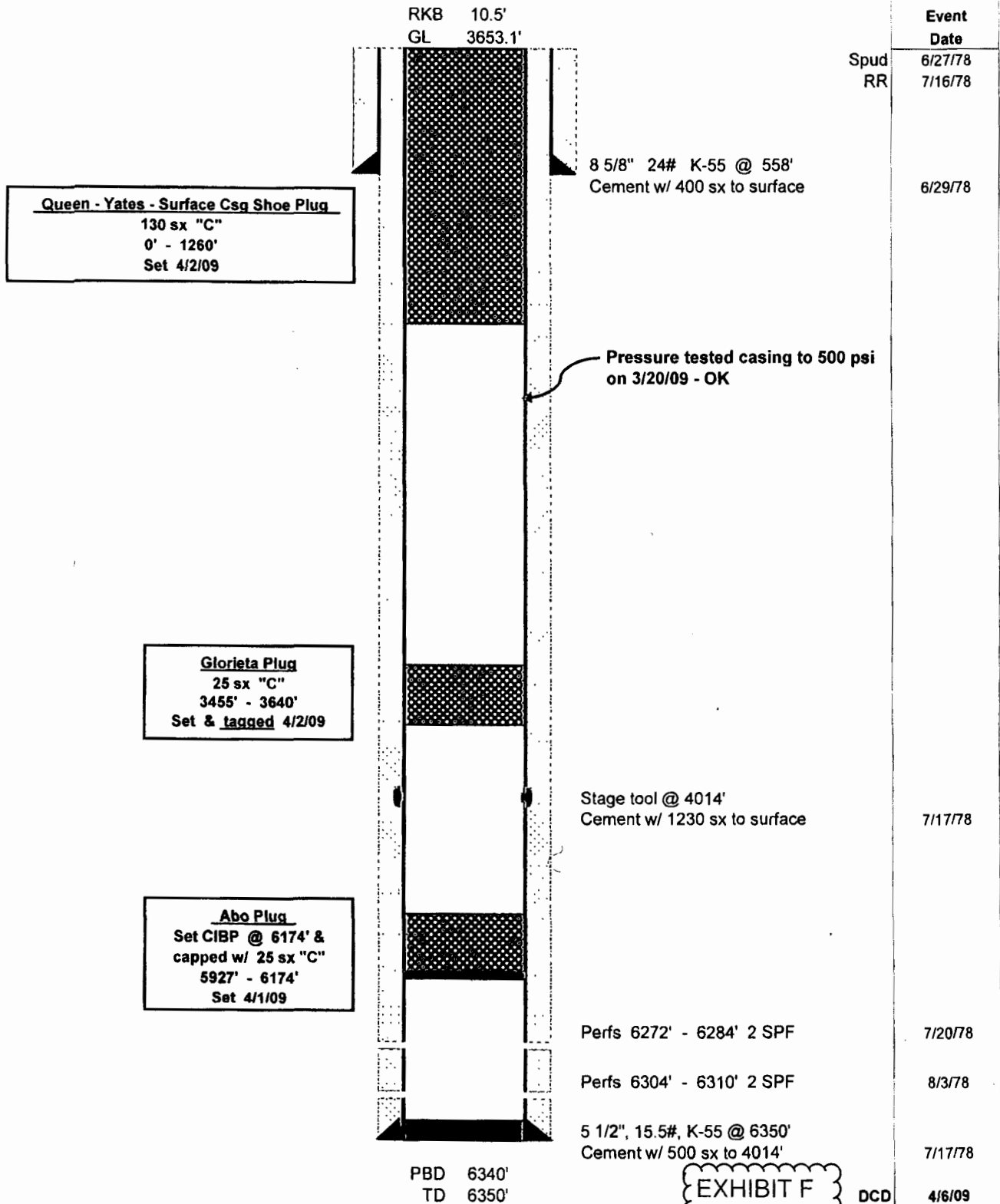


EXHIBIT F

DCD

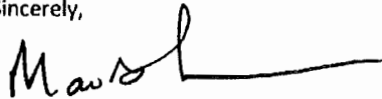
November 27, 2012

MR. WILLIAM V. JONES, P.E.
New Mexico Oil Conservation Division
1220 South St. Frances Dr.
Santa Fe, NM 87505

Dear Mr. William V. Jones,

We would like approval to convert previously approved gas and water injection wells back to gas and water injection wells. The current reservoir pressure is approximately 80 psi. The specific gravity is 0.89. We plan to recharge the reservoir in an attempt to increase production. Based on the current producing well count, oil and gas production and lease operating expense, the Empire Abo Unit is marginally economic. We propose our surface pressure limit to be 1,200 psi. This pressure limit duplicates what Arco did during the 1970's, 1980's and 1990's.

Sincerely,



MARK THOMAS
Sr. Production Engineer Advisor

EXHIBIT G

Precision Gas Measurement, Inc.
Natural Gas Report

Sample Information

| Sample Information | |
|--------------------|-----------------------|
| Company Name | APACHE CORP. |
| Lease Name | EMPIRE ABO D-40 BATT. |
| Location ID | |
| Sample Date | 12/8/2011 |
| Operator | JWD |
| Method Name | BTUH2S.met |
| Injection Date | 2011-12-08 15:54:48 |

Component Results

| Component Name | Norm% | Gross HV (Dry) (BTU / Ideal cu.ft.) | Gross HV (Sat.) (BTU / Ideal cu.ft.) | Relative Gas Density (Dry) | GPM (Dry) (Gal. / 1000 cu.ft.) |
|----------------|----------|--|---|-------------------------------|-----------------------------------|
| NITROGEN | 1.0347 | 0.0 | 0.0 | 0.01001 | 0.114 |
| METHANE | 63.9803 | 644.2 | 632.9 | 0.35439 | 10.837 |
| CARBON DIOXIDE | 2.7073 | 0.0 | 0.0 | 0.04114 | 0.462 |
| ETHANE | 15.0924 | 266.3 | 261.6 | 0.15669 | 4.033 |
| PROPANE | 6.8299 | 171.3 | 168.3 | 0.10399 | 1.880 |
| I-BUTANE | 0.9208 | 29.8 | 29.3 | 0.01848 | 0.301 |
| N-BUTANE | 2.1152 | 68.8 | 67.6 | 0.04245 | 0.666 |
| I-PENTANE | 0.5423 | 21.6 | 21.3 | 0.01351 | 0.198 |
| N-PENTANE | 0.5352 | 21.4 | 21.0 | 0.01333 | 0.194 |
| C6+ | 0.8577 | 43.9 | 43.1 | 0.02760 | 0.372 |
| H2S | 5.3842 | 34.2 | 33.6 | 0.06336 | 0.727 |
| Water | 0.0000 | 0.0 | 0.0 | 0.00000 | 0.000 |
| Total: | 100.0000 | 1301.4 | 1278.7 | 0.84493 | 19.783 |

Results Summary

| Result | Dry | Sat. |
|--|----------|----------|
| Total Normalized Mole% | 100.0000 | 100.0000 |
| Pressure Base (psia) | 14.650 | |
| Flowing Temperature (Deg. F) | 74.5 | |
| Flowing Pressure (psia) | 41.7 | |
| Water Mole% | | 1.7602 |
| Gross Heating Value (BTU / Ideal cu.ft.) | 1301.4 | 1278.7 |
| Gross Heating Value (BTU / Real cu.ft.) | 1307.7 | 1285.4 |
| Relative Density (G), Real | 0.8486 | 0.8451 |
| Compressibility (Z) Factor | 0.9952 | 0.9948 |
| Total GPM | 19.783 | 19.545 |
| Wobbe Index | 1419.5 | 1398.2 |

Wildcat Measurement Service
P.O.Box 1838
418 East Main Street
Artesia, NM 88211-1838

9/21/2012 2:38 PM
Phone: 575-746-3481
888-421-9453
Fax: 575-748-9852
dnorman@wildcatms.com

GAS ANALYSIS REPORT

Analysis For: FRONTIER FIELD SERVICES, L.L.C.
Field Name: EMPIRE ABO
Well Name: E.A.U. D-40A
Station Number: 631010
Purpose: SPOT
Sample Deg. F: 88.0
Volume/Day:
Formation:
Line PSIG: 32.1
Line PSIA: 45.3

Run No: 2120921-02
Date Run: 09/21/2012
Date Sampled: 09/21/2012
Producer: APACHE CORPORATION
County: EDDY
State: NM
Sampled By: EMC
Atmos Deg. F:

*EFA
9-1-2012
Entered 10-3-2012
Backdated*

| | | GAS COMPONENTS | |
|------------------|------|----------------|--------|
| | | MOL% | GPM |
| Oxygen | O2: | 0.0000 | |
| Carbon Dioxide | CO2: | 2.2013 | |
| Nitrogen | N2: | 1.0846 | |
| Hydrogen Sulfide | H2S: | 12.0000 | |
| | | | |
| Methane | C1: | 58.2157 | |
| Ethane | C2: | 13.9332 | 3.7051 |
| Propane | C3: | 6.6223 | 1.8141 |
| Iso-Butane | IC4: | 1.0052 | 0.3271 |
| Nor-Butane | NC4: | 2.4604 | 0.7713 |
| Iso-Pentane | IC5: | 0.6767 | 0.2461 |
| Nor-Pentanes | NC5: | 0.6844 | 0.2467 |
| Hexanes Plus | C6+: | 1.1162 | 0.4826 |
| | | | |
| Totals | | 100.0000 | 7.5929 |

Pressure Base: 14.650
Real BTU Dry: 1305.291
Real BTU Wet: 1282.377

Calc. Ideal Gravity: 0.8924
Calc. Real Gravity: 0.8969
Field Gravity:
Standard Pressure: 14.696
Ideal BTU Dry: 1302.345
Ideal BTU Wet: 1279.684
Z Factor: 0.9946
Average Mol Weight: 25.8478
Average CuFt/Gal: 54.9641
26 lb. Product: 1.5002
Ethane+ GPM: 7.5929
Propane+ GPM: 3.8878
Butane+ GPM: 2.0737
Pentane+ GPM: 0.9753

Remarks:
H2S IN GAS STREAM ON LOCATION: 12.0000% = 120,000 PPM

Analysis By: Don Norman

EXHIBIT G

Pressure — Temperature

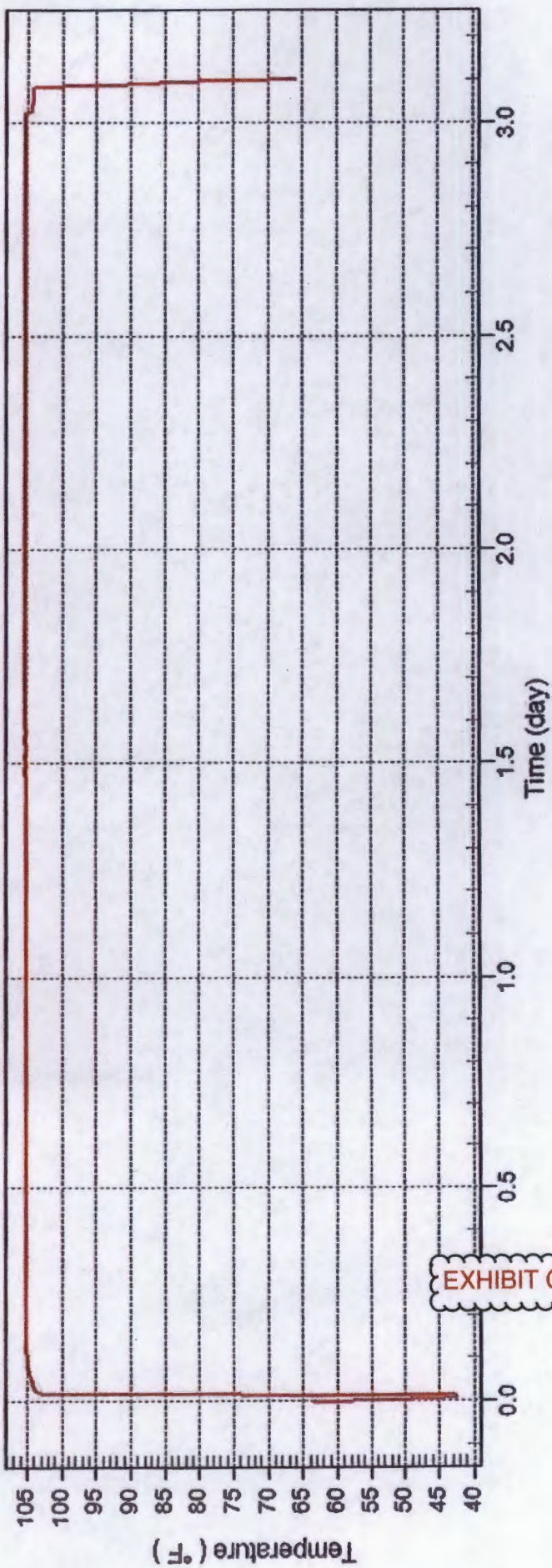
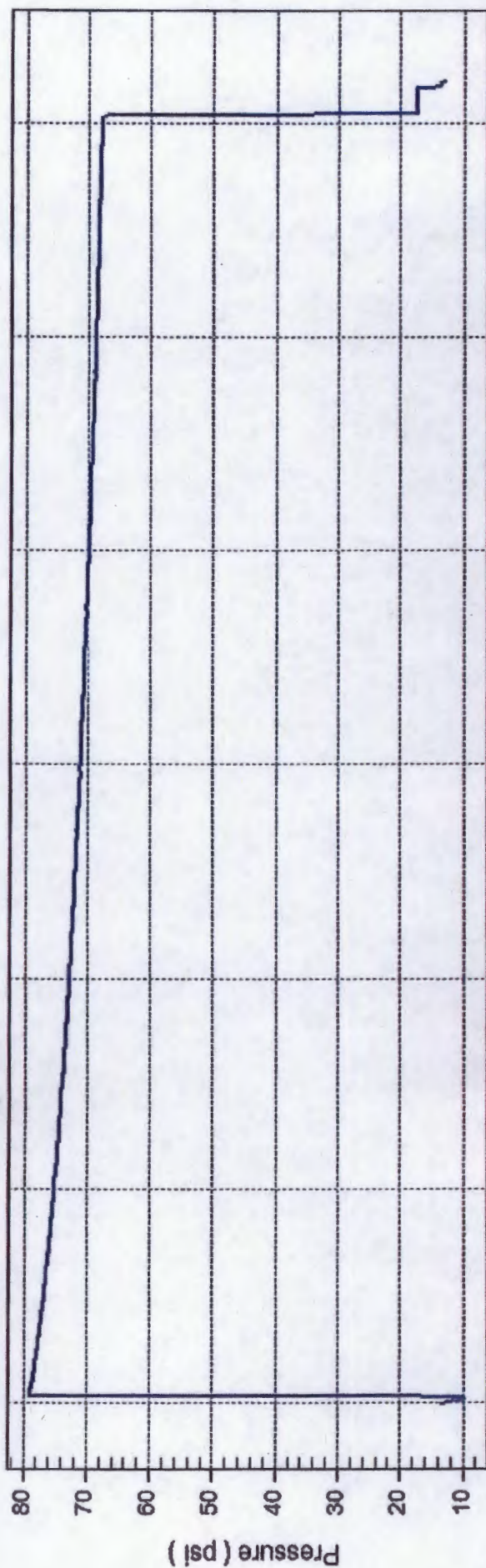


EXHIBIT G

419

— Pressure — Temperature

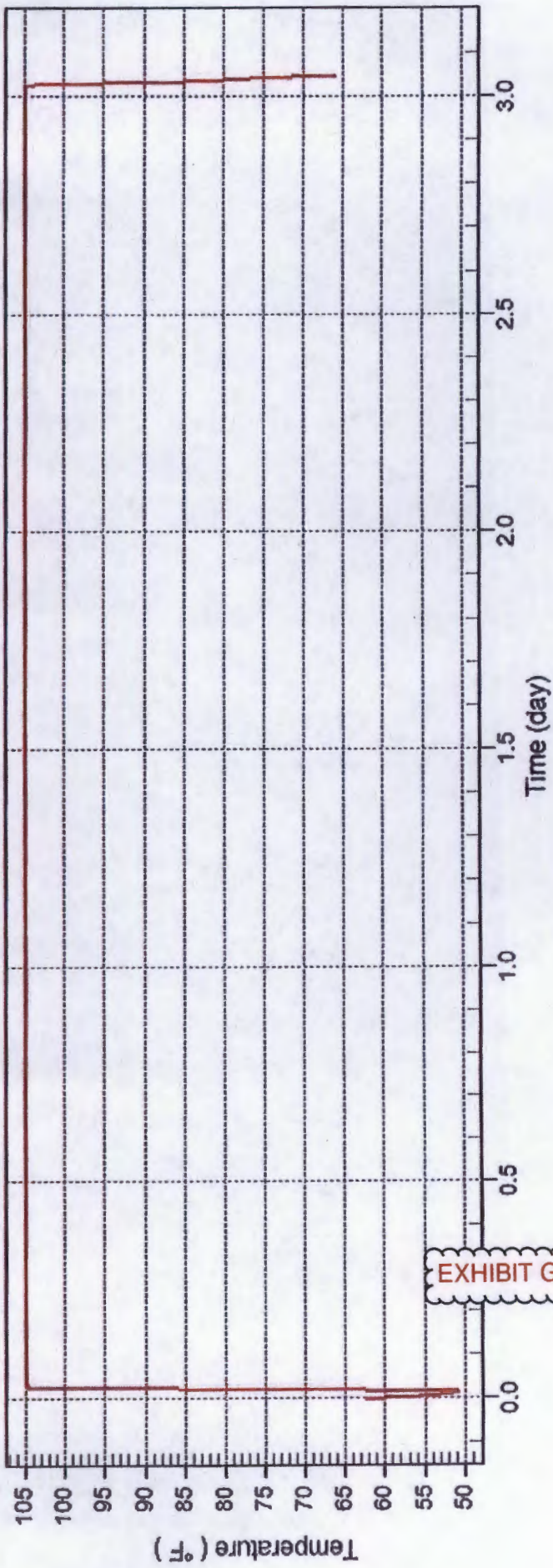
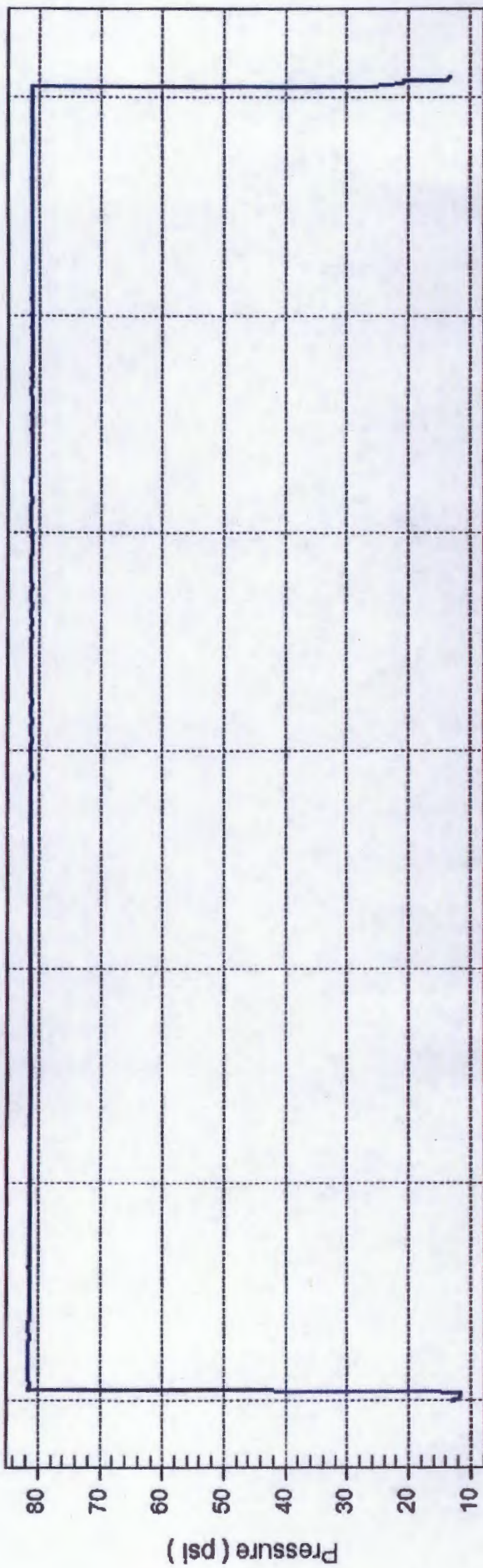


EXHIBIT G



New Mexico Office of the State Engineer Active & Inactive Points of Diversion

(with Ownership Information)

(R=POD has been replaced
and no longer serves this file, (quarters are 1=NW 2=NE 3=SW 4=SE)
C=the file is closed) (quarters are smallest to largest) (NAD83 UTM in meters)

2270 meters = 7,445'

| (acre ft per annum) | | | | | C=the file is closed) | | (quarters are smallest to largest) | | | | (NAD83 UTM in meters) | | |
|---------------------|-------|-----|-----------|---------------|-----------------------|------------|------------------------------------|-------|--------|----------------|-----------------------|----------|----------|
| WR File Nbr | Sub | Use | Diversion | Owner | County | POD Number | Code | Grant | Source | q q q | X | Y | Distance |
| | basin | | | | | | | | | 6416 4 | | | |
| RA 08235 | | STK | 1.43 | BOGLE FARMS | ED | RA 08235 | | | | 07 18S 28E | 573537 | 3625134* | 2270 |
| RA 08236 | | STK | | 1 BOGLE FARMS | ED | RA 08236 | | | | 3 3 08 18S 28E | 574557 | 3624563* | 2973 |
| RA 08237 | | STK | 1.47 | BOGLE FARMS | ED | RA 08237 | | | | 3 3 08 18S 28E | 574557 | 3624563* | 2973 |

POD Declaration - for well (no well)

Record Count: 3

UTMNAD83 Radius Search (in meters):

Easting (X): 573670

Northing (Y): 3627401

Radius: 3220

Sorted by: Distance

3220 meters = 10,561' = 2.00 miles

EXHIBIT H

*UTM location was derived from PLSS - see Help

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

9/21/13 6:15 PM

Page 1 of 1

ACTIVE & INACTIVE POINTS OF DIVERSION



Alamoquillo

32.80073, -105.19022
32.80099, -105.19003
32.80067, -105.19131

fault

Empire Abo Unit 23 C

Carlsbad

EXHIBIT I

Google earth

© 2013 Google
All rights reserved

Survey

Imagery Date: 4/9/2013 lat: 32.823361° lon: -105.020664° elev: 4635 ft eye alt: 112.58 mi

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37 Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

October 17, 2013

Bogle Ltd. Company
P. O. Box 460
Dexter, NM 88231

Apache Corporation is applying (application attached) to convert its Empire Abo Unit 23 C oil well to a gas injection well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposal. This letter is a notice only. No action is needed unless you have questions or objections.

Well Name: Empire Abo Unit 23 C (state lease) TD = 6,194'
Proposed Injection Zone: Abo (from 5,782' - 6,130')
Location: 470' FNL & 2170' FEL Sec. 6, T. 18 S., R. 28 E., Eddy County, NM
Approximate Location: ~11 air miles southeast of Artesia, NM
Applicant Name: Apache Corporation (432) 818-1926
Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

Submittal Information: Application for a gas injection well will be filed with the NM Oil Conservation Division (NMOCD). If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. The NMOCD address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,



Brian Wood

7012 3050 0001 7052 7437

| | |
|--|-------------|
| U.S. Postal Service | |
| CERTIFIED MAILTM RECEIPT | |
| (Domestic Mail Only; No Insurance Coverage Provided) | |
| For delivery information visit our website at www.usps.com | |
| OFFICIAL USE | |
| Postage | \$ |
| Certified Fee | OCT 19 2013 |
| Return Receipt Fee (Endorsement Required) | |
| Restricted Delivery Fee (Endorsement Required) | |
| Total Postage & Fees | \$ |
| Sent To: Bogle | |
| Street, Apt. No., or PO Box No. | |
| City, State, Zip+4 | |

emp. 23c

EXHIBIT J



October 17, 2013

Bogle Ltd. Company
c/o COG & Concho
600 West Illinois Ave.
Midland, TX 79701

Apache Corporation is applying (application attached) to convert its Empire Abo Unit 23 C oil well to a gas injection well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposal. This letter is a notice only. No action is needed unless you have questions or objections.

Well Name: Empire Abo Unit 23 C (state lease) ID = 6,194'
Proposed Injection Zone: Abo (from 5,782' - 6,130')
Location: 470' FNL & 2170' FEL Sec. 6, T. 18 S., R. 28 E., Eddy County, NM
Approximate Location: ≈11 air miles southeast of Artesia, NM
Applicant Name: Apache Corporation (432) 818-1926
Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

Submittal Information: Application for a gas injection well will be filed with the NM Oil Conservation Division (NMOCD). If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. The NMOCD address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

Brian Wood
Brian Wood

| | |
|--|--|
| U.S. Postal Service™ CERTIFIED MAIL™ RECEIPT (Domestic Mail Only; No Insurance Coverage Provided) | |
| For delivery information visit our website at www.usps.com | |
| OFFICIAL USE | |
| Postage \$ | |
| Certified Fee | |
| Return Receipt Fee (Endorsement Required) | |
| Restricted Delivery Fee (Endorsement Required) | |
| Total Postage & Fees \$ | |
| Sent To <i>Bogle</i> | |
| Street, Apt. No., or PO Box No. | |
| City, State, ZIP+4 <i>Midland</i> | |

PS Form 3800, August 2006 See Reverse for Instructions



October 17, 2013

BP America Production Co.
501 Westlake Park Blvd.
Houston, TX 77079

Apache Corporation is applying (application attached) to convert its Empire Abo Unit 23 C oil well to a gas injection well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposal. This letter is a notice only. No action is needed unless you have questions or objections.

Well Name: Empire Abo Unit 23 C (state lease) ID = 6,194'
Proposed Injection Zone: Abo (from 5,782' - 6,130')
Location: 470' FNL & 2170' FEL Sec. 6, T. 18 S., R. 28 E., Eddy County, NM
Approximate Location: ≈11 air miles southeast of Artesia, NM
Applicant Name: Apache Corporation (432) 818-1926
Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

Submittal Information: Application for a gas injection well will be filed with the NM Oil Conservation Division (NMOCD). If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. The NMOCD address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

Brian Wood
Brian Wood

| | |
|--|--|
| U.S. Postal Service™ CERTIFIED MAIL™ RECEIPT (Domestic Mail Only; No Insurance Coverage Provided) | |
| For delivery information visit our website at www.usps.com | |
| OFFICIAL USE | |
| Postage \$ | |
| Certified Fee | |
| Return Receipt Fee (Endorsement Required) | |
| Restricted Delivery Fee (Endorsement Required) | |
| Total Postage & Fees \$ | |
| Sent To <i>BP</i> | |
| Street, Apt. No., or PO Box No. | |
| City, State, ZIP+4 | |

October 17, 2013

Burlington Resources
3401 E. 30th Street
Farmington, NM 87402

Apache Corporation is applying (application attached) to convert its Empire Abo Unit 23 C oil well to a gas injection well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposal. This letter is a notice only. No action is needed unless you have questions or objections.

Well Name: Empire Abo Unit 23 C (state lease) ID = 6,194'
Proposed Injection Zone: Abo (from 5,782' - 6,130')
Location: 470' FNL & 2170' FEL Sec. 6, T. 18 S., R. 28 E., Eddy County, NM
Approximate Location: ~11 air miles southeast of Artesia, NM
Applicant Name: Apache Corporation (432) 818-1926
Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

Submittal Information: Application for a gas injection well will be filed with the NM Oil Conservation Division (NMOCD). If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. The NMOCD address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

Brian Wood

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
For delivery information visit our website at www.usps.com

OFFICIAL USE

Postage \$
Certified Fee \$
Return Receipt Fee (Endorsement Required)
Restricted Delivery Fee (Endorsement Required)
Total Postage & Fees \$

PECOS NM
OCT 19 2013
87552

Sent To Burlington **EMP 23C**
Street, Apt. No., or PO Box No.
City, State, ZIP+4

October 17, 2013

Barney Cockburn
P. O. Box 105
Artesia, NM 88210

Dear Mr. Cockburn:

Apache Corporation is applying (application attached) to convert its Empire Abo Unit 23 C oil well to a gas injection well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposal. This letter is a notice only. No action is needed unless you have questions or objections.

Well Name: Empire Abo Unit 23 C (state lease) ID = 6,194'
Proposed Injection Zone: Abo (from 5,782' - 6,130')
Location: 470' FNL & 2170' FEL Sec. 6, T. 18 S., R. 28 E., Eddy County, NM
Approximate Location: ~11 air miles southeast of Artesia, NM
Applicant Name: Apache Corporation (432) 818-1926
Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

Submittal Information: Application for a gas injection well will be filed with the NM Oil Conservation Division (NMOCD). If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. The NMOCD address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

Brian Wood

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
For delivery information visit our website at www.usps.com

OFFICIAL USE

Postage \$
Certified Fee \$
Return Receipt Fee (Endorsement Required)
Restricted Delivery Fee (Endorsement Required)
Total Postage & Fees \$

PECOS NM
OCT 19 2013
87552

Sent To Cockburn **EMP 23C**
Street, Apt. No., or PO Box No.
City, State, ZIP+4

October 17, 2013

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

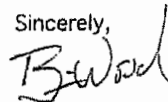
Apache Corporation is applying (application attached) to convert its Empire Abo Unit 23 C oil well to a gas injection well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposal. This letter is a notice only. No action is needed unless you have questions or objections.

Well Name: Empire Abo Unit 23 C (state lease) ID = 6,194'
Proposed Injection Zone: Abo (from 5,782' - 6,130')
Location: 470' FNL & 2170' FEL Sec. 6, T. 18 S., R. 28 E., Eddy County, NM
Approximate Location: ~11 air miles southeast of Artesia, NM
Applicant Name: Apache Corporation (432) 818-1926
Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

Submittal Information: Application for a gas injection well will be filed with the NM Oil Conservation Division (NMOCD). If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. The NMOCD address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,



Brian Wood

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

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

OFFICIAL USE

| | | |
|--|----|--|
| Postage | \$ | |
| Certified Fee | | |
| Return Receipt Fee (Endorsement Required) | | |
| Restricted Delivery Fee (Endorsement Required) | | |
| Total Postage & Fees | \$ | |

Sent To ConocoPhillips
Street, Apt. No., or PO Box No.
City, State, ZIP+4

October 17, 2013

ExxonMobil Corporation
P. O. Box 4358
Houston, TX 77210-4358

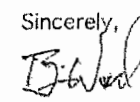
Apache Corporation is applying (application attached) to convert its Empire Abo Unit 23 C oil well to a gas injection well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposal. This letter is a notice only. No action is needed unless you have questions or objections.

Well Name: Empire Abo Unit 23 C (state lease) ID = 6,194'
Proposed Injection Zone: Abo (from 5,782' - 6,130')
Location: 470' FNL & 2170' FEL Sec. 6, T. 18 S., R. 28 E., Eddy County, NM
Approximate Location: ~11 air miles southeast of Artesia, NM
Applicant Name: Apache Corporation (432) 818-1926
Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

Submittal Information: Application for a gas injection well will be filed with the NM Oil Conservation Division (NMOCD). If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. The NMOCD address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,



Brian Wood

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

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

OFFICIAL USE

| | | |
|--|----|--|
| Postage | \$ | |
| Certified Fee | | |
| Return Receipt Fee (Endorsement Required) | | |
| Restricted Delivery Fee (Endorsement Required) | | |
| Total Postage & Fees | \$ | |

Sent To Exxon Mobil
Street, Apt. No., or PO Box No.
City, State, ZIP+4

EXHIBIT

7012 3050 0001 7052 7482

7012 3050 0001 7052 7499

PERMITS WEST INC.
PROVIDING PERMITS for LAND USERS
37 Verano Loop, Santa Fe, New Mexico 87505 (505) 466-8120

October 17, 2013

Kerr-McGee O/G Onshore, LP
P. O. Box 1330
Houston, TX 77251

Apache Corporation is applying (application attached) to convert its Empire Abo Unit 23 C oil well to a gas injection well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposal. This letter is a notice only. No action is needed unless you have questions or objections.

Well Name: Empire Abo Unit 23 C (state lease) ID = 6,194'
Proposed Injection Zone: Abo (from 5,782' - 6,130')
Location: 470' FNL & 2170' FEL Sec. 6, T. 18 S., R. 28 E., Eddy County, NM
Approximate Location: ≈11 air miles southeast of Artesia, NM
Applicant Name: Apache Corporation (432) 818-1926
Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

Submittal Information: Application for a gas injection well will be filed with the NM Oil Conservation Division (NMOCD). If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. The NMOCD address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

Brian Wood

2012 3050 0000 1000 0506 2702

5052 2502 7052 7505

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

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

OFFICIAL USE

Postage \$

Certified Fee

Return Receipt Fee (Endorsement Required)

Restricted Delivery Fee (Endorsement Required)

Total Postage & Fees \$

Sent To Kerr-McGee

Street, Apt. No., or PO Box No.

City, State, ZIP+4

PECOS NM
OCT 19 2013
87505

EXHIBIT

PERMITS WEST INC.
PROVIDING PERMITS for LAND USERS
37 Verano Loop, Santa Fe, New Mexico 87505 (505) 466-8120

October 17, 2013

Khody Land & Minerals
210 Park Ave., Suite 900
Oklahoma City, OK 73102

Apache Corporation is applying (application attached) to convert its Empire Abo Unit 23 C oil well to a gas injection well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposal. This letter is a notice only. No action is needed unless you have questions or objections.

Well Name: Empire Abo Unit 23 C (state lease) ID = 6,194'
Proposed Injection Zone: Abo (from 5,782' - 6,130')
Location: 470' FNL & 2170' FEL Sec. 6, T. 18 S., R. 28 E., Eddy County, NM
Approximate Location: ≈11 air miles southeast of Artesia, NM
Applicant Name: Apache Corporation (432) 818-1926
Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

Submittal Information: Application for a gas injection well will be filed with the NM Oil Conservation Division (NMOCD). If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. The NMOCD address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

Brian Wood

2012 3050 0000 1000 0506 2702

5052 2502 7052 7505

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

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

OFFICIAL USE

Postage \$

Certified Fee

Return Receipt Fee (Endorsement Required)

Restricted Delivery Fee (Endorsement Required)

Total Postage & Fees \$

Sent To Khody

Street, Apt. No., or PO Box No.

City, State, ZIP+4

PECOS NM
OCT 19 2013
87505

October 17, 2013

Nick Jaramillo
New Mexico State Land Office
P. O. Box 1148
Santa Fe, NM 87504-1148

Dear Nick,

Apache Corporation is applying (application attached) to convert its Empire Abo Unit 23 C oil well to a gas injection well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposal. This letter is a notice only. No action is needed unless you have questions or objections.

Well Name: Empire Abo Unit 23 C (state lease) ID = 6,194'
Proposed Injection Zone: Abo (from 5,782' - 6,130')
Location: 470' FNL & 2170' FEL Sec. 6, T. 18 S., R. 28 E., Eddy County, NM
Approximate Location: ~11 air miles southeast of Artesia, NM
Applicant Name: Apache Corporation (432) 818-1926
Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

Submittal Information: Application for a gas injection well will be filed with the NM Oil Conservation Division (NMOCD). If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. The NMOCD address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

Brian Wood

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
For delivery information visit our website at www.usps.com®

OFFICIAL USE
OCT 19 2013

| | | |
|--|-------|---------------|
| Postage | \$ | Postmark Here |
| Certified Fee | 87562 | |
| Return Receipt Fee (Endorsement Required) | | |
| Restricted Delivery Fee (Endorsement Required) | | |
| Total Postage & Fees | \$ | |

Sent To: *NMSLD*
Street, Apt. No., or PO Box No.
City, State, ZIP+4

Emp 23C

October 17, 2013

Occidental Permian Ltd.
P. O. Box 4294
Houston, TX 77210

Apache Corporation is applying (application attached) to convert its Empire Abo Unit 23 C oil well to a gas injection well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposal. This letter is a notice only. No action is needed unless you have questions or objections.

Well Name: Empire Abo Unit 23 C (state lease) ID = 6,194'
Proposed Injection Zone: Abo (from 5,782' - 6,130')
Location: 470' FNL & 2170' FEL Sec. 6, T. 18 S., R. 28 E., Eddy County, NM
Approximate Location: ~11 air miles southeast of Artesia, NM
Applicant Name: Apache Corporation (432) 818-1926
Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

Submittal Information: Application for a gas injection well will be filed with the NM Oil Conservation Division (NMOCD). If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. The NMOCD address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

Brian Wood
Brian Wood

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
For delivery information visit our website at www.usps.com®

OFFICIAL USE
OCT 19 2013

| | | |
|--|-------|---------------|
| Postage | \$ | Postmark Here |
| Certified Fee | 87562 | |
| Return Receipt Fee (Endorsement Required) | | |
| Restricted Delivery Fee (Endorsement Required) | | |
| Total Postage & Fees | \$ | |

Sent To: *Occidental*
Street, Apt. No., or PO Box No.
City, State, ZIP+4

Emp 23C

EXHIBIT J



October 17, 2013

Vilas P. Sheldon Trust
c/o Gary A. Lee, Trustee
P. O. Box 1872
Kingsland, TX 78639

Apache Corporation is applying (application attached) to convert its Empire Abo Unit 23 C oil well to a gas injection well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposal. This letter is a notice only. No action is needed unless you have questions or objections.

Well Name: Empire Abo Unit 23 C (state lease) ID = 6,194'
Proposed Injection Zone: Abo (from 5,782' - 6,130')
Location: 470' FNL & 2170' FEL Sec. 6, T. 18 S., R. 28 E., Eddy County, NM
Approximate Location: ~11 air miles southeast of Artesia, NM
Applicant Name: Apache Corporation (432) 818-1926
Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

Submittal Information: Application for a gas injection well will be filed with the NM Oil Conservation Division (NMOCD). If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. The NMOCD address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

B. Wood
Brian Wood

| | |
|--|---------------|
| U.S. Postal Service TM | |
| CERTIFIED MAIL TM RECEIPT | |
| (Domestic Mail Only; No Insurance Coverage Provided) | |
| For delivery information visit our website at www.usps.com | |
| OFFICIAL USE | |
| Postage | Postmark Here |
| Certified Fee | |
| Return Receipt Fee (Endorsement Required) | |
| Restricted Delivery Fee (Endorsement Required) | |
| Total Postage & Fees | \$ |
| Sent To: <i>Sheldon Trust</i> | |
| Street, Apt. No., or PO Box No. | |
| City, State, ZIP+4 | |

EXHIBIT J



October 17, 2013

Katie Mohebkhosravi
COG & Concho
600 West Illinois Ave.
Midland, TX 79701

Dear Katie,

Apache Corporation is applying (application attached) to convert its Empire Abo Unit 23 C oil well to a gas injection well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposal. This letter is a notice only. No action is needed unless you have questions or objections.

Well Name: Empire Abo Unit 23 C (state lease) ID = 6,194'
Proposed Injection Zone: Abo (from 5,782' - 6,130')
Location: 470' FNL & 2170' FEL Sec. 6, T. 18 S., R. 28 E., Eddy County, NM
Approximate Location: ~11 air miles southeast of Artesia, NM
Applicant Name: Apache Corporation (432) 818-1926
Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

Submittal Information: Application for a gas injection well will be filed with the NM Oil Conservation Division (NMOCD). If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. The NMOCD address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

B. Wood
Brian Wood

| | |
|--|---------------|
| U.S. Postal Service TM | |
| CERTIFIED MAIL TM RECEIPT | |
| (Domestic Mail Only; No Insurance Coverage Provided) | |
| For delivery information visit our website at www.usps.com | |
| OFFICIAL USE | |
| Postage | Postmark Here |
| Certified Fee | |
| Return Receipt Fee (Endorsement Required) | |
| Restricted Delivery Fee (Endorsement Required) | |
| Total Postage & Fees | \$ |
| Sent To: <i>COG Concho</i> | |
| Street, Apt. No., or PO Box No. | |
| City, State, ZIP+4 | |

Affidavit of Publication

NO. 22756

STATE OF NEW MEXICO

County of Eddy:

Danny Scott

being duly sworn, says that he is the Publisher

of the Artesia Daily Press, a daily newspaper of general circulation, published in English at Artesia, said county and state, and that the hereto attached

Legal Notice

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for 1 Consecutive weeks/days on the same day as follows:

First Publication October 10, 2013

Second Publication _____

Third Publication _____

Fourth Publication _____

Fifth Publication _____

Subscribed and sworn to before me this

10th day of October 2013



OFFICIAL SEAL
Latisha Romine
NOTARY PUBLIC-STATE OF NEW MEXICO

My commission expires: 3/12/2015

Latisha Romine

Latisha Romine
Notary Public, Eddy County, New Mexico

Copy of Publication:

LEGAL NOTICE

Apache Corporation is applying for a gas injection well. The Empire Abo Unit 23 C will inject into the Abo from 5,782' to 6,130'. It is located 11 miles south-east of Artesia at 470 FNL & 2170 FEL Sec. 6, T. 18 S., R. 28 E., Eddy County. Maximum disposal rate will be 2,000 Mcfd. Maximum injection pressure will be 1,156 psi. Interested parties must file objections or requests for hearing with the NM Oil Conservation Division, 1220 South Saint Francis Dr., Santa Fe, NM 87505 within 15 days. Additional information can be obtained by contacting: Brian Wood, Permit West, Inc., 37 Verano Loop, Santa Fe, NM 87508. Phone number is (505) 466-6120.
Published in the Artesia Daily Press, Artesia, N.M., Oct. 10 2013. Legal No 22756.

EXHIBIT K



C-108 Review Checklist: Received 10/24/13 Add. Request: — Reply Date: — Suspended: — [Ver 12]

PERMIT TYPE: WFX (PMX) SWD Number: 271 Permit Date: 01/24/14 Legacy Permits/Orders: R-4549

Well No. 23C Well Name(s): Empire Abo Unit R-9984 Also referred to as Unit IN 23

API: 30-0 15-02625 Spud Date: 1/1957 New or Old: Old (UIC Class II Primacy 03/07/1982)

Footages 470 FNL / 2170 FEL Lot 2 or Unit — Sec 6 Tsp 18S Rge 28E County Eddy

General Location: ~12 mi SE of Artesia / Empire Field Pool: Empire Abo Pool No.: 22040

BLM 100K Map: Artesia Operator: Apache Corp. OGRID: 873 Contact: Brign Wood Agent

COMPLIANCE RULE 5.9: Inactive Wells: 3 Total Wells: 2843 Fincl Assur: Yes Compl. Order? No IS 5.9 OK? Date: Yes 1/24/14

WELL FILE REVIEWED ☒ Current Status: temporary SI - waiting on order for conversion

WELL DIAGRAMS: NEW: Proposed ☐ or RE-ENTER: Before Conv. ☒ After Conv. ☒ Logs in Imaging: Yes - old

Planned Rehab Work to Well: Additional perforations; 5782' to 6130'

| Well Construction Details: | | Sizes (in) Borehole / Pipe | Setting Depths (ft) | Cement Size of C | Cement Top and Determination Method |
|--|--|-------------------------------|---------------------------------|---------------------|---|
| Planned ___ or Existing ___ Conductor | | | | | |
| Planned ___ or Existing ___ Surface | | <u>10 1/4 / 8 5/8</u> | <u>0 to 507</u> | <u>450</u> | <u>Circ. to surface</u> |
| Planned ___ or Existing ___ Interm/Prod | | <u>7 7/8 / 5 1/2</u> | <u>0 to 6194</u> | <u>No</u> | <u>1550 / 2 vents 07/22/1979 squeezed</u> |
| Planned ___ or Existing ___ Prod/Interm | | | | | <u>through casing to surf</u> |
| Planned ___ or Existing ___ Liner/Prod | | | | | <u>(4775 to 4776)</u> |
| Planned <input checked="" type="checkbox"/> or Existing <input checked="" type="checkbox"/> OH / <u>PERF</u> | | <u>7 7/8 / 5 1/2</u> | <u>5782 - 6130</u> | | |
| Completion/Operation Details: | | | | | |
| Injection Stratigraphic Units: | | Depths (ft) | Injection or Confining Units | Tops? | Drilled TD <u>6194</u> PBDT <u>6186</u> |
| Adjacent Unit: Litho. Struc. Por. | | | <u>Glorieta</u> | | NEW TD <u>—</u> NEW PBDT <u>—</u> |
| Confining Unit: Litho. Struc. Por. | | | <u>Yes < Padlock - Dmlnd</u> | | NEW Open Hole <input type="checkbox"/> or NEW Perfs <input checked="" type="checkbox"/> |
| Proposed Inj Interval TOP: | | <u>5782</u> | <u>Abo</u> | | Tubing Size <u>3 1/2</u> in. Inter Coated? <u>Yes</u> |
| Proposed Inj Interval BOTTOM: | | <u>6130</u> | <u>formation</u> | | Proposed Packer Depth <u>5692</u> ft <u>Order</u> |
| Confining Unit: Litho. Struc. Por. | | | | | Min. Packer Depth <u>5682</u> (100-ft limit) |
| Adjacent Unit: Litho. Struc. Por. | | | | | Proposed Max. Surface Press. <u>2000</u> psi |
| | | | | | Admin. Inj. Press. <u>2000</u> (0.2 psi per ft) |
| AOR: Hydrologic and Geologic Information | | | | | |
| POTASH: R-111-P <u>NA</u> Noticed? <u>No</u> BLM Sec Ord <u>NA</u> WIPP <u>NA</u> Noticed? <u>NA</u> SALADO: T: <u>—</u> B: <u>—</u> CLIFF HOUSE <u>NA</u> | | | | | |
| FRESH WATER: Aquifer <u>Alluvial</u> Max Depth <u>200</u> 1-Mile Wells? <u>NA</u> FW Analysis <u>NA</u> HYDRO AFFIRM STAT By Qualified Person <input checked="" type="checkbox"/> | | | | | |
| Disposal Fluid: Formation Source(s) <u>in Peco - artes. on very deep possible</u> Analysis? <u>NA</u> On Lease <input checked="" type="checkbox"/> Operator Only <input type="checkbox"/> or Commercial <input type="checkbox"/> | | | | | |
| Disposal Interval: Inject Rate (Avg/Max BWP/D): <u>1500/2000</u> Protectable Waters? <u>No</u> CAPITAN REEF: thru <input type="checkbox"/> adj <input type="checkbox"/> NA <input checked="" type="checkbox"/> | | | | | |
| HC Potential: Producing Interval? <u>Yes</u> Formerly Producing? <u>Yes</u> Method: Logs/DST/P&A/Other <u>NA</u> 2-Mile Radius Pool Map <u>NA</u> | | | | | |
| AOR Wells: 1/2-M Radius Map? <u>Yes</u> Well List? <u>Yes</u> Total No. Wells Penetrating Interval: <u>27</u> Horizontals? <u>0</u> | | | | | |
| Penetrating Wells: No. Active Wells <u>12</u> Num Repairs? <u>0</u> on which well(s)? <u>—</u> Diagrams? <u>Yes</u> | | | | | |
| Penetrating Wells: No. P&A Wells <u>15</u> Num Repairs? <u>0</u> on which well(s)? <u>—</u> Diagrams? <u>Yes</u> | | | | | |
| NOTICE: Newspaper Date <u>10/10/2013</u> Mineral Owner <u>SLO</u> Surface Owner <u>500 / leased</u> N. Date <u>10/17/13</u> | | | | | |
| RULE 26.7(A): Identified Tracts? <u>Yes</u> Affected Persons: <u>10 parties identified</u> Private - <u>Bogle Ltd.</u> N. Date <u>10/17/13</u> | | | | | |

Permit Conditions: Issues: None

Add Permit Cond: None